BRIDGING DIABETES RESEARCH WITH GROUNDBREAKING DISCOVERIES
Indication and Limitations of Use

Ozempic® (semaglutide) injection 0.5 mg or 1 mg is indicated as an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus.

• Ozempic® is not recommended as a first-line therapy for patients who have inadequate glycemic control on diet and exercise because of the uncertain relevance of rodent C-cell tumor findings to humans.

• Ozempic® has not been studied in patients with a history of pancreatitis. Consider other antidiabetic therapies in patients with a history of pancreatitis.

• Ozempic® is not a substitute for insulin. Ozempic® is not indicated for use in patients with type 1 diabetes mellitus or for the treatment of patients with diabetic ketoacidosis.

Important Safety Information

WARNING: RISK OF THYROID C-CELL TUMORS

• In rodents, semaglutide causes dose-dependent and treatment-duration-dependent thyroid C-cell tumors at clinically relevant exposures. It is unknown whether Ozempic® causes thyroid C-cell tumors, including medullary thyroid carcinoma (MTC), in humans as human relevance of semaglutide-induced rodent thyroid C-cell tumors has not been determined.

• Ozempic® is contraindicated in patients with a personal or family history of MTC and in patients with Multiple Endocrine Neoplasia syndrome type 2 (MEN 2). Counsel patients regarding the potential risk for MTC with the use of Ozempic® and inform them of symptoms of thyroid tumors (e.g. a mass in the neck, dysphagia, dyspnea, persistent hoarseness). Routine monitoring of serum calcitonin or using thyroid ultrasound is of uncertain value for early detection of MTC in patients treated with Ozempic®.

Please see Brief Summary of Prescribing Information, including Boxed Warning, on following pages.

Pen shown delivers 0.25 mg or 0.5 mg per injection.
OZEMPIC® (semaglutide) injection
Rx Only

BRIEF SUMMARY: Please consult package insert for full prescribing information.

WARNING: RISK OF THYROID C-CELL TUMORS: In rodents, semaglutide causes dose-dependent and treatment-duration-dependent thyroid C-cell tumors at clinically relevant exposures. It is unknown whether OZEMPIC® causes thyroid C-cell tumors, including medullary thyroid carcinoma (MTC), in humans as human relevance of semaglutide-induced rodent thyroid C-cell tumors has not been determined [see Warnings and Precautions]. OZEMPIC® is contraindicated in patients with a personal or family history of MTC or in patients with Multiple Endocrine Neoplasia syndrome type 2 (MEN 2) [see Contraindications]. Counsel patients regarding the potential risk for MTC with the use of OZEMPIC® and inform them of symptoms of thyroid tumors (e.g., a mass in the neck, dysphagia, dyspnea, persistent hoarseness). Routine monitoring of serum calcitonin or using thyroid ultrasound is of uncertain value for early detection of MTC in patients treated with OZEMPIC® [see Contraindications and Warnings and Precautions].

INDICATIONS AND USAGE: OZEMPIC® is indicated as an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus. Limitations of Use: OZEMPIC® is not recommended as a first-line therapy for patients who have inadequate glycemic control on diet and exercise because of the uncertain relevance of rodent C-cell tumor findings to humans [see Warnings and Precautions]. OZEMPIC® has not been studied in patients with a history of pancreatitis. Consider other antidiabetic therapies in patients with a history of pancreatitis. OZEMPIC® is not a substitute for insulin. OZEMPIC® is not indicated for use in patients with type 1 diabetes mellitus or for the treatment of patients with diabetic ketoacidosis, as it would not be effective in these settings.

CONTRAINDICATIONS: OZEMPIC® is contraindicated in patients with: A personal or family history of medullary thyroid carcinoma (MTC) or in patients with Multiple Endocrine Neoplasia syndrome type 2 (MEN 2) [see Warnings and Precautions]; Known hypersensitivity to semaglutide or to any of the product components [see Warnings and Precautions].

WARNINGS AND PRECAUTIONS: Risk of Thyroid C-Cell Tumors: In mice and rats, semaglutide caused a dose-dependent and treatment-duration-dependent increase in the incidence of thyroid C-cell tumors (adenomas and carcinomas) after lifetime exposure at clinically relevant plasma exposures. It is unknown whether OZEMPIC® causes thyroid C-cell tumors, including medullary thyroid carcinoma (MTC), in humans as human relevance of semaglutide-induced rodent thyroid C-cell tumors has not been determined. Cases of MTC in patients treated with liraglutide, another GLP-1 receptor agonist, have been reported in the postmarketing period; the data in these reports are insufficient to establish or exclude a causal relationship between MTC and GLP-1 receptor agonist use in humans. OZEMPIC® is contraindicated in patients with a personal or family history of MTC or in patients with MEN 2. Counsel patients regarding the potential risk for MTC with the use of OZEMPIC® and inform them of symptoms of thyroid tumors (e.g., a mass in the neck, dysphagia, dyspnea, persistent hoarseness). Routine monitoring of serum calcitonin or using thyroid ultrasound is of uncertain value for early detection of MTC in patients treated with OZEMPIC®. Such monitoring may increase the risk of unnecessary procedures, due to the low test specificity for serum calcitonin and a high background incidence of thyroid disease. Significantly elevated serum calcitonin value may indicate MTC and patients with MTC usually have calcitonin values >50 ng/L. If serum calcitonin is measured and found to be elevated, the patient should be further evaluated. Patients with thyroid nodules noted on physical examination or neck imaging should also be further evaluated. Pancreatitis: In glycemic control trials, acute pancreatitis was confirmed by adjudication in 7 OZEMPIC®-treated patients (0.3 cases per 100 patient years) versus 3 in comparator-treated patients (0.2 cases per 100 patient years). One case of chronic pancreatitis was confirmed in an OZEMPIC®-treated patient. In a 2-year trial, acute pancreatitis was confirmed by adjudication in 8 OZEMPIC®-treated patients (0.27 cases per 100 patient years) and 10 placebo-treated patients (0.33 cases per 100 patient years), both on a background of standard of care. After initiation of OZEMPIC®, observe patients carefully for signs and symptoms of pancreatitis (including persistent severe abdominal pain, sometimes radiating to the back and which may or may not be associated with vomiting). If pancreatitis is suspected, OZEMPIC® should be discontinued and appropriate management initiated; if confirmed, OZEMPIC® should not be restarted. Diabetic Retinopathy Complications: In a 2-year trial involving patients with type 2 diabetes and high cardiovascular risk, more events of diabetic retinopathy complications occurred in patients treated with OZEMPIC® (3.0%) compared to placebo (1.8%). The absolute risk increase for diabetic retinopathy complications was larger among patients with a history of diabetic retinopathy at baseline (OZEMPIC® 8.2%, placebo 5.2%) than among patients without a known history of diabetic retinopathy (OZEMPIC® 0.7%, placebo 0.4%). Rapid improvement in glucose control has been associated with a temporary worsening of diabetic retinopathy. The effect of long-term glycemic control with semaglutide on diabetic retinopathy complications has not been studied. Patients with a history of diabetic retinopathy should be monitored for progression of diabetic retinopathy. Never Share an OZEMPIC® Pen Between Patients: OZEMPIC® pens must never be shared between patients, even if the needle is changed. Pen-sharing poses a risk for transmission of blood-borne pathogens. Hypoglycemia with Concomitant Use of Insulin Secretagogues or Insulin: The risk of hypoglycemia is increased when OZEMPIC® is used in combination with insulin secretagogues (e.g., sulfonylureas) or insulin. Patients may require a lower dose of the secretagogue or insulin to reduce the risk of hypoglycemia in this setting [see Adverse Reactions, Drug Interactions]. Acute Kidney Injury: There have been postmarketing reports of acute kidney injury and worsening of chronic renal failure, which may sometimes require hemodialysis, in patients treated with GLP-1 receptor agonists. Some of these events have been reported in patients without known underlying renal disease. A majority of the reported events occurred in patients who had experienced nausea, vomiting, diarrhea, or dehydration. Monitor renal function when initiating or escalating doses of OZEMPIC® in patients reporting severe adverse gastrointestinal reactions. Hypersensitivity: Serious hypersensitivity reactions (e.g., anaphylaxis, angioedema) have been reported with GLP-1 receptor agonists. If hypersensitivity reactions occur, discontinue use of OZEMPIC®; treat promptly per standard of care, and monitor until signs and symptoms resolve. Do not use in patients with a previous hypersensitivity to OZEMPIC® [see Contraindications]. Anaphylaxis and angioedema have been reported with other GLP-1 receptor agonists. Use caution in a patient with a history of angioedema or anaphylaxis with another GLP-1 receptor agonist because it is unknown whether such patients will be predisposed to anaphylaxis with OZEMPIC®. Macrovascular Outcomes: There have been no clinical studies establishing conclusive evidence of macrovascular risk reduction with OZEMPIC®.

ADVERSE REACTIONS: The following serious adverse reactions are described below or elsewhere in the prescribing information: Risk of Thyroid C-Cell Tumors [see Warnings and Precautions]; Pancreatitis [see Warnings and Precautions]; Diabetic Retinopathy Complications [see Warnings and Precautions]; Hypoglycemia with Concomitant Use of Insulin Secretagogues or Insulin [see Warnings and Precautions]. Acute Kidney Injury [see Warnings and Precautions]; Clinical Trials Experience: Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice. Pool of Placebo-Controlled Trials: The data in Table 1 are derived from 2 placebo-controlled trials (1 monotherapy trial and 1 trial in combination with basal insulin) in patients with type 2 diabetes. These data reflect exposure of 521 patients to OZEMPIC® and a mean duration of exposure to OZEMPIC® of 32.9 weeks. Across the treatment arms, the mean age of patients was 56 years, 34% were 75 years or older and 55% were male. In the 2 placebo-controlled trials, 71% of patients were Caucasian, 19% were Asian; 21% identified as Hispanic or Latino ethnicity. At baseline, patients had type 2 diabetes for an average of 8.8 years and had a mean HbA1c of 8.2%. At baseline, 8.9% of the population reported retinopathy. Baseline estimated renal function was normal...
Table 1. Adverse Reactions in Placebo-Controlled Trials Reported in ≥5% of OZEMPIC®-Treated Patients with Type 2 Diabetes Mellitus

<table>
<thead>
<tr>
<th>Adverse Reaction</th>
<th>Placebo (N=262) %</th>
<th>OZEMPIC® 0.5 mg (N=260) %</th>
<th>OZEMPIC® 1 mg (N=261) %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nausea</td>
<td>6.1</td>
<td>15.8</td>
<td>20.3</td>
</tr>
<tr>
<td>Vomiting</td>
<td>2.3</td>
<td>5.0</td>
<td>9.2</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>1.9</td>
<td>8.5</td>
<td>8.8</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>4.6</td>
<td>7.3</td>
<td>5.7</td>
</tr>
<tr>
<td>Constipation</td>
<td>1.5</td>
<td>5.0</td>
<td>3.1</td>
</tr>
</tbody>
</table>

In the pool of placebo- and active-controlled trials and in the 2-year cardiovascular outcomes trial, the types and frequency of common adverse reactions, excluding hypoglycemia, were similar to those listed in Table 1. **Gastrointestinal Adverse Reactions:** In the pool of placebo-controlled trials, gastrointestinal adverse reactions occurred more frequently among patients receiving OZEMPIC® than placebo (placebo 15.3%, OZEMPIC® 0.5 mg 32.7%, OZEMPIC® 1 mg 36.4%). The majority of reports of nausea, vomiting, and/or diarrhea occurred during dose escalation. More patients receiving OZEMPIC® 0.5 mg (3.1%) and OZEMPIC® 1 mg (3.8%) discontinued treatment due to gastrointestinal adverse reactions than patients receiving placebo (0.4%). In addition to the reactions in Table 1, the following gastrointestinal adverse reactions with a frequency of <5% were associated with OZEMPIC® (frequencies listed, respectively, as: placebo; 0.5 mg; 1 mg): dyspepsia (1.9%, 3.5%, 2.7%), eructation (0%, 2.7%, 1.1%), flatulence (0.8%, 0.4%, 1.5%), gastroesophageal reflux disease (0%, 1.9%, 1.5%), and gastritis (0.6%, 0.8%, 0.4%).

**Other Adverse Reactions:** **Hypoglycemia:** Table 2 summarizes the incidence of events related to hypoglycemia by various definitions in the placebo-controlled trials.

**Table 2. Hypoglycemia Adverse Reactions in Placebo-Controlled Trials in Patients with Type 2 Diabetes Mellitus**

<table>
<thead>
<tr>
<th>Monotherapy</th>
<th>Placebo</th>
<th>OZEMPIC® 0.5 mg</th>
<th>OZEMPIC® 1 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>(30 weeks)</td>
<td>N=129</td>
<td>N=127</td>
<td>N=130</td>
</tr>
<tr>
<td>Severe†</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Documented symptomat (≤70 mg/dL glucose threshold)</td>
<td>0%</td>
<td>1.6%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Severe or Blood Glucose Confirmed Symptomatic (≤56 mg/dL glucose threshold)</td>
<td>1.6%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Add-on to Basal Insulin with or without Metformin**

<table>
<thead>
<tr>
<th>Monotherapy</th>
<th>Placebo</th>
<th>OZEMPIC® 0.5 mg</th>
<th>OZEMPIC® 1 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>(30 weeks)</td>
<td>N=132</td>
<td>N=132</td>
<td>N=131</td>
</tr>
<tr>
<td>Severe†</td>
<td>0%</td>
<td>0%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Documented symptomat (≤70 mg/dL glucose threshold)</td>
<td>15.2%</td>
<td>16.7%</td>
<td>29.8%</td>
</tr>
<tr>
<td>Severe or Blood Glucose Confirmed Symptomatic (≤56 mg/dL glucose threshold)</td>
<td>5.3%</td>
<td>8.3%</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

"Severe" hypoglycemia adverse reactions are episodes requiring the assistance of another person.

Hypoglycemia was more frequent when OZEMPIC® was used in combination with a sulfonylurea [see Warnings and Precautions]. Severe hypoglycemia occurred in 0.8% and 1.2% of patients when OZEMPIC® 0.5 mg and 1 mg, respectively, was co-administered with a sulfonylurea. Documented symptomatic hypoglycemia occurred in 17.5% and 24.4% of patients when OZEMPIC® 0.5 mg and 1 mg, respectively, was co-administered with a sulfonylurea. Severe or blood glucose confirmed symptomatic hypoglycemia occurred in 6.5% and 10.4% of patients when OZEMPIC® 0.5 mg and 1 mg, respectively, was co-administered with a sulfonylurea. Injection Site Reactions: In placebo-controlled trials, injection site reactions (e.g., injection-site discomfort, erythema) were reported in 0.2% of OZEMPIC®-treated patients. Increases in Amylase and Lipase: In placebo-controlled trials, patients exposed to OZEMPIC® had a mean increase from baseline in amylase of 13% and lipase of 22%. These changes were not observed in placebo-treated patients. Cholelithiasis: In placebo-controlled trials, cholelithiasis was reported in 1.5% and 0.4% of patients treated with OZEMPIC® 0.5 mg and 1 mg, respectively. Cholelithiasis was not reported in placebo-treated patients. Increases in Heart Rate: In placebo-controlled trials, OZEMPIC® 0.5 mg and 1 mg resulted in a mean increase in heart rate of 2 to 3 beats per minute. There was a mean decrease in heart rate of 0.3 beats per minute in placebo-treated patients. Fatigue, Dysgeusia and Dizziness: Other adverse reactions with a frequency of >0.4% were associated with OZEMPIC® include fatigue, dysgeusia and dizziness. Immunogenicity: Consistent with the potentially immunogenic properties of protein and peptide pharmaceuticals, patients treated with OZEMPIC® may develop anti-semaglutide antibodies. The detection of antibody formation is highly dependent on the sensitivity and specificity of the assay. Additionally, the observed incidence of antibody (including neutralizing antibody) positivity in an assay may be influenced by several factors including assay methodology, sample handling, timing of sample collection, concomitant medications, and underlying disease. For these reasons, the incidence of antibodies to semaglutide in the studies described below cannot be directly compared with the incidence of antibodies in other studies or to other products. Across the placebo- and active-controlled glycemic control trials, 32 (1.0%) OZEMPIC®-treated patients developed anti-drug antibodies (ADAs) to the active ingredient in OZEMPIC® (i.e., semaglutide). Of the 32 semaglutide-treated patients that developed semaglutide ADAs, 19 patients (0.6% of the overall population) developed antibodies cross-reacting with native GLP-1. The in vitro neutralizing activity of the antibodies is uncertain at this time.

**Drug Interactions:** Concomitant Use with an Insulin Secretagogue (e.g., Sulfonylurea) or with Insulin: The risk of hypoglycemia is increased when OZEMPIC® is used in combination with insulin secretagogues (e.g., sulfonylureas) or insulin. The risk of hypoglycemia may be lowered by a reduction in the dose of sulfonylurea (or other concomitantly administered insulin secretagogues) or insulin [see Warnings and Precautions]. Oral
Medications: OZEMPIC® causes a delay of gastric emptying, and thereby has the potential to impact the absorption of concomitantly administered oral medications. In clinical pharmacology trials, semaglutide did not affect the absorption of orally administered medications to any clinically relevant degree. Nonetheless, caution should be exercised when oral medications are concomitantly administered with OZEMPIC®.

USE IN SPECIFIC POPULATIONS: Pregnancy: Risk Summary: There are limited data with semaglutide use in pregnant women to inform a drug-associated risk for adverse developmental outcomes. There are clinical considerations regarding the risks of poorly controlled diabetes in pregnancy (see Clinical Considerations). Based on animal reproduction studies, there may be potential risks to the fetus from exposure to semaglutide during pregnancy. OZEMPIC® should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. In pregnant rats administered semaglutide during organogenesis, embryofetal mortality, structural abnormalities and alterations to growth occurred at maternal exposures below the maximum recommended human dose (MRHD) based on AUC. In rabbits and cynomolgus monkeys administered semaglutide during organogenesis, early pregnancy losses and structural abnormalities were observed at below the MRHD (rabbit) and ≥5-fold the MRHD (monkey). These findings coincided with a marked maternal body weight loss in both animal species (see Data). The estimated background risk of major birth defects is 6–10% in women with pre-gestational diabetes with an HbA1c >7 and has been reported to be as high as 20–25% in women with a HbA1c >10. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2–4% and 15–20%, respectively. Clinical Considerations: Disease associated maternal and fetal risk: Poorly controlled diabetes during pregnancy increases the maternal risk for diabetic ketoacidosis, pre-eclampsia, spontaneous abortions, preterm delivery, stillbirth and delivery complications. Poorly controlled diabetes increases the fetal risk for major birth defects, stillbirth, and macromacia related morbidity. Data: Animal Data: In a combined fertility and embryofetal development study in rats, subcutaneous doses of 0.01, 0.03 and 0.09 mg/kg/day (0.1–0.4–, and 1.1-fold the MRHD) were administered to males for 4 weeks prior to and throughout mating and to females for 2 weeks prior to mating, and throughout organogenesis to Gestation Day 17. In parental animals, pharmacologically mediated reductions in body weight gain and food consumption were observed at all dose levels. In the offspring, reduced growth and fetuses with visceral (heart blood vessels) and skeletal (cranial bones, vertebra, ribs) abnormalities were observed at the human exposure. In an embryofetal development study in pregnant rabbits, subcutaneous doses of 0.001, 0.0025 or 0.0075 mg/kg/day (0.03–0.3–, and 2.3-fold the MRHD) were administered throughout organogenesis from Gestation Day 6 to 19. Pharmacologically mediated reductions in maternal body weight gain and food consumption were observed at all dose levels. Early pregnancy losses and increased incidences of minor visceral (kidney, liver) and skeletal (sternebra) fetal abnormalities were observed at ≥0.0025 mg/kg/day, at clinically relevant exposures. In an embryofetal development study in pregnant cynomolgus monkeys, subcutaneous doses of 0.015, 0.075, and 0.15 mg/kg twice weekly (1.0–5.2–, and 14.9-fold the MRHD) were administered throughout organogenesis, from Gestation Day 16 to 50. Pharmacologically mediated, marked initial maternal body weight loss and reductions in body weight gain and food consumption coincided with the occurrence of sporadic abnormalities (vertebra, sternebra, ribs) at ≥0.075 mg/kg twice weekly (≥5X human exposure). In a pre- and postnatal development study in pregnant cynomolgus monkeys, subcutaneous doses of 0.015, 0.075, and 0.15 mg/kg twice weekly (0.7–3.3–, and 7.2-fold the MRHD) were administered from Gestation Day 16 to 140. Pharmacologically mediated marked initial maternal body weight loss and reductions in body weight gain and food consumption coincided with an increase in early pregnancy losses and led to delivery of slightly smaller offspring at ≥0.075 mg/ kg twice weekly (≥3X human exposure). Lactation: Risk Summary: There are no data on the presence of semaglutide in human milk, the effects on the breastfed infant, or the effects on milk production. Semaglutide was present in the milk of lactating rats, however, due to species-specific differences in lactation physiology, the clinical relevance of these data are not clear (see Data). The developmental and health benefits of breastfeeding should be considered along with the mother’s clinical need for OZEMPIC® and any potential adverse effects on the breastfed infant from OZEMPIC® or from the underlying maternal condition. Data: In lactating rats, semaglutide was detected in milk at levels 3-12 fold lower than in maternal plasma. Females and Males of Reproductive Potential: Discontinue OZEMPIC® in women at least 2 months before a planned pregnancy due to the long washout period for semaglutide (see Use in Specific Populations). Pediatric Use: Safety and efficacy of OZEMPIC® have not been established in pediatric patients (younger than 18 years). Geriatric Use: In the pool of placebo- and active-controlled glycemic control trials, 744 (23.6%) OZEMPIC®-treated patients were 65 years of age and over and 102 OZEMPIC®-treated patients (3.2%) patients were 75 years of age and over. In SUSTAIN 6, the cardiovascular outcome trial, 788 (48.0%) OZEMPIC®-treated patients were 65 years of age and over and 157 OZEMPIC®-treated patients (9.6%) patients were 75 years of age and over. No overall differences in safety or efficacy were detected between these patients and younger patients, but greater sensitivity of some older individuals cannot be ruled out. Renal Impairment: No dose adjustment of OZEMPIC® is recommended for patients with renal impairment. In subjects with renal impairment including end-stage renal disease (ESRD), no clinically relevant change in semaglutide pharmacokinetics (PK) was observed. Hepatic Impairment: No dose adjustment of OZEMPIC® is recommended for patients with hepatic impairment. In a study in subjects with different degrees of hepatic impairment, no clinically relevant change in semaglutide pharmacokinetics (PK) was observed. OVERdosage: In the event of overdose, appropriate supportive treatment should be initiated according to the patient’s clinical signs and symptoms. A prolonged period of observation and treatment for these symptoms may be necessary, taking into account the long half-life of OZEMPIC® of approximately 1 week.

More detailed information is available upon request.

For information about OZEMPIC® contact: Novo Nordisk Inc., 800 Scudders Mill Road, Plainsboro, NJ 08536, 1-888-693-6742
Date of Issue: December 2017
Version: 1
Manufactured by: Novo Nordisk A/S, DK-2880 Bagsvaerd, Denmark
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PATENT INFORMATION:
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Final Program

79th Scientific Sessions
June 7-11, 2019
Moscone Center
San Francisco, California

The mission of the American Diabetes Association is to prevent and cure diabetes and to improve the lives of all people affected by diabetes.

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79th Scientific Sessions Educational Support

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Welcome from the Officers of the American Diabetes Association

It is our pleasure to welcome you to the American Diabetes Association’s 79th Scientific Sessions. As the world’s largest meeting on diabetes, the Scientific Sessions is both a leading educational gathering and a unique opportunity to network with colleagues from 111 countries.

The 33-member Scientific Sessions Meeting Planning Committee, chaired by Jose Florez, MD, PhD, has developed an exciting and informative educational program. This year’s meeting will feature the most highly anticipated study announcements of 2019. New data from cardiovascular prevention trials are among the key findings being presented at this year’s meeting.

The Association will honor recipients of its highest National Scientific & Health Care Achievement Awards. Special lectures will be given by recipients of the Banting Medal for Scientific Achievement, the Outstanding Scientific Achievement Award, the Outstanding Educator in Diabetes Award, and the Kelly West Award for Outstanding Achievement in Epidemiology. Special award lectureships sponsored by the Professional Interest Groups will also be featured.

Explore more than 2,000 posters in the Poster Hall. Meet one-on-one with poster presenters to discuss the latest investigative methods. Poster presenters will be at their poster boards for 1-hour on an assigned day to discuss their research with attendees. Or, join one of the many moderated poster discussions and listen in as poster presenters share their perspectives and highlight novel or recent developments in question and answer discussions with session moderators.

We also encourage you to visit the Exhibit Hall. The Exhibit Hall is more than just exhibits—it’s an interactive area where you can meet with over 100 exhibitors to enhance your understanding of emerging technology, cutting-edge products and services, and progressive patient solutions. The Exhibit Hall is also the hub for some exciting events such as Product Theaters and ePoster Theater Sessions. Don’t miss your chance at socializing, networking, learning, and more in the Exhibit Hall.

Do you have an idea for a session that you would like to see featured at next year’s Scientific Sessions? The Scientific Sessions Meeting Planning Committee is soliciting high quality, innovative session proposals for the 80th Scientific Sessions. The committee encourages submissions that are innovative, challenge current treatment paradigms, and represent the latest advances in basic, clinical, and translational science. This is your opportunity to shape the scientific program and help ensure that the most relevant spectrum of topics is presented at the meeting. Visit www.scientificsessions.diabetes.org for more information.

The caliber of scientific exchange, quality of the presenters, and engaged attendees are what make the Scientific Sessions unique. Thank you for joining us this year in San Francisco.

David Herrick, MBA
Chair of the Board

Gretchen Youssef, MS, RDN, CDE
President, Health Care & Education

Louis H. Philipson, MD, PhD, FACP
President, Medicine & Science

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Officers of the American Diabetes Association

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Chair of the Board-Elect
Umesh Verma

President-Elect, Health Care & Education
Mary de Groot, PhD

Chief Executive Officer
Tracey D. Brown, MBA, BChE
Officers and Board of Directors of the American Diabetes Association

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Chief Executive Officer  Tracey D. Brown, MBA, BChE

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Christopher Ralston, JD
Julio Rosenstock, MD
Glen Tullman
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Past Officers of the American Diabetes Association

1973-1974 Gail Patrick Velde
1974-1977 Wendell Mayes, Jr.
1977-1979 Myles H. Tanenbaum
1979-1981 Benjamin Greenspoon
1981-1983 Harlan L. Hanson
1983-1984 Gordon T. Stulberg
1984-1985 Joseph H. Davis
1985-1987 Henry M. Rivera
1986-1987 Sam A. Gallo
1987-1988 S. Douglas Dodd
1988-1989 William A. Mamrack
1989-1990 Sterling Tucker
1990-1991 Arnold Bereson
1991-1992 Todd E. Leigh
1993-1994 Michael A. Greene
1994-1995 Douglas E. Lund
1995-1996 David H. McClure
1996-1997 Alan Attschuler
1997-1998 Stephen J. Satalino

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1998-1999 Jane Camporeale
1999-2000 Edward T. Hawthorne
2000-2001 Charles F. Baer
2001-2002 Stephen H. Smith
2002-2003 Michael A. Weiss
2003-2004 James A. Horbowicz
2004-2005 Larry K. Ellingson, RPh
2005-2006 Lawrence T. Smith
2007 Darlene L. Cain
2008 R. Stewart Perry
2009 George J. Huntley, CPA
2010 Nash M. Childs, PE
2011 John W. Griffin, Jr.
2012 L. Hunter Limbaugh
2013 Karen Talmadge, PhD
2014 Dwight Holing
2015 Janel L. Wright, JD
2016 Robin J. Richardson
2017 David A. DeMarco, PhD
2018 Karen Talmadge, PhD

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1976-1979 Patricia A. Lawrence, RN, MA
1979-1981 Barbara Prater, RD, PhD
1982-1983 Florence R. Ruhland, RN, MEd
1984-1986 Patricia A. Schultz, RN, MS, CDE
1987-1988 Linda S. Hurwitz, RN, MS
1988-1989 Alan D. Cherrington, PhD
1989-1990 Mary Louise Maras, RD, CDE
1990-1991 Charlene Freeman, RN, CDE
1992-1994 Patricia D. Stenger, RN, CDE
1994-1995 Linda M. Siminerio, RN, MS, CDE, PhD
1996-1997 Belinda P. Childs, ARNP, MN, CDE
1997-1998 Christine A. Beebe, MS, RD, CDE, LD
1998-1999 Linda B. Haas, PhC, RN, CDE
1999-2000 Elizabeth A. Walker, DNSc, RN, CDE
2000-2001 Lee J. Sanders, DPM
2001-2002 Anne E. Daly, MS, RD, BC-ADM, CDE
2002-2003 Martha M. Funnell, MS, RN, CDE
2003-2004 Carolé R. Mensing, RN, MA, CDE
2004-2005 Catherine J. Tibbetts, RN, MPH, CDE
2005-2006 Karmeen Kulkarni, MS, RD, BC-ADM, CDE
2006-2007 Richard R. Rubin, PhD, CDE
2008 Ann L. Albright, PhD, RD
2009 Sue McLaughlin, BS, RD, CDE, CPT
2010 Christine T. Tobin, MS, MBA, CDE
2011 Elizabeth Mayer-Davis, MSPH, PhD, RD
2012 Geralyn R. Spollett, MSN, ANP-CS, CDE
2013 Lurelean B. Gaines, RN, MSN
2014 Marjorie Cypress, PhD, C-ANP, CDE
2015 David G. Marrero, PhD
2016 Margaret A. Powers, PhD, RD, CDE
2017 Brenda Montgomery, RN, MS, CDE
2018 Felicia Hill-Briggs, PhD, ABPP

*New title effective July 1, 1996. Past titles included Vice President, Health Professional, and Senior Vice President.
Past Presidents, Medicine & Science

1940-1941  Cecil Striker, MD
1941-1942  Herman O. Monsenthal, MD
1942-1944  Joseph T. Beardwood, Jr., MD
1944-1946  Joseph H. Barach, MD
1946-1947  Russell M. Wilder, MD
1947-1948  Edward S. Dillon, MD
1948-1949  Charles H. Best, MD
1949-1950  Howard F. Root, MD
1950-1951  Lester J. Palmer, MD
1951-1952  Arthur R. Colwell, Sr., MD
1952-1953  Frank N. Allan, MD
1953-1954  Randall G. Sprague, MD
1954-1955  Henry B. Mulholland, MD
1955-1956  Henry T. Ricketts, MD
1956-1957  Frederick W. Williams, MD
1957-1958  John A. Reed, MD
1958-1959  Alexander Marble, MD
1959-1960  Francis D.W. Lukens, MD
1960-1961  Franklin B. Peck, Sr., MD
1961-1962  Blair Holcomb, MD
1962-1963  Jerome W. Conn, MD
1963-1964  Thomas P. Sharkey, MD
1964-1965  Rachmiel Levine, MD
1965-1966  T.S. Danowski, MD
1966-1967  L.O. Underdahl, MD
1967-1968  Edwin W. Gates, MD
1968-1969  Harvey C. Knowles, Jr., MD
1969-1970  Robert C. Hardin, MD
1970-1971  James B. Hurd, MD
1971-1972  Stefan S. Fajans, MD
1972-1973  William H. Grishaw, MD
1973-1974  Addison B. Scoville, Jr., MD
1974-1975  Max Ellenberg, MD
1975-1976  George F. Cahill, Jr., MD
1976-1977  Donnell D. Etzwiler, MD
1977-1978  Norbert Freinkel, MD
1978-1979  Fred W. Whitehouse, MD
1979-1980  Ronald A. Arky, MD
1980-1981  Donald J. Bell, MD
1981-1982  Oscar B. Crofford, MD
1982-1983  Irving L. Spratt, MD
1983-1984  Allan L. Drash, MD
1984-1985  Karl E. Sussman, MD
1985-1986  Harold Rifkin, MD
1986-1987  Daniel Porte, Jr., MD
1987-1988  John A. Colwell, MD, PhD
1988-1989  Charles M. Clark, Jr., MD
1989-1990  Sherman M. Holvey, MD
1990-1991  Edward S. Horton, MD
1991-1992  Jay S. Sklyer, MD
1992-1993  F. Xavier Pi-Sunyer, MD, MPH
1993-1994  James R. Gavin II, MD, PhD
1994-1995  Kathleen L. Wishner, PhD, MD
1995-1996  Frank Vinicor, MD, MPH
1996-1997  Philip E. Cryer, MD
1997-1998  Mayer B. Davidson, MD
1998-1999  Gerald Bernstein, MD
1999-2000  Bruce R. Zimmerman, MD
2000-2001  Robert S. Sherwin, MD
2001-2002  Christopher D. Saudek, MD
2002-2003  Francine R. Kaufman, MD
2003-2004  Eugene J. Barrett, MD, PhD
2004-2005  Alan D. Cherrington, PhD
2005-2006  Robert A. Rizza, MD
2006-2007  Larry C. Deeb, MD
2008  John B. Buse, MD, PhD
2009  R. Paul Robertson, MD
2010  Richard M. Bergenstal, MD
2011  Robert R. Henry, MD
2012  Vivian Fonseca, MD
2013  John E. Anderson, MD
2014  Elizabeth R. Seachrist, MD
2015  Samuel Dagogo-Jack, MD
2016  Desmond Schatz, MD
2017  Alvin C. Powers, MD
2018  Jane E.B. Reusch, MD
Secretary/Treasurer**

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<td>1970-1975</td>
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**Secretary and Treasurer merged to Secretary/Treasurer effective July 1, 1996.

Secretary

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<td>Gloria Hirsch</td>
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<td>Marilyn Moore</td>
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<td>1994-1996</td>
<td>Denise Dodero</td>
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Treasurer

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Award Recipients

National Scientific & Health Care Achievement Award Recipients

- Banting Medal for Scientific Achievement ............................................................... Stephen O’Rahilly, MD
- Outstanding Scientific Achievement Award ............................................................... Sadaf Farooqi, MB, ChB (Hons), PhD
- Albert Renold Award ................................................................................................. Rudolph L. Leibel, MD
- Outstanding Achievement in Clinical Diabetes Research Award .............................. John B. Buse, MD, PhD
- Outstanding Educator in Diabetes Award ................................................................. Virginia Valentine, APRN, BC-ADM, CDE, FAADE
- Outstanding Physician Clinician in Diabetes Award .................................................. David C. Klonoff, MD
- Harold Rifkin Award for Distinguished International Service in the Cause of Diabetes .................................................. Juliana C.N. Chan, MB, ChB, MD, FRCP
- Kelly West Award for Outstanding Achievement in Epidemiology .......................... Elizabeth J. Mayer-Davis, PhD

Professional Interest Group Award Recipients

- Richard R. Rubin Award ............................................................................................... Frank J. Snoek, PhD
- Roger Pecoraro Award .............................................................................................. James Wrobel, DPM, MS
- Norbert Freinkel Award ............................................................................................... Assiamira Ferrara, MD, PhD
- Edwin Bierman Award ............................................................................................... Peter Rossing, MD, DMSc

Women’s Interprofessional Network Award Recipient

- Lois Jovanovic Transformative Woman in Diabetes Award ......................................... Elizabeth R. Seaquist, MD

Association Officers Leadership and Service Recognition

- Charles H. Best Medal for Leadership and Service ................................................... David Herrick, MBA
- Rachmiel Levine Medal for Leadership and Service .................................................. Gretchen Youssef, MS, RDN, CDE
- Banting Medal for Leadership and Service ................................................................ Louis H. Philipson, MD, PhD, FACP
- Charles Kopke Medal for Leadership and Service ..................................................... Brian Bertha, JD, MBA
National Scientific & Health Care Achievement Award Recipients

**Banting Medal for Scientific Achievement**
Stephen O’Rahilly, MD

**Banting Medal Lecture**
“Treasure Your Exceptions”—Studying Human Extreme Phenotypes to Illuminate Metabolic Health and Disease

Stephen O’Rahilly, MD, is the recipient of the 2019 Banting Medal for Scientific Achievement. This award recognizes significant, long-term contributions to the understanding, treatment, or prevention of diabetes. Dr. O’Rahilly will present the Banting Medal Lecture on Sunday, June 9.

Currently Professor of Clinical Biochemistry & Medicine and Head of the Department of Clinical Biochemistry at the University of Cambridge, United Kingdom, Dr. O’Rahilly is renowned for his contributions to identifying novel extreme human metabolic phenotypes, discovering and characterizing numerous genes important in metabolic function and dysfunction, and developing new diagnostic and therapeutic applications.

Dr. O’Rahilly’s research has delved into human insulin resistance, including the discovery of novel genetic mutations associated with defects in insulin signaling. Through the discovery that people with dominant negative mutations in PPARγ had severe insulin resistance and hypertension, he first demonstrated the importance of PPARγ in glucose regulation and blood pressure. Dr. O’Rahilly was also the first to identify and describe several mutations causing human obesity. Furthermore, he established a centrally-funded national service providing diagnostic and therapeutic input to patients with severe insulin resistance in the United Kingdom.

Dr. O’Rahilly’s illustrious contributions have been recognized by prestigious honors, including Foreign Membership of the National Academy of Sciences (USA), Fellowship of the Royal Society, the Novo Nordisk/EASD International Prize, the Inbev-Baillet-Latour Award, and the Luft Prize. He launched the Institute of Metabolic Science in Cambridge and has mentored many scientists who are now leaders around the world. Please join us in celebrating Stephen O’Rahilly, MD, for his outstanding contributions to diabetes research.

**Outstanding Scientific Achievement Award**
Sadaf Farooqi, MB, ChB (Hons), PhD

**Outstanding Scientific Achievement Award Lecture**
Obesity and the Biology of Weight Regulation

Sadaf Farooqi, MB, ChB (Hons), PhD, is the recipient of the 2019 Outstanding Scientific Achievement Award. This prestigious award recognizes research in diabetes that demonstrates particular independence of thought and originality. Dr. Farooqi will present the Outstanding Scientific Achievement Award Lecture on Monday, June 10.

Dr. Farooqi is a Wellcome Trust Principal Research Fellow and Professor of Metabolism and Medicine at the Wellcome-MRC Institute of Metabolic Science, University of Cambridge, United Kingdom. An internationally recognized clinician scientist, she has made seminal contributions to understanding the genetic and physiological mechanisms that underlie severe obesity and its complications.

Dr. Farooqi played a leading role in the identification and treatment of congenital leptin deficiency, studies which proved that leptin is an essential regulator of appetite and body weight in humans. In children with severe obesity recruited to the Genetics of Obesity Study (GOOS), and with colleagues, she identified and characterized several genetic disorders. In clinical studies, she showed that leptin-melanocortin signaling affects the intake and rewarding properties of food and the preference for dietary fat, re-framing obesity as primarily a disorder of appetite. By demonstrating that these neural circuits modulate blood pressure, her work has provided an explanation for the link between obesity and hypertension. As a result of her work, genetic analysis is now part of the diagnostic assessment of severely obese people. Please join us in celebrating Sadaf Farooqi, MB, ChB (Hons), PhD, for her transformative contributions to basic and translational diabetes research.
Outstanding Achievement in Clinical Diabetes Research Award

John B. Buse, MD, PhD

John B. Buse, MD, PhD, is the recipient of the 2019 Outstanding Achievement in Clinical Diabetes Research Award. This award recognizes exceptional contributions in patient-oriented clinical outcomes research that have had a significant impact on diabetes prevention and treatment.

Dr. Buse is the Verne S. Caviness Distinguished Professor, Chief of the Division of Endocrinology, Director of the Diabetes Center, Director of the North Carolina Translational and Clinical Sciences Institute, and Executive Associate Dean for Clinical Research at the University of North Carolina. Embodying excellence and innovative leadership, he has led or participated in more than 200 clinical studies and dozens of epidemiologic analyses and translational projects.

His breadth of investigation ranges from early stage clinical characterization of new molecular entities to seminal trials, including critical drug safety outcomes studies. He is renowned for co-chairing the ACCORD trial, which demonstrated a lack of benefit of more intensive goals for glycemia, blood pressure, and lipids, and for chairing the LEADER trial, which was the first demonstration of the broad effect of the GLP-1 receptor agonist liraglutide to reduce cardiovascular events and mortality in patients with type 2 diabetes at high cardiovascular risk.

Dr. Buse has been listed since 2015 among Thompson Reuters “Highly Cited Researchers” recognizing the top 1% of global investigators and is widely sought after as a lecturer, consultant, collaborator, and clinical trial investigator. Please join us in celebrating John B. Buse, MD, PhD, for remarkable contributions that have substantially influenced the clinical care of diabetes.
Outstanding Physician Clinician in Diabetes Award
David C. Klonoff, MD

David C. Klonoff, MD, is the recipient of the 2019 Outstanding Physician Clinician in Diabetes Award. This award is presented to an individual to reward and honor meritorious contributions to diabetes clinical practice.

Dr. Klonoff is Medical Director of the Diabetes Research Institute at Mills-Peninsula Medical Center and a Clinical Professor of Medicine at the University of California, San Francisco. He practices endocrinology in Burlingame, California. In 1998, Dr. Klonoff coined the term “diabetes technology” when the focus of diabetes treatment was on biology. He has been a leader in diabetes hardware, software, digital health, and device cybersecurity. Dr. Klonoff has received an FDA Director’s Special Citation Award for his work in diabetes technology. In 2000, he founded the Diabetes Technology Society, a non-profit organization promoting the development and use of technology for patients with diabetes. Dr. Klonoff has spoken to the U.S. Congressional Diabetes Caucus, participated in the White House Health and Cybersecurity Roundtable, and has spoken at the European Parliament. He has been a Principal Investigator in over 110 clinical trials of devices and drugs and has published over 200 articles in PubMed-indexed journals.

Dr. Klonoff is the founding Editor-in-Chief of the Journal of Diabetes Science and Technology. He has chaired three diabetes device cybersecurity standard steering committees, the Diabetes Technology Society Surveillance Program for Cleared Blood Glucose Monitors, The Endocrine Society Continuous Glucose Monitoring Clinical Guidelines Committee, and the Clinical and Laboratory Standards Institute Continuous Glucose Monitoring Performance Metrics Committee. Please join us in celebrating David C. Klonoff, MD, for outstanding accomplishments in diabetes care.

Outstanding Educator in Diabetes Award
Virginia Valentine, APRN, BC-ADM, CDE, FAADE

Outstanding Educator in Diabetes Award Lecture
The Most Important Thing We Give to People Is Hope—Overcoming Stigma in Diabetes and Obesity

Virginia Valentine, APRN, BC-ADM, CDE, FAADE, is the recipient of the 2019 Outstanding Educator in Diabetes Award. This award recognizes a distinguished health professional who has made outstanding educational efforts in the field of diabetes. Ms. Valentine will present the Outstanding Educator in Diabetes Award Lecture on Saturday, June 8.

Ms. Valentine is a Diabetes Specialist with Clinica La Esperanza in Albuquerque, New Mexico, where she manages a wide variety of diabetes clinical challenges in a primary care group. She holds faculty appointments with the University of New Mexico and serves as clinician faculty for the endocrinology TeleECHO Clinic (Endo ECHO), which trains and supports primary care providers in rural and underserved communities to improve their knowledge and skill in endocrinology care. Ms. Valentine has provided professional education on a state, national, and international level. Her delivery always includes participation and instills a sense of confidence and willingness to try something new.

Her contributions have been recognized by the Distinguished Service Award from the American Association of Diabetes Educators (AADE), and she is a current AADE Fellow. She is a member of the Advanced Practice Advisory Board for the New Mexico Board of Nursing. She has served on the editorial board for Clinical Diabetes and she is currently an editorial board member for the Canadian Journal of Diabetes and on the advisory board for diaTribe. In addition to journal articles, Ms. Valentine authored Diabetes, the New Type 2 and is a contributor to The Art and Science of Diabetes Self-Management Education Desk Reference and the Complete Nurses Guide to Diabetes Care, 3rd Edition, American Diabetes Association. Please join us in celebrating Virginia Valentine, APRN, BC-ADM, CDE, FAADE, for outstanding contributions to diabetes education and care.
Harold Rifkin Award for Distinguished International Service in the Cause of Diabetes
Juliana C.N. Chan, MB, ChB, MD, FRCP

Juliana C.N. Chan, MB, ChB, MD, FRCP, is the recipient of the 2019 Harold Rifkin Award for Distinguished International Service in the Cause of Diabetes. Supported by a grant from the Rifkin Family, this award honors individuals who have demonstrated outstanding research, evaluation, and care in diabetes performed from an international perspective with an international impact.

Dr. Chan is Professor of Medicine and Therapeutics and Founding Director of the Hong Kong Institute of Diabetes and Obesity at the Chinese University of Hong Kong. Recognized globally, Dr. Chan has impressively used research and professional education to inform practice and policies for the prevention and management of diabetes.

Over three decades, Dr. Chan has established large patient cohorts, biobanks, and databases to define the causes and consequences of people with diabetes in Asia. She has systemically confirmed the benefits of a team-based structured care approach to reducing clinical events and mortality in people with diabetes. She also developed the innovative, 11-country Joint Asia Diabetes Evaluation (JADE) program to gather data and issue personalized reports to empower individual patients and reduce clinical inertia.

With several productive international research collaborations, Dr. Chan has published more than 500 papers and 20 book chapters, trained hundreds of graduate students and postdoctoral fellows, and has established institutes, laboratories, and diabetes centers to generate and translate evidence to practice through public-private partnerships. Please join us in celebrating Juliana C.N. Chan, MB, ChB, MD, FRCP, for distinguished international service in the cause of diabetes.

Kelly West Award for Outstanding Achievement in Epidemiology
Elizabeth J. Mayer-Davis, PhD

Kelly West Award for Outstanding Achievement in Epidemiology Lecture
Improving Outcomes—Translating Epidemiology to Clinical Trials

Elizabeth J. Mayer-Davis, PhD, is the recipient of the 2019 Kelly West Award for Outstanding Achievement in Epidemiology. Supported by an unrestricted educational grant from Merck, this award recognizes significant contributions to the field of diabetes epidemiology. Dr. Mayer-Davis will deliver the Kelly West Award Lecture on Sunday, June 9.

Dr. Mayer-Davis is currently Cary C. Boshamer Distinguished Professor of Nutrition and Medicine, and Chair of the Department of Nutrition at the University of North Carolina at Chapel Hill. With research focused on the epidemiology of diabetes in youth and young adults, her body of work is described in more than 300 peer-reviewed papers and book chapters. Dr. Mayer-Davis has conducted trials in type 2 diabetes prevention and type 1 diabetes treatment. She has also performed observational studies of diabetes complications and the role of nutrition. Much of her work has focused on translating research to understand clinical and public health implications.

Dr. Mayer-Davis has been very active in the scientific advisory and diabetes advocacy communities, including service as the American Diabetes Association’s President, Health Care & Education from 2011-2013. Recently, she was appointed to the 2020 Dietary Guidelines Advisory Committee by the U.S. Departments of Agriculture and Health and Human Services. Previously, she was appointed by President Obama to serve on the Advisory Group of Prevention, Health Promotion, and Integrative and Public Health from 2011-2017. Please join us in recognizing Elizabeth J. Mayer-Davis, PhD, for outstanding contributions to diabetes epidemiology.
Professional Interest Group Award Recipients

Richard R. Rubin Award
Frank J. Snoek, PhD

Richard R. Rubin Award Lecture
#DiabetesPsychologyMatters

Frank J. Snoek, PhD, is the recipient of the 2019 Richard R. Rubin Award. This award recognizes a scientist who has made outstanding, innovative contributions to the study and understanding of the behavioral aspects of diabetes. Dr. Snoek will deliver the Richard R. Rubin Award Lecture on Saturday, June 8.

Currently, Dr. Snoek is Professor and Head of the Department of Medical Psychology at Amsterdam University Medical Centers in Amsterdam, The Netherlands. Additionally, he chairs the Diabetes Psychology Research Group and is the leading clinician of the center’s specialized mental health clinic for patients with diabetes.

Dr. Snoek has received more than 30 major research and training grants, published over 200 papers in peer-reviewed journals, co-edited two handbooks, and presented major international addresses. His research emphasizes the importance of furthering psychological needs assessment and diabetes-specific interventions in diabetes care. His research group developed internationally-used psychological measures and evidence-based therapies. He is now working on a service model for patients with diabetes that combines face-to-face and internet treatment tailored to individuals’ psychological profiles. Recently, he developed a self-help app for mental vitality for persons with diabetes.

Dr. Snoek has served on seven editorial boards of high-impact journals, as well as maintained Board memberships in organizations including the American Diabetes Association, European Association for the Study of Diabetes (EASD), and International Diabetes Federation. He was the founding chair of the EASD Psychosocial Aspects of Diabetes Study group. Please join us in celebrating Frank J. Snoek, PhD, for his contributions in behavioral medicine and diabetes.

Roger Pecoraro Award
James Wrobel, DPM, MS

Roger Pecoraro Award Lecture
Artificial Intelligence for Predicting Diabetes-Related Foot Ulcer Outcomes

James Wrobel, DPM, MS, is the recipient of the 2018 Roger Pecoraro Award. This award recognizes a researcher who has made scientific contributions and demonstrates an unflinching commitment to improving the understanding of the detection, treatment, and prevention of diabetic foot complications. Dr. Wrobel will deliver the Roger Pecoraro Award Lecture on Saturday, June 8.

Dr. Wrobel is a Clinical Associate Professor in the Division of Metabolism, Endocrinology, and Diabetes at the University of Michigan. He also serves as a Staff Podiatrist at the VA Ann Arbor Healthcare System in Ann Arbor, Michigan.

Dr. Wrobel’s research, which has focused on the pathophysiology, prevention, and treatment of diabetes-related foot complications and their broader context, has significantly enhanced our understanding of diabetic foot care. His efforts include pioneering machine learning and image analysis methods that predict foot ulcerating and healing, exploring novel risk factors for Charcot neuroarthropathy, and understanding and reducing racial disparities in rates of diabetes-related amputations in the U.S.

An internationally recognized researcher and clinician, Dr. Wrobel has held volunteer leadership roles in various organizations. He has served as an active member of the American Diabetes Association’s (ADA’s) Research Grant Review Committee, as well as a reviewer of ADA’s journal, Diabetes Care, and is a current member of the American Podiatric Medical Association’s Clinical Practice Committee. Please join us in recognizing James Wrobel, DPM, MS, for his contributions and commitment to improving the understanding of, detection, treatment, and prevention of diabetic foot complications.
Norbert Freinkel Award
Assiamira Ferrara, MD, PhD

Norbert Freinkel Award Lecture
Translating Research on Diabetes and Obesity in Pregnancy into Prevention

Assiamira Ferrara, MD, PhD, is the recipient of the 2019 Norbert Freinkel Award, given in memory of Norbert Freinkel, a dedicated investigator and thought leader. This award honors a researcher who has made outstanding contributions to the understanding and treatment of diabetes in pregnancy. Dr. Ferrara will deliver the Norbert Freinkel Award Lecture on Sunday, June 9.

Dr. Ferrara currently serves as Associate Director of the Division of Research at Kaiser Permanente Northern California, leading the Women’s and Children’s Health section. She is also Director of the Diabetes and Obesity Prevention Core at the Center for Diabetes Translation Research.

The author of more than 130 publications, Dr. Ferrara is a prolific researcher in the field of diabetes and pregnancy. She was one of the first scientists to document increases in the prevalence of gestational diabetes and advocate for health systems to improve its diagnosis, treatment, and prevention. Her contributions include finding that the Carpenter-Coustan thresholds were predictive of neonatal complications among women without gestational diabetes, and overseeing a large, cluster randomized trial among women with gestational diabetes demonstrating that a DPP-derived lifestyle intervention beginning during pregnancy reduced gestational weight gain, the proportion of large-for-gestational age infants, and postpartum weight retention.

Dr. Ferrara has served in various national and international leadership roles, including Chair of the American Diabetes Association’s Pregnancy & Reproductive Health Interest Group and Scientific Sessions Meeting Planning Committee. She is also a mentor for many early career investigators in the field. Please join us in celebrating Assiamira Ferrara, MD, PhD, for outstanding contributions to the understanding and treatment of diabetes in pregnancy.

Edwin Bierman Award
Peter Rossing, MD, DMSc

Edwin Bierman Award Lecture
Linking Kidney and Cardiovascular Complications—Impact on Prognosis and Treatment

Peter Rossing, MD, DMSc, is the recipient of the 2019 Edwin Bierman Award. This award recognizes a leading scientist who has made outstanding contributions to the field of diabetes-related macrovascular complications and related risk factors. Dr. Rossing will deliver the Edwin Bierman Award Lecture on Monday, June 10.

Currently Head of Complications Research and Chief Physician at Steno Diabetes Center Copenhagen, Denmark, Dr. Rossing is a pioneer and renowned expert who has made lasting impacts within the areas of diabetes and macrovascular complications.

With more than 390 articles in prestigious journals, Dr. Rossing’s research addressing the renal and cardiovascular complications of diabetes has been acknowledged internationally. His work investigated key features of the pathophysiology of the diabetic kidney, as well as identified markers for the development of diabetic nephropathy. He works diligently on intervention studies which aim to improve the prognosis of patients with overt diabetic nephropathy.

Dr. Rossing’s research on macrovascular diseases was recently brought to the forefront in the American Diabetes Association-European Association for the Study of Diabetes (EASD) joint position statement, Management of Hyperglycemia in Type 2 Diabetes. Furthermore, he has served in leadership roles including Past President of the Danish Endocrine Society and European Diabetic Nephropathy Study Group and received two awards presented by the EASD. Please join us in celebrating Peter Rossing, MD, DMSc, for outstanding contributions in the field of diabetes-related macrovascular complications.
Women’s Interprofessional Network Award Recipient

Lois Jovanovic Transformative Woman in Diabetes Award
Elizabeth R. Seaquist, MD

Elizabeth R. Seaquist, MD, is the recipient of the 2019 Lois Jovanovic Transformative Woman in Diabetes Award. This new award in honor of Lois Jovanovic, MD, an iconic scientist who passed away in September 2018, recognizes a woman who has made a significant impact in diabetes care, research, education, or public health. Dr. Seaquist will give remarks at the Women’s Interprofessional Network of the American Diabetes Association (WIN ADA) Reception on Friday, June 7.

Dr. Seaquist is Professor of Medicine, Director of the Division of Endocrinology, Diabetes, and Metabolism, and Vice Chair for Clinical Affairs in the Department of Medicine at the University of Minnesota where she holds the Pennock Family Chair in Diabetes Research. She is also Associate Director of the university’s Medical Scientist Training Program, as well as Medical Director of the Medical Subspecialty Service Line at MHealth Fairview.

An internationally recognized clinical investigator, Dr. Seaquist has conducted pioneering work on the impact of diabetes and iatrogenic hypoglycemia on cerebral metabolism, structure, and function, and directed high-profile clinical trials in these areas. Her scientific contributions focus on understanding hypoglycemia and human brain glucose metabolism from the “bedside to population” level.

Since 2000, Dr. Seaquist has served as a model investigator for women in diabetes. She has mentored female junior faculty members who are actively involved in diabetes, obesity, and insulin resistance research. She has also served in mentorship and leadership positions within the ADA, including 2014 President, Medicine & Science and the Pathway to Stop Diabetes Mentor Advisory Group, and she received the ADA’s Banting Medal for Leadership and Service and the Distinguished Clinician Scientist Award. Please join us in celebrating Elizabeth R. Seaquist, MD, for her contributions supporting women and research in the diabetes field.
Association Officers Leadership and Service Recognition

**Charles H. Best Medal for Leadership and Service**

David Herrick, MBA

The Charles H. Best Medal for Leadership and Service will be presented to David Herrick, MBA, to honor his service as Chair of the Board of the American Diabetes Association.

Mr. Herrick is Managing Principal of EthicOne, a New York City-based brand consultancy that helps Fortune 1000 companies put ethics and values at the heart of their brands. Mr. Herrick has a long track record of building powerful global brands with ethics and purpose at the core. As a senior executive in the marketing communications industry and as a counselor to C-suites, Boards of Directors, and brand marketing executives, Mr. Herrick’s strategies have powered and managed the reputations of many of the world’s leading companies.

Mr. Herrick's experience includes corporate, consumer, employee, and issues communications for brands ranging from U.S. Bank, Walgreens, and Bristol- Myers Squibb to Samsung, Subaru, and Ford Motor Company. Previously, Mr. Herrick served as U.S. President of Cohn & Wolfe, one of the world’s largest public relations and marketing communications companies and Chief Operating Officer of MWWPR, an international communications firm.

Mr. Herrick has served on the National Board of the American Diabetes Association for three years, having served as chair of the Board Development Committee, chair of the Marketing & Communications Task Force, member of the Finance Committee, and member of the Strategic Planning Task Force. He previously served as chair of the ADA’s Greater New York City Community Leadership Board and has been heavily involved as an organizer and participant in the ADA’s Tour de Cure events. Please join us in honoring David Herrick, MBA, for his outstanding leadership and service to the American Diabetes Association.

**Rachmiel Levine Medal for Leadership and Service**

Gretchen Youssef, MS, RDN, CDE

The Rachmiel Levine Medal for Leadership and Service will be presented to Gretchen Youssef, MS, RDN, CDE, in recognition of her service as President, Health Care & Education of the American Diabetes Association.

Ms. Youssef currently serves as Program Director of the MedStar Diabetes Institute. In this role, she develops and supports innovative diabetes education, clinical, and research programs which successfully impact care management outcomes among persons with or at risk of diabetes in the MedStar Health System and surrounding communities in the District of Columbia and Maryland. She is a staunch advocate for improved access to culturally appropriate self-management education and care management for underserved and high-risk patients with diabetes. She was formerly the Program Manager of the MedStar Health Research Institute site for the National Institutes of Health Diabetes Prevention Program and has subsequently also implemented community-based Lifestyle Balance programs in the District of Columbia.

Ms. Youssef has volunteered with the ADA since 1992 in a variety of positions including vice president of the Montgomery County, Maryland Chapter, chair of the National Education Recognition Program Committee, a member of the National Professional Practice Committee, a STEP-OUT Walk team captain, and most recently as a member of the National Board of Directors from 2010-2012.

Ms. Youssef earned a Bachelor of Science in Medical Dietetics from Pennsylvania State University, and a Master of Science in Health Promotion Management from Marymount University. Please join us in honoring Gretchen Youssef, MS, RDN, CDE, for her outstanding leadership and service to the American Diabetes Association.
Banting Medal for Leadership and Service
Louis H. Philipson, MD, PhD, FACP

The Banting Medal for Leadership and Service will be presented to Louis H. Philipson, MD, PhD, FACP, to honor his service as President, Medicine & Science of the American Diabetes Association.

Dr. Philipson is the James Tyree Professor for Diabetes Research Care and Director of Kovler Diabetes Center in the Departments of Medicine and Pediatrics at The University of Chicago.

Dr. Philipson’s career has focused on cellular and translational studies related to insulin secretion. He has contributed to basic research in the control of insulin secretion via ion channels and calcium regulation in pancreatic beta cells. His current research focuses on the genetic aspects of diabetes and prevention of type 1 diabetes. Dr. Philipson and his colleagues, Drs. Bell, Greeley, and Naylor, have created a resource center for monogenic diabetes in the U.S. The team has established the first U.S. registry for neonatal and monogenic diabetes, and currently is helping to lead a multicenter team studying atypical forms of diabetes (the RADIANT study). He has authored or co-authored over 180 articles including co-editing a text with Drs. Boris Draznin and Janet McGill entitled “Atypical Diabetes,” published by the American Diabetes Association. He maintains a multidisciplinary clinic focused on type 1 diabetes and monogenic diabetes.

Since receiving his first grant from the ADA over 30 years ago, he has volunteered with the ADA for many years. He has been President of the Chicago/Northern Illinois Community Board, served previously on the National Board, and served on a variety of committees including Grant Review, Legal Advocacy, Scientific Sessions Oversight Committee, and currently is part of the ADA effort towards precision medicine for diabetes. Dr. Philipson is a member of the ADA Pinnacle Society and was honored with the Father of the Year Award by the Chicago Community Board. Please join us in honoring Louis H. Philipson, MD, PhD, FACP, for his outstanding leadership and service to the American Diabetes Association.

Charles Kopke Medal for Leadership and Service
Brian Bertha, JD, MBA

The Charles Kopke Medal for Leadership and Service will be presented to Brian Bertha, JD, MBA, to honor his service as Secretary/Treasurer of the American Diabetes Association.

Mr. Bertha is senior adviser for the Health Information Technology Lab (HitLab) and serves as a consultant and interim manager with several early stage health care and technology companies. He has also worked as a trainer and consultant with Innovator’s DNA (iDNA).

His expertise includes more than 20 years in senior management, strategy, marketing, and operations with Baxter and McKesson, and as Chief Operating Officer for Crescendo Bioscience. Earlier in his career, he was a consultant with Bain and Company in the U.S., Europe, and Asia, and a practicing attorney in Palo Alto, California.

Mr. Bertha has previously served on the ADA’s Community Leadership Board for the San Francisco area, and later served on the National Finance Committee, and spent three years on the National Board of Directors. He recently rejoined the ADA Board last year.

He earned a Juris Doctor degree from Harvard Law School and a Master of Business Administration from the Institute of Management Development in Lausanne, Switzerland. In addition, he received a Bachelor of Arts in international relations from Brigham Young University. Please join us in honoring Brian Bertha, JD, MBA, for his outstanding leadership and service to the American Diabetes Association.
Call for Nominations

The ADA is seeking applications for the National Scientific & Health Care Achievement Awards. These awards provide an opportunity to recognize exceptional leadership of individuals who have made significant contributions in the field of diabetes research and care.

National Scientific & Health Care Achievement Award Categories

- Banting Medal for Scientific Achievement
- Outstanding Scientific Achievement Award
- Albert Renold Award
- Outstanding Achievement in Clinical Diabetes Research Award
- Outstanding Educator in Diabetes Award
- Outstanding Physician Clinician in Diabetes Award
- Harold Rifkin Award for Distinguished International Service in the Cause of Diabetes
- Kelly West Award for Outstanding Achievement in Epidemiology

Nominations for the 2020 National Scientific & Health Care Achievement Awards closes September 13, 2019.

For questions regarding the National Scientific & Health Care Achievement Awards, contact Gedeon Topacio at gtopacio@diabetes.org or visit www.professional.diabetes.org/awards.

Nominations for the 2020 Interest Group and Women’s Interprofessional Network of the ADA (WIN ADA) Awards will open in the fall of 2019.

These awards include the Richard R. Rubin Award, Roger Pecoraro Award, Norbert Freinkel Award, Edwin Bierman Award, and WIN ADA Abstract Awards. For more information, please visit www.professional.diabetes.org/interestgroups and www.professional.diabetes.org/winada.
Previous National Scientific & Health Care Achievement Award Recipients

Banting Medal for Scientific Achievement*

1941 Elliott P. Joslin, MD
1942 William Muhlberg, MD
1943 Fred W. Hipwell, MD
1944 Leonard G. Rowntree, MD
1946 25th Anniversary of Insulin Program
   Bernardo A. Houssay, MD
   H.C. Hagedorn, MD
   Fred W. Hipwell, MD
   R.D. Lawrence, MD
   Eugene Opie, MD
   University of Toronto
1947 G.H.A. Clowes, PhD
1948 Rollin T. Woodyatt, MD
1949 Herbert M. Evans, MD
1950 Frederick M. Allen, MD
1952 R.R. Bensley, MD
1953 Shields Warren, MD
1954 Sir Henry H. Dale, MD
1955 Carl F. Cori, MD
1956 William C. Stadie, MD
1957 DeWitt Stetten, Jr., MD, PhD
1958 Jerome W. Conn, MD
1959 William H. Olmsted, MD
1960 Priscilla White, MD
1961 Rachmiel Levine, MD
1962 A. Baird Hastings, PhD
1963 Bernardo A. Houssay, MD
1964 Francis D.W. Lukens, MD
1965 Solomon A. Berson, MD
1966 Robert H. Williams, MD
1967 Alexander Marble, MD
1968 Arthur R. Colwell, MD
1969 Earl W. Sutherland, MD
1970 Paul E. Lacy, MD
1971 George F. Cahill, Jr., MD
1972 Dorothy C. Hodgkin, PhD
1973 Arnold Lazarow, MD, PhD
1974 Albert E. Renold, MD
1975 Roger H. Unger, MD
1976 Donald F. Steiner, MD
1977 David M. Kipnis, MD
1978 Stefan S. Fajans, MD
1979 Charles R. Park, MD
1980 Norbert Freinkel, MD
1981 Lelio Orsi, MD
1982 Jesse Roth, MD
1983 Arthur H. Rubenstein, MD
1984 Daniel W. Foster, MD
1985 Bjorn Nerup, MD
1986 Albert I. Winegrad, MD
1987 Joseph Lerner, MD, PhD
1988 Gerald M. Reaven, MD
1989 Ora Rosen, MD
1990 Daniel Porte, Jr., MD, PhD
1991 Mladen Vranic, MD
1992 Gian Franco Bottazzo, MD
1993 C. Ronald Kahn, MD
1994 Philip E. Cryer, MD
1995 Franz M. Matschinsky, MD
1996 A. Baird Hastings, PhD
1997 Garfield G. Duncan, MD
1998 Rollin T. Woodyatt, MD
1999 Anthony Cerami, PhD
2000 Michael P. Czech, PhD
2001 J. Denis McGarry, PhD
2002 Samuel W. Cushman, PhD
2003 Aldo A. Rossini, MD
2004 Michael A. Brownlee, MD
2005 Jeffrey S. Flier, MD
2006 Richard N. Bergman, PhD
2007 Robert S. Sherwin, MD
2008 Alan D. Cherrington, PhD
2009 George S. Eisenbarth, MD, PhD
2010 Robert A. Rizza, MD
2011 Barbara A. Corkey, PhD
2012 Bruce M. Spiegelman, PhD
2013 Graeme I. Bell, PhD
2014 Daniel J. Drucker, MD
2015 Filip J. Martin, MD
2016 Barbara A. Kahn, MD
2017 Domenico Accili, MD
2018 Gerald I. Shulman, MD, PhD, FACP, MACE

Outstanding Scientific Achievement Award

1957 Solomon A. Berson, MD
1958 James B. Field, MD
1959 Marvin D. Siperstein, MD, PhD
1960 Albert E. Renold, MD
1961 Rosalyn S. Yalow, PhD
1962 Harry N. Antoniades, PhD
1963 James M.B. Bloodworth, Jr., MD
1964 Roger H. Unger, MD
1965 George F. Cahill, Jr., MD
1966 Norbert Freinkel, MD
1967 David M. Kipnis, MD
1968 Robert G. Spiro, MD
1969 Donald F. Steiner, MD
1970 Oscar B. Crofford, MD
1971 Daniel Porte, Jr., MD, PhD
1972 John H. Exton, PhD
1973 Arthur H. Rubenstein, MD
1974 Jesse Roth, MD
1975 Pedro Cuatrecasas, MD
1976 Philip Felig, MD
1977 Peter H. Bennett, MD
1978 J. Denis McGarry, PhD
1979 Leonard S. Jefferson, PhD
1980 Jerrold M. Olefsky, MD
1981 C. Ronald Kahn, MD
1982 Michael P. Czech, PhD
1983 Howard S. Tager, PhD
1984 Alan D. Cherrington, PhD
1985 Steven J. Jacobs, MD
1986 George S. Eisenbarth, MD, PhD

*Prior to 1972, the Association recognized multiple award recipients in a single year. The list above includes all who received the Banting Medal for Scientific Achievement. In those years when more than one medal was bestowed, the medal recipient listed first delivered the Banting Lecture.
1987  Ralph A. DeFronzo, MD
1988  John E. Gerich, MD
1989  Richard N. Bergman, PhD
1990  Graeme I. Bell, PhD
1991  Jeffrey S. Flier, MD
1992  Simeon Taylor, MD, PhD
1993  Michael A. Brownlee, MD
1994  Kenneth S. Polonsky, MD
1995  Barbara B. Kahn, MD
1996  Jeffrey E. Pessin, PhD
1997  Gerald I. Shulman, MD, PhD
1998  Michael M. Mueckler, PhD
1999  Morris F. White, PhD
2000  Luciano Rossetti, MD
2001  Christopher B. Newgard, PhD
2002  Camillo Ricordi, MD
2003  Domenico Accili, MD
2004  Mark A. Atkinson, PhD
2005  Philipp E. Scherer, MD
2006  Gerald M. Reaven, MD
2007  Maria G. Buse, MD
2008  Michael P. Czech, PhD
2009  Jeffrey S. Flier, MD
2010  Reubin Andres, MD
2011  Mladen Vranic, MD, DSc,
2012  R. Paul Robertson, MD
2013  Donald F. Steiner, MD
2014  John E. Gerich, MD
2015  A. Stephen Goldstein, MD
2016  Susumu Tonegawa, MD, PhD

Albert Renold Award

1992  Peter H. Forsham, MD
1993  Jesse Roth, MD
1994  Harold E. Lebovitz, MD
1995  Daniel Porte, Jr., MD
1996  R. Paul Robertson, MD
1997  C. Ronald Kahn, MD
1998  Phillip Gorden, MD
1999  Reuben Andres, MD
2000  Ralph A. DeFronzo, MD
2001  Gerald I. Shulman, MD
2002  Mladen Vranic, MD, DSc,
2003  Maria G. Buse, MD
2004  Michael P. Czech, PhD
2005  R. Paul Robertson, MD
2006  Michael M. Mueckler, PhD
2007  Maria G. Buse, MD
2008  Michael P. Czech, PhD
2009  Jeffrey S. Flier, MD
2010  Michelle J. Kass, PhD

Outstanding Achievement in Clinical Diabetes Research Award

2015  David M. Nathan, MD
2016  Steven E. Kahn, MB, ChB
2017  William V. Tamborlane
2018  Rury R. Holman FRCP, FMedSci

Outstanding Educator in Diabetes Award

1977  Rita M. Nemchik, RN, MS
1978  Barbara M. Prater, PhD, RD
1979  Diana Guthrie, RN, PhD
1980  Caryl F. Fylling, RN, MS
1981  Barbara Christman Adair, RN, MSN
1982  Myrtis A. McSweeney, RN
1983  Maria Alogna, RN, MPH
1984  Margaret C. Yarbrough, RPh
1985  Marion Franz, RD, MS
1986  Deborah A. Hinnen, RN, MN
1987  Madelyn L. Wheeler, MS, RD, CDE
1988  Phyllis R. Crapo, RD, PhD
1989  Keith Campbell, RPh
1990  Margaret A. Powers, RD, MS
1991  Judith Wykle-Rosset, RD, EdD
1992  Helen R. Bowlin, RN, CDE
1993  Barbara J. Masách-Carey, RNCS, MSN, CDE
1994  Jean E. Betschart, MN, RN, CDE
1995  Linda B. Haas, MN, RN, CDE, PhD
1996  Ruth Farkas-Hirsch, MS, RN, CDE
1997  Richard R. Rubin, PhD, CDE
1998  Anne S. Daly, MS, CDE, RD
1999  Martha M. Funnell, MS, CDE, RN
2000  Marjorie L. Cypress, CDE, MS, RN, ANP
2001  Robert M. Anderson, PhD
2002  Barbara J. Anderson, PhD
2003  Robert M. Anderson, PhD
2004  Jeannie K. DeVilbiss, RN, MS, CDE
2005  Melinda M. Ninnes, RN, CDE
2006  Geralyn Spollett, MSN, CDE, ANP
2007  Virginia Peragallo-Dittko, RN, BC-ADM, MA, CDE
2008  David G. Marrero, PhD
2009  Steven V. Edelman, MD
2010  Belinda P. Childs, ARNP, MN, CDE, BC-ADM
2011  Linda M. Siminerio, RN, PhD, CDE
2012  Robin Nwankwo, MPH, RD, CDE
2013  Ann L. Albright, PhD, RD
2014  Katie Weinger, EdD, RN, FAAD
2015  Linda M. Delahanty, MS, RDN
2016  Sheri R. Colberg-Ochs, PhD, FACSM
2017  Davida F. Kruger, MSN, APRN-BC, BC-ADM
2018  Jackie L. Boucher, MS, RDN
Outstanding Physician Clinician in Diabetes Award

1975  Edgar A. Haunz, MD  1992  Saul M. Genusth, MD  2007  Richard M. Bergenstal, MD
1976  David Hurwitz, MD  1993  Alice N. Bessman, MD  2008  Anne L. Peters, MD, FACP, CDE
1978  Priscilla White, MD  1995  Lois Jovanovic, MD  2010  William V. Tamborlane, MD
1979  Marvin E. Levin, MD  1996  F. Xavier Pi-Sunyer, MD, MPH  2011  Jerry P. Palmer, MD
1980  Harold Rifkin, MD  1997  Bruce R. Zimmerman, MD  2012  Georgieanna J. Klingensmith, MD
1981  James M. Moss, MD  1998  Julio V. Santiago, MD  2013  Guillermo E. Umpierrez, MD, FACP, FACE
1982  George P. Heffner, MD  1999  Robert A. Rizza, MD  2014  Frank Q. Nuttal, MD, PhD
1983  Harvey C. Knowles, Jr., MD  2000  H. Peter Chase, MD  2015  Lori Laffel, MD, MPH
1984  Alan L. Graber, MD  2001  David M. Nathan, MD  2016  Mayer B. Davidson, MD
1985  Burritt L. Haag, MD  2002  Richard A. Guthrie, MD, FAAP, FACE, CDE
1986  Holbrooke S. Seltzer, MD  2003  Ronald A. Arky, MD  2017  Ruth S. Weinstock, MD, PhD
1987  O. Peter Schumacher, MD, PhD  2004  James R. Gavin III, MD, PhD
1988  Allan L. Drash, MD  2005  Christopher D. Saudek, MD
1989  Fred W. Whitehouse, MD  2006  Bernard Zinman, MD, FACP, FRCP
1990  James R. Gavin III, MD, PhD
1991  Christopher D. Saudek, MD

Outstanding Physician Educator in Diabetes Award**

1975  Alexander Marble, MD  1983  Donnell D. Etzwiler, MD  1991  Marvin E. Levin, MD
1976  Leona V. Miller, MD  1984  H. St. George Tucker, Jr., MD  1992  John A. Colwell, MD, PhD
1977  Philip W. Felts, MD  1985  Charles R. Shuman, MD  1993  John H. Karam, MD
1978  Frederick C. Goetz, MD  1986  J. Stuart Soeldner, MD  1994  Fred Whitehouse, MD
1979  John K. Davidson, MD  1987  Ronald A. Arky, MD  1995  Luther B. Travis, MD
1980  Leon P. Krall, MD  1988  Daniel W. Foster, MD  1996  Edward S. Horton, MD
1981  John W. Runyan, MD  1989  Oscar B. Crofford, MD  1997  Mark E. Molitch, MD
1982  Ann Lawrence, MD, PhD  1990  Mayer B. Davidson, MD  1998  Arthur Krosnick, MD, CDE

**This award was merged with the Outstanding Clinician Award in 1999.

Harold Rifkin Award for Distinguished International Service in the Cause of Diabetes

1991  Harold Rifkin, MD  2002  Paul Zimmet, MD, PhD  2011  Rury R. Holman, FRCP
1992  Harry Keen, MD  2003  Linda M. Siminerio, RN, PhD, CDE
1993  Leo P. Krall, MD  2004  Jean-Claude Mbanya, MD  2012  Pierre J. LeFèvre, MD, PhD, FRCP, MAE
1994  Wendell Mayes, Jr.  2005  Insulin for Life  2013  Graham Ogle, MBBS, FRACP
1995  Hilary King, MSc, MD, MFPHM, DSc  2006  Jaime A. Davidson, MD  2014  Jaakko Tuomilehto, MD, MA, PhD, FESC, FRCP Edin
1996  Meng H. Tan, MD  2007  Martin Silink, AM, MD, FRACP  2015  Carl Erik Mogensen, MD
1997  K.G.M.M. Alberti, DPhil  2008  Andrew J.M. Boulton, MD, FRCP  2016  Yutaka Seino, MD, PhD
1998  Enrol Morrison, MD  2009  Mahmoud Ashraf Ibrahim, MD  2017  Roger S. Maze, PhD
1999  Michael Berger, MD  2010  Peter H. Bennett, MB, ChB, FRCP, FFFP
2000  Maria de Alva
2001  Sterling Tucker
2002  Richard M. Bergenstal, MD
2003  Anne L. Peters, MD, FACP, CDE
2004  Daniel L. Lorber, MD, FACP, CDE
2005  William V. Tamborlane, MD
2006  Jerry P. Palmer, MD
2007  Georgieanna J. Klingensmith, MD
2008  Guillermo E. Umpierrez, MD, FACP, FACE
2009  Frank Q. Nuttal, MD, PhD
2010  Lori Laffel, MD, MPH
2011  Mayer B. Davidson, MD
2012  Ruth S. Weinstock, MD, PhD
2013  Andrew J. Ahmann, MD
2014  Arthur Krosnick, MD, CDE
2015  Carl Erik Mogensen, MD
2016  Yutaka Seino, MD, PhD
2017  Roger S. Maze, PhD
2018  Viswanathan Mohan, MD, PhD, DSc
Kelly West Award for Outstanding Achievement in Epidemiology

1986  Peter H. Bennett, MD
1987  Elizabeth L. Barrett-Connor, MD
1988  Ronald E. LaPorte, PhD
1989  Harry Keen, MD
1990  Michael Stern, MD
1991  Paul Zimmet, MD, PhD
1992  Maureen I. Harris, PhD
1993  Trevor J. Orchard, MD
1994  Ronald Klein, MD, MPH
1995  William C. Knowler, MD, DrPh
1996  Richard F. Hamman, MD, DrPh
1997  Steven M. Haffner, MD
1998  Jaakko Tuomilehto, MD, PhD
1999  Wilfred Y. Fujimoto, MD
2000  Eveline Eschwege, MD
2001  John H. Fuller, MD
2002  David H. Pettitt, MD
2003  Barbara V. Howard, PhD
2004  Michael Engelgau, MD, MS
2005  Marian J. Rewers, MD, PhD
2006  William H. Herman, MD, MPH
2007  Beverley Balkau, PhD, BSc, DipEd
2008  Markku Laakso, MD, PhD
2009  James B. Meigs, MD, MPH
2010  Frank B. Hu, MD, PhD
2011  Frederick L. Brancati, MD, MHS, FACP
2012  Knut Borch-Johnsen, MD, PhD
2013  Edward J. Boyko, MD, MPH
2014  Andrzej S. Krolewski, MD, PhD
2015  K.M. Venkat Narayan, MD, MSc, MBA
2016  Edward W. Gregg, PhD
2017  Dana Dabelea, MD, PhD
2018  Catherine C. Cowie, PhD, MPH
Previous Professional Interest Group Award Recipients

Richard R. Rubin Award*

2005 Daniel J. Cox, PhD
2006 Russell E. Glasgow, PhD
2007 Suzanne B. Johnson, PhD
2008 Rena R. Wing, PhD
2009 Patrick J. Lustman, PhD
2010 Richard R. Rubin, PhD, CDE
2011 Barbara J. Anderson, PhD
2012 Lawrence Fisher, PhD, ABPP
2013 Margaret Grey, DrPH, RN, FAAN
2014 William H. Polonsky, PhD, CDE

2010 Richard R. Rubin Award*

1992 Michael E. Edmonds, MD, FRCP
1993 Jean-Philippe Assal, MD
1995 Paul W. Brand, MD, CBE
1996 Andrew J.M. Boulton, MD
1997 Gary W. Gibbons, MD
1998 Jan Aplekvist, MD, PhD
1999 Michael E. Edmonds, MD, FRCP
2000 Gayle Reiber, PhD, MPH
2002 Peter R. Cavanaugh, PhD, DSc
2003 Lawrence B. Harkless, DPM, FACFAS
2004 Aristidis Veves, MD
2005 Frank LoGerfo, MD, FACS
2006 Michael J. Mueller, PT, PhD, FAPTA
2007 Lawrence A. Lavery, DPM, MPH
2008 David Sinacore, PT, PhD
2009 James A. Birke, PT, PhD
2010 David G. Armstrong, DPM, MD, PhD
2011 Robert G. Frykberg, DPM, MPH

2015 Robert M. Anderson, EdD
2016 Elizabeth A. Walker, PhD, RN
2017 Michael A. Harris, PhD
2018 Tim Wysocki, PhD, ABPP

*Formerly the Behavioral Medicine and Psychology Distinguished Contributions Award, this award was renamed in honor of Richard R. Rubin, PhD, CDE, who passed away on March 25, 2013. The award is to honor his remarkable service to the Association as both a volunteer and health care professional.

Roger Pecoraro Award

1992 John Bell, MD
1993 Lars Mosted-Pedersen, MD
1994 John A. O'Sullivan, MD
1995 Ulf J. Eriksson, MD, PhD
1996 John L. Kitzmiller, MD
1997 Donald R. Coustan, MD
1998 David Pettitt, MD
1999 Thomas A. Buchanan, MD
2000 Patrick M. Catalano, MD
2001 Lois Jovanovic, MD
2002 Jorge H. Mestman, MD
2003 Oded Langer, MD, PhD
2004 F. André Van Assche, MD, PhD
2005 Steven G. Gabbe, MD
2006 David R. Hadden, MD
2007 Emilio Herrera, PhD
2008 David A. Sacks, MD
2009 Siri L. Kjos, MD
2010 Sylvie Hauguel-de Mouzon, PhD
2011 Peter Damm, MD, DMSc
2012 E. Albert Reece, MD, PhD, MBA
2013 Caroline A. Crowther, MD, FRANZCOG, FRCOG, CMFM
2014 Jacob E. (Jed) Friedman, PhD
2015 Elisabeth R. Mathiesen, MD, DMSc
2016 H. David McIntyre, MD, FRACP
2017 Gernot Desoye, PhD
2018 Linda (Lynn) A. Barbour, MD, MSPH, FACP

Norbert Freinkel Award

1992 Boyd E. Metzger, MD
1994 John A. O'Sullivan, MD
1995 Ulf J. Eriksson, MD, PhD
1996 John L. Kitzmiller, MD
1997 Donald R. Coustan, MD
1998 David Pettitt, MD
1999 Thomas A. Buchanan, MD
2000 Patrick M. Catalano, MD
2001 Lois Jovanovic, MD
2002 Jorge H. Mestman, MD
2003 Oded Langer, MD, PhD
2004 F. André Van Assche, MD, PhD
2005 Steven G. Gabbe, MD
2006 David R. Hadden, MD
2007 Emilio Herrera, PhD
2008 David A. Sacks, MD
2009 Siri L. Kjos, MD
2010 Sylvie Hauguel-de Mouzon, PhD
2011 Peter Damm, MD, DMSc
2012 E. Albert Reece, MD, PhD, MBA
2013 Caroline A. Crowther, MD, FRANZCOG, FRCOG, CMFM
2014 Jacob E. (Jed) Friedman, PhD
2015 Elisabeth R. Mathiesen, MD, DMSc
2016 H. David McIntyre, MD, FRACP
2017 Gernot Desoye, PhD
2018 Linda (Lynn) A. Barbour, MD, MSPH, FACP

Edwin Bierman Award

1999 Barbara V. Howard, PhD
2000 John A. Colwell, MD, PhD
2001 Maria Lopes-Virella, MD, PhD
2002 Helen Vlassara, MD
2003 Alan Chait, MD
2004 Marja-Riitta Taskinen, MD
2005 John D. Brunzell, MD
2006 Robert H. Eckel, MD
2007 Henry N. Ginsberg, MD
2008 Scott M. Grundy, MD, PhD
2009 Steven M. Haffner, MD
2010 Ira J. Goldberg, MD
2011 Theodore Mazzone, MD, FACP
2012 Ronald M. Krauss, MD
2013 Joseph L. Witztum, MD
2014 Karin E. Bornfeldt, PhD
2015 George L. King, MD
2016 Clay F. Semenkovich, MD
2017 Mark Emmanuel Cooper, MBBS, PhD
2018 Alessandro Doria, MD, PhD, MPH
Previous National Service Achievement Award Recipients

C. Everett Koop Medal for Health Promotion and Awareness

1990  C. Everett Koop, MD
1991  Ted Turner
1992  Governor Michael N. Castle
1993  Governor Lowell P. Weicker
1994  First Lady, Hillary Rodham Clinton
1995  Ronald Kotulak
1996  The Honorable Jake Garn
1999  Nicole Johnson (Miss America 1999)
2000  National Council of La Raza
2001  Anita Manning
2002  Secretary of Health and Human Services, Tommy G. Thompson
2003  American College of Cardiology
2004  Michael Jacobson
2005  National Committee on Quality Assurance (NCQA)
2006  Governor Mike Huckabee
2007  AARP
2008  Thomas R. Frieden, MD, MPH (Commissioner, NYC Department of Health & Mental Hygiene)
2010  Kelly J. Acton, MD, MPH, FACP, CAPT, USPHS

Wendell Mayes, Jr. Award for Lifetime Service

1986  Wendell Mayes, Jr.
1987  Benjamin Greenspoon
1988  Dorothea Sims
1989  Lee Iacocca
1990  William F. Talbert
1991  Maria L. de Alva
1992  Lee Ducat
1993  Tom Parks
1994  Wade Wilson
1995  Henry Rivera
1996  Todd E. Leigh
1997  Ross V. Hickey, Jr.
1998  Sterling Tucker
1999  Wayne Parker
2000  Michael A. Greene
2001  Stephen J. Satalino
2002  Alan Altschuler
2003  Davida F. Kruger, MSN, APRN, BC-ADM
2004  Charles and Verda Kopke
2005  Robert J. Singley
2006  Stephen H. Smith
2007  James A. Horbowicz
2008  Lawrence T. Smith
2010  Stanley Panasewicz, CMA
2011  Darlene L. Cain
2012  Stewart Perry
2013  Larry Ellingson, RPh

Public Policy Leadership Award

1995  Assemblyman Robert K. Sweeney and Senator Nicholas A. Spano
1996  The Honorable Elizabeth Furse
1998  The Honorable George R. Nethercutt, Jr.
1999  Diabetes Advocates (represented by Hal Storey, Paula M. Yutzy, RN, CDE, Crystal Jackson, and Sandy Pope)
2000  Senator Susan M. Collins
2001  The Honorable Henry Bonilla
2001  The Honorable Curt Weldon
2003  The Honorable Dennis J. Hastert
2006  State Senator Robert Duncan
2007  Senator Pete Domenici
2008  Senator Edward M. Kennedy
2010  Kapche Litigation Team (represented by Jeffrey S. Kapche, Katherine L. Butler, JD, James R. Gavin II, MD, PhD, Desmond A. Schatz, MD)
2011  Representative Diana DeGette
2012  Senator Ben Nevers and Representative Matt Ramsey
2013  Senator Al Franken

Ross Hickey Award for Outstanding Service in Diabetes Research Funding

1999  Davida F. Kruger, MSN, RN, CS, CDE
2000  PacifiCare Foundation
2001  Order of the Amaranth and Amaranth Diabetes Foundation
2002  Anonymous
2003  Terry Gregg and Louise Cotting-Gregg
2004  Donald and Arleen Wagner
2005  Edsel and Cynthia Ford
2006  Richard and Susan Smith
2007  The Hickey Family
2008  Valerie and Peter Kompaniez
2010  Ginger L. Graham, MBA
2012  Delores and William Brehm
### Addison B. Scoville Award for Outstanding Volunteer Service

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>Ernest M. Frost, EdD</td>
</tr>
<tr>
<td>1977</td>
<td>Wendell Mayes, Jr.</td>
</tr>
<tr>
<td>1981</td>
<td>Alvin Z. Levine</td>
</tr>
<tr>
<td>1984</td>
<td>Robert L. Kroc, PhD</td>
</tr>
<tr>
<td>1986</td>
<td>Annette Shapiro</td>
</tr>
<tr>
<td>1987</td>
<td>Oscar B. Crofford, MD</td>
</tr>
<tr>
<td>1988</td>
<td>Virginia Hanson-Ullom</td>
</tr>
<tr>
<td>1989</td>
<td>Sandra Segal Polin, MPA</td>
</tr>
<tr>
<td>1990</td>
<td>Jaime A. Davidson, MD</td>
</tr>
<tr>
<td>1991</td>
<td>Frederick C. Goetz, MD</td>
</tr>
<tr>
<td>1992</td>
<td>Charles H. Kopke</td>
</tr>
<tr>
<td>1993</td>
<td>Deborah Hinnen, RN, CDE</td>
</tr>
<tr>
<td>1994</td>
<td>Denise Dodero</td>
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<tr>
<td>1995</td>
<td>Sydelle Feinman</td>
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<tr>
<td>1996</td>
<td>Michael J. DeMarea, Jr.</td>
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<td>1997</td>
<td>David L. Shaw</td>
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<td>1998</td>
<td>Sara Nelson</td>
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<td>1999</td>
<td>Sanford J. Spitzer</td>
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<td>2000</td>
<td>Darlene L. Cain</td>
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<td>2001</td>
<td>Lawrence T. Smith</td>
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<td>2002</td>
<td>George J. Huntley, CPA</td>
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<td>2003</td>
<td>Cherrel A. Christian, RN, CDE</td>
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<td>2004</td>
<td>R. Stewart Perry</td>
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<tr>
<td>2005</td>
<td>Victor H. Gonzalez, MD</td>
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<td>2006</td>
<td>John W. Griffin, Jr.</td>
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<td>2007</td>
<td>Robert E. Sevier, MD</td>
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<tr>
<td>2008</td>
<td>Yvette Roubideaux, MD, MPH</td>
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<tr>
<td>2009</td>
<td>Richard R. Rubin, PhD, CDE</td>
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<td>2010</td>
<td>Joseph A. Stankaitis, MD, MPH</td>
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<tr>
<td>2011</td>
<td>Cynthia Levy</td>
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<tr>
<td>2012</td>
<td>Kermit R. Crawford, RPh</td>
</tr>
</tbody>
</table>

### Excellence in Health Communications Award

2012 Kelly Close

### Health Professional Award for Volunteer Service

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
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<tbody>
<tr>
<td>2012</td>
<td>Ho Luong Tran, MD, MPH</td>
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<tr>
<td>2013</td>
<td>Brenda Montgomery, RN, MS, CDE</td>
</tr>
</tbody>
</table>

### Charles H. Best Medal for Distinguished Service in the Cause of Diabetes*

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1974</td>
<td>Senator Gale W. McGee</td>
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<tr>
<td>1975</td>
<td>Ray A. Kroc</td>
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<tr>
<td>1976</td>
<td>Oscar B. Crofford, MD</td>
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<tr>
<td>1977</td>
<td>Representative Louis Stokes</td>
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<td>1978</td>
<td>Wayne Newton</td>
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<tr>
<td>1979</td>
<td>President Gerald R. Ford</td>
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<tr>
<td>1980</td>
<td>Jim (Catfish) Hunter</td>
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<tr>
<td>1981</td>
<td>David M. Kipnis</td>
</tr>
<tr>
<td>1982</td>
<td>Daniel T. Gillespie Family</td>
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<tr>
<td>1983</td>
<td>J. William Flynn, MD</td>
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<td>1983</td>
<td>President Ronald Reagan</td>
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<tr>
<td>1984</td>
<td>James M. Fowler, DDS</td>
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<td>1984</td>
<td>Everett J. Grindstaff</td>
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<tr>
<td>1985</td>
<td>Keath K. Krueger, PhD</td>
</tr>
<tr>
<td>1985</td>
<td>Nina Berlin</td>
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<tr>
<td>1985</td>
<td>Jean F. Curran</td>
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<td>1985</td>
<td>Dorothea F. Sims</td>
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<td>1985</td>
<td>Lester B. Salans, MD</td>
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<td>1985</td>
<td>Lee Iacocca</td>
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<tr>
<td>1985</td>
<td>Governor Robert Graham</td>
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<td>1986</td>
<td>John H. Davidson, MD, PhD</td>
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<tr>
<td>1987</td>
<td>Senator Lowell Weicker</td>
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<tr>
<td>1987</td>
<td>Neil Pettinga, PhD</td>
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<tr>
<td>1988</td>
<td>Richard Verville</td>
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<td>1988</td>
<td>Joan Foran</td>
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<td>1989</td>
<td>Lions Clubs International</td>
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<td>1990</td>
<td>Wayne Parker</td>
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<td>1990</td>
<td>Robert S. Bolan</td>
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<td>1990</td>
<td>Premiere Committee, Los Angeles</td>
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<td>1991</td>
<td>Eva R. Saxl</td>
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<td>1991</td>
<td>Frank Vinicor, MD</td>
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<td>1991</td>
<td>Congressman Gerry Sikorski</td>
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<td>1992</td>
<td>Rachmiel Levine, MD</td>
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<td>1993</td>
<td>Holiday Sales Program</td>
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<td>1994</td>
<td>Diabetes Control and Complications Trial</td>
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<tr>
<td>1995</td>
<td>Charles and Verda Kopke</td>
</tr>
<tr>
<td>1996</td>
<td>Order of the Amaranth, Inc.</td>
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<tr>
<td>1997</td>
<td>Michael Rossi</td>
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<tr>
<td>1997</td>
<td>Diabetes Care &amp; Education Practice Group</td>
</tr>
<tr>
<td>1998</td>
<td>Honorable Newt Gingrich</td>
</tr>
</tbody>
</table>

*While this award is no longer bestowed, the Association continues to honor its past recipients for their distinguished service.*
AMERICAN DIABETES ASSOCIATION

Association Officers Leadership and Service Recognition

Charles H. Best Medal for Leadership and Service

1974  Gail Velde
1978  Wendell Mayes, Jr.
1979  Myles H. Tanenbaum
1981  Benjamin Greenspoon
1983  Harlan L. Hanson
1984  Gordon Stulberg
1985  Joseph H. Davis
1986  Henry Rivera
1987  Sam A. Gallo
1988  S. Douglas Dodd
1989  William A. Mamrack
1990  Sterling Tucker
1991  Arnold Bereson
1992  Todd E. Leigh
1993  Ross V. Hickey, Jr.
1994  Michael A. Greene
1995  Douglas E. Lund
1996  David H. McClure
1997  Alan Altschuler
1998  Stephen J. Satalino
1999  Jane Camporeale
2000  Edward T. Hawthorne
2001  Charles F. Baer
2002  Stephen H. Smith
2003  Michael A. Weiss
2004  James A. Horbowicz
2005  Larry K. Ellingson, RPh
2006  Lawrence T. Smith
2007  Darlene L. Cain
2008  R. Stewart Perry
2009  George J. Huntley, CPA
2010  Nash M. Childs, PE
2011  John W. Griffin, Jr.
2012  L. Hunter Limbaugh
2013  Karen Talmadge, PhD
2014  Dwight Holing
2015  Janel L. Wright, JD
2016  Robin J. Richardson
2017  David A. DeMarco, PhD
2018  Karen Talmadge, PhD

Rachmiel Levine Medal for Leadership and Service

1979  Patricia A. Lawrence, RN, MA
1981  Barbara Prater, RD, PhD
1983  Florence R. Ruhland, RN, MEEd
1986  Patricia A. Schultz, RN, MS
1988  Linda S. Hurwitz, RN, MS
1989  Alan D. Cherrington, PhD
1990  Mary Louise Maras, RD, CDE
1991  Charlene Freeman, RN, CDE
1992  Madelyn L. Wheeler, MS, RD, CDE
1994  Patricia D. Stenger, RN, CDE
1995  Linda M. Siminerio, RN, MS, CDE
1996  Davida F. Kruger, MSN, RN, CS, CDE
1997  Belinda P. Childs, RN, MN, CDE
1998  Christine A. Beebe, MS, RD, CDE, LD
1999  Linda B. Haas, PhC, RN, CDE
2000  Elizabeth A. Walker, PhD, RN
2001  Lee J. Sanders, DPM
2002  Anne E. Daly, MS, RD, BC-ADM, CDE
2003  Martha M. Funnell, MS, RN, CDE
2004  Catherine J. Tibbetts, RN, MPH, CDE
2005  Carolé R. Mensing, RN, MA, CDE
2006  Karmeen Kulkarni, MS, RD, BC-ADM, CDE
2007  Richard R. Rubin, PhD, CDE
2008  Ann L. Albright, PhD, RD
2009  Sue McLaughlin, BS, RD, CDE, CPT
2010  Christine T. Tobin, MS, MBA, CDE
2011  Elizabeth Mayer-Davis, MSPH, PhD, RD
2012  Geralyn R. Spollett, MSN, ANP-CS, CDE
2013  Lurelean B. Gaines, RN, MSN
2014  Marjorie Cypress, PhD, C-ANP, CDE
2015  David G. Marrero, PhD
2016  Margaret A. Powers, PhD, RD, CDE
2017  Brenda Montgomery, RN, MSHS, CDE
2018  Felicia Hill-Briggs, PhD, ABPP
Banting Medal for Leadership and Service

1977 Donnell D. Etzwiler, MD  
1978 Norbert Freinkel, MD  
1979 Fred W. Whitehouse, MD  
1980 Ronald A. Arky, MD  
1981 Donald I. Bell, MD  
1982 Oscar B. Crofford, MD  
1983 Irving L. Spratt, MD  
1984 Allan L. Drash, MD  
1985 Karl E. Sussman, MD  
1986 Harold Rifkin, MD  
1987 Daniel Porte, Jr., MD  
1988 John A. Colwell, MD, PhD  
1989 Charles M. Clark, Jr., MD  
1990 Sherman M. Holvey, MD  
1991 Edward S. Horton, MD  
1992 Jay S. Skyler, MD  
1993 F. Xavier Pi-Sunyer, MD  
1994 James R. Gavin II, MD, PhD  
1995 Kathleen L. Wishner, MD, PhD  
1996 Frank Vinicor, MD, MPH  
1997 Philip E. Cryer, MD  
1998 Mayer B. Davidson, MD  
1999 Gerald Bernstein, MD  
2000 Bruce R. Zimmerman, MD  
2001 Robert S. Sherwin, MD  
2002 Christopher D. Saudek, MD  
2003 Francine R. Kaufman, MD  
2004 Eugene J. Barrett, MD, PhD  
2005 Alan D. Cherrington, PhD  
2006 Robert A. Rizza, MD  
2007 Larry C. Deeb, MD  
2008 John B. Buse, MD, PhD  
2009 R. Paul Robertson, MD  
2010 Richard M. Bergenstal, MD  
2011 Dwight Holing  
2012 Pearson C. Cummin III, MBA  
2013 Patrick L. Shuler, CPA  
2014 Robert J. Singley, MBA  
2015 Richard Farber, MBA  
2016 Lorrie Welker Liang  
2017 Umesh Verma  
2018 Michael Ching, CPA  

Charles Kopke Medal for Leadership and Service

2006 Stanley Panasewicz, CMA  
2007 George W. Booker II, CPA  
2008 Robert C. Garrett, FACHE  
2009 T. Edwin Stinson, Jr.  
2010 Gerard B. Nee, CPA  
2011 Dwight Holing  
2012 Pearson C. Cummin III, MBA  
2013 Patrick L. Shuler, CPA  
2014 Robert J. Singley, MBA  
2015 Richard Farber, MBA  
2016 Lorrie Welker Liang  
2017 Umesh Verma  
2018 Michael Ching, CPA
Research Grants Awarded
January 1, 2018 to December 31, 2018

The primary goal of the ADA’s Research Program is to make a unique contribution that will accelerate the search for the prevention and cure of diabetes and its complications. The Research Program accomplishes this by providing research support and mentorship opportunities to young investigators and established scientists.

PATHWAY TO STOP DIABETES AWARDS

Initiator Awards
John N. Campbell, PhD
The Rector and Visitors of the University of Virginia
Charlottesville, VA
Molecular and Functional Taxonomy of Vagal Motor Neurons

Accelerator Awards
Maureen Monaghan, PhD
Children’s Research Institute
Washington, DC
Improving Health Communication during the Transition from Pediatric to Adult Diabetes Care

Alexander R. Nectow, PhD
Princeton University
Princeton, NJ
Investigation of Brainstem Neurons Regulating Energy Balance

Michael L. Stitzel, PhD
The Jackson Laboratory
Farmington, CT
Deciphering Longitudinal Cell Type-Specific Defects in Diabetes Pathogenesis

Visionary Awards
Samie R. Jaffrey, MD, PhD
Joan & Sanford I. Weill Medical College of Cornell University
New York, NY
Rewiring Cellular Metabolic Networks in Diabetes

Jonathan V. Sweedler, PhD
University of Illinois at Urbana-Champaign
Urbana, IL
Unraveling Diabetes Progression a Cell at a Time

TARGETED AWARDS

Cardiovascular Complications in Type 1 Diabetes Postdoctoral Fellowship Awards

Vishal M. Kothari, PhD
University of Washington
Seattle, WA
HDL-Associated Apolipoprotein C4 in Cardiovascular Complications of Type 1 Diabetes

Ivana Semova, PhD
Boston Children’s Hospital
Boston, MA
A Novel Approach Towards Restoring Cholesterol Homeostasis in Type 1 Diabetes

Marc G. Yu, MD
Joslin Diabetes Center
Boston, MA
Risk and Protective Factors for Cardiovascular Complications in Type 1 Diabetes of Extreme Duration—The Joslin Medalist Study

Ania M. Jastreboff, MD, PhD
Yale University School of Medicine
New Haven, CT
Effect of Liraglutide on Neural Responses to High Fructose Com Syrup in Obese Adolescents with Prediabetes

Arina M. Keestra-Gounder, PhD
University of Colorado Denver
Denver, CO
The Connection between the UPR and NOD1 and NOD2 in Obesity and Type 2 Diabetes

Neda Laiteerapong, MD, MS
The University of Chicago
Chicago, IL
Examining the U.S. Cost-Effectiveness of Alternative Glycemic Treatment Algorithms in the Era of New Medications

Reena Oza-Frank, PhD
Ohio Department of Health
Columbus, OH
Practical Approaches to Postpartum Weight Loss after GDM

Marianna Sadagurski, PhD
Wayne State University
Detroit, MI
Growth Hormone Receptor Neurons in Glucose Metabolism

Bokai Zhu, PhD
University of Pittsburgh
Pittsburgh, PA
Bolstering the Hepatic 12h Clock to Protect Against Nonalcoholic Fatty Liver Disease

DEVELOPMENT AWARDS

Junior Faculty Development Awards

Eric A. Appel, PhD
The Board of Trustees of the Leland Stanford Junior University
Stanford, CA
Designer Excipients to Enable Novel Ultra-Fast Insulin Formulations for Diabetes Treatment

Jonathan Campbell, PhD
Duke University
Durham, NC
Mechanisms of GIPR Action as a Novel Therapeutic Target for T2D
<table>
<thead>
<tr>
<th>RESEARCH AWARDS</th>
</tr>
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<tbody>
<tr>
<td><strong>Innovative Basic Science Awards</strong></td>
</tr>
</tbody>
</table>

- **Laura C. Alonso**, MD  
  University of Massachusetts Medical School  
  Worcester, MA  
  **T2D Risk-SNPs at the CDKN2AB Locus**

- **Rebecca L. Berdeaux**, PhD  
  University of Texas Health Science Center at Houston  
  Houston, TX  
  **Regulation of Mitophagy by SIK1**

- **J. Nicholas Betley**, PhD  
  University of Pennsylvania Philadelphia, PA  
  **Understanding the Peripheral Regulation of Feeding Circuits**

- **Lu Cai**, MD, PhD  
  University of Louisville Research Foundation, Inc.  
  Louisville, KY  
  **Zinc-Induced MT Prevents Diabetic Cardiomyopathy by Regulating CARD9/P38a MAPK**

- **Jianchun Chen**, MD  
  Vanderbilt University Medical Center Nashville, TN  
  **Alterations of the Hippo Signaling Pathway in Diabetic Nephropathy**

- **Xiaoli Chen**, MD, PhD  
  University of Minnesota Minneapolis, MN  
  **Pentraxin 3 in Age-Related Thermogenic Adipose Degeneration and Glucose Intolerance**

- **Young-In Chi**, PhD  
  University of Minnesota Minneapolis, MN  
  **Molecular Targeting of HNF4alpha Repressive States**

- **Senad Divanovic**, PhD  
  Cincinnati Children’s Hospital Medical Center Cincinnati, OH  
  **Immune-Modulation of Obesity Development—A New Function for BAFF**

- **Michael S. German**, MD  
  University of California, San Francisco  
  San Francisco, CA  
  **Exosome Therapy for Diabetes**

- **Rebecca Haeusler**, PhD  
  Columbia University New York, NY  
  **Bile Acid Composition and Glucose Metabolism**

- **Sean M. Hartig**, PhD  
  Baylor College of Medicine Houston, TX  
  **A microRNA Rheostat That Regulates Fuel Utilization**

- **Janice M. Huss**, PhD  
  Beckman Research Institute of City of Hope Duarte, CA  
  **Estrogen-Related Receptor Alpha Mediates Skeletal Muscle Genetic and Metabolic Response to Exercise**

- **Konstantin V. Kandror**, PhD  
  Boston University School of Medicine Boston, MA  
  **Regulation of Leptin Production by mTORC1**

- **Hon-Chi Lee**, MD, PhD  
  Mayo Clinic Rochester, MN  
  **Regulation of Vascular Endothelial Ion Channels in Diabetes**

- **Wei Li**, PhD  
  University of Miami Miami, FL  
  **A Novel Disease-Selective Therapy for Diabetic Retinopathy**

- **Feng Liu**, PhD  
  University of Texas Health Science Center at San Antonio San Antonio, TX  
  **Regulation of Mitochondrial Biogenesis and Function by DsbA-L in the Liver**

- **Alexander R. Nectow**, PhD  
  Princeton University Princeton, NJ  
  **Dissection of a Brainstem Circuit in Obesity**

- **Babak Razani**, MD, PhD  
  Washington University in St. Louis St. Louis, MO  
  **Harnessing the Autophagy-Lysosomal Biogenesis Response in Macrophages to Treat Obesity and Insulin Resistance**

- **Sue Ritter**, PhD  
  Washington State University Pullman, WA  
  **Hindbrain Catecholamine Neurons, Glucoregulation, and HAAF**

- **Hai-Bin Ruan**, PhD  
  University of Minnesota Minneapolis, MN  
  **Regulation of Enteroendocrine Cell Differentiation and Function by Protein O-GlcNAcylation**

- **Liangyou Rui**, PhD  
  University of Michigan Medical Center Ann Arbor, MI  
  **APS Regulation of Brown and Beige Fat and Body Weight**

- **Rajan Sah**, MD, PhD  
  Washington University in St. Louis St. Louis, MO  
  **SWELL1 Regulation of β-Cell Excitability and Insulin Secretion**

- **Yuguang Shi**, PhD  
  University of Texas Health Science Center at San Antonio San Antonio, TX  
  **Regulations of Diet-Induced Obesity by Cellular Senescence**

- **Hang Shi**, PhD  
  Georgia State University Research Foundation Atlanta, GA  
  **Epigenetic Programming of Adipocyte Estrogen Receptor in Obesity**
Rajat Singh, MD, MBBS
Albert Einstein College of Medicine
Bronx, NY
Exploring the Circadian Control of Glucose Metabolism by Autophagy

Brian C. Smith, PhD
Medical College of Wisconsin
Milwaukee, WI
Protection of Islet Function through Bromodomain Inhibition in Type 1 Diabetes

Doris A. Stoffers, MD, PhD
University of Pennsylvania
Philadelphia, PA
A Stress-Inducible Transcriptional Complex Regulating Beta-Cell Survival

Dwight A. Towler, MD, PhD
University of Texas Southwestern Medical Center
Dallas, TX
Targeting Arginine Methylation/Deimination Relays to Mitigate Renovascular Complications of Diabetes

Jun Wu, PhD
University of Michigan Medical Center
Ann Arbor, MI
Molecular Regulation of Thermogenic Adipocytes through PRMT1

Allison Wanting Xu, PhD
University of California, San Francisco
San Francisco, CA
Regulation of Age-Induced Obesity by Asb4

Bingzhong Xue, PhD
Georgia State University Research Foundation
Atlanta, GA
Fat-Derived Neurotrophic Factors Regulates Sympathetic Innervation in Adipose Tissue

Ling Yang, MD, PhD
University of Iowa
Iowa City, IA
Mechanisms Underlying Nitrosylation-Mediated Dysregulation of Hepatic Autophagy in Obesity

Liqing Yu, MD, PhD
Georgia State University Research Foundation
Atlanta, GA
Brown Fat Lipolysis Deficiency-Induced Thermoregulation and Metabolic Adaptation

Innovative Clinical or Translational Science Awards

Kristen E. Boyle, PhD
University of Colorado Denver
Denver, CO
Umbilical Cord-Derived Stem Cell Metabolism—Understanding Mechanisms for Childhood Obesity Risk

Susanne M. Cabrera, MD
Medical College of Wisconsin
Milwaukee, WI
Gluten and Amylase Trypsin Inhibitors as Nutritional Contributors to Type 1 Diabetes Susceptibility

Robert V. Considine, PhD
Indiana University
Indianapolis, IN
Effect of Bariatric Surgery on the Central Neural Response to Sweet Taste

Elizabeth D. Cox, MD, PhD
Board of Regents of the University of Wisconsin System
Madison, WI
Identifying Actionable Self-Management Barriers for Adults with T1D

Swapan K. Das, PhD
Wake Forest University Health Sciences
Winston-Salem, NC
Altered DNA Methylation Modulates Adipose Tissue Transcript Expression and Insulin Resistance in African Americans

Kirsten E. Fleischmann, MD
University of California, San Francisco
San Francisco, CA
Calcium Scoring in Primary Prevention of Coronary Artery Disease for Individuals with Diabetes

Charles E. Leonard, PharmD
University of Pennsylvania
Philadelphia, PA
Comparative Safety of Sulfonylureas and the Risk of Sudden Death and Ventricular Arrhythmia

Bettina Mittendorfer, PhD
Washington University in St. Louis
St. Louis, MO
Adipose Tissue Glucose Uptake in Obesity

Scott Summers, PhD
University of Utah
Salt Lake City, UT
Genes, Environment, and Diabetes—Convergence on Ceramides

Davene Renee Wright, PhD
Children’s Hospital and Regional Medical Center
Seattle, WA
Promoting Adolescent Investment in Diabetes Care

TRAINING AWARDS

Postdoctoral Fellowship Awards

Takaomi Adachi, MD, PhD
Yale University School of Medicine
New Haven, CT
Integrating Metabolic and Vascular Protective Effects of Apelin Signaling

Marine Adlanmerini, PhD
University of Pennsylvania
Philadelphia, PA
Role of Rev-erbs in Hypothalamus—Implications for Circadian Behavior and Metabolism

Rachael D. Brust, PhD
President and Fellows of Harvard College
Boston, MA
Investigating Gut-to-Brain Vagal Sensory Neuron Subtypes in Energy Homeostasis and Obesity
Matthew P. Clark, PhD  
University of North Carolina at Chapel Hill  
Chapel Hill, NC  
The Tissue-Specific Effects of Co-Receptor Therapy in T1D

Callie S. Corsa, PhD  
University of Michigan Medical Center  
Ann Arbor, MI  
Investigating the Role of SFRP5 and Wnt Signaling in Adipocyte Metabolism

Rajesh Gupta, PhD  
University of Alabama at Birmingham  
Birmingham, AL  
C1qI3 Inhibits GLP-1 Incretin-Induced Insulin Secretion by Via3 Adhesion G-Protein Coupled Receptor in Pancreatic Beta Cells

Meghan F. Hogan, PhD  
University of Washington  
Seattle, WA  
The Role of Amyloid-Induced StAR (Steroidogenic Acute Regulatory Protein) in Beta-Cell Function and Survival

Chun-Pyo Hong, PhD  
University of Minnesota  
Minneapolis, MN  
Role of the Intestinal Immunoproteasome in Metabolic Diseases

Wenxiang Hu, PhD  
University of Pennsylvania  
Philadelphia, PA  
Global and Local Metabolic Roles of Bone Marrow Adipose Tissue

Ziru Li, PhD  
University of Michigan  
Ann Arbor, MI  
Retinoic Acid Signaling and Gata Transcription Factors in Pancreas Development

Jorge P. Fernandez, PhD  
Columbia University  
New York, NY  
Novel DNA-Based Platforms to Reestablish Tolerance in Type 1 Diabetes

Efrat D. Riesenfeld, PhD  
President and Fellows of Harvard College  
Boston, MA  
Immunometabolic Role for SIRT4 in Obesity-Induced Inflammation and Insulin Resistance

Farnaz Shamsi, PhD  
Joslin Diabetes Center  
Boston, MA  
Elucidating the Role of FGF9 in Regulation of Energy Metabolism

Fubiao Shi, PhD  
Vanderbilt University Medical Center  
Nashville, TN  
Deciphering the Metabolic Benefits of NPRC Deficiency in Adipose Tissues during Diet-Induced Obesity and Cold Acclimation

Sophie Trefely, PhD  
University of Pennsylvania  
Philadelphia, PA  
Role of Acetate in Thermogenic Gene Regulation and Lipid Metabolism in Brown Adipocytes

Eirini Vagena, PhD  
University of California, San Francisco  
San Francisco, CA  
The Role of Asb-4 in the Regulation of Obesity and Type 2 Diabetes

Peng Zhou, PhD  
Beth Israel Deaconess Medical Center  
Boston, MA  
Mechanisms by Which Branched Fatty Acid Esters of Hydroxy Fatty Acids (FAHFAs) Inhibit Hepatic Glucose Production

Minority Postdoctoral Fellowship Awards

Diana L. Alba, MD  
University of California, San Francisco  
San Francisco, CA  
Probing the Link between Ethnicity, Adipose Tissue Dysfunction, and Type 2 Diabetes Risk

Molly K. Altman, PhD  
Vanderbilt University  
Nashville, TN  
Understanding TRPM7 Control of Mg2+ Homeostasis in the Context of Pancreatic Beta-Cell Development and Function
Rafael Arrojo e Drigo, PhD
Salk Institute for Biological Studies
La Jolla, CA
Application of a Multiscale Imaging Platform to Study the Beta-Cell Life Cycle in Health and Disease

Maria Ferreira dos Santos, PhD
University of Utah
Salt Lake City, UT
Role of Iron in Beta-Cell Biology

Maurice B. Fluitt, PhD
Georgetown University
Washington, DC
Assessing the Utility of Urinary Exosomal microRNAs as Early Markers and Molecular Regulators of Diabetic Nephropathy

Nicolas Gómez-Banoy, MD
Joan & Sanford I. Weill Medical College of Cornell University
New York, NY
Role of the Alternative Complement Pathway in Pancreatic Islet Physiology and the Pathogenesis of Type 2 Diabetes

Marta Guasch-Ferré, PhD
President and Fellows of Harvard College
Boston, MA
Mechanisms Underlying Metabolomics and Type 2 Diabetes in the Context of Dietary Interventions

Eric L. Yimagou, PhD
Albert Einstein College of Medicine
Bronx, NY
Novel Approach for the Treatment of Hypoglycemia-Associated Autonomic Failure

Vivian A. Paschoal, PhD
University of Texas Southwestern Medical Center
Dallas, TX
The Importance of FFAR4 and Beta-Arrestin 2 Association in Metabolic Syndrome

Susana Rodriguez, PhD
Johns Hopkins University
Baltimore, MD
CTRP1 Deficiency Disrupts Lipid Homeostasis

Karen Scida, PhD
University of California, Santa Barbara
Santa Barbara, CA
Bipolar Electrochemical Actuators for the Precise and Accurate Delivery of Insulin

Minority Undergraduate Internship Awards

Allison L. Bayer, PhD
University of Miami
Miami, FL
The Interplay of Natural Killer and T Regulatory Cells in Autoimmune Diabetes

Nigel A. Calcutt, PhD
University of California, San Diego
La Jolla, CA
Pharmacology of Abnormal Spinal Pain Processing in Diabetes

Jonathan Campbell, PhD
Duke University
Durham, NC
Incretin Activity in Health and Disease

Danny Hung-Chieh Chou, PhD
University of Utah
Salt Lake City, UT
Development of Glucose-Responsive Insulin

Siri Atma W. Greeley, MD, PhD
The University of Chicago
Chicago, IL
Newborn Screening for Earlier Diagnosis and Treatment of Congenital Diabetes

Bree E. Holtz, PhD
Michigan State University
East Lansing, MI
MyT1DHero—A Self-Management Mobile App for Adolescents with Type 1 Diabetes and Their Parents

James L. Hougland, PhD
Syracuse University
Syracuse, NY
Bringing a Novel Diabetes Therapeutic Target into Structural Focus—Biochemical Validation of a Computational Model for Ghrelin O-acyltransferase

Erin E. Kershaw, MD
University of Pittsburgh
Pittsburgh, PA
Identifying Mechanisms by which a Novel Human Obesity-Risk Variant Protects Against Diabetes Using Cell and Animal Models

Kevin Y. Lee, PhD
Ohio University
Athens, OH
STAT5 Proteins Mediate Differential Effects on White Adipocyte

Meghan E. McGee-Lawrence, PhD
Augusta University
Augusta, GA
Regulation of OPG by Osteoblastic Hdac3 to Control Hepatic Inflammation and Systemic Insulin Sensitivity

Stephen Parker, PhD
University of Michigan
Ann Arbor, MI
RXRα Transcriptional Regulation in Type 2 Diabetes

William G. Schrage, PhD
University of Wisconsin-Madison
Madison, WI
Vascular Function in Obesity and Prediabetic Patients

Wen-I Yeh, PhD
University of Florida
Gainesville, FL
The Impacts of Co-Stimulatory Molecules CD226 and TIGIT on T1D Development
Abstract Award Recipients

Michaela Modan Memorial Award

The group of scientists listed below has been awarded the Michaela Modan Memorial Award given in honor of Dr. Michaela Modan, an Israeli epidemiologist who made major contributions to the understanding of type 2 diabetes mellitus, insulin resistance, hypertension, and diabetic complications.

Metabolomic Profiling and Diabetes Risk in U.S. Hispanics/Latinos: Hispanic Community Health Study/Study of Latinos

Jin Choul Chai, PhD; Jun Li, PhD; Bing Yu, PhD; Carmen Isasi, MD, PhD; Tanseem Khambaty, PhD; Linda Van Horn, PhD, RN; Denise C. Vidot, PhD; Sheila Castaneda, PhD; Eric Boerwinkle, PhD; Qibin Qi, PhD
Bronx, NY, Boston, MA, Houston, TX, Baltimore, MD, Chicago, IL, Coral Gables, FL, San Diego, CA

Vivian Fonseca and Nagendran Family Diabetes Research Award

The individual listed below has been awarded the Vivian Fonseca and Nagendran Family Diabetes Research Award. This award recognizes diabetes research focused on the South Asian, Asian American, Native Hawaiian, and Pacific Islander populations and/or research by a scientist from these areas of the world. Supported by a grant from Suku Nagendran, MD and Anne Nagendran, the Vivian Fonseca and Nagendran Family Diabetes Research Award is given in honor of Mr. P. Nagendran and recognizes the contributions of Dr. Vivian Fonseca, a former President, Medicine & Science of the ADA, who has been a mentor and role model to many researchers and clinicians.

Diabetes Prevention through Yoga-Based Lifestyle: A Pan-India Randomized Controlled Trial

Raghuram Nagarathna, MD, FRCP, DSc
Bengaluru, India

Abstract Co-Authors: C. Venkata S. Ram, MD, MACP, FACC, FASH; Sasidharan K. Rajesh, PhD; Amit Singh, BA, MS, MD, PhD; Vijaya Majumdar, MSc, PhD; Suchitra Patil, BA, MS, MD, PhD; Hongasandra R. Nagendra, ME, PhD
Bengaluru, India, Hyderabad, India
Young Investigator Travel Grant Award Recipients

The following abstract authors have been awarded Young Investigator Travel Grants. The ADA funds this program to support promising young scientists presenting their research at the Scientific Sessions and to encourage new and emerging investigators in the field of diabetes research and care.

Halís K. Akturk, MD
University of Colorado
Barbara Davis Center for Diabetes
Aurora, CO
1738-P: Immune Checkpoint Inhibitor Therapy Precipitates the Rapid Development of Type 1 Diabetes

Cedric S. Asensio, PhD
University of Denver
Denver, CO
39-OR: VPS41 Contributes to Insulin Granule Biogenesis

Luíz F. Barella, PhD
National Institute of Diabetes and Digestive and Kidney Diseases
Bethesda, MD
38-OR: Beta-Arrestin-1 Regulates Pancreatic Beta-Cell Function and Plays a Key Role in Maintaining Whole Body Glucose Homeostasis

Keely Bebbington, MPsych (Clin), PhD
Telethon Kids Institute
Perth, Australia
203-OR: Characterizing Moment-to-Moment Fluctuations in Stress, Anxiety, and Blood Glucose Levels in Adolescents with Type 1 Diabetes

Heather C. Denroche, PhD
University of British Columbia
BC Children’s Hospital Research Institute
Vancouver, BC, Canada
365-OR: The NLRP3 Inflammasome Mediates Early Beta-Cell Dysfunction Triggered by Islet Amyloid

Jean-Philippe Drouin-Chartier, PhD
Harvard T.H. Chan School of Public Health
Boston, MA
152-OR: Changes in Consumption of Sugary Beverages and Artificially Sweetened Beverages and Risk of Type 2 Diabetes among U.S. Women and Men

Lauric A. Ferrat, PhD
University of Exeter
Exeter, United Kingdom
210-OR: A Combined Method Improves Risk Prediction for Childhood Type 1 Diabetes in the TEDDY Study

Jingchuan Guo, MD
University of Pittsburgh
Pittsburgh, PA
1464-P: Optimal Blood Pressure Goals for Cardiovascular Health in Individuals with Type 1 Diabetes

Marcos Iglesias Lozano, DVM, PhD
Johns Hopkins University
Baltimore, MD
89-OR: Type 1 Interferons Inhibition of Interleukin-10 Signaling in T Cells in Type 1 Diabetes Development

Nabanita Kundu, PhD
George Washington University
Washington, DC
234-OR: Modified Endothelial Progenitor Cell (EPC) Transplantation May Improve Diabetic Kidney Disease (DKD)

Joji Kusuyama, PhD, DDS
Joslin Diabetes Center
Boston, MA
288-OR: Novel Epigenetic Mechanism for Maternal Exercise Effects on Offspring Metabolic Health

Belinda S. Lennerz, MD, PhD
Boston Children’s Hospital
Boston, MA
331-OR: Glycemic Index and Postprandial Blood Glucose Excursions, Insulin Requirements, and Hunger in T1D

Yuliya Lytvyn, PhD
University Health Network, University of Toronto
Toronto, ON, Canada
527-P: Renal Hemodynamic and RAAS Profiles in Patients with Type 2 Diabetes (T2D) and Heart Failure (HF)

Ernesto Maddaloni, MD
Sapienza University of Rome
Rome, Italy
253-OR: Microvascular Complications in Latent Autoimmune Diabetes of Adults: Results from the UKPDS

Anubha Mahajan, PhD
Wellcome Centre for Human Genetics
University of Oxford
Oxford, United Kingdom
303-OR: Transethnic Association Study of Type 2 Diabetes in More than a Million Individuals

Brynn Marks, MD
Boston Children’s Hospital
Boston, MA
336-OR: An Online Insulin Pump and CGM Curriculum for Trainees: TeKnO T1D

Lindsay S. Mayberry, PhD
Vanderbilt University Medical Center
Nashville, TN
818-P: Diabetes-Specific Family Functioning and Implications for Adults with Type 2 Diabetes

Benjamin J. Ryan, PhD
University of Michigan
Ann Arbor, MI
290-OR: High-Intensity Interval Training and Moderate-Intensity Continuous Training Induce Similar Modifications to Factors Regulating Skeletal Muscle Lipolysis
Takanori Shinjo, DDS, PhD
Joslin Diabetes Center
Boston, MA
231-OR: Pyruvate Kinase M2 Overexpression in Podocytes Ameliorates Nephropathy in Diabetic Mice

Shristi Shrestha, PhD
Vanderbilt University Medical Center
Nashville, TN
107-OR: Profiling of Human Pancreatic Islets by Single Cell Transcriptomics Reveals α- and β-Cell Subpopulations

Mhd Wael Tasabehji, MD
Joslin Diabetes Center
Boston, MA
328-OR: Degree of Glycemic Improvement in Patients with Diabetes Enrolled in Real-World Intensive Lifestyle Intervention in Relation to Baseline A1C: Five-Year Longitudinal Observation

Erik J. van Bommel, MD
Amsterdam UMC
VU University Medical Center
Amsterdam, Netherlands
243-OR: Dapagliflozin Reduces Measured GFR by Reducing Renal Efferent Arteriolar Resistance in Type 2 Diabetes

Pallavi Varshney, PhD
University of Michigan
Ann Arbor, MI
287-OR: Acute Exercise Enhances the Differentiation Rate of Human Adipocyte Precursor Cells

Lei Wang, MD
National Institute of Diabetes and Digestive and Kidney Disease
Bethesda, MD
1781-P: Adipocyte GI Signaling Regulates Whole-Body Glucose Homeostasis and Insulin Sensitivity

Alice E. Wiedeman, PhD
Benaroya Research Institute
Seattle, WA
1746-P: Differential Depletion and Expansion of Autoreactive CD8+ T Cell Subsets after Alefacept Treatment in Type 1 Diabetes (T1D)

Jun Yamauchi, PhD
University of Pittsburgh
Pittsburgh, PA
181-OR: Fox01 Deficiency Impedes Beta-Cell Compensation for Maternal Insulin Resistance and Causes Gestational Diabetes in Female Mice

Marc Gregory Yu, MD
Joslin Diabetes Center
Boston, MA
61-OR: Characterization of Beta-Cell Function with Autoantibodies, Islet Pathology, and Genetics after 50 Years of Insulin Dependence

Ye Zhang, MD
Yale University School of Medicine
New Haven, CT
The First Hospital of Jilin University
Changchun, China
1782-P: Mechanism of Lipid-Induced White Adipose Tissue Insulin Resistance
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For Scientific Sessions Meeting Planning Committee disclosure information, see page 469.
Scientific Sessions Meeting Planning Subcommittee

The members of the Scientific Sessions Meeting Planning Subcommittee perform a vital role in the development of the scientific program. They assist the Scientific Sessions Meeting Planning Committee in planning a rigorous, challenging, and enlightening program that covers the full spectrum of diabetes research, treatment, and care.
Abstract Reviewers

The Scientific Sessions program received more than 3,000 abstract submissions, which were put through a blind, peer-reviewed process carried out by a panel of reviewers who ensured that the abstracts being presented were selected on the basis of rigorous review and of the highest scientific quality.

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Dan Ziegler, MD
### Professional Section Interest Groups and Women’s Interprofessional Network

The Professional Interest Groups and Women’s Interprofessional Network of the ADA (WIN ADA) provide a forum for the exchange of information in specific areas of diabetes research and care. Learn more about these groups and join today at [www.professional.diabetes.org/membership](http://www.professional.diabetes.org/membership).

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<td>Michael A. Harris, PhD</td>
<td>Korey K. Hood, PhD</td>
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<td>Clinical Centers &amp; Programs</td>
<td>Boris Draznin, MD, PhD</td>
<td>Mary T. Korytkowski, MD</td>
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<td>Diabetes &amp; Cardiovascular Disease</td>
<td>Rodica Pop-Busui, MD, PhD</td>
<td>Neda Rasouli, MD</td>
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<td>Diabetes In Primary Care</td>
<td>Eugene Wright, Jr., MD</td>
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<td>Diabetes In Youth</td>
<td>Henry Rodriguez, MD</td>
<td>Jean Lawrence, ScD, MPH, MSSA</td>
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<td>Diabetes Self-Management Education &amp; Support</td>
<td>Curtis L. Triplitt, PharmD, CDE</td>
<td>Clipper Young, PharmD, MPH, CDE, BC-ADM</td>
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<td>Diabetes Technology</td>
<td>Anne L. Peters, MD</td>
<td>Joseph A. Alo, MD</td>
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<td>Exercise Physiology</td>
<td>Jeffrey F. Horowitz, PhD</td>
<td>Jane E.B. Reusch, MD</td>
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<td>Foot Care</td>
<td>George T. Liu, DPM, FACFAS</td>
<td>Dane Wukich III, MD</td>
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<td>Health Care Delivery &amp; Quality Improvement</td>
<td>Alexander Turchin, MD, MS</td>
<td>Michael Bergman, MD, FACP</td>
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<td>Immunology, Immunogenetics, &amp; Transplantation</td>
<td>Massimo Pietropaolo, MD</td>
<td>Jonathan D. Katz, PhD</td>
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<td>Islet Biology, Development, &amp; Function</td>
<td>Maureen A. Gannon, PhD</td>
<td>Hubert M. Tse, PhD</td>
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<tr>
<td>Nutritional Science &amp; Metabolism</td>
<td>Judith Wylie-Rosett, EdD, RDN</td>
<td>Guoxun Chen, PhD</td>
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<td>Pregnancy &amp; Reproductive Health</td>
<td>Mary R. Loeken, PhD</td>
<td>Jennifer Wyckoff, MD</td>
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<tr>
<td>Public Health &amp; Epidemiology</td>
<td>Hsin-Chieh “Jessica” Yeh, PhD</td>
<td>Elisabetta Patorno, MD, DrPH</td>
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<tr>
<td>Women’s Interprofessional Network of the ADA (WIN ADA)</td>
<td>Jane E.B. Reusch, MD</td>
<td>Darleen A. Sandoval, PhD</td>
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Journal Editors

**Diabetes Editors-in-Chief**

1952-1955 Frank N. Allan, MD
1956-1960 William C. Stadie, MD
1961-1966 Irving Graef, MD
1967-1972 Harvey C. Knowles, Jr., MD
1973-1978 David M. Kipnis, MD
1979-1983 Daniel W. Foster, MD
1984-1986 Charles J. Goodner, MD
1987-1991 R. Paul Robertson, MD
1992-1995 Philip E. Cryer, MD
1996 Julio V. Santiago, MD
1997-2001 Gordon C. Weir, MD
1998-2002 Franz M. Matschinsky, MD
2003-2006 Peter C. Butler, MD
2007-2011 K. Sreekumaran Nair, MD, PhD
2012-2016 Current Martin G. Myers, Jr., MD, PhD

**Diabetes Care Editors-in-Chief**

1978-1982 Jay S. Skyler, MD
1983-1987 F. John Service, MD
1988-1991 David C. Robbins, MD
1992-1996 Allan L. Drash, MD
1997-2001 Charles M. Clark, Jr., MD
2002-2006 Mayer B. Davidson, MD
2007-2011 Vivian Fonseca, MD
2012-2017 William T. Cefalu, MD
Current Matthew C. Riddle, MD

**Clinical Diabetes Editors-in-Chief**

1983-1987 Philip Raskin, MD
1988-1992 Marvin E. Levin, MD
1993-1997 Alan J. Garber, MD, PhD
1998-2002 Irl B. Hirsch, MD
2003-2006 Jennifer B. Marks, MD, FACP, FACE
2007-2011 Tom A. Elasy, MD, MPH
2012-2016 Davida F. Kruger, MSN, APRN-BC, BC-ADM
Current Stephen A. Brunton, MD

**Diabetes Spectrum Editors-in-Chief**

1988-1992 Patricia A. Lawrence, RN, MA
Marvin E. Levin, MD
Margaret A. Powers, RD, MS, CDE
1993-1995 Elizabeth A. Walker, DNSc, RN, CDE
1996-2000 Linda M. Siminerio, MS, RN, CDE
2001-2005 Belinda P. Childs, MN, ARNP, CDE
2006-2008 Davida F. Kruger, MSN, APN-BC, BC-ADM
2009-2013 Jackie Boucher, MS, RD, LD, CDE
2014-2018 Joshua J. Neumiller, PharmD, CDE, CGP, FASCP
Current Curtis L. Triplitt, PharmD, CDE

**Diabetes Forecast Editors-in-Chief**

1985-1988 Arthur Krosnick, MD
1989-1993 Philip Levy, MD
1994-1998 Neal Friedman, MD
1999-2001 Michael A. Pfeifer, MD
2002 Robert J. Tanenberg, MD, FACP
2002-2006 Linda M. Siminerio, RN, PhD, CDE
2007 M. Sue Kirkman, MD
Current Paris Roach, MD

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General Information

Abstract Book/Late Breaking Abstract Handout (*New This Year!*)
As the use of mobile and online applications has grown in popularity, the need for printing large documents is no longer necessary. The ADA is taking a tangible step to reduce paper consumption and demonstrate our commitment to the environment. Specifically, the ADA will no longer print the Scientific Sessions Abstract Book and Late Breaking Abstract Handout. However, abstracts will still be available through the ADA Events Mobile App and online at https://diabetes.diabetesjournals.org.

Abstracts on USB
*Sponsored by Sanofi*

Abstracts on USB contain searchable electronic copies of all abstracts from the 79th Scientific Sessions. This compact and easily portable format provides enduring access to abstracts. Visit the Sanofi Exhibit at booth 909 in the Exhibit Hall (Halls A-C, South, Exhibition Level) to pick up your **FREE** USB.

ADA Events Mobile App
*Sponsored by Sanofi*

Put the Scientific Sessions in the palm of your hand! Use the ADA Events Mobile App for on-the-go access to meeting information on your smartphone or handheld device. Features include meeting program and schedules, a customizable calendar and itinerary builder, exhibitor listing with booth map, social media interaction, and special meeting alerts.

Download the ADA Events Mobile App from Google Play or the App Store. You can also visit m.core-apps.com/tristar_ada_events.

Need help? Visit the ADA Events Mobile App Help Desk located in the Lobby (West, Level 1) for assistance.

ADA Exhibit
*Halls A-C (South, Exhibition Level)*

The ADA Exhibit (booth 1325) is the place to learn about what the ADA does for both you and your patients. Get the latest tools to help you and your patients better manage and prevent diabetes.

ADAMeetingNews.org

Share in the excitement of the 79th Scientific Sessions with the official online meeting news source. Read the latest updates on upcoming sessions as well as live coverage from session rooms. The news site will be updated throughout the day during the meeting with breaking news, including live photos and video from the Moscone Center. View it online today through the ADA Events Mobile App or on our website at www.adameetingnews.org.

ADA Networking Receptions
*Foyer (West, Levels 2 & 3)*

Join us Friday evening from 6:30 p.m. to 8:30 p.m. on the Level 2 Foyer of the West Building for a networking reception. Enjoy complimentary beverages and hors d’oeuvres from a sampling of recipes from the ADA’s award-winning cookbooks while catching up with your colleagues from around the world. In addition, Chef Ronaldo Linares will share healthy cooking tips and prepare some of his favorite recipes! Chef Ronaldo is the author of the ADA cookbook *Sabores de Cuba: Diabetes-Friendly Traditional and Nueva Cubana Cuisine.*

The Women’s Interprofessional Network of the American Diabetes Association (WIN ADA) will also hold a reception on Friday from 6:30 p.m. to 8:30 p.m. on the Level 3 Foyer of the West Building. The recipients of the Lois Jovanovic Transformative Woman in Diabetes Award and WIN ADA Abstract Awards will be acknowledged during this event.
Badges
Each registered attendee and exhibitor attending the Scientific Sessions will be issued an official identification badge. Anyone wishing to enter session rooms, the Exhibit Hall, or Poster Hall must wear a valid badge for entrance. You will be stopped and asked to present your badge if it is not in view of security personnel. If there are any errors on your badge visit Assisted Registration in the Lobby (West, Level 1) so it can be corrected. Lost badges will be replaced at a cost of $50/badge.

Business Center/FedEx
South, Exhibition Level
The Business Center offers photocopying, faxing, shipping, and sale of office supplies.

Childcare
ADA does not provide childcare during the Scientific Sessions. If you are interested in securing childcare during your stay, contact the concierge in your hotel for a list of local childcare providers. Note: ADA assumes no liability and is not responsible for any expenses related to childcare during the Scientific Sessions. Due to safety concerns and insurance liability, children under the age of 18 are not allowed in session rooms, the Exhibit Hall, or Poster Hall. Exceptions will be made for nursing mothers if the child does not disrupt the session. For safety reasons, strollers are not allowed in session rooms, the Exhibit Hall, or Poster Hall.

City Information Center
Lobby (South, Level 1)
Have a question regarding San Francisco, restaurants, or tour information? Visit the Information Center (connected to the South Building) where helpful locals are eager to assist you!

Coat/Luggage Check
Lobby (South, Level 1)
Coat and luggage check are available at a cost of $3.00 per item. Laptops are $5.00 per item.

Hours of operation:
Friday, June 7 ................................................................. 9:00 a.m.-6:30 p.m.
Saturday, June 8 ............................................................. 7:30 a.m.-6:15 p.m.
Sunday, June 9 ............................................................... 7:30 a.m.-6:45 p.m.
Monday, June 10 ............................................................ 7:30 a.m.-6:45 p.m.
Tuesday, June 11 ........................................................... 7:30 a.m.-12:15 p.m.

Continuing Education Credit
Certificates of continuing education are provided to registered attendees based upon completion of the online evaluation. The link to the online evaluation will be emailed to participants on June 7. The continuing education evaluation system will be available through July 5. The evaluation will also be posted on our website at www.sciencessessions.diabetes.org. For questions regarding continuing education, please contact professionaleducation@diabetes.org.
DiabetesInsight™ Monthly Audio CME Program
Lobby (North, Level 1)

DiabetesInsight™ is the most convenient way for clinicians and care team members to prepare themselves for the daily challenges of diabetes care. Listen anytime, anywhere with online access from your computer, tablet, or smartphone. Diabetes education is rapidly evolving and changing. Stay on top of the field with exclusive interviews from leading diabetes experts. Access the latest and most effective information on the clinical care of diabetes direct from the ADA and other major organizations and institutions. Recent topics include trial outcomes and what they mean to the clinician, breakthroughs in lipid and hypertension control, and preventing and treating diabetes complications—from CVD to retinopathy and beyond.

Subscribe today for the best on diabetes! Visit our booth to learn more or visit us online at www.audiodigest.org/diabetesinsight.

E-mail Stations
Lobby (West, Level 2)

E-mail stations are available to help you keep in touch with the office, develop your personal meeting itinerary, or plan your time in San Francisco.

Emergencies

ADA staff in red shirts and security personnel located at most session room entrances can assist you in case of an emergency. To report an emergency, dial 511 from a white courtesy phone to connect with Moscone Center security. Stay on the line and be prepared to give the type of emergency along with the location.

Emergency Evacuation

In certain circumstances, an emergency requiring evacuation may occur. If the emergency is minor, security and safety personnel will move attendees to a safer location. If the emergency is greater, attendees will be advised via the public-address system to stay in place, move to another area, or evacuate until the emergency is resolved.

EPOSTER Theaters
Exhibit Hall (Halls A-C, South, Exhibition Level)

Poster presenters will display a digital poster of their work that will include a high-level overview of the poster findings in an open discussion with the session moderator.

Follow the steps below to attend an ePoster Theater Session:

- Identify which session you are interested in attending from the schedules listed on pages 105, 107, 141, and 176
- Discussions will take place in one of two ePoster Theaters located within the Exhibit Hall (booth 933)
- Proceed to the location of the session at least 5 minutes before the start

Seating is limited and available on a first come, first-served basis.

ePosters Webkey
Sponsored by Sanofi

Navigate the virtual Poster Hall from anywhere in the world. The ePosters webkey provides a convenient and valuable year-round tool that enables you to view full-scale electronic reproductions of posters presented at the Scientific Sessions. Visit the Sanofi Exhibit at booth 909 in the Exhibit Hall (Halls A-C, South, Exhibition Level) to pick up your FREE webkey for online access. Computer kiosks are also located within the Poster Hall for electronic poster viewing.
Exhibit Hall
Halls A-C (South, Exhibition Level)

The Exhibit Hall is a vital part of the Scientific Sessions. This unparalleled venue provides demonstrations of products and services that will enhance your understanding of the latest advancements in pharmaceuticals, devices, imaging, and services important to high-quality patient care.

Children under the age of 18 will not be admitted into the Exhibit Hall. Exceptions will be made for nursing mothers, but for safety reasons, strollers are not allowed in the Exhibit Hall.

Taking photographs in the Exhibit Hall is not permitted. Security personnel will confiscate all cameras used by non-authorized photographers or attendees on the exhibit floor.

Hours of operation:

Saturday, June 8 .............................................................. 10:00 a.m.-4:00 p.m.
Sunday, June 9 .............................................................. 10:00 a.m.-4:00 p.m.
Monday, June 10 ............................................................. 10:00 a.m.-2:00 p.m.

First Aid
Lobbies (West, Level 1; North & South, Exhibition Level)

First Aid Stations will be open during regular meeting hours. First Aid is available in the event of medical emergencies, large or small. First Aid, as well as building security will notify the police, fire department, or EMS company for any emergency requiring additional assistance. Ask ADA staff members in red shirts if you need assistance in locating a First Aid Station.

Food and Refreshments
Various Locations

A variety of food and beverage carts/concession stands are available throughout the convention center. Enjoy lunch on us! All registered full-meeting attendees and those with a Saturday, Sunday, or Monday One-Day Registration will receive a lunch card worth $10 with their badge to purchase food or refreshments at concession stands located throughout the Exhibit Hall only (Halls A-C, South, Exhibition Level). Lunch cards have no cash value, no change is given, and the unused portion is forfeited.

General Poster Sessions
Poster Hall (Hall F, North, Exhibition Level)

All posters will be displayed Saturday, Sunday, and Monday. Poster presenters will be available for discussion at their poster boards during one of three General Poster Sessions, scheduled from 11:30 a.m. to 12:30 p.m. on Saturday, and from 12:00 p.m. to 1:00 p.m. on Sunday and Monday.

Please check the presentation schedules on pages 103, 139, and 174 for the abstract categories presented during the General Poster Sessions.

All Late Breaking posters, regardless of category, will be presented on Sunday during the General Poster Session.

GlucoseZone Exercise for Diabetes—Sunday, June 9 (1:00 p.m.-2:00 p.m.)
South, Exhibition Level

Join GlucoseZone for a fun and interactive exercise session at the Moscone Center! Stop by to see how this innovative ADA Member Benefit is revolutionizing exercise for diabetes! GlucoseZone is a digital therapeutic designed to meet the needs of your diabetes and prediabetes patients by providing specific exercise guidance designed to increase insulin sensitivity, lower A1C, reduce body weight, and redefine diabetes management through exercise.
Hotel Information Desk
Lobby (West, Level 1)
If you have any questions or concerns regarding your hotel reservation made through ADA’s official housing company, CMR, please stop by the Hotel Information Desk for assistance.

Information Booths
Lobbies (West, North, & South, Level 1)
Have a question about the meeting or need help locating something? Stop by an Information Booth for assistance. ADA Staff wearing red shirts will also be available throughout the convention center to assist you.

Know Diabetes by Heart™
Halls A-C (South, Exhibition Level)
Visit booth 1339 in the Exhibit Hall to learn about Know Diabetes by Heart™, the groundbreaking collaborative initiative between the American Heart Association and the American Diabetes Association to reduce cardiovascular deaths, heart attacks, and strokes in people living with type 2 diabetes. You can also get a complimentary headshot taken by a professional photographer.

Long-Time Attendees
Have you attended the Scientific Sessions for 5 or more years? If so, stop by the Membership Lounge to pick up a complimentary pin.

Lost and Found
Room: S-70 (South, Lower Mezzanine Level)
If you lose an item, or find one, please stop by ADA’s Lost and Found. If a lost item has not yet been turned in, we will take your name and number and contact you if the item is found. Unclaimed items will be returned to ADA’s home office at the end of the meeting. Inquiries after June 11 should be directed to the Convention Operations Department at conventionoperations@diabetes.org.

Hours of operation:
Friday, June 7 .............................................................................................................................................9:00 a.m.-6:15 p.m.
Saturday, June 8........................................................................................................................................ 8:00 a.m.-6:00 p.m.
Sunday, June 9 .......................................................................................................................................... 8:00 a.m.-6:30 p.m.
Monday, June 10 .......................................................................................................................................8:00 a.m.-6:30 p.m.
Tuesday, June 11 ......................................................................................................................................8:00 a.m.-12:15 p.m.

Membership Lounge
Lobby (North, Level 1)
ADA Membership Department staff will be available to assist you with renewing your membership, processing new applications, updating addresses, verifying membership status, and answering questions about member benefits.

Are you a long-time attendee of the Scientific Sessions? If you’ve attended five or more years, stop by to pick up a complimentary pin.

Visit the Membership Lounge for complimentary beverages/snacks, network with other professional members, charge your phone or device, or just relax. Note: Only ADA Professional Members (those wearing member ribbons) will have access to the Membership Lounge.
Moderated Poster Discussions
Poster Hall (Hall F, North, Exhibition Level)

Explore the Poster Hall with a Moderated Poster Discussion. Poster presenters will share their perspectives and highlight novel or recent developments in question and discussions with session moderators.

Follow the steps below to attend a Moderated Poster Discussion:

- Identify the discussion you are interested in attending from the schedules listed on pages 104, 106, 140, and 175
- Note the location of the discussion. Discussions will start at the first poster board number in the discussion
- Proceed to the location of the discussion at least 5 minutes before the start

There is no required sign up to attend a discussion, however space and equipment is available on a first-come, first-served basis.

Navigating the Moscone Center
The Moscone Center consists of three buildings (North, South, and West). Street Level is referred to as “Level 1” and the level below is referred to as “Exhibition Level.” The North and South buildings are connected via an underground walkway and also via a sky bridge located on Level 2. The West Building is not accessible via the North and South buildings and is one block over on the corner of Howard and Fourth Streets.

Room locations within the Moscone Center will be marked with an N, S, or W before the room number to indicate which building the activity is taking place in. For example:

Room: S-208 (South, Level 2)—This means South Building, Level 2, Room 208

Should you have any questions regarding navigating the Moscone Center, ask for assistance at one of our Information Booths located on Level 1 of each building.

Nursing Mothers/Prayer Rooms
Rooms: N-114 and N-115 (North, Level 1)

Rooms have been set aside for use by women traveling with a pump or those needing a few minutes of privacy. You may pick up a key to the rooms from the receptionist located in front of the rooms.

Personal Information
Attendee badges have a barcode on the badge to assist exhibitors and corporate symposia planners in contacting you. The barcode, accessible only via handheld scanner devices, contains your name, organization, mailing address, phone, fax, area of expertise, e-mail address, and credentials. It is your choice to have your badge scanned by exhibitors and meeting hosts.

Personal Safety
Follow these tips to make your stay both safe and enjoyable:

- Remove your badge when exiting buses at your hotel or when walking throughout the city
- Do not carry your Scientific Sessions registration bag during the evening
- Always walk in groups
- Talk to your hotel concierge or security regarding the surrounding neighborhoods and any safety concerns
- Map your route before leaving your hotel
- Always use auxiliary-locking devices on doors and windows
- Never leave money, checks, credit cards, extra room keys, or car keys in the room—take them with you or leave them in the hotel safety deposit box or in-room safe
- If you are the victim of a crime, call the police and report the crime immediately. Dial 911 from any phone to be connected with the police department
Photography/Social Media Policy

• **Photography:** Allowing photographs of presentation slides at the Scientific Sessions will be at the discretion of the presenter/study author. Each presenter/study author will announce, verbally and visually on a slide at the beginning of their presentation, whether or not they approve of photos being taken of their slides. If allowed, attendees may take photographs during presentations provided that the photographs are for personal, noncommercial use and are not for publication or rebroadcast without the express written permission of the author. Attendees are prohibited from using flash photography or otherwise distracting the presenters or members of the audience. **Photography is not permitted in the Exhibit Hall or Poster Hall.**

• **Social Media:** The ADA encourages the use of social media, when following the above photo policy and within embargo restrictions, to update followers on the latest news coming from the Scientific Sessions. To engage on social media be sure to use the official meeting hashtag, #ADA2019, in all of your posts. You can also follow these channels for meeting updates:
  - Twitter: @ADA_DiabetesPro and @AmDiabetesAssn
  - Facebook: @DiabetesPro and @AmericanDiabetesAssociation
  - Instagram: @AmDiabetesAssn

Poster Barcodes

**Poster Hall (Hall F, North, Exhibition Level)**

Each poster in the Poster Hall has a corresponding barcode on its board. Scanning the code with a smartphone or camera equipped tablet will allow you to access an electronic version of the poster, corresponding abstract, and audio commentary by the presenter (if provided). To view barcodes, you will need to download a reader. We suggest searching your App Store for a free reader.

Poster Hall Hours

**Hall F (North, Exhibition Level)**

Hours of operation:

- Saturday, June 8 .......................................................... 10:00 a.m.-6:00 p.m.
- Sunday, June 9 .......................................................... 7:30 a.m.-6:30 p.m.
- Monday, June 10 .......................................................... 7:30 a.m.-2:00 p.m.

Poster Presenters

Plan to hang your poster on Friday, June 7 between the hours of 11:00 a.m. and 6:00 p.m. **Note:** All posters and materials must be removed from the Poster Hall on Monday, June 10 between 2:00 p.m. and 4:30 p.m. or they will be discarded. Poster presenters will not be allowed access into the Poster Hall after 4:30 p.m. on Monday, June 10.

Press Office

**Room: S-314 (South, Level 2)**

The Press Office provides a workplace for credentialed media representatives. ADA staff will arrange all interviews and news conferences pertaining to the Scientific Sessions. Presenters are urged to check their voice mail daily for messages from media, and to contact the Press Office immediately if they receive an interview request. All questions regarding interviews and/or Press Office operations should be directed to Michelle Kirkwood, Vice President, Scientific, Medical & Mission Communications at 415-978-3606.
Radio-Frequency Identification (RFID)
The ADA will begin testing a pilot program using RFID technology at this year’s Scientific Sessions. Attendee participation in the Exhibit Hall, Poster Hall, and Shop Diabetes Store will be captured by a chip embedded in your badge. This technology will provide the ADA with more accurate information about the number of attendees and type of person visiting these areas. Only statistical information will be shared with our Exhibitors. Note: Your personal information will not be sold or shared with any parties outside of the ADA. As we continue to grow the use of RFID technology, the information captured will be used by the ADA to better plan future meetings and ensure that the most relevant topics and educational opportunities are available.

Registration
Lobby (West, Level 1)
If you have any additional questions after picking up your badge and materials, visit Assisted Registration (blue counters) for assistance.

Session Room Capacity
The ADA has made every effort to assign sessions to the appropriate room. Attendance is on a first-come, first-served basis. We ask that attendees use all available seating before standing.

Shop Diabetes Store
Lobby (North, Level 1)
• Books • Webcasts • Gifts
Save up to 30% off books and show your support with exclusive ADA gear. Every purchase in the store supports diabetes research, advocacy, awareness, and educational programs.

Shuttle Bus Transportation
Shuttle bus transportation will be provided from hotels outside of walking distance to the convention center. If you reserved a room via ADA’s official housing company, CMR, you are entitled to ride the shuttles free of charge and should have received a shuttle pass when you picked up your attendee badge. Clip the shuttle pass to your badge as you will be required to show the shuttle pass for the return trip from the convention center to your hotel.

If you booked your hotel through ADA’s housing company and did not receive a shuttle pass, stop by Assisted Registration located in the Lobby (West, Level 1) to pick one up. If you did not book your hotel through ADA’s housing company, you may purchase a pass for $75 at Assisted Registration.

Shuttle schedules are available at your hotel and at Information Booths located in the convention center. Limited shuttle bus transportation will be provided to/from the 5K@ADA Fun Run/Walk.

Speaker Ready Room
Room: S-213 (South, Level 2)
The Speaker Ready Room is reserved for use by those presenting at the Scientific Sessions. Speakers are required to check in with ADA staff a minimum of two hours before their presentation. Computer workstations will be available for any updates to presentations. Speakers can also sit for a FREE professional headshot.

Two areas within the Speaker Ready Room will be available to speakers to practice their presentations. Speakers will be able to reserve these areas in 30-minute increments. A sign-up sheet is available at the Information Desk in the Speaker Ready Room. Note: Scheduling is on a first-come, first-served basis.
Virtual Reality Room—Long-Acting Basal Insulins for Patients with Diabetes: Distinguishing Formulations for Individualized Care

Exhibit Hall (Halls A-C, South, Exhibition Level)

Visit booth 933 in the Exhibit Hall for a Virtual Reality Room experience that includes 3D themes and 360-degree wrap-around content that truly brings the education to life. Learners will experience a virtual world that allows them to enter the body and view the physiological mechanisms of glucose metabolism and the effects of basal insulin in patients with T2DM. The learners will virtually experience what the patient is going through in terms of disease symptoms and treatment effects, which will help them learn the importance of personalized treatment, physician-patient communication, and patient-reported outcomes.

The Cylinder Room allows for 8-10 learners at a time and each experience lasts 10-minutes. The participants will be provided with 3D-powered glasses to utilize in the room, providing an immersive virtual reality experience without the need to wear an Oculus headset. This activity is sponsored by Med Learning Group and supported by an educational grant from Sanofi.

Wear RED to Stop Diabetes

Wear RED on Sunday to show your support of the ADA and our mission to prevent and cure diabetes and to improve the lives of all people affected by diabetes. Together, we can achieve a world free of diabetes and all its burdens. Red merchandise is available for purchase at the Shop Diabetes Store located in the Lobby (North, Level 1). Every purchase supports diabetes research, advocacy, awareness, and educational programs.

Webcasts (Session Recordings)

Webcasts from all symposia, oral presentations, and major lectures and addresses will be available following the meeting, subject to individual speaker authorization.

Registered attendees who are ADA Professional Members receive FREE online only access to all webcasts at www.professional.diabetes.org/webcasts. Online access for non-ADA members is available for purchase in the Shop Diabetes Store located in the Lobby (North, Level 1).

WiFi

Complimentary WiFi is available throughout the public space and meeting rooms of the convention center.

World Cup Viewing Lounge

Room: W-2014 Alcove (West, Level 2)

You don’t have to miss sessions to keep up with the FIFA Women’s World Cup. Visit the World Cup Viewing Lounge between sessions to see how your favorite team is doing.

5K@ADA Fun Run/Walk

Sponsored by Novo Nordisk Inc.

Join us for the 5K@ADA Fun Run/Walk on Sunday. This fun event gives you the opportunity to raise public awareness about the importance of a healthy lifestyle. Registration opens at 6:00 a.m. and the warm up begins at 6:15 a.m. The race will take place at Pier 32 and will begin promptly at 6:30 a.m.

To register or pick up your race number, visit the 5K@ADA booth located in the Lobby (West, Level 1) on Thursday or Friday, or visit the Novo Nordisk Exhibit at booth 601 in the Exhibit Hall, Halls A-C (South, Exhibition Level) on Saturday beginning at 10:00 a.m. Limited shuttle bus service will be provided to and from the event.

Want to race in style sporting a 5K@ADA running shirt? Shirts are available in the Shop Diabetes Store located in the Lobby (North, Level 1) for $25. Quantities are limited, so hurry and get yours today!
80th Scientific Sessions—Save the Date
June 12-16, 2020
McCormick Place Convention Center
Chicago, IL

Visit the Chicago 2020 Desk located in the Lobby (South, Level 1) to find out more about the host for next year’s Scientific Sessions. A representative from Chicago will be available to answer questions.

Do you have an idea for a session that you would like to see featured at next year’s Scientific Sessions? The Scientific Sessions Meeting Planning Committee is soliciting high quality, innovative session proposals for the 80th Scientific Sessions. The committee encourages submissions that are innovative, challenge current treatment paradigms, and represent the latest advances in basic, clinical, and translational science. This is your opportunity to shape the scientific program and help ensure that the most relevant spectrum of topics is presented at the meeting. Visit www.scientificsessions.diabetes.org for more information.

Registration and Housing for the 80th Scientific Sessions will open in early December 2019.
All meeting attendees, members of the media, companies, institutions, organizations, universities, investment advisors, and all other individuals are required to abide by the embargo policy governing the American Diabetes Association’s (ADA’s) 79th Scientific Sessions.

An embargo means that information from any abstract or presentation is confidential and may not be announced, publicized, or distributed before the embargo date and time. This policy applies to all formats of release, including the Scientific Sessions online itinerary planner, ADA Events Mobile App, Abstracts on USB, abstracts available online via the ADA’s website, and any other distribution method.

The purpose of the embargo policy is to protect the scientific integrity of the abstract submissions presented at the ADA’s Scientific Sessions. All submissions are to be considered preliminary until the time of presentation or authorized for public release. Violation of the embargo policy by release of information contained in any abstract prior to its embargoed date and time will result in the individual, as well as the employer/affiliated company, institution, organization, etc., being removed from ADA’s 79th Scientific Sessions, with a two-year ban on returning.

Specific Embargo Dates and Times:

**Oral Presentations:**
Abstracts selected for oral presentation are embargoed from the time of submission until conclusion of the presentation at the 79th Scientific Sessions. The ADA reserves the right to adjust the embargo as needed.

**Poster Presentations:**
Abstracts selected for poster presentation are embargoed from the time of submission until Saturday, June 8, 2019 at 10:00 a.m. Pacific Time.

**Published Only:**
Abstracts selected for Published Only are embargoed from the time of submission until Friday, June 7, 2019 at 11:30 a.m. Pacific Time.

**Abstracts or Research Included in the ADA’s Official 79th Scientific Sessions Press Program:**
Abstracts selected to be included in the Scientific Sessions Press Program are embargoed from the time of submission until conclusion of the news briefing in which the research is presented or until conclusion of the presentation at the 79th Scientific Sessions, whichever is first.

The ADA reserves the right to adjust the embargo and media policies as needed. Please contact the ADA Press Office for more information at scisessionspress@diabetes.org.
The ADA’s Scientific Sessions offers five days of comprehensive educational programming covering the latest in the field of diabetes. The program is designed for physicians, scientists, researchers, physician assistants, nurse practitioners, nurses, dietitians, pharmacists, psychologists, social workers, and other members of the interprofessional health care team.

New developments in clinical and basic research are presented in symposia, state-of-the-art lectures, current issue sessions, oral presentations, and poster discussions. The sessions are designed to improve care of the patient with diabetes by providing members of the health care team with an educational program enhancing their knowledge, advancing their skills, and apprising them of the latest research developments.

At the conclusion of this activity attendees will be able to:

- Identify the 2019 ADA Standards of Care for classifying, diagnosing, preventing, and treating prediabetes and diabetes
- Assess non-pharmacologic treatment options for individualizing treatment protocols for the management of hyperglycemia and hypoglycemia
- Apply clinical decision-making tools to the assessment and treatment of the complications related to diabetes
- Develop a more aggressive, effective, physiological, psychological, and behavioral treatment plan for patients with diabetes
- Cite the research into current, emerging, and novel therapies for type 1 and type 2 diabetes
- Discuss proven education strategies for increasing the impact of diabetes education with individual patients
- Interpret the latest findings in the areas of epidemiology, genetics, immunology, transplantation, and islet biology as they relate to diabetes
Accreditation Statements and Continuing Education Credit

Physicians, Nurses and Pharmacists
In support of improving patient care, the American Diabetes Association is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

This activity was planned by and for the healthcare team, and learners will receive 35 Interprofessional Continuing Education (IPCE) credit for learning and change.

Nurses: This includes a maximum of 32 pharmacology-related contact hours.

Pharmacists: The Universal Activity Number is: JA400-8193-000-19-002-L01-P.

Nurse Practitioners: ACCME and/or ANCC credit is acceptable for recertification through the Certification Board of the American Academy of Nurse Practitioners.

Physicians for ABIM Maintenance of Certification
Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 35 Medical Knowledge only MOC points in the American Board of Internal Medicine’s (ABIM) Maintenance of Certification (MOC) program. It is the CME activity provider’s responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

Physicians from Europe
UEMS/ACCME CME credit recognition: The American Medical Association (AMA) has an agreement of mutual recognition of CME credit with the UEMS. Under the terms of this agreement, the European Accreditation Council for Continuing Medical Education (EACCME), the accrediting arm of the UEMS, will convert CME credit for live activities certified by the AMA.

Family Physicians
This Live activity, 79th Scientific Sessions, with a beginning date of 06/07/2019, has been reviewed and is acceptable for up to 35.00 Elective credit(s) by the American Academy of Family Physicians. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Physician Assistants
The American Diabetes Association has been authorized by the American Academy of PAs (AAPA) to award AAPA Category 1 CME credit for activities planned in accordance with AAPA CME Criteria. This activity is designated for 35 AAPA Category 1 CME credits. PAs should only claim credit commensurate with the extent of their participation.

Dietitians
The American Diabetes Association is a Continuing Professional Education (CPE) Accredited Provider with the Commission on Dietetic Registration (CDR). Registered dietitians (RDs) and dietetic technicians, registered (DTRs) will receive 35 continuing professional education units (CPEUs) for completion of this program/material. Activity Number: 145184.

Psychologists
Continuing Education (CE) credits for psychologists are provided through the co-sponsorship of the American Psychological Association (APA) Office of Continuing Education in Psychology (CEP). The APA CEP Office maintains responsibly for the content of the programs.
Social Workers
As a Jointly Accredited Organization, the American Diabetes Association is approved to offer social work continuing education by the Association of Social Work Boards (ASWB) Approved Continuing Education (ACE) program. Organizations, not individual courses, are approved under this program. State and provincial regulatory boards have the final authority to determine whether an individual course may be accepted for continuing education credit. The American Diabetes Association maintains responsibility for this course. Social workers completing this course receive 35 continuing education credits.

Certified Diabetes Educators
To satisfy the requirement for renewal of certification by continuing education for the National Certification Board for Diabetes Educators (NCBDE), continuing education activities must be diabetes related and approved by a provider on the NCBDE List of Approved Providers (www.ncbde.org). NCBDE does not approve continuing education. The American Diabetes Association is on the NCBDE List of Approved Providers.
American Diabetes Association

Continuing Education

To Obtain Continuing Education Credit
Certificates of continuing education are provided to registered attendees based upon completion of the online evaluation. The link to the online evaluation will be emailed to participants on June 7. The continuing education evaluation system will be available through July 5. The evaluation will also be posted on our website at www.scientificsessions.diabetes.org. For questions regarding continuing education please contact professionaleducation@diabetes.org.

Information Booths
Lobbies (West, North, & South, Level 1)

Hours of operation:
Thursday, June 6 .............................................................. 3:00 p.m.-7:00 p.m.
Friday, June 7 .............................................................. 9:00 a.m.-6:30 p.m.
Saturday, June 8 .............................................................. 7:00 a.m.-6:15 p.m.
Sunday, June 9 .............................................................. 7:30 a.m.-6:45 p.m.
Monday, June 10 .............................................................. 7:30 a.m.-6:45 p.m.
Tuesday, June 11 .............................................................. 7:30 a.m.-12:00 p.m.

To Obtain a Certificate of Attendance
For attendees practicing outside the U.S., please pick up your certificate of attendance from your tour group leader or at one of three Information Booths located in the Lobbies (West, North, & South, Level 1).

Should you have any questions, please contact professionaleducation@diabetes.org.

Continuing Education Opportunities
Continuing education credits are available for health care professionals who treat patients with diabetes. For more information, visit the Association’s professional education website at www.professional.diabetes.org/ce.

Take advantage of the variety of continuing education activities and materials for health care professionals. Each activity has been developed by leaders in the field of diabetes with the goal of providing cutting-edge education to advance knowledge and strategies to improve clinical practice and patient outcomes.

Educational offerings include:
• Live programs (fee may apply)
• Webcasts
• Self-assessment programs (free of charge)

and more...

Continuing education credits are available for physicians, nurses, dietitians, pharmacists, certified diabetes educators, and other health care professionals. Please view the individual activities to see which continuing education credits are offered.
# Personal Session Tracking Worksheet

*Double credit will not be awarded for sessions occurring at the same time.*

**FRIDAY, JUNE 7, 2019**

<table>
<thead>
<tr>
<th>11:30 a.m.-12:30 p.m. sessions</th>
<th>Total credit</th>
<th>Attended</th>
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<tbody>
<tr>
<td>(*) Opioids, Cannabinoids, and Other Potentially Addictive Therapies in Painful Diabetic Neuropathy</td>
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<tr>
<td>Hypoglycemia and Cardiovascular Events—A Causal Relationship?</td>
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<tr>
<td>(*) Joint ADA/ACC Mini-Symposium—Cardiovascular Disease in Patients with Diabetes</td>
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<tr>
<td>The Vitamin D and Type 2 Diabetes (D2d) Study—A Multicenter Randomized Controlled Trial for Diabetes Prevention</td>
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<td>Patient, Health Care Provider, and Researcher Perspectives on Exercise as an Appropriate Tool for Managing Cardiovascular Complications of Diabetes</td>
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<td>How Do We Break the Gestational Diabetes Mellitus-Type 2 Diabetes Mellitus-Obesity Cycle?</td>
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<td>Screening for Complications in Youth with Type 1 Diabetes—Are We On the Right Path?</td>
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<td>Learning from Atypical Diabetes</td>
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<tr>
<td>State-of-the-Art of Embryonic Stem Cells-Based Therapies in Type 1 Diabetes—The Road Ahead</td>
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<tr>
<td>Metformin Action—Who Is Really in Charge?</td>
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<tr>
<td>(*) Evolving Treatments for Obesity</td>
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<tr>
<td><strong>Maximum total credit for 11:30 a.m.-12:30 p.m. sessions</strong></td>
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<table>
<thead>
<tr>
<th>12:45 p.m.-1:45 p.m. sessions</th>
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<th>Attended</th>
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<tr>
<td>(*) Is Very Aggressive Lowering of LDL Cholesterol Worthwhile?</td>
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<tr>
<td>Translation of Cardiorenal Outcomes Trials into Other Populations with Diabetes</td>
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<tr>
<td>How to Help Your Patients and Your Bottom Line Using Novel Diabetic Retinopathy Diagnostic Tools</td>
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<tr>
<td>I Can Tell When You Are Inflamed—Early Warning Systems in Diabetic Foot Self-Monitoring</td>
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<tr>
<td>Transition from Pediatric to Adult Diabetes Care—What’s Really Working?</td>
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<tr>
<td>Using Innovative Educational Strategies to Reach the Underserved—Community Health Workers, Peer Educators, and More</td>
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<tr>
<td>Women's Interprofessional Network of the ADA (WIN ADA) Mini-Symposium—Using Tools and Strategies to Effectively Communicate Science</td>
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<tr>
<td>Digital Apps for Diabetes Treatment and Prevention—Opportunities and Challenges</td>
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<tr>
<td>(*) Joint ADA/ASMBS Mini-Symposium—Interventional Treatment of Diabetes—The Scientific and Clinical Evidence Regarding Metabolic Surgery and Implementation into Clinical Practice</td>
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<tr>
<td>The Banting Exchange—The Almighty Adipocyte</td>
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<tr>
<td>Current Issues—Rigor and Integrity in Diabetes Research</td>
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<tr>
<td><strong>Maximum total credit for 12:45 p.m.-1:45 p.m. sessions</strong></td>
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</tbody>
</table>

(*) Denotes ANCC pharmacotherapeutics contact hours.
### 2:00 p.m.-4:00 p.m. sessions

<table>
<thead>
<tr>
<th>Total credit</th>
<th>Attended</th>
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<tbody>
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</table>

- (* ) Diabetic Kidney Disease and Cardiovascular Disease in Diabetes
- Shared Decision Making When Choosing Pumps and Sensors
- Paternal Programming—I’m Your Papa
- (* ) Opportunities and Challenges of Real-World Evidence in Diabetes
- The Environment and Diabetes
- Novel Insights into the Role of the Adipocyte in Metabolic Dysfunction
- The Heart and Type 2 Diabetes
- The Future Is Here—New Technologies in Islet Biology

**Maximum total credit for 2:00 p.m.-4:00 p.m. sessions** 2

### 4:15 p.m.-6:15 p.m. sessions

<table>
<thead>
<tr>
<th>Total credit</th>
<th>Attended</th>
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</table>

- Links between Diabetes and Cardiovascular Disease
- Does When We Eat Matter? Effects of Timing on Weight, Metabolic Risk Factors, and Glycemic Control
- (* ) Pains and Gains in Continuous Glucose Monitoring
- (* ) Effective Diabetes Care—At What Cost?
- (* ) New Agents and Strategies
- Rare Large-Effect Genetic Variants in Diabetes—From Case Studies to Populations (With State-of-the-Art Lecture)
- New Concepts in the Molecular Mechanisms Leading to Type 1 Diabetes
- Muscle and Metabolism (With State-of-the-Art Lecture)
- powerhouse Rules—The Role of the Mitochondrion in Health and Disease
- Novel Mechanisms in Beta-Cell Insulin Secretion

**Maximum total credit for 4:15 p.m.-6:15 p.m. sessions** 2

**Maximum total credit for Friday** 6

(*) Denotes ANCC pharmacotherapeutics contact hours.
### Saturday, June 8, 2019

**8:00 a.m.-10:00 a.m. sessions**

<table>
<thead>
<tr>
<th>Session</th>
<th>Total Credit</th>
<th>Attended</th>
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</thead>
<tbody>
<tr>
<td>(*) The Big Picture on the Diabetic Foot</td>
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<tr>
<td>(*) Diabetic Retinopathy—Basic Mechanisms and Treatment Strategies</td>
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<tr>
<td>ADA Nutrition Therapy for Adults with Diabetes—2019 Consensus Paper</td>
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<tr>
<td>ADA Education Recognition Program Symposium—Expanding Diabetes Self-Management Education and Support Throughout a Larger Health Care Organization to Improve Pay-for-Performance Metrics</td>
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<td>(*) Diabetes Management in Long-Term Care Facilities—Challenges and Solutions</td>
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<td>(*) ADA Diabetes Care Symposium—Highlights of Diabetes Care—Three Hot Topics</td>
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<tr>
<td>(*) Joint ADA/AACC Symposium—Predicting and Diagnosing Gestational Diabetes Mellitus—Are We Making Progress?</td>
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<tr>
<td>(*) Incretins Marching On</td>
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<tr>
<td>Current Challenges and Opportunities in Cardiovascular Epidemiology</td>
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<tr>
<td>Xenotransplantation—Prospects for Large-Scale Diabetes Cell Therapy</td>
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<tr>
<td>Adaptive Stress Response Pathways in Insulin Response and Metabolism</td>
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<tr>
<td>Synergy of the Pancreas, Liver, and Gut in the Control of Glucose Homeostasis (With State-of-the-Art Lecture and ADA Presidents’ Select Abstract Presentation)</td>
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<tr>
<td>The Complicit Beta Cell in Type 1 Diabetes</td>
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</table>

**Maximum total credit for 8:00 a.m.-10:00 a.m. sessions**: 2

**10:15 a.m.-11:15 a.m. session**

<table>
<thead>
<tr>
<th>Session</th>
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<tbody>
<tr>
<td>President, Health Care &amp; Education Address and Outstanding Educator in Diabetes Award Lecture</td>
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**Maximum total credit for 10:15 a.m.-11:15 a.m. session**: 1

**11:30 a.m.-12:30 p.m. sessions**

<table>
<thead>
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<th>Session</th>
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<tbody>
<tr>
<td>(*) Primary Care’s Guide to Charcot Arthropathy</td>
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<tr>
<td>Exercise in the News—Fact, Fiction, or Fad?</td>
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<tr>
<td>Advancing Nutrition Therapy—Partnering Strategies to Overcome Clinical Inertia</td>
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<tr>
<td>(*) PRIDE—Clinical Centers and Programs</td>
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<tr>
<td>Innovations in Islet Biology Research</td>
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</table>

**Maximum total credit for 11:30 a.m.-12:30 p.m. sessions**: 1

(*) Denotes ANCC pharmacotherapeutics contact hours.
<table>
<thead>
<tr>
<th>1:45 p.m.-3:45 p.m. sessions</th>
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<th>Attended</th>
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<tbody>
<tr>
<td>(*) Cardiovascular and Renal Protection in Diabetes—Emphasis on SGLT2 Inhibitors and GLP-1 Receptor Agonists</td>
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<tr>
<td>(*) New Directions in Diabetic Foot Research (With Roger Pecoraro Award Lecture)</td>
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<tr>
<td>(*) Making a Difference in Five Minutes—Interventions in Diabetes for Anyone (With Richard R. Rubin Award Lecture)</td>
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<tr>
<td>Exercise-Induced Browning of White Adipose Tissue—What Is the Translational Significance?</td>
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<tr>
<td>(*) Challenging the Importance of Hypoglycemia in Type 2 Diabetes—Serious or Just Hype?</td>
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<td>(*) SGLT-Inhibitor Adjunctive Therapy in Type 1 Diabetes Mellitus—Is It Worth It?</td>
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<tr>
<td>(*) Longitudinal Outcomes in Youth with Type 2 Diabetes—The TODAY2 Study</td>
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<td>(*) Automated Insulin Delivery Systems</td>
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<tr>
<td>Precision Medicine in Diabetes Mellitus</td>
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<td>What's New in Type 1 Diabetes Epidemiology?</td>
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<tr>
<td>Exploring Novel Approaches in Immunology and Diabetes</td>
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<tr>
<td>(*) Nonalcoholic Steatohepatitis (NASH)—The Overlooked Complication of Type 2 Diabetes</td>
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<tr>
<td>Central-Peripheral Circuits Controlling Feeding and Metabolic Homeostasis</td>
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<td>Beta-Cell Development and Proliferation</td>
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<tr>
<td><strong>Maximum total credit for 1:45 p.m.-3:45 p.m. sessions</strong></td>
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<thead>
<tr>
<th>4:00 p.m.-6:00 p.m. sessions</th>
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<tbody>
<tr>
<td>(*) Modifiers of Cardiovascular Outcomes in Type 1 and Type 2 Diabetes</td>
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<tr>
<td>(*) Hypoglycemia Risk—Mechanisms in the Brain (With ADA Presidents’ Select Abstract Presentation)</td>
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<tr>
<td>PREVIEW Study Results—Prevention of Diabetes through Lifestyle Intervention and Population Studies Around the World</td>
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<tr>
<td>(*) Diabetes Management and Education for Special Populations</td>
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<tr>
<td>What Are the Contributions of the Evolving Real-World Evidence?</td>
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<tr>
<td>(*) Choosing Evidence-Based Therapy for Type 2 Diabetes Mellitus with Cardiovascular Disease</td>
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<tr>
<td>(*) Joint ADA/Chinese Diabetes Society Symposium—Epidemiology and Risk Factors of Diabetes and Diabetic Complications</td>
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<tr>
<td>(*) From Obesity to Type 2 Diabetes in Youth—New Insights into Pathogenesis and Management</td>
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<tr>
<td>(*) Interventions on Prediabetes/Nonalcoholic Fatty Liver Disease/Nonalcoholic Steatohepatitis (With Vivian Fonseca and Nagendran Family Diabetes Research Award Presentation)</td>
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<tr>
<td>Diabetes in India and the South Asian Diaspora—The Tsunami Is Here</td>
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<td>Indication for Pancreas Transplantation in the Era of Glucose Sensor and Insulin Pump</td>
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<td>Adipocytes in Health and Disease</td>
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<tr>
<td>Is Intermuscular Adipose Tissue (IMAT) a Friend or a Foe to Metabolic Health?</td>
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<tr>
<td>Joint ADA/EASD Symposium—From Genome-Wide Association Studies (GWAS) to Functional Impact in the Beta Cell</td>
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<td><strong>Maximum total credit for 4:00 p.m.-6:00 p.m. sessions</strong></td>
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**Maximum total credit for Saturday**  8

(*) Denotes ANCC pharmacotherapeutics contact hours.
<table>
<thead>
<tr>
<th>Time</th>
<th>Sessions</th>
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<tbody>
<tr>
<td>8:00 a.m.-10:00 a.m.</td>
<td>(*) What You Absolutely Need to Know about Diabetic Neuropathies to Apply Personalized Care to Your Patients in 2019</td>
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<tr>
<td></td>
<td>(*) Joint ADA/ASN Symposium—Cardiovascular and Renal Protection in Diabetes—Beyond SGLT2 Inhibitors and GLP-1 Receptor Agonists</td>
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<td></td>
<td>Providing Options—Using a Low-Carbohydrate or Very Low-Carbohydrate Diet with Adults with Type 1 Diabetes, Type 2 Diabetes, or Prediabetes</td>
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<td>(*) NDPI Symposium—How Do We Focus on Consensus Rather than Controversy? Guiding Principles for the Care of People with or at Risk for Diabetes</td>
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<td>(*) Making Insulin Affordable</td>
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<td>(*) TrialNet—New Therapeutic Approaches and Insights for Type 1 Diabetes</td>
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<td></td>
<td>(*) Innovations in Insulin Therapy</td>
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<td></td>
<td>Diabetes Prediction and Treatment</td>
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<td></td>
<td>New Insights into Immunomodulatory Therapies and Biomarkers of Autoimmune Disorder (With State-of-the-Art Lecture)</td>
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<td>Circadian Effects</td>
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<td>Muscling in on Metabolism and Insulin Action</td>
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<tr>
<td></td>
<td>The Resilient Beta Cell in Type 2 Diabetes</td>
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<tr>
<td></td>
<td>ADA Diabetes Symposium—The Alpha Cell in Full Bloom—Evidence for an Expanded Role in Metabolic Regulation</td>
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<tr>
<td><strong>Total Attended</strong></td>
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<tr>
<td>8:00 a.m.-10:00 a.m.</td>
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<table>
<thead>
<tr>
<th>Time</th>
<th>Sessions</th>
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<tbody>
<tr>
<td>10:15 a.m.-11:45 a.m.</td>
<td>President, Medicine &amp; Science Address and Banting Medal for Scientific Achievement</td>
</tr>
<tr>
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<tr>
<td>10:15 a.m.-11:45 a.m.</td>
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<table>
<thead>
<tr>
<th>Time</th>
<th>Sessions</th>
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<tbody>
<tr>
<td>12:00 p.m.-1:00 p.m.</td>
<td>(*) Why Is Heart Failure Still an Underappreciated Complication of Diabetes?</td>
</tr>
<tr>
<td></td>
<td>The Emotional Toll of Diabetes Complications—What Have We Done for Them Lately?</td>
</tr>
<tr>
<td></td>
<td>Improving Health-Related Information Retention for Diabetes Self-Management Education and Support (DSMES)</td>
</tr>
<tr>
<td></td>
<td>(*) Diabetes Technology Use in Schools, Camps, and Emergency Rooms</td>
</tr>
<tr>
<td></td>
<td>(*) Results and Comparisons from the RISE Clinical Trial—Adult Medication Study</td>
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<td>12:00 p.m.-1:00 p.m.</td>
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(*) Denotes ANCC pharmacotherapeutics contact hours.
**2:15 p.m.-4:15 p.m. sessions**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>(*) Common Practices That Do Not Make Sense—Dilemmas in Diabetic Foot Management</td>
<td>☑</td>
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<tr>
<td>(*) Advances in Lipidology</td>
<td>☑</td>
</tr>
<tr>
<td>Extending Our Reach—Alternative Delivery Approaches for Psychosocial Care in Diabetes</td>
<td>☑</td>
</tr>
<tr>
<td>An Exercise Challenge—How Diabetes Impacts the Health Benefits of Exercise Training</td>
<td>☑</td>
</tr>
<tr>
<td>Which Benefit Design and Behavioral Economic Interventions Can Be Used to Facilitate Diabetes Prevention?</td>
<td>☑</td>
</tr>
<tr>
<td>(*) Medication Adherence—What You Don’t Know Will Definitely Hurt You</td>
<td>☑</td>
</tr>
<tr>
<td>(*) Too Many Patients, Too Little Time—Streamlining Practice to Care for the Patient with Diabetes</td>
<td>☑</td>
</tr>
<tr>
<td>(*) DECLARE-TIMI 58 Trial</td>
<td>☑</td>
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<tr>
<td>Mama Mia! Here We Go Again (With Norbert Freinkel Award Lecture and ADA Presidents’ Select Abstract Presentation)</td>
<td>☑</td>
</tr>
<tr>
<td>Kelly West Award for Outstanding Achievement in Epidemiology Lecture</td>
<td>☑</td>
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<tr>
<td>Overlap between Autoimmune Diabetes of the Adult and Type 2 Diabetes—Current Knowledge and Clinical Implications</td>
<td>☑</td>
</tr>
<tr>
<td>Gut Microbes, Glucose Transport, and Diabetes (With State-of-the-Art Lecture)</td>
<td>☑</td>
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<tr>
<td>(*) The Artificial Pancreas in 2019—First Reports of New, Large-Scale Trials and the Path Forward</td>
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<tr>
<td>New Insights into Islet Signal Transduction</td>
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**Maximum total credit for 2:15 p.m.-4:15 p.m. sessions** 2

**4:30 p.m.-6:30 p.m. sessions**

<table>
<thead>
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<tbody>
<tr>
<td>(*) Hypoglycemia in Special Circumstances</td>
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<tr>
<td>(*) Once-Weekly Dulaglutide and Major Cardiovascular Events—Results of the REWIND Trial</td>
<td>☑</td>
</tr>
<tr>
<td>Language Matters—Improving Communication in Diabetes Care</td>
<td>☑</td>
</tr>
<tr>
<td>Teens with Diabetes—Intervention, Assessment, and Understanding (With ADA Presidents’ Select Abstract Presentation)</td>
<td>☑</td>
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<tr>
<td>Maternal Effects on Offspring Cognitive and Neurodevelopment</td>
<td>☑</td>
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<tr>
<td>(*) On the Road to Automated Insulin Delivery (AID)</td>
<td>☑</td>
</tr>
<tr>
<td>(*) Should Advanced Diabetes Technology Be Used in Older Adults?</td>
<td>☑</td>
</tr>
<tr>
<td>(*) From Risk to Complications of Type 1 Diabetes Youth—What’s New? (With ADA Presidents’ Select Abstract Presentation)</td>
<td>☑</td>
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<tr>
<td>Screening Populations for Genetic Risk of Diabetes and Its Complications—Where Are We Now?</td>
<td>☑</td>
</tr>
<tr>
<td>Islet and Pancreas Transplantation</td>
<td>☑</td>
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<tr>
<td>mTOR Signaling in Cellular and Systemic Metabolism</td>
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<tr>
<td>How Does Neuroscience Inform Our Care of Patients with Obesity?</td>
<td>☑</td>
</tr>
<tr>
<td>Mechanisms of Hepatic and Extrahepatic Insulin Action in Humans</td>
<td>☑</td>
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<tr>
<td>The Excited Beta Cell—Novel Insights into Hormone Secretion</td>
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**Maximum total credit for 4:30 p.m.-6:30 p.m. sessions** 2

**Maximum total credit for Sunday** 8.5

(*) Denotes ANCC pharmacotherapeutics contact hours.
### MONDAY, JUNE 10, 2019

#### 8:00 a.m.-10:00 a.m. sessions

<table>
<thead>
<tr>
<th>Total credit</th>
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<tbody>
<tr>
<td>(*) New Insights in Diabetic Kidney Disease—Clinical and Experimental Studies (With State-of-the-Art Lecture and ADA Presidents’ Select Abstract Presentation)</td>
<td>☐</td>
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<tr>
<td>(*) Diabetes Management and Macrovascular Outcomes (With Edwin Bierman Award Lecture)</td>
<td>☐</td>
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<tr>
<td>Little Kids with Diabetes—Approaches to Care Across Nutrition, Eating, and Technology</td>
<td>☐</td>
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<tr>
<td>Taking a Stand (or Walk/Run/Lift) for Better Health—Improving Glycemic Management with Physical Activity</td>
<td>☐</td>
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<tr>
<td>The Impact of Payment Models on Diabetes Care</td>
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<tr>
<td>(*) Joint ADA/JDRF Symposium—Continuous Glucose Monitoring in Pediatric Diabetes—Ready for Prime Time?</td>
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<tr>
<td>(*) Glycemic Goals and Overtreatment—What’s Driving the Debate?</td>
<td>☐</td>
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<tr>
<td>(*) Update on Diabetes Management in the Hospital</td>
<td>☐</td>
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<tr>
<td>(*) Expanding Horizons on SGLT Inhibition (With ADA Presidents’ Select Abstract Presentation)</td>
<td>☐</td>
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<tr>
<td>Epidemiology of Diabetes Outcomes</td>
<td>☐</td>
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<tr>
<td>Preclinical Study Including Animals and Basic Science</td>
<td>☐</td>
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<tr>
<td>Insulin Resistance (With State-of-the-Art Lecture)</td>
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<tr>
<td>Organization of Liver Metabolism and Nonalcoholic Fatty Liver Disease</td>
<td>☐</td>
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<tr>
<td>Metabolic Health—From Cells to Special Populations</td>
<td>☐</td>
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<tr>
<td>Stimulating Beta-Cell Proliferation or Beta-Cell Function to Treat Diabetes?</td>
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**Maximum total credit for 8:00 a.m.-10:00 a.m. sessions**: 2

#### 10:10 a.m.-11:45 a.m. session

<table>
<thead>
<tr>
<th>Total credit</th>
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<tbody>
<tr>
<td>National Scientific &amp; Health Care Achievement Awards Presentation and Outstanding Scientific Achievement Award Lecture</td>
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**Maximum total credit for 10:10 a.m.-11:45 a.m. session**: 1.5

#### 12:00 p.m.-1:00 p.m. sessions

<table>
<thead>
<tr>
<th>Total credit</th>
<th>Attended</th>
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</thead>
<tbody>
<tr>
<td>(*) Dilemmas with Medical Devices—Right Device, Right Person, Right Place</td>
<td>☐</td>
</tr>
<tr>
<td>(*) Improving Transitions in Diabetes Care</td>
<td>☐</td>
</tr>
<tr>
<td>All Pregnant Women with Gestational Diabetes or Preexisting Diabetes Should Be Induced by 38 Weeks</td>
<td>☐</td>
</tr>
<tr>
<td>(*) New Insights and Remaining Challenges in Diabetes Management and Complications</td>
<td>☐</td>
</tr>
<tr>
<td>Regulatory T-Cells Expressing Type 1 Diabetes-Reactive T-Cell Receptors and Chimeric Antigen Receptors to Promote Immune Tolerance</td>
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<tr>
<td>Innovations in Medical Training</td>
<td>☐</td>
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**Maximum total credit for 12:00 p.m.-1:00 p.m. sessions**: 1

(*) Denotes ANCC pharmacotherapeutics contact hours.
<table>
<thead>
<tr>
<th>2:15 p.m.-4:15 p.m. sessions</th>
<th>Total credit</th>
<th>Attended</th>
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<tbody>
<tr>
<td>(*) Controversies in the Evaluation and Management of Dyslipidemia in Patients with Diabetes</td>
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<tr>
<td>(*) Hypoglycemia and Technology</td>
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<tr>
<td>Making the Numbers Meaningful—The Value of Qualitative Research in Diabetes</td>
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<tr>
<td>Effects of Exercise on Metabolic Health in Type 2 and Type 1 Diabetes</td>
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<tr>
<td>Got Milk? Variability in Milk Composition and Effects on Offspring Health</td>
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<tr>
<td>Joint ADA/ISPAD Symposium—Understanding Heterogeneity in Pediatric Diabetes—First Step to Improving Outcomes</td>
<td></td>
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<tr>
<td>(*) Major Advances and Discoveries in Diabetes—The Year in Review</td>
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<tr>
<td>(*) Making Sense of Glucose Monitoring</td>
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<tr>
<td>Leveling Up Genome-Wide Association Studies (With ADA Presidents’ Select Abstract Presentation)</td>
<td></td>
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<tr>
<td>Islet Transplantation Today and Tomorrow</td>
<td></td>
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<tr>
<td>Insulin Glucose Homeostasis and Cancer</td>
<td></td>
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<tr>
<td>Fat, Heat, Sugar—Regulation of Body Weight and Metabolic Health</td>
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<tr>
<td>Will the Real Beta Cell Please Stand Up?</td>
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<tr>
<td><strong>Maximum total credit for 2:15 p.m.-4:15 p.m. sessions</strong></td>
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<tr>
<th>4:30 p.m.-6:30 p.m. sessions</th>
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<tbody>
<tr>
<td>(*) Beyond Anti-VEGF Therapy—New Approaches in Diabetic Retinopathy Clinical Trials</td>
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<tr>
<td>Diabetic Neuropathy—From Mouse to Man</td>
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<tr>
<td>The Wide-Ranging Field of Clinical Nutrition Research—From the Role of Nutrients to How We Eat</td>
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<tr>
<td>Innovative Diabetes Education Across Diverse Populations</td>
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<tr>
<td>(*) The CAROLINA Trial—First Results of the Cardiovascular Outcomes Trial Comparing Linagliptin vs. Glimepiride</td>
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<tr>
<td>(*) Evaluation of Trends for Diabetes Management Strategies</td>
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<tr>
<td>(*) Type 1 and Gestational Diabetes Mellitus Pregnancies and Outcomes</td>
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<tr>
<td>Are Taxes the Solution to the Diabetes Epidemic?</td>
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<tr>
<td>The Emerging Role of B Cells in Type 1 Diabetes</td>
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<tr>
<td>Metabolites as Mediators</td>
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<tr>
<td>Defense of Elevated Body Fatness in Obesity—Pathogenesis and Treatment</td>
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<tr>
<td>Live or Let Die? Pancreatic Beta-Cell Death and Apoptosis in Diabetes</td>
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<td><strong>Maximum total credit for 4:30 p.m.-6:30 p.m. sessions</strong></td>
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**Maximum total credit for Monday** 8.5

(*) Denotes ANCC pharmacotherapeutics contact hours.
### TUESDAY, JUNE 11, 2019

**7:30 a.m.-9:30 a.m. sessions**

<table>
<thead>
<tr>
<th>Session</th>
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<tbody>
<tr>
<td>(*) Hypoglycemia in Type 2 Diabetes</td>
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<tr>
<td>Improving Quality of Care and Safety in the Inpatient Setting</td>
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<tr>
<td>(*) CREDENCE and CARMELINA—Results from Two Major Clinical Trials in Kidney and Cardiovascular Disease in Diabetes</td>
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<tr>
<td>Genetics and Epigenetics of Diabetic Complications</td>
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<tr>
<td>Adipose Tissue at the Single-Cell Level</td>
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<tr>
<td>Go with Your Gut—Intestinal Regulation of Metabolism</td>
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<tr>
<td>Beta-Cell Organelles Talk Amongst Themselves</td>
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<td><strong>Maximum total credit for 7:30 a.m.-9:30 a.m. sessions</strong></td>
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**9:45 a.m.-11:45 a.m. session**

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<th>Session</th>
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<tr>
<td>(*) Oral Semaglutide—The PIONEER Program Trials</td>
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<tr>
<td><strong>Maximum total credit for 9:45 a.m.-11:45 a.m. session</strong></td>
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| **Maximum total credit for Tuesday**                                   | **4**        |          |
| **Maximum total credit for entire meeting**                            | **35**       |          |

(*) Denotes ANCC pharmacotherapeutics contact hours.
<table>
<thead>
<tr>
<th>Time</th>
<th>Acute and Chronic Complications</th>
<th>Behavioral Medicine, Clinical Nutrition, Education, and Exercise</th>
<th>Clinical Diabetes/Therapeutics</th>
<th>Epidemiology/Genetics</th>
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<tbody>
<tr>
<td>11:30 a.m.-</td>
<td>Mini-Symposium Opioids, Cannabinoids, and Other Potentially Addictive Therapies in Painful Diabetic Neuropathy Room: S-153</td>
<td>Mini-Symposium The Vitamin D and Type 2 Diabetes (D2d) Study—A Multicenter Randomized Controlled Trial for Diabetes Prevention Room: S-157</td>
<td>Mini-Symposium How Do We Break the Gestational Diabetes Mellitus-Type 2 Diabetes Mellitus-Obesity Cycle? Room: S-203</td>
<td>Mini-Symposium Learning from Atypical Diabetes Room: W-2022</td>
</tr>
<tr>
<td>12:30 p.m.</td>
<td>Mini-Symposium Hypoglycemia and Cardiovascular Events—A Causal Relationship? Room: S-154</td>
<td>Mini-Symposium Patient, Health Care Provider, and Researcher Perspectives on Exercise as an Appropriate Tool for Managing Cardiovascular Complications of Diabetes Room: S-10</td>
<td>Mini-Symposium Screening for Complications in Youth with Type 1 Diabetes—Are We On the Right Path? Room: S-303</td>
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<tr>
<td>1:15 p.m.-</td>
<td>Mini-Symposium I Can Tell When You Are Inflamed—Early Warning Systems in Diabetic Foot Self-Monitoring Room: S-154</td>
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<tr>
<td>1:15 p.m.-</td>
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<tr>
<td>Immuno/</td>
<td>Insulin Action/</td>
<td>Integrated</td>
<td>Islet Biology/</td>
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<tr>
<td>Transplantation</td>
<td>Molecular Metabolism</td>
<td>Physiology/Obesity</td>
<td>Insulin Secretion</td>
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<td><strong>Mini-Symposium</strong></td>
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<td>State-of-the-Art</td>
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<td>Cells-Based</td>
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<td>Therapies in Type</td>
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<tr>
<td>1 Diabetes—The</td>
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<td>Road Ahead</td>
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<tr>
<td><strong>Room: W-2001</strong></td>
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<td><strong>Mini-Symposium</strong></td>
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<tr>
<td>Metformin Action—</td>
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<td>Who Is Really in</td>
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<td>Charge?</td>
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<td><strong>Room: W-2014</strong></td>
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<td><strong>Mini-Symposium</strong></td>
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<td>Evolving Treatments</td>
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<td>for Obesity</td>
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<td><strong>Room: W-2009</strong></td>
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<td>Exchange—The</td>
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<td>Almighty Adipocyte</td>
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<td><strong>Room: W-2001</strong></td>
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<tr>
<td><strong>Mini-Symposium</strong></td>
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<tr>
<td>Current Issues—Rig</td>
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<td>or and Integrity</td>
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<td>in Diabetes</td>
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<td>Research</td>
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<tr>
<td><strong>Room: W-2002</strong></td>
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<tr>
<td>Time</td>
<td>Acute and Chronic Complications</td>
<td>Behavioral Medicine, Clinical Nutrition, Education, and Exercise</td>
<td>Clinical Diabetes/Therapeutics</td>
<td>Epidemiology/Genetics</td>
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<tr>
<td>2:00 p.m.-4:00 p.m.</td>
<td>Symposium Diabetic Kidney Disease and Cardiovascular Disease in Diabetes Room: N-Hall E</td>
<td>Symposium Shared Decision Making When Choosing Pumps and Sensors Room: S-203</td>
<td>Symposium Paternal Programming— I’m Your Papa Room: S-157</td>
<td>Symposium The Environment and Diabetes Room: W-2022</td>
</tr>
<tr>
<td>6:30 p.m.-8:30 p.m.</td>
<td>ADA Networking Receptions—Foyer (West, Levels 2 &amp; 3)</td>
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<tr>
<td>Immunology/Transplantation</td>
<td>Insulin Action/Molecular Metabolism</td>
<td>Integrated Physiology/Obesity</td>
<td>Islet Biology/Insulin Secretion</td>
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| **Symposium**             | **Novel Insights into the Role of the Adipocyte in Metabolic Dysfunction**  
**Room:** W-2014          | **Symposium**  
**2:00 p.m.-3:30 p.m.**  
The Heart and Type 2 Diabetes  
**Room:** W-2001          |
| **Symposium**             | **New Concepts in the Molecular Mechanisms Leading to Type 1 Diabetes**  
**Room:** W-2009          | **Symposium**  
**Powerhouse Rules—The Role of the Mitochondrion in Health and Disease**  
**Room:** W-2001          | **Oral Presentations**  
**Muscle and Metabolism (With State-of-the-Art Lecture)**  
**Room:** W-2014          |
| **Symposium**             | **Novel Mechanisms in Beta-Cell Insulin Secretion**  
**Room:** W-2002          | **Oral Presentations**  
**New Agents and Strategies**  
**Room:** S-157           | **Oral Presentations**  
**Rare Large-Effect Genetic Variants in Diabetes—From Case Studies to Populations (With State-of-the-Art Lecture)**  
**Room:** W-2022          |
| **Symposium**             | **New Concepts in the Molecular Mechanisms Leading to Type 1 Diabetes**  
**Room:** W-2009          | **Symposium**  
**Muscle and Metabolism (With State-of-the-Art Lecture)**  
**Room:** W-2014          | **Symposium**  
**Powerhouse Rules—The Role of the Mitochondrion in Health and Disease**  
**Room:** W-2001          |
FRIDAY, JUNE 7, 2019

Scientific Sessions
11:30 a.m.-12:30 p.m.

Mini-Symposium
Theme Area: Acute and Chronic Complications
Opioids, Cannabinoids, and Other Potentially Addictive Therapies in Painful Diabetic Neuropathy
Room: S-153 (South, Upper Mezzanine Level)
Chair: Andrew J.M. Boulton, MD, DSc (Hon), FACP, FICP, FRCP
11:30 a.m.-11:50 a.m. Current Landscape and National Policies in Fighting Opioid Addiction—Relevance to the Treatment of Severe Painful Diabetic Neuropathy
J. Robinson Singleton, MD
11:50 a.m.-12:10 p.m. When to Use and When NOT to Use These Agents in Painful Diabetic Neuropathy
Karim Ladha, MD, MSc
12:10 p.m.-12:30 p.m. Question and Discussion Period

Mini-Symposium
Theme Area: Acute and Chronic Complications
Hypoglycemia and Cardiovascular Events—A Causal Relationship?
Room: S-154 (South, Upper Mezzanine Level)
Chair: Stephanie A. Amiel, BSc, MD, FRCP
11:30 a.m.-11:50 a.m. No, Hypoglycemia Is a Marker for Cardiovascular Frailty
Thomas R. Pieber, MD
11:50 a.m.-12:10 p.m. Yes, Hypoglycemia Causes Cardiovascular Events
David R. Matthews, DPhil, BM, BCh
12:10 p.m.-12:30 p.m. Question and Discussion Period

Mini-Symposium
Theme Area: Acute and Chronic Complications
Joint ADA/ACC Mini-Symposium—Cardiovascular Disease in Patients with Diabetes
Room: N-Hall E (North, Exhibition Level)
Co-Chairs: Brendan Everett, MD, MPH and Rita Rastogi Kalyani, MD, MHS
11:30 a.m.-11:50 a.m. ADA and ACC—Opportunities for Synergy in the Care of Patients with Diabetes
Sandeep Das, MD, MPH
11:50 a.m.-12:10 p.m. Controversies in Clinical Implementation—Should the Use of Novel Therapies Be Conditional on Background Metformin and Baseline A1C? Extended to Lower Risk Patients? Those with Chronic Kidney Disease?
Jean-François Yale, MD, FRCPC
12:10 p.m.-12:30 p.m. Upcoming Trials in Patients with Diabetes, Cardiovascular Disease, and Related Disorders
Darren K. McGuire, MD, MHSc

Mini-Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
The Vitamin D and Type 2 Diabetes (D2d) Study—A Multicenter Randomized Controlled Trial for Diabetes Prevention
Room: S-157 (South, Upper Mezzanine Level)
Chair: Joanna Mitri, MD, MS
11:30 a.m.-11:45 a.m. Rationale and Study Design
Myrlene A. Staten, MD
11:45 a.m.-12:00 p.m. Recruitment, Retention, and Baseline Characteristics
Erin S. LeBlanc, MD, MPH
12:00 p.m.-12:15 p.m. Outcomes
Anastassios G. Pittas, MD, MS
12:15 p.m.-12:30 p.m. Question and Discussion Period
11:30 a.m.-12:30 p.m.
(continued)

Mini-Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Patient, Health Care Provider, and Researcher Perspectives on Exercise as an Appropriate Tool for Managing Cardiovascular Complications of Diabetes
Room: S-10 (South, Exhibition Level)
Chair: Jacob M. Haus, PhD
11:30 a.m.-11:35 a.m.  Overview
Jacob M. Haus, PhD
11:35 a.m.-11:50 a.m.  Patient’s Perspective—What Exercise Worked and/or Didn’t Work for Me to Help Manage My Diabetes Complications
Brooks Benson
11:50 a.m.-12:05 p.m.  Health Care Provider’s Perspective—Principle vs. Practice in Successful Exercise Programming for Treating Diabetes Complications
Jarett Berry, MD
12:05 p.m.-12:20 p.m.  Researcher’s Perspective—Exercise Effects on Resolving the Underlying Mechanism That Drive Cardiovascular Complications Associated with Diabetes
Judith G. Regensteiner, PhD
12:20 p.m.-12:30 p.m.  Panel Discussion

Mini-Symposium
Theme Area: Clinical Diabetes/Therapeutics
How Do We Break the Gestational Diabetes Mellitus-Type 2 Diabetes Mellitus-Obesity Cycle?
Room: S-203 (South, Level 2)
Chair: Dana Dabelea, MD, PhD
11:30 a.m.-11:45 a.m.  Motivational Technology for Preventing Progression to Type 2 Diabetes Post-Gestational Diabetes Mellitus
N. Wah Cheung, MBBS, FRACP, PhD
11:45 a.m.-12:00 p.m.  Lifestyle Interventions in Preparation for Pregnancy
Patrick Catalano, MD
12:00 p.m.-12:15 p.m.  Interventions at the Health System Level
Assiamira Ferrara, MD, PhD
12:15 p.m.-12:30 p.m.  Question and Discussion Period

Mini-Symposium
Theme Area: Clinical Diabetes/Therapeutics
Screening for Complications in Youth with Type 1 Diabetes—Are We On the Right Path?
Room: S-303 (South, Level 3)
Co-Chairs: Petter Bjornstad, MD and Katharine Garvey, MD, MPH
11:30 a.m.-11:50 a.m.  Screening for Complications in Youth with Type 1 Diabetes—Current Recommendations and Compliance
Kim C. Donaghue, MBBS, PhD
11:50 a.m.-12:10 p.m.  Cost Benefit of Pre-Type 1 Screening—Is It Time to Reevaluate Our Recommendations?
Desmond Schatz, MD
12:10 p.m.-12:30 p.m.  Question and Discussion Period
FRIDAY, JUNE 7, 2019

11:30 a.m.-12:30 p.m. (continued)

**Mini-Symposium**  
Theme Area: Epidemiology/Genetics  
**Learning from Atypical Diabetes**  
Room: W-2022 (West, Level 2)  
Chair: Christine Lee, MD, MS  
11:30 a.m.-11:50 a.m.  
*Atypical Diabetes—I Know It When I See It?*  
Louis H. Philipson, MD, PhD, FACP  
11:50 a.m.-12:10 p.m.  
*Rare and Atypical Diabetes Network (RADIANT)—A New National Initiative*  
Jeffrey Krischer, PhD  
12:10 p.m.-12:30 p.m.  
*Question and Discussion Period*

**Mini-Symposium**  
Theme Area: Immunology/Transplantation  
**State-of-the-Art of Embryonic Stem Cells-Based Therapies in Type 1 Diabetes—The Road Ahead**  
Room: W-2001 (West, Level 2)  
Co-Chairs: Matthias Hebrok, PhD and Clayton E. Mathews, PhD  
11:30 a.m.-11:50 a.m.  
*PD-L1 Genetic Overexpression in Hematopoietic Stem and Progenitor Cells Reverses Autoimmune Diabetes*  
Paolo Fiorina, MD, PhD  
11:50 a.m.-12:10 p.m.  
*Beta-Cell Replacement Strategies for Type 1 Diabetes*  
Timothy J. Kieffer, PhD  
12:10 p.m.-12:30 p.m.  
*Question and Discussion Period*

**Mini-Symposium**  
Theme Area: Insulin Action/Molecular Metabolism  
**Metformin Action—Who Is Really in Charge?**  
Room: W-2014 (West, Level 2)  
Chair: Peter A. Crawford, MD, PhD  
11:30 a.m.-11:50 a.m.  
*The Redox State in Metformin Action*  
Gerald I. Shulman, MD, PhD, FACP, MACE  
11:50 a.m.-12:10 p.m.  
*The LKB1-AMPK Signaling Cascade*  
Gregory R. Steinberg, PhD  
12:10 p.m.-12:30 p.m.  
*Question and Discussion Period*

**Mini-Symposium**  
Theme Area: Integrated Physiology/Obesity  
**Evolving Treatments for Obesity**  
Room: W-2009 (West, Level 2)  
Chair: Amy E. Rothberg, MD, PhD  
11:30 a.m.-11:50 a.m.  
*Endoscopic and Device Treatment Options*  
Andrew C. Storm, MD  
11:50 a.m.-12:10 p.m.  
*Medications for Adolescent Obesity Treatment*  
Daniel S. Hsia, MD  
12:10 p.m.-12:30 p.m.  
*Question and Discussion Period*
12:45 p.m.-1:45 p.m.

**Mini-Symposium**
*Theme Area: Acute and Chronic Complications*

**Is Very Aggressive Lowering of LDL Cholesterol Worthwhile?**
Room: N-Hall E (North, Exhibition Level)
Chair: Carl Grunfeld, MD, PhD

**12:45 p.m.-1:05 p.m. Pro**
Steven E. Nissen, MD, MACC

**1:05 p.m.-1:25 p.m. Con**
Rita F. Redberg, MD, MSc, FACC

**1:25 p.m.-1:45 p.m. Question and Discussion Period**

**Mini-Symposium**
*Theme Area: Acute and Chronic Complications*

**Translation of Cardiorenal Outcomes Trials into Other Populations with Diabetes**
Room: S-303 (South, Level 3)
Chair: Luiza Caramori, MD, MSc, PhD

**12:45 p.m.-1:05 p.m.**
*What Do Current Cardiovascular Outcomes Trials Mean for Patients with Type 1 Diabetes?*
Katherine R. Tuttle, MD, FACP, FASN, FNKF

**1:05 p.m.-1:25 p.m.**
*What Do Current Cardiovascular Outcomes Trials/Renal Trials Mean for Children/Adolescents with Obesity and Type 2 Diabetes?*
Fida Bacha, MD, FAAP

**1:25 p.m.-1:45 p.m. Question and Discussion Period**

**Mini-Symposium**
*Theme Area: Acute and Chronic Complications*

**How to Help Your Patients and Your Bottom Line Using Novel Diabetic Retinopathy Diagnostic Tools**
Room: S-153 (South, Upper Mezzanine Level)
Chair: Amani Fawzi, MD

**12:45 p.m.-1:05 p.m.**
*Early Treatment Diabetic Retinopathy Study Scale—Stages and Treatment—Implications for Health Care Providers*
Karl G. Csaky, MD, PhD

**1:05 p.m.-1:25 p.m.**
*Use of Artificial Intelligence Analysis of Diabetic Retina with Automated Computer Algorithms and Remote Reading Centers*
Aaron Y. Lee, MD, MSCI

**1:25 p.m.-1:45 p.m. Question and Discussion Period**

**Mini-Symposium**
*Theme Area: Acute and Chronic Complications*

**I Can Tell When You Are Inflamed—Early Warning Systems in Diabetic Foot Self-Monitoring**
Room: S-154 (South, Upper Mezzanine Level)
Chair: Lawrence A. Lavery, DPM

**12:45 p.m.-1:00 p.m.**
*It’s All About Inflammation—Concepts of Temperature Monitoring for the Diabetic Foot*
James Wrobel, DPM, MS

**1:00 p.m.-1:15 p.m.**
*It’s Smart Hosiery and Intelligent Textiles*
Bijan Najafi, PhD

**1:15 p.m.-1:30 p.m.**
*Intelligent Monitoring Systems—The Podimetric Smart Mat*
Ian L. Gordon, MD, PhD

**1:30 p.m.-1:45 p.m. Question and Discussion Period**
FRIDAY, JUNE 7, 2019

12:45 p.m.-1:45 p.m. (continued)

Mini-Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Transition from Pediatric to Adult Diabetes Care—What’s Really Working?
Room: S-203 (South, Level 2)
Chair: Jill Weissberg-Benchell, PhD, CDE
12:45 p.m.-1:00 p.m. Lessons Learned—Young Adult Engagement for a Multidisciplinary Transition Clinic
Harpreet Nagra, PhD
1:00 p.m.-1:15 p.m. Alternative Care Models for Transitioning Youth from Pediatric to Adult Diabetes Care
Jennifer Raymond, MD, MCR
1:15 p.m.-1:30 p.m. Leveraging Appointments with Certified Diabetes Educators to Build Skills Towards Successful Transition
Maureen Monaghan, PhD
1:30 p.m.-1:45 p.m. Question and Discussion Period

Mini-Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Using Innovative Educational Strategies to Reach the Underserved—Community Health Workers, Peer Educators, and More
Room: S-10 (South, Exhibition Level)
Chair: Betsy Rodriguez, BSN, MSN, CDE
12:45 p.m.-1:00 p.m. Community Health Workers vs. Online Diabetes Self-Management Education to Reach Low-Income Patients with Type 2 Diabetes Mellitus
Michele Heisler, MD, MPA
1:00 p.m.-1:15 p.m. The Expanding Role of Peer Educators in Diabetes Self-Management Education
Kate Lorig, DrPH
1:15 p.m.-1:30 p.m. Adapting a Diabetes Self-Management Program to Meet the Needs of a Real-World Setting with a Minority Population
Ninfa Peña-Purcell, PhD, MCHES
1:30 p.m.-1:45 p.m. Panel Discussion

Mini-Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Women’s Interprofessional Network of the ADA (WIN ADA) Mini-Symposium—Using Tools and Strategies to Effectively Communicate Science
Room: S-208 (South, Level 2)
Chair: Chandra Y. Osborn, PhD, MPH
12:45 p.m.-1:05 p.m. Do Not Fear—Social Media for Promoting Your Science
Joyce Lee, MD, MPH
1:05 p.m.-1:25 p.m. Science Literacy
Krishana S. Sankar, BSc (Hons), PhDc
1:25 p.m.-1:45 p.m. Question and Discussion Period
12:45 p.m.-1:45 p.m. (continued)

Mini-Symposium
Theme Area: Clinical Diabetes/Therapeutics
Digital Apps for Diabetes Treatment and Prevention—Opportunities and Challenges
Room: W-2009 (West, Level 2)
Co-Chairs: Alexander Fleming, MD and Lutz Heinemann, PhD
12:45 p.m.-1:00 p.m. Regulatory and Public Policy Indications for Diabetes-Related Digital Apps
Courtney H. Lias, PhD
1:00 p.m.-1:15 p.m. Physician Perspective
Steven Edelman, MD
1:15 p.m.-1:30 p.m. Round Table Discussion
John R. Petrie, PhD, FRCPC
1:30 p.m.-1:45 p.m. Question and Discussion Period

Mini-Symposium
Theme Area: Clinical Diabetes/Therapeutics
Joint ADA/ASMBS Mini-Symposium—Interventional Treatment of Diabetes—The Scientific and Clinical Evidence Regarding Metabolic Surgery and Implementation into Clinical Practice
Room: S-157 (South, Upper Mezzanine Level)
Co-Chairs: David D’Alessio, MD and Eric J. DeMaria, MD
12:45 p.m.-1:00 p.m. Scientific Mechanisms of Diabetes Improvement by Manipulation of the GI Tract
David D’Alessio, MD
1:00 p.m.-1:15 p.m. Effectiveness and Safety of Metabolic Surgery Interventions
David E. Cummings, MD
1:15 p.m.-1:30 p.m. Update on the 2019 4th World Congress on Interventional Therapies for Type 2 Diabetes—Guidelines and Implementation Strategies
Philip R. Schauer, MD
1:30 p.m.-1:45 p.m. Question and Discussion Period

Mini-Symposium
Theme Area: Integrated Physiology/Obesity
The Banting Exchange—The Almighty Adipocyte
Room: W-2001 (West, Level 2)
Chair: Alan Saltiel, PhD
12:45 p.m.-1:05 p.m. The Adipocyte and Integrative Metabolism—Pathways of Energy Expenditure
Bruce M. Spiegelman, PhD
1:05 p.m.-1:25 p.m. The Adipocyte as an Endocrine Organ—Adipokines Acting in Harmony
Philipp E. Scherer, PhD
1:25 p.m.-1:45 p.m. Question and Discussion Period

Mini-Symposium
Theme Area: Islet Biology/Insulin Secretion
Current Issues—Rigor and Integrity in Diabetes Research
Room: W-2002 (West, Level 2)
Chair: Alvin C. Powers, MD
12:45 p.m.-1:05 p.m. The Reproducibility Crisis—Realigning Incentives to Restore Scientific Integrity
Daniel J. Drucker, MD
1:05 p.m.-1:25 p.m. Everything You Always Wanted to Know About Sex in Diabetes Research (but Were Afraid to Ask)
Franck Mauvais-Jarvis, MD, PhD
1:25 p.m.-1:45 p.m. Question and Discussion Period
FRIDAY, JUNE 7, 2019

2:00 p.m.-3:30 p.m.

Symposium
Theme Area: Integrated Physiology/Obesity
The Heart and Type 2 Diabetes
Room: W-2001 (West, Level 2)
Chair: Ralph A. DeFronzo, MD
2:00 p.m.-2:25 p.m. Myocardial Metabolism in Type 2 Diabetes Mellitus—What’s Gone Wrong?
Gary Lopaschuk, PhD
2:25 p.m.-2:50 p.m. The Failing Heart—Metabolic Considerations
Horng H. Chen, MD
2:50 p.m.-3:15 p.m. Management of Heart Failure in Patients with Diabetes
Mariell Jessup, MD, FAHA
3:15 p.m.-3:30 p.m. Question and Discussion Period

2:00 p.m.-4:00 p.m.

Symposium
Theme Area: Acute and Chronic Complications
Diabetic Kidney Disease and Cardiovascular Disease in Diabetes
Room: N-Hall E (North, Exhibition Level)
Chair: Susanne Nicholas, MD, MPH, PhD
2:00 p.m.-2:30 p.m. Understanding the Pathophysiologic Link between Cardiovascular Disease and Diabetic Kidney Disease
George Bakris, MD
2:30 p.m.-3:00 p.m. Epidemiology and Risk Factors for Cardiovascular Disease in Patients with Diabetic Kidney Disease
Bjorn Eliasson, MD, PhD
3:00 p.m.-3:30 p.m. Heart Failure in Diabetes and Diabetic Kidney Disease—Pathways and Therapeutic Targets
Amanda Vest, MBBS, MPH
3:30 p.m.-4:00 p.m. Improving Renal and Cardiovascular Outcomes in Patients with Diabetic Kidney Disease—What Have We Learned?
Sankar D. Navaneethan, MD, MS, MPH

Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Shared Decision Making When Choosing Pumps and Sensors
Room: S-203 (South, Level 2)
Chair: Neesha Ramchandani, PNP, CDE, CDTC
2:00 p.m.-2:30 p.m. Individualizing Insulin Pump Selection Patient-by-Patient
Samantha Lange, BS
2:30 p.m.-3:00 p.m. Motivating Patients to Wear Continuous Glucose Monitors
Rebecca L. Longo, ACNP-BC, MSN, CDE
3:00 p.m.-3:30 p.m. Hybrid Closed-Loop Systems—What Have We Learned So Far?
Cari Berget, RN, MPH, CDE
3:30 p.m.-4:00 p.m. Question and Discussion Period
Symposium  
Theme Area: Clinical Diabetes/Therapeutics  
**Paternal Programming—I’m Your Papa**  
Room: S-157 (South, Upper Mezzanine Level)  
Chair: Marie-France Hivert, MD, MMSc  

2:00 p.m.-2:20 p.m.  
**Evidence and Mechanisms for Paternal Epigenetic Regulation of Developmental Origins of Health and Disease**  
Elvira Isganaitis, MD, MPH  

2:20 p.m.-2:40 p.m.  
**Single-Cell Analysis of Sperm from Obese Humans Reveals Mosaicism of Epigenetic Variation**  
Romain Barrés, PhD  

2:40 p.m.-3:00 p.m.  
**Preconception Diet or Exercise Intervention in Obese Fathers Normalizes Sperm microRNA Profile and Metabolic Syndrome in Female Offspring (Mouse)**  
Nicole O. McPherson, PhD  

3:00 p.m.-3:20 p.m.  
**Paternal Long-Term Exercise Programs Offspring for Low Energy Expenditure and Increased Risk for Obesity in Mice**  
P. Darrell Neufer, PhD  

3:20 p.m.-3:40 p.m.  
**Cold-Induced Epigenetic Programming of the Sperm Enhances Brown Adipose Tissue Activity in the Offspring (Human and Mouse)**  
Christian Wolfrum, PhD  

3:40 p.m.-4:00 p.m.  
**Question and Discussion Period**  

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Symposium  
Theme Area: Clinical Diabetes/Therapeutics  
**Opportunities and Challenges of Real-World Evidence in Diabetes**  
Room: S-153 (South, Upper Mezzanine Level)  
Chair: Julio Rosenstock, MD  

2:00 p.m.-2:30 p.m.  
**Real-World Data Analyses for Regulatory Decision Making**  
Sebastian Schneeweiss, MD, ScD  

2:30 p.m.-3:00 p.m.  
**Assessment of the Effectiveness and Safety of Newly Marketed Therapies for Diabetes in Real-World Patients**  
Elisabetta Patorno, MD, DrPH  

3:00 p.m.-3:30 p.m.  
**Methodological Challenges in Real-World Data Studies of Diabetes Therapy**  
Samy Suissa, PhD  

3:30 p.m.-4:00 p.m.  
**Synergies from Integrating Randomized Controlled Trials and Real-World Data Studies**  
Nick Freemantle, PhD  

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Symposium  
Theme Area: Epidemiology/Genetics  
**The Environment and Diabetes**  
Room: W-2022 (West, Level 2)  
Chair: Maria Rosario G. Araneta, PhD  

2:00 p.m.-2:30 p.m.  
**Climate Change and Diabetes—Opportunities for Co-Benefits**  
William H. Dietz, MD, PhD  

2:30 p.m.-3:00 p.m.  
**Air Pollution and Diabetes**  
George D. Thurston, ScD  

3:00 p.m.-3:30 p.m.  
**Heat and Diabetes**  
Rainer Sauerborn, MD, PhD, MPH, MSc  

3:30 p.m.-4:00 p.m.  
**Humanitarian Crises and Diabetes**  
Sylvia Kehlenbrink, MD
2:00 p.m.-4:00 p.m.  
(continued)

**Symposium**  
*Theme Area: Insulin Action/Molecular Metabolism*  
**Novel Insights into the Role of the Adipocyte in Metabolic Dysfunction**  
Room: W-2014 (West, Level 2)  
Chair: Michael J. Jurczak, PhD

2:00 p.m.-2:30 p.m.  
*The Lipid Droplet and Lipolysis*  
Tobias Walther, PhD

2:30 p.m.-3:00 p.m.  
*Protein Kinase C Epsilon Action in Adipose Tissue Promotes Glucose Intolerance*  
Carsten Schmitz-Peiffer, PhD

3:00 p.m.-3:30 p.m.  
*Novel Regulators of Insulin’s Effect on Adipocyte Lipolysis*  
Anthony W. Ferrante, Jr., MD, PhD

3:30 p.m.-4:00 p.m.  
*Transcriptional Regulation of Lipogenesis*  
Hei Sook Sul, PhD

**Symposium**  
*Theme Area: Islet Biology/Insulin Secretion*  
**The Future Is Here—New Technologies in Islet Biology**  
Room: W-2002 (West, Level 2)  
Chair: David W. Piston, PhD

2:00 p.m.-2:30 p.m.  
*Islet-on-a-Chip—In Vitro Platforms for Studying Human Islet Physiology and Disease*  
Cherie L. Stabler, PhD

2:30 p.m.-3:00 p.m.  
*Pathology from the Atomic Scale On Up*  
Garry Nolan, PhD

3:00 p.m.-3:30 p.m.  
*Remote Cell Activation to Investigate Glucose Metabolism*  
Sarah Stanley, MB, BCh, PhD

3:30 p.m.-4:00 p.m.  
*Combined Single-Cell Functional and Transcriptomic Profiling of Human Islet Cells*  
Patrick MacDonald, PhD

4:15 p.m.-6:15 p.m.

**Symposium**  
*Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise*  
**Does When We Eat Matter? Effects of Timing on Weight, Metabolic Risk Factors, and Glycemic Control**  
Room: S-203 (South, Level 2)  
Chair: Maureen Chomko, RD, CDE

4:15 p.m.-4:45 p.m.  
*Interrnt Fasting and the Circadian Clock*  
Courtney M. Peterson, PhD

4:45 p.m.-5:15 p.m.  
*Metabolic Effects of Intermittent Compared with Continuous Energy Restriction*  
Rona Antoni, PhD, RD

5:15 p.m.-5:45 p.m.  
*Nutrient Sequencing in Type 2 Diabetes*  
Alpana Shukla, MD

5:45 p.m.-6:15 p.m.  
*Question and Discussion Period*
Symposium
Theme Area: Clinical Diabetes/Therapeutics
Pains and Gains in Continuous Glucose Monitoring
Room: N-Hall E (North, Exhibition Level)
Chair: Andrew J. Ahmann, MD
4:15 p.m.-6:15 p.m.
(continued)
4:15 p.m.-4:45 p.m. Continuous Glucose Monitoring Is Trending—Device Options and Utilization
Roy W. Beck, MD, PhD
4:45 p.m.-5:15 p.m. Continuous Glucose Monitoring Outcomes and Indications
Davida F. Kruger, MSN, APN-BC, BC-ADM
5:15 p.m.-5:45 p.m. Continuous Glucose Monitoring in Special Populations—Benefits and Barriers
Anne L. Peters, MD
5:45 p.m.-6:15 p.m. Beyond A1C—Applying Uniform Metrics in the Clinical Use of Continuous Glucose Monitoring
Anders L. Carlson, MD

Symposium
Theme Area: Immunology/Transplantation
New Concepts in the Molecular Mechanisms Leading to Type 1 Diabetes
Room: W-2009 (West, Level 2)
Chair: Alberto Pugliese, MD
4:15 p.m.-6:15 p.m.
4:15 p.m.-4:45 p.m. Single Cell Analysis of CD4 T-Cells Reveals Molecular Mechanisms of Disease
Luc Teyton, MD, PhD
4:45 p.m.-5:15 p.m. Global Metabolic Disturbances Characterize Human Type 1 Diabetes
Clayton E. Mathews, PhD
5:15 p.m.-5:45 p.m. Analysis of Self-Antigen Specificity of Islet-Infiltrating T-Cells from Human Donors with Type 1 Diabetes
Sally C. Kent, PhD
5:45 p.m.-6:15 p.m. Question and Discussion Period

Symposium
Theme Area: Integrated Physiology/Obesity
Powerhouse Rules—The Role of the Mitochondrion in Health and Disease
Room: W-2001 (West, Level 2)
Chair: P. Darrell Neufer, PhD
4:15 p.m.-6:15 p.m.
4:15 p.m.-4:45 p.m. State-of-the-Art Lecture—The Mighty Mitochondrion in the Regulation of Metabolic Health
Orian Shirihai, MD, PhD
4:45 p.m.-5:15 p.m. MOTS—C-Mitochondrial-Encoded Regulator of Nuclear Gene Expression and Physical Capacity
Changhan David Lee, PhD
5:15 p.m.-5:45 p.m. Mitochondria-Nuclear Communication in Homeostasis and Stress Response
Valentina Perissi, PhD
5:45 p.m.-6:15 p.m. Mitochondrial Cross Talk—Should I Stay, or Should I Go?
Luca Scorrano, MD, PhD
4:15 p.m.-6:15 p.m.

Oral Presentations
Theme Area: Acute and Chronic Complications

Links between Diabetes and Cardiovascular Disease
Room: S-10 (South, Exhibition Level)
Chair: Darren K. McGuire, MD, MHSc

4:15 p.m.-4:30 p.m.

1-OR  Effect of Duodenal-Jejunal Bypass Liner on Cardiovascular Risk in Patients with Type 2 Diabetes and Metabolic Syndrome
KATHARINA LAUBNER, NATASCHA RÖHLEN, DOMINIK BETTINGER, HANNA HILGER, CAROLIN KÖNIG, ANDREAS KREBS, JOCHEN SEUFERT, Freiburg, Germany

4:30 p.m.-4:45 p.m.

2-OR  Metabolic Inflexibility in Patients with Type 2 Diabetes and Heart Failure
EVA HOŠKOVÁ, JAN KOPECKÝ, JR., JIRI VELEBA, KATERINA VELEBOVÁ, VOJTECH MELENHOVSKÝ, TEREZIE PELIKANOVA, Prague, Czech Republic

4:45 p.m.-5:00 p.m.

3-OR  Differential Effects of Novel Antidiabetic Agents on Vascular Function Indices in Patients with Type 2 Diabetes Mellitus
GERASIMOS SIASOS, EVANTHIA BLETSAS, PANAGIOTA K. STAMPOLOGLOU, KONSTANTINOS BATZIAS, STAVROULA A. PASCHOU, ALEXIOS ANTONOPoulos, VASILIKI TSIGKOU, NIKOLAOS GOULIOPOULOS, SAVVAS MAZARIS, SR., EVANGELOS OIKONOMOU, ANASTASIA THANOPoulos, MARIANNA POLITOU, ANDROMACHI VRYONIDOU, DIMITRIS TOUSOULIS, NIKOLAS TENTOLOURIS, Athens, Greece

4-OR  WITHDRAWN

5:00 p.m.-5:15 p.m.

5-OR  Cardioprotective Effect of Luseogliflozin in Patients with Type 2 Diabetes and Established Cardiovascular Disease
YUJIRO INA, TAKUYA KISHI, NAOKI SAKANE, Fukuoka, Japan, Kyoto, Japan

5:15 p.m.-5:30 p.m.

6-OR  Estimated Glucose Disposal Rate and Major Vascular Events in Type 1 Diabetes: A 10-Year Follow-Up Study
MONIA GAROFOLI, ELISA GUALDANI, ROSA GIANNARELLI, MICHELE ARAGONA, FABRIZIO CAMPI, DANIELA LUCCHESI, GIUSEPPE DANIELE, ROBERTO MICCOLI, PAOLO FRANCESCONI, STEFANO DEL PRATO, GIUSEPPE PENNO, Pisa, Italy, Florence, Italy

5:30 p.m.-5:45 p.m.

7-OR  Effect of Dapagliflozin, a Sodium-Glucose Cotransporter 2 Inhibitor, on Vascular Function in Patients with Type 2 Diabetes Compared with Gliclazide
SOO LIM, DAVID CHERNEY, Seoul, Republic of Korea, Toronto, ON, Canada

5:45 p.m.-6:00 p.m.

8-OR  Use of Guideline-Recommended Risk-Reduction Strategies among Patients with Type 2 Diabetes and Established ASCVD: Insights from Getting to an Improved Understanding of Low-Density Lipoprotein Cholesterol and Dyslipidemia Management (GOULD)
MIKHAIL N. KOSIBOROD, JAMES DE LEMOS, ROBERT S. ROSENSON, CHRISTIE M. BALLANTYNE, KIRAN PHILIP, YUYIN LIU, KATHERINE E. MUES, SHUSHAMA ALAM, MARY ELLIOTT, DEEPAK L. BHATT, CHRISTOPHER P. CANNON, Kansas City, MO, Dallas, TX, New York, NY, Houston, TX, Thousand Oaks, CA, Boston, MA, Cambridge, United Kingdom
Oral Presentations

Theme Area: Clinical Diabetes/Therapeutics

Effective Diabetes Care—At What Cost?

Room: S-208 (South, Level 2)

Chair: Neda Laiteerapong, MD, MS

4:15 p.m.-6:15 p.m.

(continued)

4:15 p.m.-4:30 p.m.

9-OR Cost Effectiveness of the New 2018 ACP Glycemic Control Guideline among U.S. Adults with Type 2 Diabetes

HUI SHAO, MICHAEL LAXY, EDWARD GREGG, PING ZHANG, Atlanta, GA, Munich, Germany

4:30 p.m.-4:45 p.m.

10-OR Health-Care Costs and Utilization for Medicaid Patients with Diabetes in Accountable Care Communities (ACC)—A Natural Experiment for Translation in Diabetes (NEXT-D) 2 Study

TANNAZ MOIN, O. KENRIK DURU, CAROL MANGIONE, Los Angeles, CA

4:45 p.m.-5:00 p.m.

11-OR What Has Contributed to the Increase in the National Spending on Antidiabetic Drugs: 2005-2016?

XILIN ZHOU, SUNDAR SHRESTHA, HUI SHAO, PING ZHANG, Atlanta, GA

5:00 p.m.-5:15 p.m.

12-OR Trends in Total and Out-of-Pocket Payment on a Yearly Insulin Supply among Private Health Insured U.S. Adults with Diabetes from 2003 to 2016

HUI SHAO, MICHAEL LAXY, STEPHEN R. BENOIT, YILING J. CHENG, EDWARD GREGG, PING ZHANG, Atlanta, GA, Munich, Germany

5:15 p.m.-5:30 p.m.

13-OR Trends in Life-Threatening Hyperglycemia-Related Complications among Commercially-Insured Diabetes Patients Before and After the 2010 Rise in Insulin Prices

AMIR MEIRI, KATHERINE CALLAWAY, J. FRANK WHARAM, Boston, MA

5:30 p.m.-5:45 p.m.

14-OR The Cost of Chronic Kidney Disease Progression in Type 2 Diabetes Patients

LAWRENCE BLONDE, JOSEPH A. VASSALOTTI, DOMINIC PILON, WILLY WYNANT, MARYIA ZHDANAVA, PATRICK LEFEBVRE, JENNIFER VOELKER, ROBERT BAILEY, MICHAEL DURKIN, New Orleans, LA, New York, NY, Montreal, QC, Canada, Titusville, NJ

5:45 p.m.-6:00 p.m.

15-OR Renal Outcomes from the DECLARE-TIMI 58 Trial: Quantifying the Health-Care Implications

PHILIP MCEWAN, BERNT KARTMAN, HAYLEY BENNETT, CHRISTOPHER EDMONDS, INGRID ANNA GAUSE-NILSSON, Cardiff, United Kingdom, Mölndal, Sweden, Cambridge, United Kingdom

6:00 p.m.-6:15 p.m.

16-OR Contributions of Chronic Kidney Disease and Cardiovascular Disease to Medical Costs of Type 2 Diabetes

GREGORY A. NICHOLS, ANASTASIA V. USTYUGOVA, ANOUK DERUAZ-LUYET, KIMBERLY G. BRODOVICZ, Portland, OR, Ingelheim, Germany, Ridgefield, CT
FRIDAY, JUNE 7, 2019

Oral Presentations

Theme Area: Clinical Diabetes/Therapeutics

New Agents and Strategies

Room: S-157 (South, Upper Mezzanine Level)
Co-Chairs: Vanita R. Aroda, MD and Christoph Zechner, MD, PhD

4:15 p.m.-6:15 p.m. (continued)

4:15 p.m.-4:30 p.m.
17-OR Efficacy and Safety of Chiglitazar, a Novel PPARα/γ/d Pan-Agonist, in Patients with Type 2 Diabetes: A Randomized, Double-Blind, Controlled-Phase 3 Superiority Trial (CMAP)
INONG JI, WEIHONG SONG, HUI FANG, WEI LI, JIANLIN GENG, YAN CHENG XU, YANGANG WANG, LIAN GUO, HANOING CAI, TAO YANG, HONG-MEI LI, GANGYI YANG, QIFU LI, SR., KUANZHI LIU, SHUYING LI, YANJUN LIU, FUYAN SHI, XIN SHENG LI, XIN GAO, QIUHE JI, HAOMING TIAN, QING SU, ZHIJUAN ZHOU, WENBO WANG, ZUNHAI ZHOU, XUEJUN LI, YAN CHENG XU, ZHIQIANG NING, XIANPING LU, WEIING JIA, BJING, CHINA, CHENZHOU, CHINA, TANSHAN, CHINA, ZHUOU, CHINA, HENGSHUI, CHINA, WUHAN, CHINA, QINGDAO, CHINA, CHONGQING, CHINA, CHANGLANG, CHINA, NANNING, CHINA, SHIJAZHUANG, CHINA, TIANJIN, CHINA, BAOTOU, CHINA, CANGZHOU, CHINA, SHANGHAI, CHINA, XI’AN, CHINA, CHENGDU, CHINA, CHANGSHA, CHINA, XIAMEN, CHINA, SHENZHEN, CHINA, BELLE MEAD, NJ

4:30 p.m.-4:45 p.m.
18-OR Efficacy and Safety of Chiglitazar vs. Sitagliptin in Patients with Type 2 Diabetes: A 24-Week, Randomized, Double Blind, Noninferiority Phase 3 Trial (CMAS)
WEIPING JIA, JIANHUA MA, HENG MIAO, CHANGJIANG WANG, XIAOYUE WANG, QUANMIN LI, WEIPING LU, JIALIN YANG, LIHUI ZHANG, JINKUI YANG, GUIXIA WANG, XIUZHENG ZHANG, MIN ZHANG, LI SUN, XUEFENG YU, JIANLUNG DU, BINGYIN SHI, CHANGQING XIAO, DALONG ZHU, HONG LIU, LIYONG ZHONG, CHUN XU, QI XU, GANXIONG LIANG, YING ZHANG, GUANGWEI LI, MINGYU GU, JUN LIU, ZHIQIANG NING, LINONG JI, SHANGHAI, CHINA, NANNING, CHINA, HEFEI, CHINA, YUEYANG, CHINA, BEIJING, CHINA, HUAI’AN, CHINA, SHIJIAZHOUANG, CHINA, CHANGCHUN, CHINA, SIPING, CHINA, WUHAN, CHINA, DALIAN, CHINA, XI’AN, CHINA, NANNING, CHINA, SHANTOU, CHINA, ZHONGSHAN, CHINA, GUANGZHOU, CHINA, SHENZHEN, CHINA

4:45 p.m.-5:00 p.m.
19-OR Controlled-Release Mitochondrial Protonophore (CRMP) Reverses Hypertriglyceridemia and Hepatic Steatosis in Dymetabolic Nonhuman Primates
LEIGH GOEDEKE, VALLE MONTALVO ROMERAL, GINA MARIE BUTRICO, MARIO KAHN, SYLVIE DUFOUR, XIAN-MAN ZHANG, GARY CLINE, KITT PETERSEN, KEEFE CHNG, GERALD I. SHULMAN, NEW HAVEN, CT, LAFAYETTE, LA

5:00 p.m.-5:15 p.m.
20-OR GPR142 Agonists Increase Glucose-Dependent Insulin Secretion and Differentially Regulate Hormone Secretion in Preclinical and Phase 1 Studies
EDWARD J. PRATT, TOMONORI OURA, XIAOSU MA, HUA V. LIN, TIANWEI MA, ALEXANDER M. EFANOV, MELISSA K. THOMAS, SINGAPORE, SINGAPORE, KOBE, JAPAN, MERCER ISLAND, WA, NEW YORK, NY, SUZHOU, CHINA, INDIANAPOLIS, IN

5:15 p.m.-5:30 p.m.
21-OR Final Results of a Phase 2, Randomized, Double-Blind, Placebo-Controlled Clinical Trial of the MetAP2 Inhibitor ZGN-1061 in Patients with Type 2 Diabetes
TERRI KIM, DONGLIANG ZHUANG, TONYA L. HAUGEN, DENNIS D. KIM, KRISTIN TAYLOR, BOSTON, MA

5:30 p.m.-5:45 p.m.
22-OR Nasal Glucagon: A Viable Alternative to Treat Insulin-Induced Hypoglycemia in Japanese Patients with Type 1 and Type 2 Diabetes
MUNEHIDE MATSUHISA, YASUSHI TAKITA, RISA NASU, KENJI OHWAKI, HIROTAKA NAGASHIMA, TOKUSHIMA, JAPAN, KOBE, JAPAN, TOKYO, JAPAN

(continued on next page)
5:45 p.m.-6:00 p.m.

23-OR  The Effect of 14-Day Atorvastatin Treatment on Postprandial Glucose Metabolism in Healthy Males—A Link to Why Statin Therapy Increases the Risk of Type 2 Diabetes?
MARTIN L. THOMASEN, DAVID P. SONNE, MARTIN L. KÅRHUS, ANDREAS BRØNDEN, BART STAELS, JENS J. HOLST, TINA VILSBØLL, FILIP K. KNOP, Hellerup, Denmark, Lille, France, Copenhagen, Denmark

24-OR  WITHDRAWN
4:15 p.m.-6:15 p.m.  
(continued)

**Oral Presentations**  
**Theme Area: Epidemiology/Genetics**  

**Rare Large-Effect Genetic Variants in Diabetes—from Case Studies to Populations (With State-of-the-Art Lecture)**  
Room: W-2022 (West, Level 2)  
Chair: Richard A. Oram, MD, PhD

4:15 p.m.-4:45 p.m.  
**State-of-the-Art Lecture**  
*Monogenic Diabetes and Beyond*  
Andrew T. Hattersley, FRCP

4:45 p.m.-5:00 p.m.  
25-OR  
Investigating a Candidate Causal Allele in Type 2 Diabetes Susceptibility Gene PAM as a Cause of Neonatal Diabetes Mellitus  
SHAHANA SENGUPTA, LORI L. BONNYCASTLE, BENOIT HASTOY, ANTJE GROTTZ, MAHESH M. UMAPATHYSIVAM, ANNE RAIMONDO, AMY SWIFT, PETER S. CHINES, ANNE CLARK, HANNA HUOPIO, FRANCIS S. COLLINS, MARKKU LAAKSO, SR., ANNA L. GLOYN, Oxford, United Kingdom, Bethesda, MD, Adelaide, Australia, Kuopio, Finland

5:00 p.m.-5:15 p.m.  
26-OR  
Digenic FGFR1/KLB Variants Associated with Endocrine Specific FGF-21 Signaling Defects and Extreme Insulin Resistance  
STEPHEN I. STONE, DANIEL J. WEGNER, JENNIFER A. WAMBACH, F. SESSIONS COLE, DAVID M. ORNITZ, FUMIHIKO URANO, St. Louis, MO

5:15 p.m.-5:30 p.m.  
27-OR  
Simplifying Detection of Large Scale Deletions Causing MODY5  
AMANDA J. BERBERICH, JIAN WANG, HENIAN CAO, ADAM D. MCINTYRE, JOHN F. ROBINSON, PING YANG, JOAN KNOLL, ROBERT HEGELE, London, ON, Canada

5:30 p.m.-5:45 p.m.  
28-OR  
Genetic Landscape of Diabetes in the Swiss Population  
VALERIE SCHWITZGEBEL, JEAN-LOUIS BLOUIN, FEDERICO SANTONI, Geneva, Switzerland, Lausanne, Switzerland

5:45 p.m.-6:00 p.m.  
29-OR  
High Prevalence of Pathogenic Mutations in Genes Causing Monogenic Diabetes among Patients with Common Type 2 Diabetes  
AMELIE BONNEFOND, PHILIPPE FROGUEL, LILLE-D.E.S.I.R. GENETICS STUDY, Lille, France

6:00 p.m.-6:15 p.m.  
30-OR  
Whole Genome Sequence Analysis of Type 2 Diabetes Risk in 44,713 Humans of Diverse Ancestry in the TOPMed Study  
HEATHER M. HIGHLAND, JENNIFER WESSEL, ALISA MANNING, TOPMED DIABETES WORKING GROUP, Chapel Hill, NC, Indianapolis, IN, Cambridge, MA
4:15 p.m.-6:15 p.m.
(continued)

Oral Presentations

Theme Area: Insulin Action/Molecular Metabolism
Muscle and Metabolism (With State-of-the-Art Lecture)
Room: W-2014 (West, Level 2)
Chair: Bret H. Goodpaster, PhD

4:15 p.m.-4:45 p.m.
State-of-the-Art Lecture
Muscle and Metabolism
John P. Thyfault, PhD

4:45 p.m.-5:00 p.m.
31-OR Skeletal Muscle Drp1 Maintains Metabolic Homeostasis through Preserving Mitochondrial Complex II Function
ZHENGZI ZHOU, ANDREA L. HEVENER, Los Angeles, CA

5:00 p.m.-5:15 p.m.
32-OR Coordination of Mitochondrial Uncoupling with Pyruvate Dehydrogenase Activation Safely Ameliorates Hyperglycemia through Preferential Glucose Oxidation
HAOWEN JIANG, JINGYA LI, JIA LI, Shanghai, China

5:15 p.m.-5:30 p.m.
33-OR Intact Muscle Insulin Signaling in Patients with a Gain-of-Function LRP5 Mutation Despite Decreased Insulin Sensitivity
RUGIVAN SABARATNAM, JENS-JACOB LINDEGAARD LAUTERLEIN, MORTEN FROST NIELSEN, KURT HOJLUND, Odense, Denmark

5:30 p.m.-5:45 p.m.
34-OR Maladaptive Increases in Skeletal Muscle Ketone Body Oxidation Contribute to Dysglycemia in Mice Subjected to Experimental Obesity
RAMI AL BATRAN, KESHAV GOPAL, JADIN J. CHAHADE, JOHN R. USSHER, Edmonton, AB, Canada

5:45 p.m.-6:00 p.m.
35-OR Physiological Insulin Regulates Alternative mRNA Splicing in Liver and Muscle at Multiple Levels
THIAGO M. BATISTA, WEIKANG CAI, BRUNA BRANDAO, C. RONALD KAHN, Boston, MA

6:00 p.m.-6:15 p.m.
36-OR Energy Stress Restores Muscle Insulin Action in High-Fat (HF)-Fed SIRT3 KO Mice
LOUISE LANTIER, CURTIS C. HUGHEY, DAVID WASSERMAN, Nashville, TN
FRIDAY—PROGRAM

Oral Presentations
Theme Area: Islet Biology/Insulin Secretion

Novel Mechanisms in Beta-Cell Insulin Secretion
Room: W-2002 (West, Level 2)
Chair: Sushant Bhatnagar, PhD

4:15 p.m.-6:15 p.m.
(continued)

4:15 p.m.-4:30 p.m.
37-OR  Distinct Functional Beta-Cell Subpopulations in Intact Islets of Langerhans
VIRA KRAVETS, ROBERT A. PISCOPIO, WOLFGANG SCHLEICHER, RICHARD K. BENNINGER, Aurora, CO, Denver, CO

4:30 p.m.-4:45 p.m.
38-OR  Beta-Arrestin-1 Regulates Pancreatic Beta-Cell Function and Plays a Key Role in Maintaining Whole Body Glucose Homeostasis
LUIZ F. BARELLA, MARIO ROSSI, SAH PRASAD PYDI, SHANU JAIN, LU ZHU, WEI CHEN, JÜRGEN WESS, Bethesda, MD, Glasgow, United Kingdom, Durham, NC

4:45 p.m.-5:00 p.m.
39-OR  ▲ VPS41 Contributes to Insulin Granule Biogenesis
CHRISTIAN H. BURNS, BELINDA YAU, MELKAM A. KEBEDE, CEDRIC S. ASENSIO, Denver, CO, Sydney, Australia

5:00 p.m.-5:15 p.m.
40-OR  The Role of TALK-1 K+ Channels in Pancreatic β-Cell Insulin Secretion, Mitochondrial Function, and the ER Stress Response
SARAH M. GRAFF, PRASANNA DADI, CHLOE E. IBSEN, MATTHEW DICKERSON, KELLI L. JORDAN, DAVID JACOBSON, Nashville, TN

5:15 p.m.-5:30 p.m.
41-OR  Store-Operated Ca2+ Entry Activated by STIM1 Plays an Essential Role in GPR40-Mediated GIIS Potentiation
RYOTA USUI, DAISUKE YABE, MUHAMMAD FAUZI, AINUR BOTAGAROVA, HISANORI GOTO, SHINSUKE TOKUMOTO, HISATO TATSUOKA, YUMIKO TAHARA, SHIZUKA KOBAYASHI, TOSHIYA MANABE, YOSHIHIRO BABA, TOMOHIRO KUROSAKI, MASAHITO OGURA, KAZUAKI NAGASHIMA, NOBUYA INAGAKI, Kyoto, Japan, Kobe, Japan, Tokyo, Japan, Fukuoka, Japan, Suita, Japan

5:30 p.m.-5:45 p.m.
42-OR  Hub Cells orchestrate 3-Dimensional Pancreatic Beta-Cell Ca2+ Dynamics In Vivo
VICTORIA SALEM, LUIS F. DELGADILLO SILVA, KINGA SUBA, ALDARA MARTIN ALONSO, WHEI-CHANG KIM, VASILIKI KALOGIANNI, NADEEM AKHTAR, NEDA MOUSAVY GHARAVY, ELENI GEORGIADOU, ISABELLE LECLERC, LINFORD BRIANT, DAVID HODSON, WALTER DISTASO, NIKOLAY N. NINOV, GUY A. RUTTER, London, United Kingdom, Dresden, Germany, Oxford, United Kingdom, Edgbaston, United Kingdom

5:45 p.m.-6:00 p.m.
43-OR  Post-transcriptional Regulation of Slc16a1 mRNA Is Essential for Maintaining Normal β-Cell Function
DINA MOSTAFA, AKINDORI TAKAHASHI, TADASHI YAMAMOTO, Okinawa, Japan

6:00 p.m.-6:15 p.m.
44-OR  Human Pseudo Islets Reveal Differential Effects of Gq Signaling in β Cells in Low and High Glucose
JOHN T. WALKER, RACHANA HALIYUR, RADHIKA ARAMANDLA, GREG POFFENBERGER, HEATHER A. NELSON, JOSEPH LUCHSINGER, PENG WANG, ADOLFO GARCIA-OCAÑA, MARCELA BRISSOVA, ALVIN C. POWERS, Nashville, TN, New York, NY

▲ ADA-Supported Research
6:30 p.m.–8:30 p.m.
ADA Networking Receptions

Moscone Center
Foyer (West, Levels 2 & 3)
(see page 44 for details)
### SATURDAY, JUNE 8, 2019—DAY-AT-A-GLANCE SCHEDULE

**Registration Hours:** 7:00 a.m.-6:30 p.m.  
**Shop Diabetes Store Hours:** 7:30 a.m.-6:15 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Acute and Chronic Complications</th>
<th>Behavioral Medicine, Clinical Nutrition, Education, and Exercise</th>
<th>Clinical Diabetes/Therapeutics</th>
<th>Epidemiology/Genetics</th>
</tr>
</thead>
</table>
| 8:00 a.m.-10:00 a.m. | **Symposium**  
The Big Picture on the Diabetic Foot  
*Room: S-154* | **Symposium**  
ADA Nutrition Therapy for Adults with Diabetes—2019  
Consensus Paper  
*Room: S-203* | **Symposium**  
Diabetes Management in Long-Term Care Facilities—Challenges and Solutions  
*Room: S-303* | **Symposium**  
Current Challenges and Opportunities in Cardiovascular Epidemiology  
*Room: W-2022* |
|                | **Oral Presentations**  
Diabetic Retinopathy—Basic Mechanisms and Treatment Strategies  
*Room: S-10* | **Symposium**  
ADA Education Recognition Program Symposium—Expanding Diabetes Self-Management Education and Support Throughout a Larger Health Care Organization to Improve Pay-for-Performance Metrics  
*Room: S-208* | **Symposium**  
ADA Diabetes Care Symposium—Highlights of Diabetes Care—Three Hot Topics  
*Room: N-Hall E* | **Oral Presentations**  
Incretins Marching On  
*Room: S-157* |
| 10:15 a.m.-11:30 a.m. | **President, Health Care & Education Address and Outstanding Educator in Diabetes Award Lecture**  
*Room: W-3001* | | | |
| 11:30 a.m.-12:30 p.m. | **Professional Interest Group Discussion**  
Primary Care’s Guide to Charcot Arthropathy  
*Room: S-10* | **Professional Interest Group Discussion**  
Exercise in the News—Fact, Fiction, or Fad?  
*Room: S-153* | **Professional Interest Group Discussion**  
PRIDE—Clinical Centers and Programs  
*Room: S-154* | |
|                | **Professional Interest Group Discussion**  
Advancing Nutrition Therapy—Partnership Strategies to Overcome Clinical Inertia  
*Room: S-203* | | | |
<p>| 11:30 a.m.-1:30 p.m. | <strong>General Poster Session</strong>—<strong>Poster Hall (Hall F)</strong> | | | |
| 11:30 a.m.-1:30 p.m. | <strong>Moderated Poster Discussions</strong>—<strong>Poster Hall (Hall F)</strong> | | | |
| 11:30 a.m.-1:30 p.m. | <strong>ePoster Theater Sessions</strong>—<strong>Exhibit Hall (Halls A-C)</strong> | | | |</p>
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<th>Insulin Action/Molecular Metabolism</th>
<th>Integrated Physiology/Obesity</th>
<th>Islet Biology/Insulin Secretion</th>
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</table>

**Professional Interest Group Discussion**

**Innovations in Islet Biology Research**

*Room: S-208*

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Exhibit Hall Hours: 10:00 a.m.-4:00 p.m.
Poster Hall Hours: 10:00 a.m.-6:00 p.m.
### SATURDAY, JUNE 8, 2019—DAY-AT-A-GLANCE SCHEDULE (CONTINUED)

**Registration Hours:** 7:00 a.m.-6:30 p.m.  
**Shop Diabetes Store Hours:** 7:30 a.m.-6:15 p.m.

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| 1:45 p.m.-3:45 p.m. | **Symposium** Cardiovascular and Renal Protection in Diabetes—Emphasis on SGLT2 Inhibitors and GLP-1 Receptor Agonists  
**Room:** N-Hall E | **Symposium** Making a Difference in Five Minutes—Interventions in Diabetes for Anyone (With Richard R. Rubin Award Lecture)  
**Room:** S-203 | **Current Issues (1:45 p.m.-2:40 p.m.)** Challenging the Importance of Hypoglycemia in Type 2 Diabetes—Serious or Just Hype?  
**Room:** S-303 | **Symposium** Precision Medicine in Diabetes Mellitus  
**Room:** W-2022 |
| Oral Presentations New Directions in Diabetic Foot Research (With Roger Pecoraro Award Lecture)  
**Room:** S-208 | **Symposium** Exercise-Induced Browning of White Adipose Tissue—What Is the Translational Significance?  
**Room:** S-153 | **Current Issues (2:45 p.m.-3:45 p.m.)** SGLT-Inhibitor Adjunctive Therapy in Type 1 Diabetes Mellitus—Is It Worth It?  
**Room:** S-303 | **Oral Presentations** What’s New in Type 1 Diabetes Epidemiology?  
**Room:** W-2014 |

| 4:00 p.m.-6:00 p.m. | **Symposium** Modifiers of Cardiovascular Outcomes in Type 1 and Type 2 Diabetes  
**Room:** S-157 | **Symposium** PREVIEW Study Results—Prevention of Diabetes through Lifestyle Intervention and Population Studies Around the World  
**Room:** S-203 | **Current Issues (4:00 p.m.-4:55 p.m.)** What Are the Contributions of the Evolving Real-World Evidence?  
**Room:** N-Hall E | **Symposium** Diabetes in India and the South Asian Diaspora—The Tsunami Is Here  
**Room:** W-2022 |
| Oral Presentations Hypoglycemia Risk—Mechanisms in the Brain (With ADA Presidents’ Select Abstract Presentation)  
**Room:** S-208 | **Symposium** Diabetes Management and Education for Special Populations  
**Room:** S-153 | **Current Issues (5:00 p.m.-6:00 p.m.)** Choosing Evidence-Based Therapy for Type 2 Diabetes Mellitus with Cardiovascular Disease  
**Room:** N-Hall E | **Oral Presentations** From Obesity to Type 2 Diabetes in Youth—New Insights into Pathogenesis and Management  
**Room:** S-154 |
| Oral Presentations | **Symposium** Joint ADA/Chinese Diabetes Society Symposium—Epidemiology and Risk Factors of Diabetes and Diabetic Complications  
**Room:** S-10 | **Oral Presentations** Interventions on Prediabetes/Nonalcoholic Fatty Liver Disease/Nonalcoholic Steatohepatitis (With Vivian Fonseca and Nagendran Family Diabetes Research Award Presentation)  
**Room:** S-303 | **Oral Presentations** Adipocytes in Health and Disease  
**Room:** W-2014 | **Symposium** Is Intermuscular Adipose Tissue (IMAT) a Friend or a Foe to Metabolic Health?  
**Room:** W-2001 |
| | **Symposium** Diabetes in India and the South Asian Diaspora—The Tsunami Is Here  
**Room:** W-2022 | | **Symposium** Joint ADA/EASD Symposium—From Genome-Wide Association Studies (GWAS) to Functional Impact in the Beta Cell  
**Room:** W-2002 | |
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<tr>
<td>Exploring Novel Approaches</td>
<td>Nonalcoholic Steatohepatitis (NASH)—The Overlooked Complication of Type 2 Diabetes</td>
<td>Central-Peripheral Circuits Controlling Feeding and Metabolic Homeostasis</td>
<td>Beta-Cell Development and Proliferation</td>
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<td>in Immunology and Diabetes</td>
<td><em>Room: W-2006</em></td>
<td><em>Room: W-2009</em></td>
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<td><strong>Oral Presentations</strong></td>
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<td>Adipocytes in Health and Disease</td>
<td><em>Room: W-2014</em></td>
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<td><strong>Current Issues</strong></td>
<td><strong>Symposium</strong></td>
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<td>Indication for Pancreas Transplantation in the Era of Glucose Sensor and Insulin Pump</td>
<td><em>Room: W-2006</em></td>
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<td><strong>Oral Presentations</strong></td>
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<td>Is Intermuscular Adipose Tissue (IMAT) a Friend or a Foe to Metabolic Health?</td>
<td><em>Room: W-2001</em></td>
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<td>Joint ADA/EASD Symposium—From Genome-Wide Association Studies (GWAS) to Functional Impact in the Beta Cell</td>
<td><em>Room: W-2002</em></td>
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SATURDAY, JUNE 8, 2019

Scientific Sessions
8:00 a.m.-10:00 a.m.

Symposium
Theme Area: Acute and Chronic Complications
The Big Picture on the Diabetic Foot
Room: S-154 (South, Upper Mezzanine Level)
Chair: David G. Armstrong, DPM, MD, PhD
8:00 a.m.-8:30 a.m. The Global Burden of the Diabetic Foot—Is It Getting Worse or Better? 
Frances Game, FRCP
8:30 a.m.-9:00 a.m. Diabetic Foot Guidelines—Are We Winning the War on Complications with Prevention? 
Edward B. Jude, MD, FRCP
9:00 a.m.-9:30 a.m. The Three Minute Diabetic Foot Exam—High Yield Findings That Stratify Risk
Lawrence B. Harkless, DPM
9:30 a.m.-10:00 a.m. Telemedicine in Diabetic Foot Care—Is This the Next Generation of Outreach? 
Hilde Smith-Strøm, RN, MSc, PhD

Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
ADA Nutrition Therapy for Adults with Diabetes—2019 Consensus Paper
Room: S-203 (South, Level 2)
Co-Chairs: Alison Evert, MS, RD, CDE and Shamera Robinson, MPH, RDN
8:00 a.m.-8:05 a.m. Welcome/Session Overview
Alison Evert, MS, RD, CDE
8:05 a.m.-8:20 a.m. Are Nutrition and Diabetes Education Interventions Effective in Improving Outcomes? 
Janice MacLeod, MA, RDN, CDE
8:20 a.m.-8:35 a.m. What’s the Best Eating Pattern for Adults with Diabetes? 
William S. Yancy, Jr., MD, MHS
8:35 a.m.-8:50 a.m. What’s the Role of Weight Loss in Overweight/Obese Adults with Diabetes? 
W. Timothy Garvey, MD
8:50 a.m.-9:05 a.m. What’s the Best Approach for Optimizing Glycemic Control? (Macronutrients and Insulin Dosing) 
Ka Hei Karen Lau, MS, RD, LDN, CDE
9:05 a.m.-9:20 a.m. What’s the Role of Nutrition in Diabetes Prevention? 
Christopher D. Gardner, PhD
9:20 a.m.-9:35 a.m. Translation to Practice
Kelly M. Rawlings, MS
9:35 a.m.-10:00 a.m. Panel Discussion

Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
ADA Education Recognition Program Symposium—Expanding Diabetes Self-Management Education and Support Throughout a Larger Health Care Organization to Improve Pay-for-Performance Metrics
Room: S-208 (South, Level 2)
Chair: Sacha Uelmen, RD, CDE
8:00 a.m.-8:40 a.m. Performance Metrics
Peter Tilkemeier, MD, MMM
8:40 a.m.-9:20 a.m. Strategic Expansion
Michelle D. Stancil, RN, BSN, CDE
9:20 a.m.-10:00 a.m. Question and Discussion Period
8:00 a.m.-10:00 a.m. 
(continued)

**Symposium**
*Theme Area: Clinical Diabetes/Therapeutics*

**Diabetes Management in Long-Term Care Facilities—Challenges and Solutions**
Room: S-303 (South, Level 3)
Chair: Alice Y.Y. Cheng, MD, FRCPC

- 8:00 a.m.-8:20 a.m.  
  **Goals and Strategies of Care—How Is It Different?**
  Hermes Florez, MD

- 8:20 a.m.-8:40 a.m.  
  **Type 1 Diabetes in Long-Term Care Facilities—Are We Ready?**
  Jeffrey Halter, MD

- 8:40 a.m.-9:00 a.m.  
  **Transitions of Care—Challenges and Solutions**
  Naushira Pandya, MD, CMD, FACP

- 9:00 a.m.-9:20 a.m.  
  **End-of-Life Care**
  Trisha Lynette Dunning, PhD, AM, RN, CDE

- 9:20 a.m.-9:40 a.m.  
  **Implementation of Diabetes Management in Long-Term Care Facilities**
  Diana Sherifali, PhD, RN, CDE

- 9:40 a.m.-10:00 a.m.  
  **Question and Discussion Period**

**Symposium**
*Theme Area: Clinical Diabetes/Therapeutics*

**ADA Diabetes Care Symposium—Highlights of Diabetes Care—Three Hot Topics**
Room: N-Hall E (North, Exhibition Level)
Co-Chairs: William H. Herman, MD, MPH, Stephen S. Rich, PhD, and Matthew C. Riddle, MD

- 8:00 a.m.-8:05 a.m.  
  **Introductory Comments**
  Matthew C. Riddle, MD

- 8:05 a.m.-8:35 a.m.  
  **TCF7L2—A Genetic Window into the Course and Management of Type 1 and Type 2 Diabetes**
  Struan F.A. Grant, PhD

- 8:35 a.m.-9:05 a.m.  
  **Controversies for Glucose Control Targets in Type 2 Diabetes—Exposing the Common Ground**
  Philip Home, DM, DPhil

- 9:05 a.m.-9:30 a.m.  
  **“Profiles in Progress” Plaque Presentations**
  Matthew C. Riddle, MD

- 9:30 a.m.-10:00 a.m.  
  **From Hong Kong Diabetes Register to RAMP-DM for Data-Driven Actions**
  Juliana C.N. Chan, MB, ChB, MD, FRCP

**Symposium**
*Theme Area: Clinical Diabetes/Therapeutics*

**Joint ADA/AACC Symposium—Predicting and Diagnosing Gestational Diabetes Mellitus—Are We Making Progress?**
Room: S-153 (South, Upper Mezzanine Level)
Chair: M. Sue Kirkman, MD

- 8:00 a.m.-8:30 a.m.  
  **Gestational Diabetes Mellitus—What Is at Stake?**
  Kim Boggess, MD

- 8:30 a.m.-9:00 a.m.  
  **We Should Use the IADPSG to Detect Gestational Diabetes Mellitus**
  Florence M. Brown, MD

- 9:00 a.m.-9:30 a.m.  
  **We Should Use the Two-Step Method to Detect Gestational Diabetes Mellitus**
  Amy M. Valent, DO

- 9:30 a.m.-10:00 a.m.  
  **Let’s Not Wait—Predicting Gestational Diabetes Mellitus in the First Trimester**
  David B. Sacks, MB, ChB
Symposium
Theme Area: Epidemiology/Genetics
Current Challenges and Opportunities in Cardiovascular Epidemiology
Room: W-2022 (West, Level 2)
Chair: Alka M. Kanaya, MD
8:00 a.m.-8:30 a.m. Lessons Learned from Large Cohort Studies
Veronique L. Roger, MD, MPH
8:30 a.m.-9:00 a.m. Challenges with the Use of Electronic Medical Record Data
Ana M. Palacio, MD, MPH
9:00 a.m.-9:30 a.m. The Future of Cardiovascular Epidemiology Research
Peter W.F. Wilson, MD
9:30 a.m.-10:00 a.m. Question and Discussion Period

Symposium
Theme Area: Immunology/Transplantation
Xenotransplantation—Prospects for Large-Scale Diabetes Cell Therapy
Room: W-2006 (West, Level 2)
Chair: Christiane J. Ferran, MD, PhD
8:00 a.m.-8:30 a.m. Introduction/Overview
Jose Oberholzer, MD, MHCM, FACS
8:30 a.m.-9:00 a.m. Preclinical and Clinical Xenotransplantation of Porcine Islets in Diabetes
Bernhard J. Hering, MD
9:00 a.m.-9:30 a.m. How CRISPR May Change the Fate of Xenotransplantation
Linda Scobie, PhD
9:30 a.m.-10:00 a.m. Question and Discussion Period

Symposium
Theme Area: Insulin Action/Molecular Metabolism
Adaptive Stress Response Pathways in Insulin Response and Metabolism
Room: W-2014 (West, Level 2)
Chair: Suneil K. Koliwad, MD, PhD
8:00 a.m.-8:20 a.m. Hepatocyte Endoplasmic Reticulum Stress in Insulin Resistance
Ira Tabas, MD, PhD
8:20 a.m.-8:40 a.m. Proinsulin Misfolding is an Early Event in the Progression to Type 2 Diabetes
Randal J. Kaufman, PhD
8:40 a.m.-9:00 a.m. Inflammation in Diabetes
Steven E. Shoelson, MD, PhD
9:00 a.m.-9:20 a.m. Effects of Nutrient and Energy Stress on Neuronal Regulation of Metabolism
Kevin Williams, PhD
9:20 a.m.-9:40 a.m. p38 Signaling in Metabolic Homeostasis
Guadalupe Sabio Buzo, DVM, PhD
9:40 a.m.-10:00 a.m. Question and Discussion Period

Symposium
Theme Area: Islet Biology/Insulin Secretion
The Complicit Beta Cell in Type 1 Diabetes
Room: W-2002 (West, Level 2)
Chair: Kevan C. Herold, MD
8:00 a.m.-8:30 a.m. Crinosomes Maintain Beta-Cell Homeostasis but Promote Autoimmunity
Emil R. Unanue, MD
8:30 a.m.-9:00 a.m. Beta-Cell Exosomes as Noninvasive Biomarkers of Type 1 Diabetes Pathogenesis
Prashanth Vallabhajosyula, MD
9:00 a.m.-9:30 a.m. A Role for Beta-Cell Protein Tyrosine Phosphatases in the Pathogenesis of Type 1 Diabetes
Esteban N. Gurzov, PhD
9:30 a.m.-10:00 a.m. Antigenic Peptides Are Generated through Beta-Cell Translational Errors
Bart O. Roep, MD, PhD
8:00 a.m.-10:00 a.m.

**Oral Presentations**

**Theme Area: Acute and Chronic Complications**

**Diabetic Retinopathy—Basic Mechanisms and Treatment Strategies**

Room: S-10 (South, Exhibition Level)

Chair: Arup Das, MD, PhD

8:00 a.m.-8:15 a.m.

**45-OR** The Role of the Angiopoietin-Tie2 Pathway in Microvascular Complications of Diabetes Mellitus

VICTOR H. GONZALEZ, McAllen, TX

8:15 a.m.-8:30 a.m.

**46-OR** A Novel Interaction between AT1 Receptor and Cytochrome-p450 Lipid Metabolites in Diabetic Retinopathy

MOHAMED AL-SHABRAWEY, AHMED IBRAHIM, AMANY M. TAWFIK, MONG HENG WANG, Augusta, GA

8:30 a.m.-8:45 a.m.

**47-OR** Regulation of SIRT1 as a Target of Prevention of Diabetic Retinopathy in db/db Mice

CRISTIANO P. VIEIRA, ANA LEDA LONGHINI, SERGIO LI CALZI, MARIANA DESIREE’ DUPONT, JULIA V. BUSIK, MARIA B. GRANT, Birmingham, AL, East Lansing, MI

8:45 a.m.-9:00 a.m.

**48-OR** Gut Dysbiosis Promotes Diabetic Retinopathy (DR) through TLR-2 Activation by Peptidoglycan (PGN) in Angiotensin Converting Enzyme 2 (ACE2) Deficient Type 1 Diabetic (T1D) Mice

RAM PRASAD, YAQIAN DUAN, JASON L. FLOYD, MARIA B. GRANT, Birmingham, AL, Indianapolis, IN

9:00 a.m.-9:15 a.m.

**49-OR** Association of Gene Polymorphisms and Plasma MiRNAs with Diabetic Retinopathy

EVELISE REGINA POLINA, RENAN C. SBRUZZI, FERNANDO MARQUES DE OLIVEIRA, DAISY CRISPIM, MARIA ENOIA D. ENOIA, LUIS H. CANANI, KATIA G. SANTOS, Canoas, Brazil, Porto Alegre, Brazil, Teresina, Brazil

9:15 a.m.-9:30 a.m.

**50-OR** Identifying Risk of Blindness in Patients with Diabetic Retinopathy

QUAN DONG NGUYEN, REBECCA HALL, SCOTT P. KELLY, FLORA LUM, IVAYLO STOILOV, IBRAHIM M. ABBASS, TU MY TO, ANNA ABOLIAN, VINCENT GARMo, Palo Alto, CA, San Francisco, CA, South San Francisco, CA

9:30 a.m.-9:45 a.m.

**51-OR** Medios—A Smartphone-Based Artificial Intelligence Algorithm in Screening for Diabetic Retinopathy

BHavana SOSALE, ARAVIND R. SOSALE, HEMANTH MURTHY, SRIKANTH NARAYANA, USHA SHARMA, SAHANA G.V. GOWDA, MURALIDHAR NAVEENAM, Bangalore, India

9:45 a.m.-10:00 a.m.

**52-OR** Intrinsically Photosensitive Retinal Ganglion Cell Dysfunction in Diabetic Retinopathy Associates with Impaired Sleep and Circadian Rhythms

SIRIMON REUTRAKUL, JASON C. PARK, FELIX CHAU, TRACY BAYNARD, MEDHA PRIYADARSHINI, STEPHANIE CROWLEY, J. JASON MCANANY, Chicago, IL
Incretins Marching On

8:00 a.m.-10:00 a.m.
(continued)

Oral Presentations

**Theme Area: Clinical Diabetes/Therapeutics**

**Incretins Marching On**

Room: S-157 (South, Upper Mezzanine Level)

Co-Chairs: Kathleen M. Dungan, MD, MPH and Uma Gunasekaran, MD

8:00 a.m.-8:15 a.m.

53-OR

Efficacy of Efpeglenatide in Patients with Obesity and Prediabetes: A Subanalysis of the BALANCE 205 Study

RICHAED E. PRATLEY, STEPHAN JACOB, JAHOON KANG, MICHAEL E. TRAUTMANN, MARCUS HOMPESCH, OAKPIL HAN, JOHN A. STEWART, IKE OGBAA, CHRISTOPHER H. SORLI, KUN-HO YOON, Orlando, FL, Villingen, Germany, Seoul, Republic of Korea, Chula Vista, CA, Laval, QC, Canada, Bridgewater, NJ

8:15 a.m.-8:30 a.m.

54-OR

Oral Semaglutide vs. Empagliflozin Added On to Metformin Monotherapy in Uncontrolled Type 2 Diabetes: PIONEER 2

EDUARD MONTANYA, JULIO ROSENSTOCK, LUIS H. CANANI, CHAICHARN DEEROCHANAWONG, JANUSZ GUMPRECHT, SOREN LINDBERG, ILDIKO LINGVAY, ANETTE L. SØNDERGAARD, MARIANNE TREPPENAHL, HELENA W. RODBARD, FOR THE PIONEER 2 INVESTIGATORS, Barcelona, Spain, Dallas, TX, Porto Alegre, Brazil, Bangkok, Thailand, Zabrze, Poland, Copenhagen, Denmark, Søborg, Denmark, Potomac, MD

8:30 a.m.-8:45 a.m.

55-OR

Oral Semaglutide vs. Liraglutide and Placebo in T2D: PIONEER 4

RICHAED E. PRATLEY, ASLAM AMOD, SOREN T. HOFF, TAKASHI KADOWAKI, ILDIKO LINGVAY, MICHAEL A. NAUCK, KAREN BOJE PEDERSEN, TRINE SAUGSTRUP, JURIS J. MEIER, FOR THE PIONEER 4 INVESTIGATORS, Orlando, FL, Durban, South Africa, Copenhagen, Denmark, Tokyo, Japan, Dallas, TX, Bochum, Germany, Søborg, Denmark

8:45 a.m.-9:00 a.m.

56-OR

Liraglutide for Perioperative Management of Hyperglycaemia in Cardiac Surgery Patients (GLOBE): A Multicentre, Prospective, Superiority Randomised Trial

ABRAHAM H. HULST, BENEDIKT PRECKEL, MARKUS W. HOLLMANN, J. HANS DEVRIES, JEROEN HERMANIDES, Amsterdam, Netherlands

9:00 a.m.-9:15 a.m.

57-OR

Combined GLP-1, Oxyntomodulin, and Peptide YY Improves Glycaemia and Body Weight in Obesity and Type 2 Diabetes: A Randomized, Single-Blinded Study

PREESHILA BEHARY, GEORGE THARAKAN, KLEOPATRA ALEXIAKOU, NICHOLAS A. JOHNSON, NICOLAI JACOB WEVER ALBRECHTSEN, JOYCELNE CUENCO, DAVID HOPE, WALJIT DHILLO, JAMES S. MINNION, GARY FOST, CAREL LE ROUX, SANJAY PURKAYASTHA, KRISHNA MOORTHY, JENS J. HOLST, AHMED ABD, TOBY PREVOST, STEPHEN BLOOM, TRICIA M.M. TAN, London, United Kingdom, Copenhagen, Denmark, Dublin, Ireland

9:15 a.m.-9:30 a.m.

58-OR

The Novel Dual GIP and GLP-1 Receptor Agonist Tirzepatide Transiently Delays Gastric Emptying Similarly to a Selective Long-Acting GLP-1 Receptor Agonist

SHWETA URVA, MICHAEL A. NAUCK, TAMER COSKUN, XUEWEI CUI, AXEL HAUPT, CHARLES BENSON, CORINA LOGHIN, Indianapolis, IN, Bochum, Germany, Austin, TX, Zionsville, IN

(continued on next page)
9:30 a.m.-9:45 a.m.
59-OR  Liraglutide Preserved Insulin Secretion in Adults with Newly Diagnosed Type 1 Diabetes: The NewLira Trial
THOMAS F. DEJGAARD, CHRISTIAN S. FRANDSEN, URD KIELGAST, HENRIK U. ANDERSEN, BIRGER THORSTEINSSON, THURE KRARUP, JENS J. HOLST, STEN MADSBAD, Gentofte, Denmark, Copenhagen, Denmark, Køge, Denmark, Hillerød, Denmark, Hvidovre, Denmark

9:45 a.m.-10:00 a.m.
60-OR  Sitagliptin for the Prevention and Treatment of Perioperative Hyperglycemia in Diabetic Patients Undergoing Cardiac Surgery
SAUMETH CARDONA, KATERINA G. TSEGKA, SOL JACOBS, BONNIE S. ALBURY, RODOLFO J. GALINDO, ALEXANDRA MIGDAL, MICHAEL E. HALKOS, WILLIAM B. KEELING, JEFFREY S. MILLER, STEVEN K. MACHEERS, ROBERT A. GUYTON, PRIYATHAMA VELLANKI, GEORGIA DAVIS, MAYA FAYFMAN, LIMIN PENG, FRANCISCO J. PASQUEL, GUILLERMO E. UMPIERREZ, Atlanta, GA, Decatur, GA
Oral Presentations
Theme Area: Integrated Physiology/Obesity

Synergy of the Pancreas, Liver, and Gut in the Control of Glucose Homeostasis (With State-of-the-Art Lecture and ADA Presidents’ Select Abstract Presentation)
Room: W-2001 (West, Level 2)
Chair: Carolyn F. Deacon, PhD, DMSc

8:00 a.m.-10:00 a.m. (continued)

State-of-the-Art Lecture
Battle of the Cells—Who Reigns Supreme—Alpha, Beta, or Both?
Peter C. Butler, MD

8:00 a.m.-8:30 a.m.

61-OR ADA Presidents’ Select Abstract Presentation: Characterization of Beta-Cell Function with Autoantibodies, Islet Pathology, and Genetics after 50 Years of Insulin Dependence
MARC GREGORY YU, MARCUS G. PEZZOLESI, HILLARY A. KEENAN, DAVID M. POBER, ZHIHENG HE, LIANE J. TINSLEY, ALESSANDRO DORIA, SUSAN BONNER-WEIR, GEORGE L. KING, Boston, MA, Salt Lake City, UT, Cambridge, MA

8:30 a.m.-8:45 a.m.

61-OR 61-OR ADA Presidents’ Select Abstract Presentation: Characterization of Beta-Cell Function with Autoantibodies, Islet Pathology, and Genetics after 50 Years of Insulin Dependence
MARC GREGORY YU, MARCUS G. PEZZOLESI, HILLARY A. KEENAN, DAVID M. POBER, ZHIHENG HE, LIANE J. TINSLEY, ALESSANDRO DORIA, SUSAN BONNER-WEIR, GEORGE L. KING, Boston, MA, Salt Lake City, UT, Cambridge, MA

8:30 a.m.-8:45 a.m.

62-OR Evidence of Gut-Derived Glucagon in Man
MILLE BAEKDAL, ASGER B. LUND, NICOLAI JACOB WEVER ALBRECHTSEN, JOHAN I. EGHOLK, TINA JORSAL, CAROLINE T. JUEL, KATRINE D. GALSGAARD, JENNA HUNT, JENS F. REHFELD, KRISTOFFER RIGBOLT, STEFFEN U. FRIIS, CATHERINE ORSKOV, STEEN SEIER POULSEN, JENS J. HOLST, TINA VILSBØLL, FILIP K. KNØP, Hellerup, Denmark, Copenhagen, Denmark, Harsholm, Denmark

8:45 a.m.-9:00 a.m.

63-OR The Physiological Effects of Extrapancreatic Glucagon in Totally Pancreatectomized Patients Evaluated Using Glucagon Receptor Antagonism
CAROLINE T.B. JUEL, ASGER B. LUND, JENS F. REHFELD, NICOLAI JACOB WEVER ALBRECHTSEN, JENS J. HOLST, TINA VILSBØLL, FILIP K. KNØP, Copenhagen, Denmark, Hellerup, Denmark

9:00 a.m.-9:15 a.m.

64-OR Postprandial Effects of Endogenous Glucose-Dependent Insulinotropic Polypeptide in Type 2 Diabetes
SIGNORE STENSEN, LÆRKE S. GASBJERG, LIVA S. KROGH, ALEXANDER HOVARD SPARRE-ULRICH, KIRSA SKOV-JEPPESEN, METTE HØY JENSEN, BOLETTE HARTMANN, TINA VILSBØLL, JENS J. HOLST, METTE MARIE ROSENKILDE, MIKKEL B. CHRISTENSEN, FILIP K. KNØP, Hellerup, Denmark, Copenhagen, Denmark

9:15 a.m.-9:30 a.m.

65-OR Effects of Treatment with Metformin and/or Sitagliptin on Beta-Cell Function and Insulin Resistance in Prediabetic Women with Previous Gestational Diabetes
SARA BARONE, ANGELA DARDANO, ANDREA TURA, JANCY J. KURUMTHODATHU, ALESSANDRA BERTOLOTTI, CRISTINA BIANCHI, LAURA GIUSTI, EMILIA LACARIA, MATILDE ROMANO, ROBERTO MICCOLI, GIUSEPPE PENNO, STEFANO DEL PRATO, GIUSEPPE DANIELE, Pisa, Italy, Padua, Italy

9:30 a.m.-9:45 a.m.

66-OR Remission of Type 2 Diabetes for Two Years Is Associated with Full Recovery of Beta-Cell Functional Mass in the Diabetes Remission Clinical Trial (DIRECT)
SVIATLANA V. ZHYZHNEUSKAYA, AHMAD AL-MRABEH, ALISON C. BARNES, BENJAMIN ARIBISALA, KIEREN G. HOLLINGSWORTH, HELEN PILKINGTON, NAVEED SATTAR, MICHAEL E. LEAN, ROY TAYLOR, Newcastle upon Tyne, United Kingdom, Lagos, Nigeria, Glasgow, United Kingdom

9:45 a.m.-10:00 a.m.
10:15 a.m.-11:30 a.m.
President, Health Care & Education Address

*It’s All about Access!*
Gretchen Youssef, MS, RDN, CDE

and

Outstanding Educator in Diabetes Award Lecture

*The Most Important Thing We Give to People Is Hope—Overcoming Stigma in Diabetes and Obesity*
Virginia Valentine, APRN, BC-ADM, CDE, FAAD

Room: W-3001 (West, Level 3)

11:30 a.m.-12:30 p.m.

**Professional Interest Group Discussion**
*Theme Area: Acute and Chronic Complications*

**Primary Care’s Guide to Charcot Arthropathy**
Room: S-10 (South, Exhibition Level)
Chair: Frances Game, FRCP

11:30 a.m.-11:50 a.m.  *What Is It, How Does It Happen, and Why Should I Care?*
Edward B. Jude, MD, FRCP

11:50 a.m.-12:10 p.m.  *Missed Diagnosis and Misdiagnosis—Consequence of Complacency*
Dane Wukich III, MD

12:10 p.m.-12:30 p.m.  *So, I Have Diagnosed a Patient with Charcot—What Should I Do?*
Brian M. Schmidt, DPM

**Professional Interest Group Discussion**
*Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise*

**Exercise in the News—Fact, Fiction, or Fad?**
Room: S-153 (South, Upper Mezzanine Level)
Chair: Jane E.B. Reusch, MD

11:30 a.m.-11:35 a.m.  *Introduction and Welcoming Remarks*
Jane E.B. Reusch, MD

11:35 a.m.-11:55 a.m.  *Wading Through Myths and Misunderstandings to Tell a Balanced Story about the Health Benefits of Exercise—A Journalist’s Perspective*
Gretchen Reynolds

11:55 a.m.-12:15 p.m.  *Balancing Scientific Sobriety vs. Media Buzz about the Health Benefits of Exercise—A Researcher’s Perspective*
Wendy M. Kohrt, PhD

12:15 p.m.-12:30 p.m.  *Question and Discussion Period*

**Professional Interest Group Discussion**
*Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise*

**Advancing Nutrition Therapy—Partnering Strategies to Overcome Clinical Inertia**
Room: S-203 (South, Level 2)
Chair: Margaret A. Powers, PhD, RD, CDE

11:30 a.m.-12:00 p.m.  *The Provider Perspective—Working Solo or with a Team*
Jennifer Wyckoff, MD

12:00 p.m.-12:30 p.m.  *The Dietitian Perspective—Strengthening Partnerships*
Emily Weatherup, MS, RDN, CDE
11:30 a.m.-12:30 p.m.
(continued)

Professional Interest Group Discussion
Theme Area: Clinical Diabetes/Therapeutics
PRIDE—Clinical Centers and Programs
Room: S-154 (South, Upper Mezzanine Level)
Chair: Boris Draznin, MD, PhD
11:30 a.m.-11:45 a.m. Deconstructing the Hospital Discharge Process for Patients with Diabetes
Mary T. Korytkowski, MD
11:45 a.m.-12:00 p.m. Emergency Department Diabetes Rapid Referral Program—An Update from Two
Boston Hospitals
Marie E. McDonnell, MD
12:00 p.m.-12:15 p.m. Management of Hypoglycemia Risk during Transition of Electronic Medical Record Systems
Ping H. Wang, MD
12:15 p.m.-12:30 p.m. Incidence and Treatment of Hypoglycemia in the Outpatient Setting
Janice L. Gilden, MD, MS, FCP, FACE, FAAS

Professional Interest Group Discussion
Theme Area: Islet Biology/Insulin Secretion
Innovations in Islet Biology Research
Room: S-208 (South, Level 2)
Chair: Jeffery S. Tessem, PhD
11:30 a.m.-11:35 a.m. Welcome and Introduction
Jeffery S. Tessem, PhD
11:35 a.m.-11:55 a.m. Seq and You Shall Find—Promises and Pitfalls of Single Cell Analysis
Maike Sander, MD
11:55 a.m.-12:15 p.m. Sorting It All Out—Opportunities and Challenges of Using Novel Islet-Cell Surface Markers
Alvin C. Powers, MD
12:15 p.m.-12:30 p.m. Question and Discussion Period
11:30 a.m.-12:30 p.m.
(continued)

**General Poster Session**

**Poster Hall (Hall F, North, Exhibition Level)**

All posters will be displayed Saturday, Sunday, and Monday. Poster presenters in the following categories will be at their posters during this period for questions and discussion with attendees.

### Presented Categories

- **Theme Area: Clinical Diabetes/Therapeutics**
  - **Clinical Therapeutics/New Technology — Diabetes Prevention**
    - Posters: 893-P to 905-P
  - **Clinical Therapeutics/New Technology — Glucose Monitoring and Sensing**
    - Posters: 906-P to 979-P
  - **Clinical Therapeutics/New Technology — Insulins**
    - Posters: 1084-P to 1115-P
- **Theme Area: Epidemiology/Genetics**
  - **Epidemiology — Aging**
    - Posters: 1438-P to 1455-P
  - **Epidemiology — Cardiovascular Disease**
    - Posters: 1456-P to 1487-P
  - **Epidemiology — Clinical — Diagnosis and Screening**
    - Posters: 1488-P to 1534-P
  - **Epidemiology — Diabetes Complications**
    - Posters: 1535-P to 1570-P
  - **Epidemiology — Nutrition**
    - Posters: 1571-P to 1587-P
  - **Epidemiology — Other**
    - Posters: 1588-P to 1667-P
  - **Epidemiology — Type 1 Diabetes**
    - Posters: 1668-P to 1690-P
  - **Epidemiology — Type 1 Diabetes**
    - Posters: 1691-P to 1725-P
  - **Epidemiology — Type 2 Diabetes**
    - Posters: 1726-P to 1751-P
  - **Epidemiology — Type 2 Diabetes**
    - Posters: 1752-P to 1753-P
- **Theme Area: Immunology/Transplantation**
  - **Immunology**
    - Posters: 1754-P to 1771-P
  - **Transplantation**
    - Posters: 1772-P to 1778-P
  - **Transplantation**
    - Posters: 1779-P to 1791-P
  - **Insulin Action/Molecular Metabolism**
    - **Adipocyte Biology**
      - Posters: 1792-P to 1795-P
    - **Cellular and Molecular Metabolism**
      - Posters: 1796-P to 1797-P
    - **Glucose Transport and Insulin Resistance In Vitro**
      - Posters: 1798-P to 1800-P
    - **Signal Transduction, Insulin, and Other Hormones**
      - Posters: 1801-P to 1803-P
Moderated Poster Discussions

11:30 a.m.-12:30 p.m.
(continued)

Poster Hall (Hall F, North, Exhibition Level)

Continuing Education Credit is not awarded for Moderated Poster Discussions.

Explore the Poster Hall with a Moderated Poster Discussion. Poster presenters will share their perspectives and highlight novel or recent developments in question and answer discussions with session moderators.

Follow the steps below to attend a Moderated Poster Discussion:

• Identify the discussion you are interested in attending from the schedule listed below
• Note the location of the discussion. Discussions will start at the first poster board number in the discussion
• Proceed to the location of the discussion at least 5 minutes before the start

There is no required sign-up to attend a discussion, however space and equipment is available on a first-come, first-served basis.

Presented Discussions

Theme Area: Acute and Chronic Complications
Diabetes and Macrovascular Outcomes
Posters: 404-P to 409-P
Location: Poster Hall (First poster in discussion)
Moderator: Meredith Hawkins, MD

Diabetic Nephropathy—Basic Science and Experimental Models
Posters: 489-P to 494-P
Location: Poster Hall (First poster in discussion)
Moderator: Mark E. Cooper, MBBS, PhD

Theme Area: Acute and Chronic Complications
New Concepts in Lipidology
Posters: 609-P to 614-P
Location: Poster Hall (First poster in discussion)
Moderator: Ishwarlal Jialal, MD, PhD

Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Novel Diabetes Education Strategies for Providers and Patients
Posters: 647-P to 652-P
Location: Poster Hall (First poster in discussion)
Moderator: Naina Sinha Gregory, MD

Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Emerging and Young Adults with Diabetes
Posters: 800-P to 805-P
Location: Poster Hall (First poster in discussion)
Moderator: Elizabeth Pyatak, PhD

Theme Area: Clinical Diabetes/Therapeutics
Unique Challenges in Health Care Delivery
Posters: 1234-P to 1239-P
Location: Poster Hall (First poster in discussion)
Moderator: Jeffrey T. Kullgren, MS, MD, MPH

Type 2 Diabetes in Youth—From Risk Factors to Early Complications
Posters: 1316-P to 1321-P
Location: Poster Hall (First poster in discussion)
Moderator: Ram Weiss, MD, PhD

Theme Area: Clinical Diabetes/Therapeutics
Pregnancy and Diabetes—Basic and Translational Research
Posters: 1385-P to 1390-P
Location: Poster Hall (First poster in discussion)
Moderator: Anny Xiang, PhD

Theme Area: Integrated Physiology/Obesity
It’s Not Only About Insulin, Other Hormones Matter
Posters: 1948-P to 1953-P
Location: Poster Hall (First poster in discussion)
Moderator: Ishwarlal Jialal, MD, PhD

Theme Area: Integrated Physiology/Obesity
Homeostatic Responses to Diet—Novel Mechanisms of Regulation
Posters: 865-P to 1990-P
Location: Poster Hall (First poster in discussion)
Moderator: Dong Kong, PhD
11:30 a.m.-12:30 p.m.
(continued)

茑 ePoster Theater Sessions 茑
Exhibit Hall (Halls A-C, South, Exhibition Level)

Continuing Education Credit is not awarded for ePoster Theater Sessions.

Poster presenters will display a digital poster of their work that will include a high-level overview of the poster findings in an open discussion with the session moderator.

Follow the steps below to attend an ePoster Theater Session:

- Identify which session you are interested in attending from the schedule listed below
- Discussions will take place in one of two ePoster Theaters located within the Exhibit Hall (booth 933)
- Proceed to the location of the session at least 5 minutes before the start

Seating is limited and available on a first come, first-served basis.

<table>
<thead>
<tr>
<th>Theme Area: Clinical Diabetes/Therapeutics</th>
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<tbody>
<tr>
<td><strong>On the Road to Closed-Loop</strong></td>
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<tr>
<td>Posters: 1036-P to 1041-P</td>
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<tr>
<td>Location: Exhibit Hall (ePoster Theater A/booth 933)</td>
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<tr>
<td>Moderator: Lawrence Blonde, MD, FACP, MACE</td>
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<tr>
<th>Theme Area: Clinical Diabetes/Therapeutics</th>
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<tbody>
<tr>
<td><strong>The Latest on SGLT Inhibition</strong></td>
</tr>
<tr>
<td>Posters: 1191-P to 1196-P</td>
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<tr>
<td>Location: Exhibit Hall (ePoster Theater B/booth 933)</td>
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<tr>
<td>Moderator: George Bakris, MD</td>
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</tbody>
</table>
12:30 p.m.-1:30 p.m.

Moderated Poster Discussions
Poster Hall (Hall F, North, Exhibition Level)

Continuing Education Credit is not awarded for Moderated Poster Discussions.

Explore the Poster Hall with a Moderated Poster Discussion. Poster presenters will share their perspectives and highlight novel or recent developments in question and answer discussions with session moderators.

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Presented Discussions

Theme Area: Acute and Chronic Complications
Molecular Insights Into Macrovascular Complications
Posters: 410-P to 415-P
Location: Poster Hall (First poster in discussion)
Moderator: Alan Chait, MD

Theme Area: Acute and Chronic Complications
Complications Nephropathy—Clinical and Translational Studies
Posters: 522-P to 527-P
Location: Poster Hall (First poster in discussion)
Moderator: Joshua D. Miller, MD, MPH

Theme Area: Acute and Chronic Complications
Biomarkers and Mechanisms of Diabetic Retinopathy
Posters: 583-P to 588-P
Location: Poster Hall (First poster in discussion)
Moderator: Jennifer Sun, MD, MPH

Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Delivering Contemporary Diabetes Education
Posters: 653-P to 658-P
Location: Poster Hall (First poster in discussion)
Moderator: Laura Hieronymus, DNP, MSEd, RN, MLDE, BC-ADM, CDE, FAADE

Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Psychosocial Assessment Issues in Diabetes
Posters: 806-P to 811-P
Location: Poster Hall (First poster in discussion)
Moderator: Lyndsay A. Nelson, PhD

Theme Area: Clinical Diabetes/Therapeutics
Patient Care Approaches—Evolving Concepts
Posters: 1240-P to 1245-P
Location: Poster Hall (First poster in discussion)
Moderator: Andrea Cherrington, MD, MPH

Theme Area: Clinical Diabetes/Therapeutics
Type 1 Diabetes in Youth—From Risk to Management
Posters: 1343-P to 1348-P
Location: Poster Hall (First poster in discussion)
Moderator: Michael J. Haller, MD

Theme Area: Epidemiology/Genetics
Genes and Type 1 Diabetes Across Systems
Posters: 1691-P to 1695-P
Location: Poster Hall (First poster in discussion)
Moderator: Justin M. O’Sullivan, BSc (Hons), PhD

Theme Area: Integrated Physiology/Obesity
Regulators of Insulin Secretion and Glycemia
Posters: 1825-P to 1830-P
Location: Poster Hall (First poster in discussion)
Moderator: Marilyn Ader, PhD

Theme Area: Integrated Physiology/Obesity
Innovations and Assessments of Obesity Treatment from Clinical Trials to Real-World Settings
Posters: 2046-P to 2051-P
Location: Poster Hall (First poster in discussion)
Moderator: Sriram Machineni, MD

Theme Area: Acute and Chronic Complications
Molecular Insights Into Macrovascular Complications
Posters: 410-P to 415-P
Location: Poster Hall (First poster in discussion)
Moderator: Alan Chait, MD

Theme Area: Acute and Chronic Complications
Complications Nephropathy—Clinical and Translational Studies
Posters: 522-P to 527-P
Location: Poster Hall (First poster in discussion)
Moderator: Joshua D. Miller, MD, MPH

Theme Area: Acute and Chronic Complications
Biomarkers and Mechanisms of Diabetic Retinopathy
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Posters: 806-P to 811-P
Location: Poster Hall (First poster in discussion)
Moderator: Lyndsay A. Nelson, PhD
12:30 p.m.-1:30 p.m.  
(continued)

✔ ePoster Theater Sessions ✔

Exhibit Hall (Halls A-C, South, Exhibition Level)

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<td>Pregnancy and Diabetes—Clinical and Epidemiology</td>
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<tr>
<td>Posters: 1116-P to 1121-P</td>
<td>Posters: 1397-P to 1402-P</td>
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<tr>
<td>Location: Exhibit Hall (ePoster Theater A/</td>
<td>Location: Exhibit Hall (ePoster Theater B/</td>
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<td>booth 933)</td>
<td>booth 933)</td>
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<tr>
<td>Moderator: Jay H. Shubrook, DO</td>
<td>Moderator: Christina M. Scifres, MD</td>
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</tbody>
</table>
1:45 p.m.-2:40 p.m.

**Current Issues**

*Theme Area: Clinical Diabetes/Therapeutics*

**Challenging the Importance of Hypoglycemia in Type 2 Diabetes—Serious or Just Hype?**

Room: S-303 (South, Level 3)

Chair: Alice Y.Y. Cheng, MD, FRCPC

1.45 p.m.-2:05 p.m. **Hypoglycemia in Type 2 Diabetes Is a Real and Serious Problem**
   
   Brian M. Frier, BSc (Hons), MD, FRCP (Edin)

2.05 p.m.-2:25 p.m. **Is Hypoglycemia in Type 2 Diabetes Mostly Hype?**
   
   Philip E. Cryer, MD

2:25 p.m.-2:30 p.m. **Rebuttal**
   
   Brian M. Frier, BSc (Hons), MD, FRCP (Edin)

2:30 p.m.-2:40 p.m. **Rebuttal**
   
   Philip E. Cryer, MD

1:45 p.m.-3:45 p.m.

**Symposium**

*Theme Area: Acute and Chronic Complications*

**Cardiovascular and Renal Protection in Diabetes—Emphasis on SGLT2 Inhibitors and GLP-1 Receptor Agonists**

Room: N-Hall E (North, Exhibition Level)

Chair: Katherine R. Tuttle, MD, FACP, FASN, FNKF

1:45 p.m.-2:15 p.m. **Renal Effects of GLP-1 Receptor Agonists—From Basic Mechanisms to Clinical Data**
   
   Julie A. Lovshin, MD, PhD

2:15 p.m.-2:45 p.m. **Cardiovascular Effects of GLP-1 Receptor Agonists—From Basic Mechanisms to Clinical Data**
   
   Jens J. Holst, MD, DMSc

2:45 p.m.-3:15 p.m. **Renal Effects of SGLT2 Inhibitors—From Basic Mechanisms to Clinical Data**
   
   David C. Wheeler, MD

3:15 p.m.-3:45 p.m. **Cardiovascular Effects of SGLT2 Inhibitors—From Basic Mechanisms to Clinical Data**
   
   Javed Butler, MD, MPH, MBA

1:45 p.m.-3:45 p.m.

**Symposium**

*Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise*

**Making a Difference in Five Minutes—Interventions in Diabetes for Anyone (With Richard R. Rubin Award Lecture)**

Room: S-203 (South, Level 2)

Chair: Lawrence Fisher, PhD, ABPP

1:45 p.m.-2:15 p.m. **Richard R. Rubin Award Lecture—#DiabetesPsychologyMatters**
   
   Frank J. Snoek, PhD

2:15 p.m.-2:35 p.m. **Overcoming Psychological Insulin Resistance**
   
   William Polonsky, PhD, CDE

2:35 p.m.-2:55 p.m. **Innovative Simple Intervention to Improve Adherence**
   
   Olga T. Gupta, MD

2:55 p.m.-3:15 p.m. **Strategies Around Weight Loss in Diabetes**
   
   David Flomo, MPH, MSW, RSW

3:15 p.m.-3:35 p.m. **Management of Diabetes Burnout**
   
   Susan Guzman, PhD

3:35 p.m.-3:45 p.m. **Question and Discussion Period**
Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Exercise-Induced Browning of White Adipose Tissue—What Is the Translational Significance?
Room: S-153 (South, Upper Mezzanine Level)
Chair: Paige C. Geiger, PhD
1:45 p.m.-2:15 p.m. Exercise and the Browning of White Adipose Tissue—Implications for Metabolic Health
Bente Stalvik, MD, PhD, DMSc
2:15 p.m.-2:45 p.m. Does Exercise Induce Mitochondrial Biogenesis in Human Adipose Tissue?
Andrew L. Carey, PhD
2:45 p.m.-3:15 p.m. Is Temperature the Key to Differences in Browning of White Adipose Tissue in Rodents vs. Humans?
David Wright, PhD
3:15 p.m.-3:45 p.m. Depot-Specific Molecular Differences in Adipose Tissues of Humans vs. Rodents
Kenneth Walsh, PhD

Symposium
Theme Area: Clinical Diabetes/Therapeutics
Longitudinal Outcomes in Youth with Type 2 Diabetes—The TODAY2 Study
Room: S-154 (South, Upper Mezzanine Level)
Co-Chairs: Rose Gubitsi-Klug, MD, PhD and Philip S. Zeitler, MD, PhD
1:45 p.m.-1:50 p.m. Introduction to TODAY2
Kimberly Drews, PhD
1:50 p.m.-2:10 p.m. Cardiovascular Complications and Outcomes
Lorraine E. Levitt Katz, MD
2:10 p.m.-2:30 p.m. Renal Complications and Hypertension
Petter Bjornstad, MD
2:30 p.m.-2:50 p.m. Retinopathy and Neuropathy
Neil H. White, MD
2:50 p.m.-3:10 p.m. Pregnancy Outcomes
Jeanie B. Tryggestad, MD
3:10 p.m.-3:30 p.m. Health Care Utilization
Ruth S. Weinstock, MD, PhD
3:30 p.m.-3:45 p.m. Question and Discussion Period

Symposium
Theme Area: Epidemiology/Genetics
Precision Medicine in Diabetes Mellitus
Room: W-2022 (West, Level 2)
Chair: Paul W. Franks, PhD
1:45 p.m.-1:55 p.m. The ADA Precision Medicine in Diabetes Initiative—An Overview
Paul W. Franks, PhD
1:55 p.m.-2:15 p.m. Precision Medicine—What Is It, Precisely?
Huntington F. Willard, PhD
2:15 p.m.-2:35 p.m. The Current State of Precision Medicine in Diabetes
Ewan Pearson, PhD
2:35 p.m.-2:55 p.m. Emerging Precision in Phenotypic Diabetes Classification and Diagnosis
Tiina Tuomiai, MD, PhD
2:55 p.m.-3:15 p.m. Emerging Precision in Genotypic Diabetes Classification and Diagnosis
Miriam Udler, MD, PhD
3:15 p.m.-3:35 p.m. Beyond Genetics and Genomics—Integrating Omics into Precision Medicine in Diabetes
Mark Ibberson, PhD
3:35 p.m.-3:45 p.m. Question and Discussion Period
1:45 p.m.-3:45 p.m.
(continued)

Symposium
Theme Area: Integrated Physiology/Obesity
Nonalcoholic Steatohepatitis (NASH)—The Overlooked Complication of Type 2 Diabetes
Room: W-2001 (West, Level 2)
Chair: Michael Roden, MD
1:45 p.m.-2:15 p.m. Impact of NASH in Type 2 Diabetes—Fact or Fiction? Should We Screen for NASH in Patients with Diabetes? What Is the Magnitude of the Problem/Implications on Cirrhosis, Hepatocellular Carcinoma, Cardiovascular Disease?
Elisabetta Bugianesi, MD, PhD
Eckhard Lammert, PhD
2:45 p.m.-3:15 p.m. Diagnosis—What Can Imaging and Biomarkers Offer? A Practical Review of Current Approaches
Zobair Younossi, MD, MPH
3:15 p.m.-3:45 p.m. Treatment—Are We There Yet? Current and Upcoming Treatment Approaches
Kenneth Cusi, MD

2:45 p.m.-3:45 p.m.

Current Issues
Theme Area: Clinical Diabetes/Therapeutics
SGLT-Inhibitor Adjunctive Therapy in Type 1 Diabetes Mellitus—Is It Worth It?
Room: S-303 (South, Level 3)
Chair: Jeremy Pettus, MD
2:45 p.m.-3:05 p.m. Yes—Meaningful Benefits Outweigh the Risks
Bruce A. Perkins, MD, MPH
3:05 p.m.-3:25 p.m. No—Risks Outweigh Limited Benefits
David M. Nathan, MD
3:25 p.m.-3:30 p.m. Rebuttal
Bruce A. Perkins, MD, MPH
3:30 p.m.-3:35 p.m. Rebuttal
David M. Nathan, MD
3:35 p.m.-3:45 p.m. Question and Discussion Period
1:45 p.m.-3:45 p.m.

**Oral Presentations**

*Theme Area: Acute and Chronic Complications*

**New Directions in Diabetic Foot Research (With Roger Pecoraro Award Lecture)**

Room: S-208 (South, Level 2)
Chair: Aristidis Veves, MD

1:45 p.m.-2:15 p.m.

**Roger Pecoraro Award Lecture**

*Artificial Intelligence for Predicting Diabetes-Related Foot Ulcer Outcomes*

James Wrobel, DPM, MS

2:15 p.m.-2:30 p.m.

**67-OR**

Plasma Copeptin and Risk for Lower Extremity Amputation in People with Type 1 and Type 2 Diabetes

LOUIS POTIER, RONAN ROUSSEL, KAMEL MOHAMMEDI, PIERRE SAULNIER, MICHEL MARRE, SAMY HADJADJ, GILBERTO VELHO, Paris, France, Bordeaux, France, Poitiers, France, Nantes, France

2:30 p.m.-2:45 p.m.

**68-OR**

The Combined Impact of ABI and TcPO₂ on Three-Year Mortality in Patients with Type 2 Diabetes and Foot Ulcers

KATARINA Fagher, MAGNUS LONDAHL, Lund, Sweden

2:45 p.m.-3:00 p.m.

**69-OR**

Mobility, Satisfaction, and Quality of Life among Long-Term Dysvascular/Diabetic Prosthesis Users: Results of a National Cross-Sectional Survey

PHILLIP STEVENS, SHANE R. WURDEMAN, Salt Lake City, UT, Houston, TX

3:00 p.m.-3:15 p.m.

**70-OR**

Are Surrogate Markers for Osteomyelitis Remission Reliable?

PETER A. CRISOLOGO, JAVIER LA FONTAINE, KATHRYN DAVIS, DANE WUKICH III, LAWRENCE A. LAVERY, Dallas, TX

3:15 p.m.-3:30 p.m.

**71-OR**

Dynamic Nrf2 Expression in Cutaneous Wounds Regulates Skin Reepithelialization

ALVARO P. VILLARREAL PONCE, JOSHUA A. DAVID, MELAT WORKU TIRUNEH, SALMA ABDOU, DARREN SULTAN, JENNIFER KWONG, JOSEPH KUHN, PIUL S. RABBANI, DANIEL CERADINI, New York, NY, New Brunswick, NJ

3:30 p.m.-3:45 p.m.

**72-OR**

Clinical Burden and Impact of New-Onset Diabetic Foot Ulcers, Post-Simultaneous Pancreas Kidney Transplantation, and Kidney Only Transplantation

ANGELICA SHARMA, NIKOLAOS FOUNTOULAKIS, PRASH R. VAS, JANAKA KARALLIEDDE, London, United Kingdom

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**ADA-Supported Research**
1:45 p.m.-3:45 p.m.
(continued)

**Oral Presentations**
*Theme Area: Clinical Diabetes/Therapeutics*

**Automated Insulin Delivery Systems**
Room: S-157 (South, Upper Mezzanine Level)
Co-Chairs: Andrew J. Ahmann, MD and Alanna Weisman, MD

1:45 p.m.-2:00 p.m.

**73-OR** Development of SteadiFlow Technology, an Advanced Insulin Delivery Cannula Featuring Extended Duration of Use, More Reliable Insulin Delivery, and Reduced Inflammatory Tissue Response  
JEFFREY I. JOSEPH, MARC C. TORJMAN, CHANNY LOEUM, GABRIELLA J. EISLER, PAUL J. STRASMA, ABDURIZZAGH KHALF, Philadelphia, PA, Irvine, CA

1:45 p.m.-2:00 p.m.

**74-OR** WITHDRAWN

2:00 p.m.-2:15 p.m.

**75-OR** Does Insulin Delivery Method Impact Risk of Hypoglycemia in Older Adults?  
ELENA TOSCHI, CHRISTINE SLYNE, JORDAN GREENBERG, ASTRID ATAKOV-CASTILLO, ALYSSA B. DUFOUR, KAYLA SIFRE, SAM CARL, MEDHA MUNSHI, Boston, MA

2:00 p.m.-2:15 p.m.

**76-OR** In-Depth Review of Glycemic Control and Glycemic Variability in People with Type 1 Diabetes Using Open Source Artificial Pancreas Systems  
ANDREAS MELMER, THOMAS ZÜGER, DANA M. LEWIS, SCOTT M. LEIBRAND, MARKUS LAIMER, Bern, Switzerland, Seattle, WA

2:15 p.m.-2:30 p.m.

**77-OR** First Human Study Testing the iLet, a Purpose-Built Bionic Pancreas Platform  
RABAB Z. JAFRI, COURTNEY A. BALLIRO, JORDAN SHERWOOD, MALLORY HILLARD, LAYA EKHLASPOUR, LIANA HSU, RAJENDRANATH SELAGAMSETTY, JOHN R. COSTIK, JASON SLOANE, BRUCE A. BUCKINGHAM, FIRAS EL-KHATIB, EDWARD DAMIANO, STEVEN J. RUSSELL, Boston, MA, Stanford, CA, Palo Alto, CA, Livonia, NY

2:15 p.m.-2:30 p.m.

**78-OR** Automated Glycemic Control with a Bionic Pancreas Configured for Use in the Critical Care Setting  
JORDAN SHERWOOD, MALLORY A. HILLARD, KERRY B. GRENAN, FIRAS EL-KHATIB, EDWARD DAMIANO, STEVEN J. RUSSELL, Boston, MA

2:30 p.m.-2:45 p.m.

**79-OR** Fully Closed-Loop Using Faster vs. Standard Aspart in Type 2 Diabetes (T2D): A Double-Blind Randomised Crossover Trial  
LIA BALLY, DAVID HERZIG, MALGORZATA E. WILINSKA, YUE RUAN, ANDREASVOGT, MARIA M. WERTLI, BRUNO VOGT, CHRISTOPH STETTLER, ROMAN HOVORKA, Bern, Switzerland, Cambridge, United Kingdom, Oxford, United Kingdom

2:30 p.m.-2:45 p.m.

**80-OR** 670G Clinical Experience  
RAYHAN LAL, MARINA BASINA, DAVID M. MAHHS, BRUCE A. BUCKINGHAM, KOREY K. HOOD, BARRY P. CONRAD, JEANNINE LEVERENZ, ANNETTE CHMIELEWSKI, KRISTINE PETERSON, DARRELL WILSON, Stanford, CA

2:45 p.m.-3:00 p.m.

**81-OR** 670G Clinical Experience  
RAYHAN LAL, MARINA BASINA, DAVID M. MAHHS, BRUCE A. BUCKINGHAM, KOREY K. HOOD, BARRY P. CONRAD, JEANNINE LEVERENZ, ANNETTE CHMIELEWSKI, KRISTINE PETERSON, DARRELL WILSON, Stanford, CA

3:00 p.m.-3:15 p.m.

**82-OR** 670G Clinical Experience  
RAYHAN LAL, MARINA BASINA, DAVID M. MAHHS, BRUCE A. BUCKINGHAM, KOREY K. HOOD, BARRY P. CONRAD, JEANNINE LEVERENZ, ANNETTE CHMIELEWSKI, KRISTINE PETERSON, DARRELL WILSON, Stanford, CA

3:15 p.m.-3:30 p.m.

**83-OR** 670G Clinical Experience  
RAYHAN LAL, MARINA BASINA, DAVID M. MAHHS, BRUCE A. BUCKINGHAM, KOREY K. HOOD, BARRY P. CONRAD, JEANNINE LEVERENZ, ANNETTE CHMIELEWSKI, KRISTINE PETERSON, DARRELL WILSON, Stanford, CA

3:30 p.m.-3:45 p.m.

**84-OR** 670G Clinical Experience  
RAYHAN LAL, MARINA BASINA, DAVID M. MAHHS, BRUCE A. BUCKINGHAM, KOREY K. HOOD, BARRY P. CONRAD, JEANNINE LEVERENZ, ANNETTE CHMIELEWSKI, KRISTINE PETERSON, DARRELL WILSON, Stanford, CA

3:45 p.m.-4:00 p.m.

**85-OR** 670G Clinical Experience  
RAYHAN LAL, MARINA BASINA, DAVID M. MAHHS, BRUCE A. BUCKINGHAM, KOREY K. HOOD, BARRY P. CONRAD, JEANNINE LEVERENZ, ANNETTE CHMIELEWSKI, KRISTINE PETERSON, DARRELL WILSON, Stanford, CA
1:45 p.m.-3:45 p.m.
(continued)

**Oral Presentations**

*Theme Area: Epidemiology/Genetics*

**What's New in Type 1 Diabetes Epidemiology?**

Room: W-2014 (West, Level 2)
Chair: Amy C. Alman, PhD

1:45 p.m.-2:00 p.m.

**81-OR** Depressive Symptomatology Is a Major Predictor of Incident Disability in a Cohort of Childhood-Onset Type 1 Diabetes
TINA COSTACOU, TREVOR J. ORCHARD, Pittsburgh, PA

2:00 p.m.-2:15 p.m.

**82-OR** A T1D Genetic Risk Score Combined with Clinical Features and Autoantibodies Enables Accurate Diabetes Classification in a Racial/Ethnically Diverse Population: The Search for Diabetes in Youth Study
RICHARD A. ORAM, SETH A. SHARP, CATHERINE PIHOKER, LAURIC A. FERRAT, GIUSEPPINA IMPERATORE, SHARON SAYDAH, ADRIENNE H. WILLIAMS, LYNN E. WAGENKNECHT, JEAN M. LAWRENCE, MICHAEL N. WEEDEON,RALPH DARGOSTINO, JR., WILLIAM HAGOPIAN, JASMIN DIVERS, DANA DABLELA, Exeter, United Kingdom, Seattle, WA, Atlanta, GA, Hyattsville, MD, Winston-Salem, NC, Pasadena, CA, Aurora, CO

2:15 p.m.-2:30 p.m.

**83-OR** Distinct Growth Phases in Early Life Associated with Risk of Type 1 Diabetes Prodrome: The TEDDY Study
XIANG LIU, KENDRA VEHIK, YANGXIN HUANG, HELENA ELDING LARSSON, JORMA TOPPARI, ANETTE ZIEGLER, JIN-XIONG SHE, MARIAN REWERS, WILLIAM HAGOPIAN, BEENA AKOLKAR, JEFFREY KRISCHER, THE TEDDY STUDY GROUP, Tampa, FL, Malmö, Sweden, Turku, Finland, Munich, Germany, Augusta, GA, Denver, CO, Seattle, WA, Bethesda, MD

2:30 p.m.-2:45 p.m.

**84-OR** Index60 and 2-Hour Glucose Diagnostic Thresholds: Comparison of Type 1 Diabetes (T1D) Marker Profiles
MARIJA JOSE REDONDO, BRANDON M. NATHAN, LAURA E. BOCCHINO, SUSAN GEYER, LAURA M. JACOBSEN, EMILY K. SIMS, ALBERTO PUGLIESE, JAY S. SKYLER, JERRY P. PALMER, JAY SOSENKO, Houston, TX, Minneapolis, MN, Tampa, FL, Gainesville, FL, Indianapolis, IN, Miami, FL, Seattle, WA

2:45 p.m.-3:00 p.m.

**85-OR** Modifiers of C-Peptide Change during the Progression to Type 1 Diabetes (T1D) in the TrialNet Pathway to Prevention Study
HEBA M. ISMAIL, MARIO A. CLEVES, STEPHEN E. GITELMAN, JAY S. SKYLER, ANDREA STECK, HENRY RODRIGUEZ, MARK A. ATKINSON, BRANDON M. NATHAN, MARIA JOSE REDONDO, KEVAN C. HEROLD, JERRY P. PALMER, CARMELLA EVANS-MOLINA, LINDA DIMEGLIO, JAY M. SOSENKO, Indianapolis, IN, Tampa, FL, San Francisco, CA, Miami, FL, Aurora, CO, Gainesville, FL, Minneapolis, MN, Houston, TX, New Haven, CT, Des Moines, WA

3:00 p.m.-3:15 p.m.

**86-OR** Association of Cognitive Function with Retinal Neural Structure and Vasculature in Type 1 Diabetes
SAMANTHA M. PANIAGUA, WARD FICKWEILER, VANESSA BAHNAM, KONSTANTINA SAMPANI, I-HSIEN WU, HETAL SHAH, GAIL MUSEN, LLOYD P. AIELLO, JENNIFER K. SUN, GEORGE L. KING, Boston, MA

3:15 p.m.-3:30 p.m.

**87-OR** Disappearing Antibodies: Frequency and Effect on T1D Progression
COLIN O’ROURKE, MICHELLE SO, CARLA GREENBAUM, HENRY T. BAHNSON, CATE SPEAKE, Seattle, WA

3:30 p.m.-3:45 p.m.

**88-OR** hsTroponin and NT-proBNP in Type 1 Diabetes (T1D): Association with Incident Cardiovascular Disease (CVD) and Major Atherosclerotic Cardiovascular Events (MACE)
TINA COSTACOU, AMY K. SAENGER, TREVOR J. ORCHARD, Pittsburgh, PA, Minneapolis, MN
Oral Presentations
Theme Area: Immunology/Transplantation

Exploring Novel Approaches in Immunology and Diabetes
Room: W-2006 (West, Level 2)
Chair: Jon D. Piganelli, PhD

1:45 p.m.-2:00 p.m.

**89-OR**
Type 1 Interferons Inhibition of Interleukin-10 Signaling in T Cells in Type 1 Diabetes Development
MARcos IGlesias lozano, Maria ChiCCo, Darrel A. Bibicheff, Gerald Brandacher, Giorgio Raimondi, Baltimore, MD

2:00 p.m.-2:15 p.m.

**90-OR**
High-Fat Diet Acutely Decreases Adipose Immunosuppressive T Regulatory Cells Leading to Insulin Resistance
DAvid bradley, AleCia m. blasCzak, anahita d. jaliVand, Valerie p. wright, sabrena noria, joshua joseph, joey z. liu, willa hsueh, Columbus, OH

2:15 p.m.-2:30 p.m.

**91-OR**
Stem Cell-Derived Tissue-Associated Regulatory T Cells Suppress the Activity of Pathogenic Immune Cells in Autoimmune Diabetes
Jianxun j. song, college station, TX

2:30 p.m.-2:45 p.m.

**92-OR**
Using Bispecific Monoclonal Antibody to Reprogram the Development of Type 1 Diabetes
Joseph ray cepeda, nitin seshadri sekhAR, Junying han, ningyan Zhang, massimo Pietropaolo, li Zhang, Houston, TX

2:45 p.m.-3:00 p.m.

**93-OR**
Expression of Genes Associated with Host Viral Responses in Insulitic Islets
Grace nelson, nataliya i. lenchik, martha campbell-thompson, Clayton e. matheWS, mark a. atkinson, ivan c. gerling, memphis, TN, Gainesville, FL

3:00 p.m.-3:15 p.m.

**94-OR**
Lipid Nanoparticle-Mediated Delivery of Enhanced Costimulation Blockade to Prevent Type 1 Diabetes
Yichuan Zhang, jialu Wang, xiomara calderon-colOn, olivia tiburzi, marcos iglesias lozano, julia patrone, Giorgio raimondi, Baltimore, MD, laurel, MD

3:15 p.m.-3:30 p.m.

**95-OR**
Interleukin-17 Receptor C Is a Regulator of Autoimmune Diabetes in Humans
Chester chamberlain, juehu Wang, stephen e. gitelman, michael german, mark s. anderson, san francisco, CA

3:30 p.m.-3:45 p.m.

**96-OR**
Epigenetic Regulation of the TLR4 Pathway in Macrophages via S-adenosyl Methionine Results in Impaired Wound Healing in Diabetess
Frank m. Davis, Aaron d. denbekker, Andrew s. kimbAll, anna boniakowski, amrita Joshi, mahmoud elazzouny, charles burant, katherine gallagher, Ann Arbor, MI, Santa Clara, CA

ADA-Supported Research
Oral Presentations
Theme Area: Integrated Physiology/Obesity
Central-Peripheral Circuits Controlling Feeding and Metabolic Homeostasis
Room: W-2009 (West, Level 2)
Chair: Martin G. Myers, Jr., MD, PhD

1:45 p.m.-3:45 p.m. (continued)

1:45 p.m.-2:00 p.m.

97-OR Leptin's Hunger-Suppressing Effects Are Mediated by the Hypothalamic-Pituitary-Adrenocortical Axis
RACHEL J. PERRY, JON RESCH, AMELIA M. DOUGLASS, JOSEPH MADARA, JOONGYU D. SONG, CHEN WU, BRADFORD LOWELL, GERALD I. SHULMAN, New Haven, CT, Boston, MA

2:00 p.m.-2:15 p.m.

98-OR Cold-Induced Hyperphagia Requires AgRP Neuron Activation
JENNIFER D. DEEM, KAYOKO OGIMOTO, JARRELL NELSON, BAO ANH N. PHAN, KEVIN R. VELASCO, VINCENT DAMIAN, MICHAEL W. SCHWARTZ, GREGORY J. MORTON, Seattle, WA

2:15 p.m.-2:30 p.m.

99-OR Leptin Mediates Postprandial Thermogenesis through a Hypothalamic-Adrenomedullary-BAT Axis
RACHEL J. PERRY, AVIVA RABIN-COURT, JIANYING DONG, KUN LYU, XRUIO LI, GERALD I. SHULMAN, New Haven, CT

2:30 p.m.-2:45 p.m.

100-OR Defective Mitochondrial Gene Expression in Brown Adipocytes Suppresses Food Intake by Batkine GDF15
BIAO WANG, San Francisco, CA

2:45 p.m.-3:00 p.m.

101-OR Identification of Warm Sensitive Neurons in the Hypothalamic Preoptic Area as Powerful Regulators of Glucose Homeostasis
JENNIFER D. DEEM, KAYOKO OGIMOTO, JARRELL NELSON, BAO ANH N. PHAN, KEVIN R. VELASCO, VINCENT DAMIAN, ZACHARY KNIGHT, MICHAEL W. SCHWARTZ, GREGORY J. MORTON, Seattle, WA, San Francisco, CA

102-OR WITHDRAWN

3:00 p.m.-3:15 p.m.

103-OR Central α-Klotho Suppresses Food Intake and Improves Glucose Regulation in Mouse Models of Metabolic Disease
TAYLOR LANDRY, PEIXIN LI, WYATT P. BUNNER, ZHIJIAN RAO, SR., HU HUANG, Greenville, NC, Beijing, China

3:15 p.m.-3:30 p.m.

104-OR Glucoregulatory Effects of Hypothalamic Glucocorticoid Action In Vivo
EMILIE BEAULIEU-BAYNE, MIGUEL CARDOSO, HYEJUN KIM, SHULING YANG, JESSICA T. YUE, Edmonton, AB, Canada
1:45 p.m.-3:45 p.m. (continued)

Oral Presentations
Theme Area: Islet Biology/Insulin Secretion
Beta-Cell Development and Proliferation
Room: W-2002 (West, Level 2)
Chair: H. Henry Dong, PhD

1:45 p.m.-2:00 p.m.
105-OR Lineage Determination of Endocrine Progenitors in Murine and Human Pancreatic Development
DANIEL M. WONG, LAUREN BYRNES, JACQUELYN O. BOUZA, GABRIEL PEIXOTO, REED MCMULLEN, JULIE B. SNEDDON, San Francisco, CA

2:00 p.m.-2:15 p.m.
106-OR Geminin Expression in Human Fetal Pancreas
LUC BAEYENS, DAVID W. SCHEEL, KATHERINE YANG, MICHAEL GERMAN, Brussels, Belgium, San Francisco, CA

2:15 p.m.-2:30 p.m.
107-OR Profiling of Human Pancreatic Islets by Single Cell Transcriptomics Reveals α- and β-Cell Subpopulations
SHRISTI SHRESTHA, DIANE C. SAUNDERS, JOHN T. WALKER, RACHANA HALIYUR, GREG POFFENBERGER, RADHIKA ARAMANDLA, ANGELA JONES, NRIPESH PRASAD, SHAWN E. LEVY, ALVIN C. POWERS, MARCELA BRISSOVA, Nashville, TN, Huntsville, AL

2:30 p.m.-2:45 p.m.
108-OR ▲ Inhibition of SerpinB13 Stimulates Beta-Cell Development via Notch Signaling Pathway
YURY KRYVALAP, COLE HENDRICKSON, JAN CZYZYK, Minneapolis, MN

2:45 p.m.-3:00 p.m.
109-OR ▲ Notch Signaling Controls Islet Architecture and β-Cell Function in the Developed Pancreas
ALBERTO BARTOLOME, UTPAL PAJVANI, New York, NY

3:00 p.m.-3:15 p.m.
110-OR Generation of a Novel Mouse Model to Study β-Cell Proliferation
SHINSUKE TOKUMOTO, DAISUKE YABE, HISATO TATSUOKA, RYOTA USUI, MUHAMMAD FAUZI, HISANORI GOTO, MASAHITO OGURA, NOBUYA INAGAKI, Kyoto, Japan, Kobe, Japan

3:15 p.m.-3:30 p.m.
111-OR Pancreatic Elastase Regulates Human Beta-Cell Proliferation via the Focal Adhesion and PAR2 Signaling Pathways
GIORGIO BASILE, AMEDEO VETERE, KA-CHEUK LIU, JIANG HU, OLOV ANDERSSON, BRIDGET WAGNER, RÖHIT KULKARNI, Boston, MA, Cambridge, MA, Stockholm, Sweden

3:30 p.m.-3:45 p.m.
112-OR Critical Role of Tyrosine Kinase 2 (TYK2) in Human Pancreatic Differentiation
VIKASH CHANDRA, HAZEM IBRAHIM, DIEGO BALBOA, TIMO OTONKOSKI, Helsinki, Finland

▲ ADA-Supported Research
4:00 p.m.-4:55 p.m.

**Current Issues**

*Theme Area: Clinical Diabetes/Therapeutics*

**What Are the Contributions of the Evolving Real-World Evidence?**

Room: N-Hall E (North, Exhibition Level)

Chair: Yehuda Handelsman, MD

4:00 p.m.-4:20 p.m. **Very Valuable**

Mikhail N. Kosiborod, MD

4:20 p.m.-4:40 p.m. **Very Questionable**

Hertzel C. Gerstein, MD, MSc, FRCPC

4:40 p.m.-4:45 p.m. **Rebuttal**

Mikhail N. Kosiborod, MD

4:45 p.m.-4:50 p.m. **Rebuttal**

Hertzel C. Gerstein, MD, MSc, FRCPC

4:50 p.m.-4:55 p.m. **Question and Discussion Period**

4:00 p.m.-6:00 p.m.

**Symposium**

*Theme Area: Acute and Chronic Complications*

**Modifiers of Cardiovascular Outcomes in Type 1 and Type 2 Diabetes**

Room: S-157 (South, Upper Mezzanine Level)

Chair: Bernard Zinman, CM, MD

4:00 p.m.-4:30 p.m. **Impact of Gender and Ethnicity on Cardiovascular Disease Outcomes**

Subodh Verma, MD, PhD, FRCSC

4:30 p.m.-5:00 p.m. **Should Gestational Diabetes or Hypertensive Disease in Pregnancy Be Incorporated into Cardiovascular Disease Risk Engines?**

Jacinda M. Nicklas, MD, MPH, MA

5:00 p.m.-5:30 p.m. **Epidemiology of Macrovascular Complications**

Trevor J. Orchard, MD, MMedSci, FACE, FAHA

5:30 p.m.-6:00 p.m. **Pathophysiologic Considerations of Cardiovascular Disease**

Myra A. Lipes, MD

4:00 p.m.-6:00 p.m.

**Symposium**

*Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise*

**PREVIEW Study Results—Prevention of Diabetes through Lifestyle Intervention and Population Studies Around the World**

Room: S-203 (South, Level 2)

Chair: Jennie Brand-Miller, PhD

4:00 p.m.-4:30 p.m. **Prevention of Diabetes through Lifestyle Intervention—Results from the Multicenter PREVIEW Study**

Ian MacDonald, PhD

4:30 p.m.-5:00 p.m. **Prevention of Diabetes through Lifestyle Intervention—Results from Population Studies**

Edith Feskens, PhD

5:00 p.m.-5:30 p.m. **Dietary Restraint, Physical Activity, Sleep, Circadian Rhythm, and Stress in Relation to Prevention of Diabetes**

Magriet Westerterp-Plantenga, PhD

5:30 p.m.-6:00 p.m. **The PREVIEW Study—Spotlights on Brain and Liver**

Mathijs Drummen, PhD
Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Diabetes Management and Education for Special Populations
Room: S-153 (South, Upper Mezzanine Level)
Chair: Trudy R. Gaillard, PhD, RN, CDE, FAHA
4:00 p.m.-4:30 p.m. Diabetes Self-Care Management in Patients Undergoing Dialysis
Melissa Prest, DCN, RDN, CSR, LDN
4:30 p.m.-5:00 p.m. Current Management of Diabetes and Cancer—Managing Both Chronic Diseases
Amy Hiestand, MSN, RN, CDE
5:00 p.m.-5:30 p.m. Diabetes Self-care in Prison—Fact or Fiction?
Robin N. Hunter Buskey, DHSc, CDE, PA-C, CCHP
5:30 p.m.-6:00 p.m. Question and Discussion Period

Symposium
Theme Area: Clinical Diabetes/Therapeutics
Joint ADA/Chinese Diabetes Society Symposium—Epidemiology and Risk Factors of Diabetes and Diabetic Complications
Room: S-10 (South, Exhibition Level)
Co-Chairs: Jiandie Lin, PhD and Dalong Zhu, MD, PhD
4:00 p.m.-4:30 p.m. Prevalence of Diabetic Complications in China
Weiping Jia, MD
4:30 p.m.-5:00 p.m. Cardiovascular Disease Risk Factors in Early-Onset Diabetic Patients
Linong Ji, MD
5:00 p.m.-5:30 p.m. Effects of Diet and Nutritional Factors on Type 2 Diabetes in Chinese
Xu Lin, MD, PhD
5:30 p.m.-6:00 p.m. Gestational Diabetes in China
Gang Hu, MD, MPH, PhD, FAHA

Symposium
Theme Area: Epidemiology/Genetics
Diabetes in India and the South Asian Diaspora—The Tsunami Is Here
Room: W-2022 (West, Level 2)
Co-Chairs: Viswanathan Mohan, MD, PhD, DSc, FACE, K.M. Venkat Narayan, MD, and Krishna G. Seshadri, MBBS, MD
4:00 p.m.-4:20 p.m. Epidemiology and the State of Diabetes in India—Current Numbers, Socioeconomic Aspects, and Cultural Habits Across India—Focus on the ICMR-INDIAB Study
Ranjit Mohan Anjana, MD, PhD
4:20 p.m.-4:40 p.m. Diabetes in Youth in India—Understanding the Pathogenesis and Differential Diagnoses
Nihal J. Thomas, MD, DNB, MNAMS, FRCP, FRACP, PhD
4:40 p.m.-5:00 p.m. Can We Modify the Alarming Clustering of Cardiovascular Risk Factors in India?
K. Sreekumaran Nair, MD, PhD
5:00 p.m.-5:20 p.m. Diabetes and Cardiovascular Disease in South Asians in the United States
Namratha R. Kandula, MD, MPH
5:20 p.m.-5:40 p.m. Use of Artificial Intelligence in Screening for Diabetic Retinopathy in India
S.R. Aravind, MBBS, DNB, FRCP, DHA, FDRC, FRSSDI
5:40 p.m.-6:00 p.m. Type 1 Diabetes Mellitus—The Indian Experience
K.M. Prasanna Kumar, MD, DM
Current Issues
Theme Area: Immunology/Transplantation
Indication for Pancreas Transplantation in the Era of Glucose Sensor and Insulin Pump
Room: W-2006 (West, Level 2)
Chair: Steven Paraskevas, MD, PhD
4:00 p.m.-4:40 p.m. Pro Pancreas
Silke V. Niederhaus, MD
4:40 p.m.-5:20 p.m. Pro Artificial Pancreas
Jessica R. Castle, MD
5:20 p.m.-6:00 p.m. Question and Discussion Period

Symposium
Theme Area: Integrated Physiology/Obesity
Is Intermuscular Adipose Tissue (IMAT) a Friend or a Foe to Metabolic Health?
Room: W-2001 (West, Level 2)
Chair: Lisa S. Chow, MD, MS
4:00 p.m.-4:30 p.m. Clinical Implications of IMAT in Obesity
Bret H. Goodpaster, PhD
4:30 p.m.-5:00 p.m. How Bad Can It Be? Comparing IMAT to Subcutaneous and Visceral Adipose Tissue
Bryan C. Bergman, PhD
5:00 p.m.-5:30 p.m. Profiling Human Adipose Progenitor Cells from Intermuscular vs. Abdominal Subcutaneous Depots
Lauren M. Sparks, PhD
5:30 p.m.-6:00 p.m. Fibro-Adipogenic Progenitor Cells
Amy Wagers, PhD

Symposium
Theme Area: Islet Biology/Insulin Secretion
Joint ADA/EASD Symposium—From Genome-Wide Association Studies (GWAS) to Functional Impact in the Beta Cell
Room: W-2002 (West, Level 2)
Co-Chairs: Shuibing Chen, PhD and David R. Matthews, DPhil, BM, BCH
4:00 p.m.-4:30 p.m. Insights into Pancreatic Beta-Cell Function from Type 2 Diabetes GWAS
Anna L. Gloyn, DPhil
4:30 p.m.-5:00 p.m. Type 2 Diabetes Genes and Beta-Cell Function—STARD10, C2CD4B, and ZnT8
Guy A. Rutter, PhD
5:00 p.m.-5:30 p.m. Genomic Signatures in Human Beta Cells
Michael L. Stitzel, PhD
5:30 p.m.-6:00 p.m. Lessons from Zebrafish—Insights from Models of Rare and Common Diabetes
Norann A. Zaghloul, PhD
5:00 p.m.-6:00 p.m.

**Current Issues**
*Theme Area: Clinical Diabetes/Therapeutics*

**Choosing Evidence-Based Therapy for Type 2 Diabetes Mellitus with Cardiovascular Disease**
Room: N-Hall E (North, Exhibition Level)
Chair: Darren K. McGuire, MD, MHSc

5:00 p.m.-5:20 p.m. **Type 2 Diabetes Mellitus with “Established” Cardiovascular Disease—Why Would I First Add an SGLT2 Inhibitor to Metformin?**
Silvio E. Inzucchi, MD

5:20 p.m.-5:40 p.m. **Type 2 Diabetes Mellitus with “Established” Cardiovascular Disease—Why Would I First Add a GLP-1 Receptor Agonist to Metformin?**
Tina Vilsbøll, MD, DMSc

5:40 p.m.-5:45 p.m. **Rebuttal**
Silvio E. Inzucchi, MD

5:45 p.m.-5:50 p.m. **Rebuttal**
Tina Vilsbøll, MD, DMSc

5:50 p.m.-6:00 p.m. **Question and Discussion Period**
4:00 p.m.-6:00 p.m.

Oral Presentations
Theme Area: Acute and Chronic Complications
Hypoglycemia Risk—Mechanisms in the Brain (With ADA Presidents’ Select Abstract Presentation)
Room: S-208 (South, Level 2)
Chair: Pratik Choudhary, MD

4:00 p.m.-4:15 p.m.
113-OR ADA Presidents’ Select Abstract Presentation: Dishabituation with High Intensity Exercise Improves Epinephrine Response and Symptomatic Awareness to Hypoglycemia in People with Type 1 Diabetes and Impaired Awareness of Hypoglycemia CATHRiona M. FARRELL, DANIEL J. WEST, SIMONA M. HAPCA, TIMOTHY JONES, ALISON D. MCNEILLY, RORY J. MCCRIMMON, Dundee, United Kingdom, Newcastle upon Tyne, United Kingdom, Perth, Australia

4:15 p.m.-4:30 p.m.
114-OR Evidence for Alterations in Salience Processing in People with Type 1 Diabetes and Impaired Awareness of Hypoglycemia PETER JACOB, CONSTANCE E. OSBORNE, FERNANDO ZELAYA, STEPHANIE A. AMIEL, PRATIK CHoudHARY, London, United Kingdom

4:30 p.m.-4:45 p.m.
115-OR Epinephrine Contributes to Hypoglycemia-Associated Autonomic Failure (HAAF) ERIC LONTCHI YIMAGOU, SANDRA ALEKSIc, LAXMI UPADHYAY, SHIKSHA SHARMA, MICHELLE CAREY, AKANKASHA GOYAL, JEE YOUNG YOU, RAPHAEL HULKOWER, SWETHA MURTHI, WILLIAM G. MITCHELL, HARRY SHAMOON, MEREDITH HAWKINS, Bronx, NY, New Rochelle, NY, New York, NY, Detroit, MI

4:45 p.m.-5:00 p.m.
116-OR Hypoglycemia Leads to a Delayed Increase in Platelet and Coagulation Markers in Subjects with Type 2 Diabetes Treated with Metformin Only—Results from an Experimental Stepwise Hypoglycemic Clamp Study FELIX ABERER, PETER N. PFERSCHY, JR., NORBERT J. TRIPOLT, CAREN SOURIJ, HARALD KOJZAR, BARBARA PRIETL, SELINA KOFLER, MARTINA BRUNNER, REGINA RIEDL, EVA NOVAK, ANNA M. OBERMAYER, PHILIPP REITBAUER, TATJANA STOJAKOVIC, FAISAL AZIZ, ABDERRAHIM OULHAJ II, FLORIAN PRULLER, HUBERT SCHARNAGL, HARALD SOURIJ, Graz, Austria, Al Ain, United Arab Emirates

5:00 p.m.-5:15 p.m.
117-OR Carvedilol Prevents Impairment of the Counterregulatory Response in Recurrently Hypoglycemic Diabetic Rats RAWAD FARHAT, OWEN CHAN, GONG SU, ELIANE DE SANTANA VAN VLIET, Salt Lake City, UT, Beijing, China

5:15 p.m.-5:30 p.m.
118-OR Activation of Dopamine Signaling in the Brain Causes HAAF ADRIANA VIEIRA DE ABREU, RAHUL AGRAWAL, ETHAN R. MEIER, OWEN CHAN, SIMON FISHER, Salt Lake City, UT, Sandy, UT

5:30 p.m.-5:45 p.m.
119-OR Amplified Glucagon Response to Hypoglycemia following AMP-Activated Protein Kinase (AMPK) Activator R481 Treatment in Healthy Rats ANA M. L. CRUZ, YASAMAN MALEKIZADEH, JULIA M. VLACHAKI WALKER, SIMON J. SHAW, KATE L. ELLACOTT, CRAIG BEALL, Exeter, United Kingdom, London, United Kingdom, South San Francisco, CA

5:45 p.m.-6:00 p.m.
120-OR MicroRNA-7a-5p Overexpression in the VMH Restores the Sympathoadrenal Response to Hypoglycemia in Recurrently Hypoglycemic Rats RAHUL AGRAWAL, MICHAEL G. MONTGOMERY, DINESH VERMA, GRIFFIN T. DURUPT, ADRIANA VIEIRA DE ABREU, SANKAR SWAMINATHAN, SIMON FISHER, Salt Lake City, UT
Oral Presentations  
Theme Area: Clinical Diabetes/Therapeutics

**From Obesity to Type 2 Diabetes in Youth—New Insights into Pathogenesis and Management**

Room: S-154 (South, Upper Mezzanine Level)  
Co-Chairs: Fida Bacha, MD, FAAP and Amy Sanghavi Shah, MD, MS

4:00 p.m.-6:00 p.m.
(continued)

4:00 p.m.-4:15 p.m.
121-OR   
**Insulin Clearance Is an Independent Determinant of β-Cell Cell Function in Obese Youths**

ALFONSO GALDERISI, DOMENICO TRICO, COSIMO GIANNINI, SR., NICOLA SANTORO, SONIA CAPRIO, RAM WEISS, New Haven, CT, Pisa, Italy, Chieti, Italy, Jerusalem, Israel

4:15 p.m.-4:30 p.m.
122-OR   
**Impact of Withdrawal of Interventions in the Restoring Insulin Secretion (RISE) Pediatric Medication Study**

TAMARA S. HANNON, SHARON EDELSTEIN, SILVA A. ARSLANIAN, SONIA CAPRIO, PHILIP ZEITLER, THOMAS A. BUCHANAN, DAVID A. EHRMANN, KIEREN J. MATHER, ELLEN LESCHEK, MARK TRIPPUTI, STEVEN E. KAHN, KRISTEN J. NADEAU, RISE CONSORTIUM, Indianapolis, IN, Rockville, MD, Pittsburgh, PA, New Haven, CT, Aurora, CO, Los Angeles, CA, Chicago, IL, Bethesda, MD, Seattle, WA, Denver, CO

4:30 p.m.-4:45 p.m.
123-OR   
**Effect of Surgical vs. Medical Therapy on Diabetic Kidney Disease (DKD) in Severely Obese Adolescents with Type 2 Diabetes (T2D)**

PETTER BJORNSTAD, KARA S. HUGHAN, MEGAN M. KELSEY, AMY SHAH, JANE L. LYNCH, EDWARD NEHUS, MARK MITSNEFES, TODD M. JENKINS, PEIXIN XIE, CHANGCHUN XIE, THOMAS H. INGE, KRISTEN J. NADEAU, Aurora, CO, Pittsburgh, PA, Cincinnati, OH, San Antonio, TX, Denver, CO

4:45 p.m.-5:00 p.m.
124-OR   
**Comparison of OGTT Model-Derived Measures of β-Cell Function between Youth and Adults**

KRISTINA UTZSCHNEIDER, ANDREA MARI, MARK TRIPPUTI, KIEREN J. MATHER, KRISTEN J. NADEAU, SHARON EDELSTEIN, TAMARA S. HANNON, SILVA A. ARSLANIAN, MELANIE CREE-GREEN, THOMAS A. BUCHANAN, SONIA CAPRIO, STEVEN E. KAHN, RISE CONSORTIUM, Seattle, WA, Padova, Italy, Rockville, MD, Indianapolis, IN, Denver, CO, Aurora, CO, Los Angeles, CA, New Haven, CT

5:00 p.m.-5:15 p.m.
125-OR   
**Child Growth Tracking and Type 2 Diabetes Risk: A Life Course Analysis**

MUIDEEN T. OLAIYA, WILLIAM C. KNOWLER, ROBERT L. HANSON, SAYUKO KOBES, ROBERT NELSON, MADHUMITA SINHA, Phoenix, AZ

5:15 p.m.-5:30 p.m.
126-OR   
**Fat Catch-Up Growth in Early Infancy and Cardiometabolic Outcomes at 5 Years of Age**

GREGERS S. ANDERSEN, RASMUS WIBAEK, BITIYA ADMASSU, DORTE VISTISEN, MARIT E. JØRGENSEN, KIM F. MICHAELSEN, JONATHAN C. WELLS, HENRIK FRIIS, Gentofte, Denmark, Jimma, Ethiopia, Copenhagen, Denmark, London, United Kingdom, Frederiksborg, Denmark

(continued on next page)
5:30 p.m.-5:45 p.m.

127-OR  Changes in Adipocyte-Derived Exosomal MicroRNAs May Play a Role in the Progression from Obese Normoglycemia to Hyperglycemia/Diabetes
SHEELA N. MAGGE, ROBERT J. FREISHTAT, Baltimore, MD, Washington, DC

5:45 p.m.-6:00 p.m.

128-OR  Clustering of Metabolomics, Clinical Biomarkers, and Ectopic Liver Fat in Children/Adolescents: An Integrated Network Analysis
CATHERINE E. CIOFFI, K.M. VENKAT NARAYAN, KARAN UPPAL, BRIDGET PIERPONT, SONIA CAPRIO, NICOLA SANTORO, MIRIAM B. VOS, Atlanta, GA, New Haven, CT
4:00 p.m.-6:00 p.m.
(continued)

**Oral Presentations**

**Theme Area: Clinical Diabetes/Therapeutics**

**Interventions on Prediabetes/Nonalcoholic Fatty Liver Disease/Nonalcoholic Steatohepatitis**

(With Vivian Fonseca and Nagendran Family Diabetes Research Award Presentation)

Room: S-303 (South, Level 3)

Co-Chairs: Stefano Del Prato, MD and Leigh Perreault, MD

4:00 p.m.-4:15 p.m.

**Vivian Fonseca and Nagendran Family Diabetes Research Award Presentation**

Raghuram Nagarathna, MD, FRCP, DSc

129-OR Diabetes Prevention through Yoga-Based Lifestyle: A Pan-India Randomized Controlled Trial

RAGHURAM NAGARATHNA, C. VENKATA S. RAM, SASIDHARAN K. RAJESH, AMIT SINGH, VIJAYA MAJUMDAR, SUCHITRA PATIL, HONGASANDRA R. NAGENDRA, Bengaluru, India, Hyderabad, India

4:15 p.m.-4:30 p.m.

130-OR Does the Duration of Prediabetes Status Affect Reversibility with Lifestyle Intervention?

NKIRU A. UMEKWE, IBIYE OWEI, AMY A. BREWER, LINDSEY FRENCH, DEIRDRE J. JAMES, FOLABI ARIGANJOYE, SAMUEL DAGOGO-JACK, Memphis, TN

4:30 p.m.-4:45 p.m.

131-OR Effects of Dapagliflozin, Metformin, or Exercise on Glucose Metabolism in Individuals with Prediabetes: The PRE-D Trial

KRISTINE FÆRCH, MARTIN B. BLOND, HANAN AMAIDID, LEA BRUHN NIELSEN, DORTE VISTISEN, KIM K. CLEMMENSEN, CAMILLA HARTMANN PEDERSEN, KRISTIAN KARSTOFT, MATHIAS RIED-LARSEN, MARIT E. JØRGENSEN, Gentofte, Denmark, Copenhagen, Denmark

4:45 p.m.-5:00 p.m.

132-OR Effects of Dapagliflozin, an SGLT2 Inhibitor, on Hepatic Steatosis and Fibrosis Evaluated by Transient Elastography in Patients with Type 2 Diabetes and Nonalcoholic Fatty Liver Disease

YOSHIMASA ASO, TERUO JOJIMA, TOSHIE IWAMA, ISAO USUI, Mibu, Japan, Shimotsuga, Japan

5:00 p.m.-5:15 p.m.

133-OR Effects of Empagliflozin on Liver Fat Content in Type 2 Diabetes: The EMLIFA001 Trial

SABINE KAHL, SOFIYA GANCEVA, KLAUS STRASSBURGER, CHRISTIAN HERDER, JÜRGEN MACHANN, HISAYUKI KATSUYAMA, STEFAN KABISCH, ELENA HENKEL, STEFAN KÖPF, KONSTANTINOS KANTARTZIS, YULIYA KUPIYANOVA, OLIVER KUSS, JONG-HEE HWANG, CHRISTIAN KASPERK, NORBERT STEFAN, ANDREAS P. PETIFFER, ANDREAS L. BIRKENFELD, MICHAEL RODEN, Düsseldorf, Germany, Tübingen, Germany, Berlin, Germany, Dresden, Germany, Heidelberg, Germany

5:15 p.m.-5:30 p.m.

134-OR Effects of Tirzepatide (TZP), a Novel Dual GIP and GLP-1 Receptor Agonist, on Biomarkers of Nonalcoholic Steatohepatitis (NASH) in Patients with T2D

MARK L. HARTMAN, ARUN SANYAL, ROHIT LOOMBA, JONATHAN M. WILSON, ROSS BRAY, AMIR NIKOOINEJAD, KEVIN L. DUFFIN, DEBORAH A. ROBINS, AXEL HAUPT, Indianapolis, IN, Richmond, VA, San Diego, CA

5:30 p.m.-5:45 p.m.

135-OR A Novel Thiazolidinedione (TZD) with Minimal PPAR-γ Activity Maximized for Mitochondrial Pyruvate Carrier (MPC) Modulation: Six-Month Analysis of Glycemia in a 12-Month Nonalcoholic Steatohepatitis (NASH) Study

KENNETH CUSI, ORVILLE G. KOLTERMAN, STEPHEN A. HARRISON, HOWARD C. DITTRICH, Gainesville, FL, La Jolla, CA, Live Oak, TX, San Diego, CA

5:45 p.m.-6:00 p.m.

136-OR Efficacy of Cenicriviroc (CVC) in Adults with NASH-Induced Liver Fibrosis

NAIM ALKHOURI, RALPH W. CHARLTON III, EDUARDO B. MARTINS, HENRIK LANDGREN, ANDREA D. COVIELLO, MANAL F. ABDELMALEK, San Antonio, TX, South San Francisco, CA, Marlow, United Kingdom, Durham, NC
Oral Presentations
Theme Area: Insulin Action/Molecular Metabolism

Adipocytes in Health and Disease
Room: W-2014 (West, Level 2)
Chair: Alexander Banks, PhD

4:00 p.m.-6:00 p.m.
(continued)

4:00 p.m.-4:15 p.m.
137-OR The Selective Human Beta 3 Adrenergic Receptor Mirabegron Potently Activates Lipolysis in Human White Adipocytes
CHERYL CERO, JAMES W. JOHNSON, ALANA O’MARA, JOYCE D. LINDERMAN, AARON M. CYPESS, Bethesda, MD

4:15 p.m.-4:30 p.m.
138-OR Ablating Adipose CREB3l3 Preserves Metabolic Health during Obesity
MAXIMILIAN A. MCCANN, SHENGXIAN LI, YANLIANG LI, VICTORIA GIL, CHONG WEE LIEW, Chicago, IL, Shanghai, China

4:30 p.m.-4:45 p.m.
139-OR GIP Regulates Fatty Acid and Glycerol Synthesis in Human Adipocytes
PAUL L. MILLIGAN, JR., KENNETH D. ROTH, HAITAO HU, JULIE MOYERS, XIAQING Ruan, WILLIAM C. ROELL, AJIT REGMI, Indianapolis, IN

4:45 p.m.-5:00 p.m.
140-OR Dermal Adipose Tissue—A Unique Fat Pad Undergoes Dynamic Changes by Reversible Dedifferentiation
ZHIZHEN ZHANG, MENGLE SHAO, RANA K. GUPTA, PHILIPP E. SCHERER, Dallas, TX

5:00 p.m.-5:15 p.m.
141-OR Regulation of Mitochondrial Dynamics in Brown Adipocytes by the Endoplasmic Reticulum-Associated Degradation
ZHANGSEN ZHOU, MAURICIO TORRES, LING QI, Ann Arbor, MI

5:15 p.m.-5:30 p.m.
142-OR Unique Role of the a4 Component for S6-Kinase Activity in Metabolic Regulation and Anti-apoptotic Effect in Brown Adipose Tissue
MASAJI SAKAGUCHI, SHOTA OKAGAWA, SAYAKA KITANO, TATSUYA KONDO, EIICHI ARAKI, Kumamoto, Japan

5:30 p.m.-5:45 p.m.
143-OR Illuminating Ldb1 as a Novel Transcriptional Regulator of Brown Adipose Function
JESSICA KEPPLE, YANPING LIU, CHAD S. HUNTER, Birmingham, AL

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ADA-Supported Research
### SUNDAY, JUNE 9, 2019—DAY-AT-A-GLANCE SCHEDULE

**Registration Hours:** 7:30 a.m.-5:00 p.m.  
**Shop Diabetes Store Hours:** 7:30 a.m.-6:45 p.m.

<table>
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<tr>
<th>Time</th>
<th>Acute and Chronic Complications</th>
<th>Behavioral Medicine, Clinical Nutrition, Education, and Exercise</th>
<th>Clinical Diabetes/Therapeutics</th>
<th>Epidemiology/Genetics</th>
<th>Oral Presentations</th>
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| 8:00 a.m.-10:00 a.m. | **Symposium**  
What You Absolutely Need to Know about Diabetic Neuropathies to Apply Personalized Care to Your Patients in 2019  
**Room:** S-10  
**Symposium**  
Joint ADA/ASN Symposium—Cardiovascular and Renal Protection in Diabetes—Beyond SGLT2 Inhibitors and GLP-1 Receptor Agonists  
**Room:** N-Hall E | **Symposium**  
Providing Options—Using a Low-Carbohydrate or Very Low-Carbohydrate Diet with Adults with Type 1 Diabetes, Type 2 Diabetes, or Prediabetes  
**Room:** S-203 | **Symposium**  
Making Insulin Affordable  
**Room:** S-157 | **Symposium**  
**Room:** S-153 | **Oral Presentations**  
Diabetes Prediction and Treatment  
**Room:** W-2022 |
| 10:15 a.m.-11:45 a.m. | **President, Medicine & Science Address and Banting Medal for Scientific Achievement—Room: W-3001** | | | | |
| 12:00 p.m.-1:00 p.m. | **Professional Interest Group Discussion**  
Why Is Heart Failure Still an Underappreciated Complication of Diabetes?  
**Room:** S-203 | **Professional Interest Group Discussion**  
The Emotional Toll of Diabetes Complications—What Have We Done for Them Lately?  
**Room:** S-153 | **Professional Interest Group Discussion**  
Diabetes Technology Use in Schools, Camps, and Emergency Rooms  
**Room:** S-154 | | |
| 12:00 p.m.-1:00 p.m. | **General Poster Session/Moderated Poster Discussions—Poster Hall (Hall F)** | | | | |
| 12:00 p.m.-1:00 p.m. | **ePoster Theater Sessions—Exhibit Hall (Halls A-C)** | | | | |
| 1:00 p.m.-2:00 p.m. | **Session Break (Take this opportunity to visit the Exhibit and Poster Halls)** | | | | |

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**Symposium**
-  
**Joint ADA/ASN Symposium—Cardiovascular and Renal Protection in Diabetes—Beyond SGLT2 Inhibitors and GLP-1 Receptor Agonists**
-  
**NDEP Symposium—How Do We Focus on Consensus Rather than Controversy? Guiding Principles for the Care of People with or at Risk for Diabetes**
-  
**TrialNet—New Therapeutic Approaches and Insights for Type 1 Diabetes**
-  
**ADA Diabetes Symposium—The Alpha Cell in Full Bloom—Evidence for an Expanded Role in Metabolic Regulation**

**Professional Interest Group Discussion**
-  
**Why Is Heart Failure Still an Underappreciated Complication of Diabetes?**
-  
**The Emotional Toll of Diabetes Complications—What Have We Done for Them Lately?**
-  
**Improving Health-Related Information Retention for Diabetes Self-Management Education and Support (DSMES)**
-  
**Diabetes Technology Use in Schools, Camps, and Emergency Rooms**
### WEAR RED DAY

**Exhibit Hall Hours:** 10:00 a.m.-4:00 p.m.
**Poster Hall Hours:** 7:30 a.m.-6:30 p.m.

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<tr>
<th>Immunology/Transplantation</th>
<th>Insulin Action/Molecular Metabolism</th>
<th>Integrated Physiology/Obesity</th>
<th>Islet Biology/Insulin Secretion</th>
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<tr>
<td><strong>Oral Presentations</strong></td>
<td><strong>Symposium</strong></td>
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<tr>
<td>New Insights into</td>
<td>Circadian Effects</td>
<td>Muscling in on Metabolism</td>
<td>The Resilient Beta Cell in</td>
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<td>Immunomodulatory Therapies</td>
<td>Room: W-2014</td>
<td>and Insulin Action</td>
<td>Type 2 Diabetes</td>
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<td>of Autoimmune Disorder</td>
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<td>Room: W-2001</td>
<td>Room: W-2009</td>
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<td>Lecture)</td>
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<td>Room: W-2006</td>
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**Symposium**

- **Circadian Effects**
- **Room: W-2014**

- **Muscling in on Metabolism and Insulin Action**
- **Room: W-2001**

- **The Resilient Beta Cell in Type 2 Diabetes**
- **Room: W-2009**

- **ADA Diabetes**
- **Symposium—The Alpha Cell in Full Bloom—Evidence for an Expanded Role in Metabolic Regulation**
- **Room: W-2002**

**Symposium**

- (12:00 p.m.-1:30 p.m.)
- Results and Comparisons from the RISE Clinical Trial—Adult Medication Study
- **Room: S-157**
### SUNDAY, JUNE 9, 2019—DAY-AT-A-GLANCE SCHEDULE (CONTINUED)

**Registration Hours:** 7:30 a.m.-5:00 p.m.  
**Shop Diabetes Store Hours:** 7:30 a.m.-6:45 p.m.

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</table>
| 2:15 p.m.-4:15 p.m. | **Symposium** Common Practices That Do Not Make Sense—Dilemmas in Diabetic Foot Management  
Room: S-153  
**Oral Presentations** Advances in Lipidology  
Room: S-208 | **Symposium** Extending Our Reach—Alternative Delivery Approaches for Psychosocial Care in Diabetes  
Room: S-154  
**Symposium** An Exercise Challenge—How Diabetes Impacts the Health Benefits of Exercise Training  
Room: S-203 | **Symposium** (2:15 p.m.-3:10 p.m.) Medication Adherence—What You Don’t Know Will Definitely Hurt You  
Room: W-2001  
**Symposium** Which Benefit Design and Behavioral Economic Interventions Can Be Used to Facilitate Diabetes Prevention?  
Room: S-303  
**Symposium** DECLARE-TIMI 58 Trial  
Room: W-3001  
**Symposium** (3:15 p.m.-4:15 p.m.) Too Many Patients, Too Little Time—Streamlining Practice to Care for the Patient with Diabetes  
Room: W-2001  
**Oral Presentations** Mama Mia! Here We Go Again (With Norbert Freinkel Award Lecture and ADA Presidents’ Select Abstract Presentation)  
Room: S-157 | (2:15 p.m.-3:00 p.m.) Kelly West Award for Outstanding Achievement in Epidemiology Lecture  
Room: W-2022 |
| 4:30 p.m.-6:30 p.m. | **Symposium** (4:30 p.m.-6:00 p.m.) Hypoglycemia in Special Circumstances  
Room: S-153  
**Symposium** Once-Weekly Dulaglutide and Major Cardiovascular Events—Results of the REWIND Trial  
Room: W-3001 | **Symposium** Language Matters—Improving Communication in Diabetes Care  
Room: S-203  
**Oral Presentations** Teens with Diabetes—Intervention, Assessment, and Understanding (With ADA Presidents’ Select Abstract Presentation)  
Room: S-208 | **Symposium** (4:30 p.m.-5:25 p.m.) On the Road to Automated Insulin Delivery (AID)  
Room: N-Hall E  
**Symposium** Maternal Effects on Offspring Cognitive and Neurodevelopment  
Room: S-157  
**Current Issues** (5:30 p.m.-6:30 p.m.) Should Advanced Diabetes Technology Be Used in Older Adults?  
Room: N-Hall E  
**Oral Presentations** From Risk to Complications of Type 1 Diabetes Youth—What’s New? (With ADA Presidents’ Select Abstract Presentation)  
Room: S-10 | **Symposium** Screening Populations for Genetic Risk of Diabetes and Its Complications—Where Are We Now?  
Room: W-2022 |

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### SUNDAY—DAY-AT-A-GLANCE

#### Immuno|nology/ Transplantation  
**Symposium**  
Overlap between Autoimmune Diabetes of the Adult and Type 2 Diabetes—Current Knowledge and Clinical Implications  
*Room: W-2006*

#### Insulin Action/ Molecular Metabolism  
**Oral Presentations**  
Gut Microbes, Glucose Transport, and Diabetes  
(With State-of-the-Art Lecture)  
*Room: W-2014*

#### Integrated Physiology/Obesity  
**Symposium**  
The Artificial Pancreas in 2019—First Reports of New, Large-Scale Trials and the Path Forward  
*Room: N-Hall E*

#### Islet Biology/ Insulin Secretion  
**Oral Presentations**  
New Insights into Islet Signal Transduction  
*Room: W-2002*

#### Oral Presentations  
Islet and Pancreas Transplantation  
*Room: W-2006*

#### Symposium  
mTOR Signaling in Cellular and Systemic Metabolism  
*Room: W-2014*

#### Symposium  
How Does Neuroscience Inform Our Care of Patients with Obesity?  
*Room: W-2001*

#### Oral Presentations  
Mechanisms of Hepatic and Extrahepatic Insulin Action in Humans  
*Room: W-2009*

#### Symposium  
The Excited Beta Cell—Novel Insights into Hormone Secretion  
*Room: W-2002*

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**Exhibit Hall Hours:** 10:00 a.m.-4:00 p.m.  
**Poster Hall Hours:** 7:30 a.m.-6:30 p.m.
Scientific Sessions
8:00 a.m.-10:00 a.m.

Symposium
Theme Area: Acute and Chronic Complications
What You Absolutely Need to Know about Diabetic Neuropathies to Apply Personalized Care to Your Patients in 2019
Room: S-10 (South, Exhibition Level)
Chair: Andrew J.M. Boulton, MD, DSC (Hon), FACP, FICP, FRCP
8:00 a.m.-8:30 a.m. A Step-by-Step Approach for the Busy Clinician to Diagnose Distal Symmetrical Polyneuropathy
Kara R. Mizokami-Stout, MD
8:30 a.m.-9:00 a.m. How Should the Busy Clinicians Diagnose Autonomic Neuropathy and Why Should They?
Rodica Pop-Busui, MD, PhD
9:00 a.m.-9:30 a.m. Disease Modifying Therapies for Diabetic Neuropathy—Past, Present, and Future
Mark A. Yorek, PhD
9:30 a.m.-10:00 a.m. Do Nutraceuticals (Vitamins, Medical Foods, etc.) Work in Diabetic Neuropathy?
Nikolaos Papanas, MD, PhD

Symposium
Theme Area: Acute and Chronic Complications
Joint ADA/ASN Symposium—Cardiovascular and Renal Protection in Diabetes—Beyond SGLT2 Inhibitors and GLP-1 Receptor Agonists
Room: N-Hall E (North, Exhibition Level)
Chair: Luiza Caramori, MD, MSc, PhD
8:00 a.m.-8:30 a.m. Future Outlook for Diabetic Kidney Disease—Precision Medicine Bringing Novel Agents into the Spotlight
Alice Y.Y. Cheng, MD, FRCPC
8:30 a.m.-9:00 a.m. Emergence of Novel Anti-inflammatory Agents in the Age of CANTOS—New Avenues for Reducing Cardiorenal Risk in Patients with Diabetes
Aruna Pradhan, MD, MPH, MSc
9:00 a.m.-9:30 a.m. Emergence of Novel Mineralocorticoid Receptor Antagonists in the Age of FIGARO and FIDELIO
Peter Rossing, MD, DMSc
9:30 a.m.-10:00 a.m. Uric Acid Lowering Therapy and Cardiorenal Protection in the Setting of Diabetes and Chronic Kidney Disease
Diana Jalal, MD

Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Providing Options—Using a Low-Carbohydrate or Very Low-Carbohydrate Diet with Adults with Type 1 Diabetes, Type 2 Diabetes, or Prediabetes
Room: S-203 (South, Level 2)
Chair: William S. Yancy, Jr., MD, MHS
8:00 a.m.-8:30 a.m. Using a Low-Carbohydrate or Very Low-Carbohydrate Diet with Adults with Type 1 Diabetes
Patti Urbanski, MEd, RD, LD, CDE
8:30 a.m.-9:00 a.m. Using a Low-Carbohydrate or Very Low-Carbohydrate Diet with Adults with Type 2 Diabetes
Laura Saslow, PhD
9:00 a.m.-9:30 a.m. Using a Low-Carbohydrate or Very Low-Carbohydrate Diet with Adults with Prediabetes
Jeff Volek, PhD, RD
9:30 a.m.-10:00 a.m. Panel Discussion
8:00 a.m.-10:00 a.m.
(continued)

Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
NDEP Symposium—How Do We Focus on Consensus Rather than Controversy? Guiding Principles for the Care of People with or at Risk for Diabetes
Room: S-208 (South, Level 2)
Chair: M. Sue Kirkman, MD
8:00 a.m.-8:15 a.m. Guiding Principles Through the Years
M. Sue Kirkman, MD
8:15 a.m.-8:35 a.m. Guiding Principles—Perspectives from the American Geriatric Society
Carol Mangione, MD, MSPH, FACP
8:35 a.m.-8:55 a.m. Guiding Principles—Perspectives from The Obesity Society
Scott Kahan, MD, MPH, FTOS
8:55 a.m.-9:15 a.m. Guiding Principles—A Family Medicine Perspective
Jay H. Shubrook, DO
9:15 a.m.-9:30 a.m. Guiding Principles—Closing Evidence Gaps—The CDC Perspective
Ann L. Albright, PhD, RD
9:30 a.m.-9:45 a.m. Guiding Principles—Closing Evidence Gaps—The NIDDK Perspective
Griffin Rodgers, MD, MACP, FRCP (London)
9:45 a.m.-10:00 a.m. Question and Discussion Period

Symposium
Theme Area: Clinical Diabetes/Therapeutics
Making Insulin Affordable
Room: S-157 (South, Upper Mezzanine Level)
Chair: William H. Herman, MD, MPH
8:00 a.m.-8:20 a.m. Understanding Insulin Supply Chain Dynamics as Key to Long-Term Solutions
William T. Cefalu, MD
8:20 a.m.-8:40 a.m. Solutions from a Stakeholder’s Perspective—Manufacturer
Lori Reilly, BA, JD
8:40 a.m.-9:00 a.m. Solutions from a Stakeholder’s Perspective—Pharmacy Benefit Manager
Bill Head, JD, MA
9:00 a.m.-9:20 a.m. Solutions from a Stakeholder’s Perspective—Health Plan
Katie Allen, MPH
9:20 a.m.-9:40 a.m. The Serious Impact on People with Type 1 Diabetes—Perspective from JDRF
Aaron J. Kowalski, PhD
9:40 a.m.-10:00 a.m. Panel Discussion

Symposium
Theme Area: Clinical Diabetes/Therapeutics
TrialNet—New Therapeutic Approaches and Insights for Type 1 Diabetes
Room: S-153 (South, Upper Mezzanine Level)
Chair: Carla Greenbaum, MD
8:00 a.m.-8:25 a.m. Innate Inflammation at Type 1 Diabetes Onset as a Predictor of Disease Progression and Therapeutic Responsiveness
Susanne M. Cabrera, MD
8:25 a.m.-8:45 a.m. Oral Insulin Effects on Autoantibodies
Peter Gottlieb, MD
Liping Yu, MD
8:45 a.m.-9:10 a.m. Low Dose ATG and GCSF in New-Onset Type 1 Diabetes—Two-Year Clinical Trial Outcomes
Michael J. Haller, MD
9:10 a.m.-9:40 a.m. Anti-CD3 Prevention in Stage 2 Trial Results
Kevan C. Herold, MD
9:40 a.m.-10:00 a.m. TN20—Panel Discussion
Symposium
Theme Area: Insulin Action/Molecular Metabolism
Circadian Effects
Room: W-2014 (West, Level 2)
Chair: Paul M. Titchenell, PhD
8:00 a.m.-8:20 a.m.  Circadian Rhythm and the Metabolic Syndrome
Joseph T. Bass, MD, PhD
8:20 a.m.-8:40 a.m.  Circadian Disruption and Bile Acid Signaling
David D. Moore, PhD
8:40 a.m.-9:00 a.m.  Circadian Regulation of Diurnal Insulin Secretion Capacity
Christine A. Doucette, PhD
9:00 a.m.-9:20 a.m.  Circadian Biology in Heart and Muscle
Vijay K. Yechoor, MD
9:20 a.m.-9:40 a.m.  Circadian Rhythmicity of Skeletal Muscle Metabolism and Its Role in Insulin Resistance in Humans
Patrick Schrauwen, PhD
9:40 a.m.-10:00 a.m.  Question and Discussion Period

Symposium
Theme Area: Islet Biology/Insulin Secretion
The Resilient Beta Cell in Type 2 Diabetes
Room: W-2009 (West, Level 2)
Chair: Vincent Poitout, DVM, PhD
8:00 a.m.-8:30 a.m.  Beta-Cell Recovery and Remission from Type 2 Diabetes
Michael E.J. Lean, MA, MB, BChir, MD, FRCP, FRCPS
8:30 a.m.-9:00 a.m.  The Role of cAMP Signaling in Beta-Cell Composition
Michelle E. Kimple, PhD
9:00 a.m.-9:30 a.m.  Impacts of Insulin on the Beta Cell
James D. Johnson, PhD
9:30 a.m.-10:00 a.m.  Early Life Influences on Pancreatic Beta-Cell Mass and Function
Brigid Gregg, MD

Symposium
Theme Area: Islet Biology/Insulin Secretion
ADA Diabetes Symposium—The Alpha Cell in Full Bloom—Evidence for an Expanded Role in Metabolic Regulation
Room: W-2002 (West, Level 2)
Co-Chairs: David D’Alessio, MD and Martin G. Myers, Jr., MD, PhD
8:00 a.m.-8:40 a.m.  The Hepatic Alpha-Cell Axis
Danielle Dean, PhD
8:40 a.m.-9:20 a.m.  The Cholinergic Phenotype of the Human Alpha Cell
Alejandro Caicedo, PhD
9:20 a.m.-10:00 a.m.  Glucagon Action in the Pharmacology of Diabetes
Jonathan Campbell, PhD
8:00 a.m.-10:00 a.m.

Oral Presentations
Theme Area: Clinical Diabetes/Therapeutics
Innovations in Insulin Therapy
Room: S-303 (South, Level 3)
Co-Chairs: Matthew Freeby, MD and Jeremy Pettus, MD

8:00 a.m.-8:15 a.m.
144-OR Ultra Rapid Lispro (URLi) Improves Postprandial Glucose (PPG) Control vs. Humalog (Lispro) in T1D: PRONTO-T1D Study
LESLIE J. KLASS, DACHUANG CAO, MARY A. DELLVA, JANET TOBIAN, JUNNOSUKE MIURA, DOMINIK DAHL, JULIANA M. BUE-VALLESKEY, Renton, WA, Charlotte, NC, Indianapolis, IN, Tokyo, Japan, Hamburg, Germany

8:15 a.m.-8:30 a.m.
145-OR Ultra Rapid Lispro (URLi) Improves Postprandial Glucose (PPG) Control vs. Humalog (Lispro) in Patients with Type 2 Diabetes (T2D): PRONTO-T2D
THOMAS BLEVINS, QIAN YI ZHANG, JUAN P. FRIAS, HIDEAKI JINNOUCHI, ANNETTE M. CHANG, Austin, TX, Indianapolis, IN, Los Angeles, CA, Kumamoto, Japan

8:30 a.m.-8:45 a.m.
146-OR Differences in HbA1c-Lowering Effect and Hypoglycemia Risk between Gla-300 and IDeg According to Renal Function in the BRIGHT Trial
MARTIN HALUZIK, ATHENA PHILIS-TSIMIKAS, ZSOLT BOSNYAK, DIRK MÜLLER-WIELAND, FELIPE LAUAND, SR., LYDIE MELAS-MELT, JULIO ROSENSTOCK, GEREMIA B. BOLL, Prague, Czech Republic, San Diego, CA, Paris, France, Aachen, Germany, Levallois-Perret, France, Dallas, TX, Perugia, Italy

8:45 a.m.-9:00 a.m.
147-OR DUAL VIII: Significantly Longer Time to Treatment Intensification with Insulin Degludec/Liraglutide (IDegLira) vs. Insulin Glargine (IGlar U100) in a 104-Week (Wk) Randomized Trial Mirroring Clinical Practice
VANITA R. ARODA, GUILLERMO GONZALEZ-GALVEZ, MARTIN HALUZIK, ROBERT J. SILVER, RANDI GRØN, NATALIE HALLADIN, PETRA ORS, GIORGIO SESTI, Boston, MA, Guadalajara, Mexico, Prague, Czech Republic, Nashville, NH, Søborg, Denmark, Catanaza, Italy

9:00 a.m.-9:15 a.m.
148-OR IDegLira Improves Glycemic Control in Japanese Patients with Type 2 Diabetes (T2D) Uncontrolled on Premixed Insulin Therapy
HIROTAKA WATADA, BUE F. AGNER, ANKUR DOSHI, RANDI GRØN, MATTIS F. RANTHE, LIANA K. BILLINGS, Tokyo, Japan, Seborg, Denmark, Houston, TX, Evanston, IL

9:15 a.m.-9:30 a.m.
149-OR LixiLan-G: A Randomized Trial Assessing Switching to iGlarLixi vs. Continuation of Daily or Weekly GLP-1RA in T2D Inadequately Controlled by a GLP-1RA and OAD(s)
LAWRENCE BLONDE, JULIO ROSENSTOCK, STEFANO DEL PRATO, ROBERT R. HENRY, NAIM SHEHADEH, ELISABETH NIEMOELLER, ELISABETH SOUHAMI, JUNLONG WU, XIANGLING WANG, CHEN JI, VANITA R. ARODA, New Orleans, LA, Dallas, TX, Pisa, Italy, San Diego, CA, Haifa, Israel, Frankfurt, Germany, Paris, France, Beijing, China, Boston, MA

9:30 a.m.-9:45 a.m.
150-OR BioChaperone Pramlintide Insulin (BCPramIns), a New Co-Formulation of Pramlintide (PRAM) and Human Insulin (INS), Improves Postprandial Blood Glucose (BG) vs. Both Separate Injections of PRAM+INS and Insulin Lispro (LIS) in Subjects with T1D
GREGORY MEIFFREN, CYRIL SEROUSSI, AYMERIC RANSON, RICHARD CHARVET, MARTIN GAUDIER, GRIT ANDERSEN, ERIC ZULSTRA, J. HANS DEVRIES, TIM HEISE, RÉMI SOULA, OLIVIER SOULA, Lyon, France, Neuss, Germany

9:45 a.m.-10:00 a.m.
151-OR Technosphere Insulin Provides Better Early Postprandial Glucose Control than Subcutaneous Rapid-Acting Analog
MARSHALL L. GRANT, FRANK POMPILIO, GAURAV SHARMA, JOHN A. KRUEGER, DAVID M. KENDALL, NADIA ZAVERI, Westlake Village, CA
8:00 a.m.-10:00 a.m. (continued)

**Oral Presentations**

**Theme Area: Epidemiology/Genetics**

**Diabetes Prediction and Treatment**
Room: W-2022 (West, Level 2)
Chair: Seth A. Berkowitz, MD, MPH

8:00 a.m.-8:15 a.m.

**152-OR** Changes in Consumption of Sugary Beverages and Artificially Sweetened Beverages and Risk of Type 2 Diabetes among U.S. Women and Men
JEAN-PHILIPPE DROUIN-CHARTIER, YAN ZHENG, YANPING LI, VASANTI MALIK, AN PAN, JOANN E. MANSON, WALTER C. WILLET, FRANK RU, Boston, MA, Shanghai, China, Wuhan, China

8:15 a.m.-8:30 a.m.

**153-OR** Early Progression to Diabetes or Regression to Normal Glucose Tolerance among People with Impaired Glucose Tolerance Affects Long-Term Outcomes: Thirty-Year Follow-Up of Da Qing Diabetes Prevention Study
YANYAN CHEN, PING ZHANG, JINPING WANG, QIUHONG GONG, YALI AN, EDWARD GREGG, PETER H. BENNETT, GUANGWEI LI, Beijing, China, Atlanta, GA, Daging, China, Phoenix, AZ

8:30 a.m.-8:45 a.m.

**154-OR** Metabolomic Profiling and Diabetes Risk in U.S. Hispanics/Latinos: Hispanic Community Health Study/Study of Latinos
JIN CHOUL CHAI, JUN LI, BING YU, CARMEN ISASI, TASNEEM KHAMBATY, LINDA VAN HORN, DENISE C. VIDOT, SHEILA CASTANEDA, ERIC BOERWINKLE, QIBIN QI, Bronx, NY, Boston, MA, Houston, TX, Baltimore, MD, Chicago, IL, Coral Gables, FL, San Diego, CA

8:45 a.m.-9:00 a.m.

**155-OR** Are the American Diabetes Association Screening Guidelines Appropriate for the Racial/Ethnically Diverse U.S. Population? Evidence from the Multiethnic Study of Atherosclerosis
LUIS A. RODRIGUEZ, PATRICK T. BRADSHAW, STEPHEN SHIBOSKI, ALICIA FERNANDEZ, DAVID M. HERRINGTON, JINGZHONG DING, ALKA M. KANAYA, San Francisco, CA, Berkeley, CA, Winston-Salem, NC

9:00 a.m.-9:15 a.m.

**156-OR** Risk-Benefit of SGLT2 Inhibitors (SGLT2i) vs. GLP-1 Receptor Agonists (GLP-1RA) in Routine Care of Older Adults
ELISABETTA PATORNO, DAE H. KIM, AJINKYA PAWAR, SEBASTIAN SCHNEEWEISS, ROBERT J. GLYNN, MEDHA MUNSHI, LILY G. BESSETTE, SEYOUNG C. KIM, Boston, MA

9:15 a.m.-9:30 a.m.

**157-OR** Is Metformin Associated with Frailty in Older Veterans with Diabetes?
JULIANA FERRE GUERRA, RANEEM MILYANI, RAQUEL APARICIO-UGARRIZA, AAKASHI SHAH, SRIRAVA POTLURI, PRAVALLIKA BHARATULA, WILLY VALENCIA, HERMES FLOREZ, JORGE G. RUIZ, Miami, FL

9:30 a.m.-9:45 a.m.

**158-OR** Major Adverse Cardiovascular Events for Kidney Disease Patients Treated with Metformin or Sulfonylurea
CHRISTIANNE ROUMIE, JONATHAN J. CHIPMAN, JEA YOUNG MIN, ADRIANA M. HUNGA, AMBER J. HACKSTADT, ROBERT A. GREEVY, JR., CARLOS G. GRIJALVA, TOM ELASY, MARIE R. GRIFFIN, Nashville, TN

9:45 a.m.-10:00 a.m.

**159-OR** Changes in Dairy Product Consumption and Risk of Type 2 Diabetes among U.S. Men and Women
JEAN-PHILIPPE DROUIN-CHARTIER, YANPING LI, ANDRES V. ARDISSON KORAT, MING DING, BENOIT LAMARCHE, JOANN E. MANSON, ERIC RIMM, WALTER C. WILLET, FRANK RU, Boston, MA, Brookline, MA, Quebec City, QC, Canada
Oral Presentations
Theme Area: Immunology/Transplantation
New Insights into Immunomodulatory Therapies and Biomarkers of Autoimmune Disorder (With State-of-the-Art Lecture)
Room: W-2006 (West, Level 2)
Chair: Richard David Leslie, MD

8:00 a.m.-10:00 a.m. (continued)

8:00 a.m.-8:30 a.m.
State-of-the-Art Lecture
Differential Depletion and Expansion of Autoreactive CD8+ T-Cell Subsets after Alefacept Treatment in Type 1 Diabetes
S. Alice Long, PhD

8:30 a.m.-8:45 a.m.
160-OR Pretreatment Diabetes Has Lower Mortality Rate, Independent of Immune-Related Adverse Events, in Cancer Patients with Immune-Check Point Inhibitor
KAORI HISANAGA, HIROSHI UCHINO, FUKUMI YOSHIKAWA, FUMIKA SHIGIYAMA, NAOKI KUMASHIRO, TAKAHIRO HIROSE, YASUYO ANDO, MASAKI MIYAGI, KAZUTOI ISHIBO, SAKAE HOMMA, Tokyo, Japan

8:45 a.m.-9:00 a.m.
161-OR Autoantibodies Directed to Deamidated Post-translationally Modified IA-2 Epitopes in Type 1 Diabetes
MARIA J. ACEVEDO-CALADO, SUSAN PIETROPAOLO, LI-PING YU, AARON W. MICHELS, MASSIMO PIETROPAOLO, Houston, TX, Aurora, CO

9:00 a.m.-9:15 a.m.
162-OR Identification of Autoantibodies to ZnT8 Extracellular Epitope(s) in Patients with T1D
YONG GU, CHENG-FENG MERRIMAN, JANET M. WENZLAU, LI-PING YU, DAX FU, Aurora, CO, Baltimore, MD

9:15 a.m.-9:30 a.m.
163-OR Sensitivity Analysis of Alternate Definitions of Multiple Islet Autoantibody Positivity
BIN LIU, MOHAMED GHALWASH, VIBHA ANAND, EILEEN KOSKI, KENNEY NG, JESSICA L. DUNNE, MARKUS LUNDGREN, HELENA ELIDING LARSSON, WILLIAM HAGOPIAN, RIITTA VEIJOLA, BRIGITTE I. FROHNERT, T1D STUDY GROUP, Yorktown Heights, NY, Cambridge, MA, New York, NY, Lund, Sweden, Malmö, Sweden, Seattle, WA, Oulu, Finland, Aurora, CO

9:30 a.m.-9:45 a.m.
164-OR Efficacy of New-Onset Type 1 Diabetes (T1D) Intervention Trials: Variation in 1-Year Outcomes
Oral Presentations
Theme Area: Integrated Physiology/Obesity
Muscling in on Metabolism and Insulin Action
Room: W-2001 (West, Level 2)
Chair: Matthew W. Hulver, PhD

8:00 a.m.-8:15 a.m.
165-OR The Mechanisms by Which Adiponectin Reverses Insulin Resistance in High-Fat Diet Fed Mice
XIRUO LI, DONGYAN ZHANG, RACHEL J. PERRY, DANIEL F. VATNER, LEIGH GOEDEKE, YE ZHANG, GERALD I. SHULMAN, New Haven, CT

8:15 a.m.-8:30 a.m.
166-OR AMPK-Dependent Regulation of Skeletal Muscle Mitochondrial Function by FNIP1
LIWEI XIAO, JING LIU, ZONGCHAO SUN, YUJING YIN, YAN MAO, ZHENJI GAN, Nanjing, China

8:30 a.m.-8:45 a.m.
167-OR Activation of Myocardial Mitochondria Akt1 Improved Diabetic Cardiomyopathy and Body Composition—The Heart as a Metabolic Organ
YU-HAN CHEN, ALBERT TA, HSIAOCHEN LEE, HUGO YOU-HSIEN LIN, YUMAY CHEN, PING H. WANG, Irvine, CA

8:45 a.m.-9:00 a.m.
168-OR Autophagy Improves Insulin Sensitivity by Regulating Adiponectin Secretion
KENTA KURAMOTO, CONGCONG HE, Chicago, IL

9:00 a.m.-9:15 a.m.
169-OR MondoA Mediates Myocyte Lipid Accumulation and Insulin Resistance Driven by Chronic Nutrient Excess
BYUNGYONG AHN, Philadelphia, PA

9:15 a.m.-9:30 a.m.
170-OR Tamoxifen Treatment Causes Insulin Resistance in Obese Mice
REBECCA L. SCALZO, SARA E. HULL, JANE E.B. REUSCH, PAUL MACLEAN, ELIZABETH WELLBERG, Aurora, CO, Denver, CO

9:30 a.m.-9:45 a.m.
171-OR Metformin Prevents Microvascular Insulin Resistance and Preserves Endothelial Function in High-Fat Diet-Fed Rats
JIA LIU, WEIDONG CHAI, LIYING GONG, KEVIN W. AYLOR, ZHENQI LIU, Charlottesville, VA

9:45 a.m.-10:00 a.m.
172-OR Perfusion Controls Insulin-Stimulated Glucose Uptake in Skeletal Muscle by Altering the Rate of Glucose Dispersion In Vivo
PENN MASON MCCLATCHEY, JR., IAN M. WILLIAMS, NICHOLAS A. MIGNEMI, CURTIS C. HUGHEY, OWEN P. MCGUINNESS, JOSHUA A. BECKMAN, DAVID WASSERMAN, Nashville, TN, Palo Alto, CA

ADA-Supported Research
10:15 a.m.-11:45 a.m.
President, Medicine & Science Address

*Precision Medicine—Addressing the Many Faces of Diabetes*
Louis H. Philipson, MD, PhD, FACP

*and*

Banting Medal for Scientific Achievement

*“Treasure Your Exceptions”—Studying Human Extreme Phenotypes to Illuminate Metabolic Health and Disease*
Stephen O’Rahilly, MD

Room: W-3001 (West, Level 3)

12:00 p.m.-1:00 p.m.

**Professional Interest Group Discussion**
*Theme Area: Acute and Chronic Complications*

**Why Is Heart Failure Still an Underappreciated Complication of Diabetes?**
Room: S-203 (South, Level 2)
Chair: Rodica Pop-Busui, MD, PhD
12:00 p.m.-12:30 p.m.  *Cardiovascular Complications of Diabetes*
Darren K. McGuire, MD, MHSc
12:30 p.m.-1:00 p.m.  *Question and Discussion Period*

**Professional Interest Group Discussion**
*Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise*

**The Emotional Toll of Diabetes Complications—What Have We Done for Them Lately?**
Room: S-153 (South, Upper Mezzanine Level)
Chair: Korey K. Hood, PhD
12:00 p.m.-1:00 p.m.  *Four Adults with Diabetes*
Chris Aldred
Matthew Heywood, MPH
Kerri Sparling
Ina Mendoza

**Professional Interest Group Discussion**
*Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise*

**Improving Health-Related Information Retention for Diabetes Self-Management Education and Support (DSMES)**
Room: S-10 (South, Exhibition Level)
Chair: Curtis L. Triplitt, PharmD, CDE
12:00 p.m.-12:15 p.m.  *The Science of Learning—Demystifying Memory, Retention, and Behavior Change*
Nuha Ali El Sayed, MD
12:15 p.m.-12:30 p.m.  *Practical Application to Your DSMES*
Barb Schreiner, PhD, APRN, CDE, BC-ADM
12:30 p.m.-12:45 p.m.  *The Secrets to Delivering More Effective Education—Innovative Techniques to Drive Positive Outcomes*
Jennifer LeBlanc, BSN, RN, CDE
12:45 p.m.-1:00 p.m.  *Question and Discussion Period*
Professional Interest Group Discussion
Theme Area: Clinical Diabetes/Therapeutics
Diabetes Technology Use in Schools, Camps, and Emergency Rooms
Room: S-154 (South, Upper Mezzanine Level)
Chair: Henry Rodriguez, MD
12:00 p.m.-12:20 p.m.  *Diabetes Technology in Schools*
                        Anastasia Albanese-O’Neill, PhD, APRN, CDE
12:20 p.m.-12:40 p.m.  *Diabetes Technology at Camps*
                        Lowell Schmeltz, MD, FACE
12:40 p.m.-1:00 p.m.  *Diabetes Technology in Emergency Rooms and Inpatient Settings*
                        Jamie Wood, MD
12:00 p.m.-1:00 p.m.  
(continued)

General Poster Session

Poster Hall (Hall F, North, Exhibition Level)

All posters will be displayed Saturday, Sunday, and Monday. Poster presenters in the following categories will be at their posters during this period for questions and discussion with attendees.

Presented Categories

**Theme Area: Acute and Chronic Complications Complications—Hypoglycemia**  
Posters: 367-P to 403-P

**Theme Area: Acute and Chronic Complications Complications—Neuropathy**  
Posters: 551-P to 582-P

**Theme Area: Acute and Chronic Complications Foot Care—Lower Extremities**  
Posters: 621-P to 646-P

**Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise Exercise**  
Posters: 718-P to 752-P

**Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise Nutrition—Clinical**  
Posters: 753-P to 799-P

**Theme Area: Clinical Diabetes/Therapeutics Clinical Therapeutics/New Technology—Incretin-Based Therapies**  
Posters: 980-P to 1035-P

**Theme Area: Clinical Diabetes/Therapeutics Clinical Therapeutics/New Technology—Insulin Delivery Systems**  
Posters: 1036-P to 1083-P

**Theme Area: Clinical Diabetes/Therapeutics Clinical Therapeutics/New Technology—Other Therapeutic Agents**  
Posters: 1116-P to 1190-P

**Theme Area: Clinical Diabetes/Therapeutics Clinical Therapeutics/New Technology—SGLT Inhibitors**  
Posters: 1191-P to 1233-P

**Theme Area: Clinical Diabetes/Therapeutics Health Care Delivery—Economics/Quality Improvement**  
Posters: 1234-P to 1315-P

**Theme Area: Clinical Diabetes/Therapeutics Pregnancy—Basic Science/Translational**  
Posters: 1385-P to 1396-P

**Theme Area: Clinical Diabetes/Therapeutics Pregnancy—Clinical/Epidemiology**  
Posters: 1397-P to 1437-P

**Theme Area: Clinical Diabetes/Therapeutics Integrated Physiology/Central Nervous System Regulation of Metabolism**  
Posters: 1792-P to 1824-P

**Theme Area: Clinical Diabetes/Therapeutics Integrated Physiology—Insulin Secretion In Vivo**  
Posters: 1825-P to 1842-P

**Theme Area: Clinical Diabetes/Therapeutics Integrated Physiology—Liver**  
Posters: 1843-P to 1909-P

**Theme Area: Clinical Diabetes/Therapeutics Integrated Physiology—Macronutrient Metabolism and Food Intake**  
Posters: 1910-P to 1927-P

**Theme Area: Clinical Diabetes/Therapeutics Integrated Physiology—Muscle**  
Posters: 1928-P to 1947-P

**Theme Area: Clinical Diabetes/Therapeutics Integrated Physiology—Other Hormones**  
Posters: 1948-P to 1984-P

**Theme Area: All Categories Late Breaking Posters**  
Posters: 1-LB to 347-LB
12:00 p.m.-1:00 p.m.
(continued)

中介机构poster discussions

Poster Hall (Hall F, North, Exhibition Level)

Continuing Education Credit is not awarded for Moderated Poster Discussions.

Explore the Poster Hall with a Moderated Poster Discussion. Poster presenters will share their perspectives and highlight novel or recent developments in question and answer discussions with session moderators.

Follow the steps below to attend a Moderated Poster Discussion:

- Identify the discussion you are interested in attending from the schedule listed below
- Note the location of the discussion. Discussions will start at the first poster board number in the discussion
- Proceed to the location of the discussion at least 5 minutes before the start

There is no required sign-up to attend a discussion, however space and equipment is available on a first-come, first-served basis.

Presented Discussions

Theme Area: Epidemiology/Genetics
Cardiovascular Outcomes
Posters: 1456-P to 1461-P
Location: Poster Hall (First poster in discussion)
Moderator: Morgana Mongraw-Chaffin, PhD, MPH

Theme Area: Epidemiology/Genetics
Prediction of Diabetes
Posters: 1488-P to 1493-P
Location: Poster Hall (First poster in discussion)
Moderator: Iva Miljkovic, MD, PhD

Theme Area: Epidemiology/Genetics
Diabetes Complications
Posters: 1535-P to 1539-P
Location: Poster Hall (First poster in discussion)
Moderator: Alexandra K. Lee, PhD, MSPH

Theme Area: Epidemiology/Genetics
Nutritional Epidemiology of Diabetes
Posters: 1571-P to 1576-P
Location: Poster Hall (First poster in discussion)
Moderator: Meghana D. Gadgil, MD

Theme Area: Epidemiology/Genetics
Prediction and Incidence of Diabetes
Posters: 1588-P to 1593-P
Location: Poster Hall (First poster in discussion)
Moderator: Rozalina G. McCoy, MD, MS

Theme Area: Immunology/Transplantation
Immunometabolism of Diabetes
Posters: 1726-P to 1731-P
Location: Poster Hall (First poster in discussion)
Moderator: Sean M. Hartig, PhD

Theme Area: Islet Biology/Insulin Secretion
Beta-Cell Development and Mass
Posters: 2139-P to 2144-P
Location: Poster Hall (First poster in discussion)
Moderator: Jason Spaeth, PhD

Theme Area: Islet Biology/Insulin Secretion
Mechanisms Regulating Insulin Secretion
Posters: 2161-P to 2166-P
Location: Poster Hall (First poster in discussion)
Moderator: Hirotaka Watada, MD, PhD

Theme Area: Islet Biology/Insulin Secretion
Signal Transduction in the Islet
Posters: 2183-P to 2188-P
Location: Poster Hall (First poster in discussion)
Moderator: Zhe Liu, PhD
12:00 p.m.-1:00 p.m.  
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Exhibit Hall (Halls A-C, South, Exhibition Level)

*Continuing Education Credit is not awarded for ePoster Theater Sessions.*

Poster presenters will display a digital poster of their work that will include a high-level overview of the poster findings in an open discussion with the session moderator.

Follow the steps below to attend an ePoster Theater Session:

- Identify which session you are interested in attending from the schedule listed below
- Discussions will take place in one of two ePoster Theaters located within the Exhibit Hall (booth 933)
- Proceed to the location of the session at least 5 minutes before the start

*Seating is limited and available on a first come, first-served basis.*

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<tr>
<th>Theme Area: Clinical Diabetes/Therapeutics</th>
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<td><em>Advances in Glucose Monitoring</em></td>
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<tr>
<td>Moderator: Marconi Abreu, MD</td>
<td>Moderator: Sadia Ali, MD</td>
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12:00 p.m.-1:30 p.m.

**Symposium**

*Theme Area: Integrated Physiology/Obesity*

**Results and Comparisons from the RISE Clinical Trial—Adult Medication Study**

Room: S-157 (South, Upper Mezzanine Level)

Chair: Rita Basu, MD

12:00 p.m.-12:15 p.m.  
*Rationale, Trial Design, Statistical Approach*  
David A. Ehrmann, MD

12:15 p.m.-12:35 p.m.  
*Baseline Characteristics, Primary Outcomes*  
Kieren J. Mather, MD

12:35 p.m.-12:50 p.m.  
*Secondary Outcomes*  
Sharon Edelstein, ScM

12:50 p.m.-1:10 p.m.  
*Adult vs. Youth Comparisons*  
Steven E. Kahn, MB, ChB

1:10 p.m.-1:30 p.m.  
*Panel Discussion*  
Sonia Caprio, MD  
Thomas A. Buchanan, MD  
Steven E. Kahn, MB, ChB

1:00 p.m.-2:00 p.m.

**Session Break**

Take this opportunity to visit the Exhibit and Poster Halls

2:15 p.m.-3:00 p.m.

**Kelly West Award for Outstanding Achievement in Epidemiology Lecture**

Supported by an unrestricted educational grant from Merck

*Improving Outcomes—Translating Epidemiology to Clinical Trials*  
Elizabeth J. Mayer-Davis, PhD

Room: W-2022 (West, Level 2)

2:15 p.m.-3:10 p.m.

**Symposium**

*Theme Area: Clinical Diabetes/Therapeutics*

**Medication Adherence—What You Don’t Know Will Definitely Hurt You**

Room: W-2001 (West, Level 2)

Chair: Athena Philis-Tsimikas, MD

2:15 p.m.-2:30 p.m.  
Niteesh K. Choudhry, MD, PhD

2:30 p.m.-2:45 p.m.  
*Measuring Medication Adherence from the Clinic to the Health System—How to Measure Adherence*  
Kristin S. Alvarez, PharmD, BCPS

2:45 p.m.-3:05 p.m.  
*Identifying and Overcoming Barriers to Medication Adherence through Effective Strategies, Tools, and Technologies*  
Lawrence Garber, MD

3:05 p.m.-3:10 p.m.  
*Question and Discussion Period*
2:15 p.m.-4:15 p.m.

Symposium
Theme Area: Acute and Chronic Complications
Common Practices That Do Not Make Sense—Dilemmas in Diabetic Foot Management
Room: S-153 (South, Upper Mezzanine Level)
Chair: Lawrence B. Harkless, DPM
2:15 p.m.-2:45 p.m. It Is Not What You Put on the Wound but What You Take Off—Offloading the Neuropathic Ulcer
Paul J. Kim, DPM, MS
2:45 p.m.-3:15 p.m. The Culture of Culturing—What Are the Best Practices of Culturing a Wound or Infection?
Chetan Jinadatha, MD, MPH
3:15 p.m.-3:45 p.m. Antibiotics Are for Infections, Not for Healing Wounds
Kavita Bhavan, MD
3:45 p.m.-4:15 p.m. Need to Debride until It Bleeds—The Art and Science of Tissue Debridement
Crystal Murray Holmes, DPM, CWSP

Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Extending Our Reach—Alternative Delivery Approaches for Psychosocial Care in Diabetes
Room: S-154 (South, Upper Mezzanine Level)
Chair: Danielle M. Hessler, PhD
2:15 p.m.-2:35 p.m. Transdisciplinary Care for Teens with Diabetes
Melissa A. Alderfer, PhD
2:35 p.m.-2:55 p.m. Collaborative Care Interventions for Working in Fee-for-Service and Value-Based Settings
Paul S. Ciechanowski, MD, MPH
2:55 p.m.-3:15 p.m. Web Tech Patient-Centered Behavior Change Strategies in Diabetes
Garry Welch, PhD
3:15 p.m.-3:35 p.m. Intervention Targeting Social Determinants of Health for Youth Experiencing Repeat Diabetic Ketoacidosis
Diana Naranjo, PhD
3:35 p.m.-3:55 p.m. Videoconferencing for Medication Management in Persons with Diabetes and Mental Health Conditions
Thomas E. Buckley, MPH, RPh, FNAP
3:55 p.m.-4:15 p.m. Question and Discussion Period

Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
An Exercise Challenge—How Diabetes Impacts the Health Benefits of Exercise Training
Room: S-203 (South, Level 2)
Chair: John P. Thyfault, PhD
2:15 p.m.-2:45 p.m. Is Impaired Blood Flow Responsible for Low Aerobic Capacity in Diabetes?
Jane E.B. Reusch, MD
2:45 p.m.-3:15 p.m. Individual Variation in Blood Glucose Responses with Exercise in Diabetes
Thomas P.J. Solomon, PhD
3:15 p.m.-3:45 p.m. The Variable Mitochondrial Response to Exercise with Diabetes
Christopher G. Perry, PhD
3:45 p.m.-4:15 p.m. How Hyperglycemia Impacts Exercise-Induced Signal Transduction in Muscle
Sarah J. Lessard, PhD
2:15 p.m.-4:15 p.m. (continued)

**Symposium**  
*Theme Area: Clinical Diabetes/Therapeutics*  
Which Benefit Design and Behavioral Economic Interventions Can Be Used to Facilitate Diabetes Prevention?  
Room: S-303 (South, Level 3)  
Chair: Ann L. Albright, PhD, RD

2:15 p.m.-2:45 p.m.  
**Innovations in Insurance Benefit Design to Prevent Diabetes**  
Deneen Vojta, MD

2:45 p.m.-3:15 p.m.  
**Behavioral Economic Strategies to Improve Patient Engagement**  
Jeffrey T. Kullgren, MS, MD, MPH

3:15 p.m.-3:45 p.m.  
**Using Behavioral Economics to Promote Healthy Food Choices**  
Anne N. Thorndike, MD, MPH

3:45 p.m.-4:15 p.m.  
**How Can Diabetes Prevention Programs Be Made More Effective?**  
Ronald T. Ackermann, MD, MPH

**Symposium**  
*Theme Area: Clinical Diabetes/Therapeutics*  
DECLARE-TIMI 58 Trial  
Room: W-3001 (West, Level 3)  
Chair: Itamar Raz, MD

2:15 p.m.-2:30 p.m.  
**DECLARE-TIMI 58 Trial Rationale, Design, Outcome Selection, Baseline Characteristics, and Effect on Cardiovascular Risk Factors**  
Itamar Raz, MD

2:30 p.m.-2:45 p.m.  
**Primary and Secondary Outcomes—Dapagliflozin Effect on the Cardiovascular System**  
Stephen D. Wiviott, MD, FACC

2:45 p.m.-2:55 p.m.  
**Question and Discussion Period**

2:55 p.m.-3:10 p.m.  
**Subgroup Analyses—Multiple Risk Factors vs. Established Cardiovascular Disease**  
John P. Wilding, DM, FRCP

3:10 p.m.-3:25 p.m.  
**Renal Outcomes**  
Ofri Mosenzon, MD, MSc

3:25 p.m.-3:35 p.m.  
**Question and Discussion Period**

3:35 p.m.-3:50 p.m.  
**Diabetes Safety and Side Effects**  
Lawrence A. Leiter, MD, FRCPC, FACP, FACE, FAHA, FACC

3:50 p.m.-4:05 p.m.  
**Discussion of SGLT2 Inhibitors in Context of New Guidelines**  
Itamar Raz, MD

4:05 p.m.-4:15 p.m.  
**Question and Discussion Period**

**Symposium**  
*Theme Area: Immunology/Transplantation*  
Overlap between Autoimmune Diabetes of the Adult and Type 2 Diabetes—Current Knowledge and Clinical Implications  
Room: W-2006 (West, Level 2)  
Co-Chairs: Paolo Pozzilli, MD and Richard E. Pratley, MD

2:15 p.m.-2:45 p.m.  
**Autoimmune Diabetes in Adults—Current Evidence and Controversies**  
Richard David Leslie, MD

2:45 p.m.-3:15 p.m.  
**Immune Cells, Cytokines, and Beta-Cell Dysfunction in Autoimmune Diabetes and Type 2 Diabetes**  
Marc Y. Donath, MD

3:15 p.m.-3:45 p.m.  
**Islet-Specific T-Cell Responses in Phenotypic Type 2 Diabetic Patients**  
Barbara Brooks-Worrell, PhD

3:45 p.m.-4:15 p.m.  
**Question and Discussion Period**
2:15 p.m.-4:15 p.m.
(continued)

Symposium
Theme Area: Integrated Physiology/Obesity
The Artificial Pancreas in 2019—First Reports of New, Large-Scale Trials and the Path Forward
Room: N-Hall E (North, Exhibition Level)
Chair: Boris Kovatchev, PhD
2:15 p.m.-2:45 p.m. The International Diabetes Closed-Loop (IDCL) Trial—Clinical Acceptance of the Artificial Pancreas
Sue A. Brown, MD
2:45 p.m.-3:15 p.m. Multicenter Assessment of the Efficacy of Closed-Loop Insulin Therapy on the Control of Type 1 Diabetes in Prepubertal Children—Comparison between Nocturnal and 24-Hour Use During 18 Weeks of Home Use
Eric Renard, MD, PhD
3:15 p.m.-3:45 p.m. Meeting the Challenge of Post-Meal Glycemic Control—New Generation Insulins for the Closed-Loop System
Eda Cengiz, MD, MHS
3:45 p.m.-4:15 p.m. Clinical Testing of Adaptation Strategies for a Personalized Artificial Pancreas
Francis J. Doyle III, PhD

3:15 p.m.-4:15 p.m.

Symposium
Theme Area: Clinical Diabetes/Therapeutics
Too Many Patients, Too Little Time—Streamlining Practice to Care for the Patient with Diabetes
Room: W-2001 (West, Level 2)
Chair: Luigi Meneghini, MD, MBA
3:15 p.m.-3:35 p.m. Redesigning Practice to Improve Patient Satisfaction and Reducing No-Show Rates and Cancellations
Emmanuel V. Dalavai, Exec. DBA, MTM, SCPM
3:35 p.m.-3:55 p.m. Maximizing the Effectiveness of the Patient Visit
Uma Gunasekaran, MD
3:55 p.m.-4:10 p.m. Models to Meet the Challenge of Diabetes Supply and Demand
Linda M. Siminerio, RN, PhD, CDE
4:10 p.m.-4:15 p.m. Question and Discussion Period
2:15 p.m.-4:15 p.m.

Oral Presentations

Theme Area: Acute and Chronic Complications

Advances in Lipidology

Room: S-208 (South, Level 2)
Chair: Savitha Subramanian, MD

2:15 p.m.-2:30 p.m.

173-OR Effects of Mild Acute Hypertriglyceridemia on Fasting and Post-Load Glucose Homeostasis
DOMENICO TRICO, ALESSANDRO MENGozzi, MARTA SEGHERI, ANDREA MARI, ANDREA NATALI, Pisa, Italy, Padova, Italy

2:30 p.m.-2:45 p.m.

174-OR Dorsal Vagal Complex Is a Site for Brain Lipid Sensing to Regulate Lipid Homeostasis
BATTSETSEG BATCHULUUN, T.M. ZAVED WAISE, JESSICA T. YUE, TONY K. LAM, Toronto, ON, Canada, Edmonton, AB, Canada

2:45 p.m.-3:00 p.m.

175-OR Effect of Alirocumab in Individuals with Type 2 Diabetes and High Triglycerides and Low High-Density Lipoprotein Cholesterol
HELEN M. COLHOUN, LAWRENCE A. LEITER, DIRK MÜLLER-WIELAND, BERTRAND CARIOU, KAUSIK K. RAY, FRANCISCO TINAHONES, CATHERINE DOMENGER, ALEXIA LETIERCE, MARC ISRAEL, STEFANO DEL PRATO, Edinburgh, United Kingdom, Toronto, ON, Canada, Aachen, Germany, Nantes, France, London, United Kingdom, Málaga, Spain, Gentilly, France, Chilly-Mazarin, France, Tarrytown, NY, Pisa, Italy

3:00 p.m.-3:15 p.m.

176-OR ApoC3 Related with Postprandial Hyperlipidemia Independently of ANGPTL3 and ANGPTL4 in Type 2 Diabetes
SATOSHI GOTO, TOSHIYUKI HAYASHI, HIROE NAGAIKE, HIDEKI KUSHIMA, MUNENORI HIROMURA, MAKOTO OHARA, TAKESHI YAMAMOTO, YUSAKU MORI, TOMOYASU FUKUI, TSUTOMU HIRANO, Tokyo, Japan

3:15 p.m.-3:30 p.m.

177-OR Genome-Wide Association Study of Lipid Traits in Youth with Type 2 Diabetes: The ProDiGY (Progress in Diabetes Genetics in Youth) Consortium

3:30 p.m.-3:45 p.m.

178-OR Long-Term Treatment with Injectable Testosterone Undecanoate (TU) Improves Lipid Profile in Men with Hypogonadism and Type 2 Diabetes in Comparison to an Untreated Control Group: Ten-Year Data from a Urological Registry Study
FARID SAAD, KARIM S. HAIDER, AHMAD HAIDER, Berlin, Germany, Bremerhaven, Germany

3:45 p.m.-4:00 p.m.

179-OR Low-Dose Dihydrotestosterone Lowers Lipogenic Master Regulator in Liver and Adipose Tissue from Female Mice
STANLEY ANDRISSE, Washington, DC

4:00 p.m.-4:15 p.m.

180-OR Tissue-Specific Functions of PPARα Overexpression in Liver, Adipose, and Pancreatic β Cells
RISHENG YE, PHILIPP E. SCHERER, El Paso, TX, Dallas, TX
2:15 p.m.-4:15 p.m.  
(continued)

Oral Presentations  
Theme Area: Clinical Diabetes/Therapeutics

Mama Mia! Here We Go Again (With Norbert Freinkel Award Lecture and ADA Presidents’ Select Abstract Presentation)  
Room: S-157 (South, Upper Mezzanine Level)  
Chair: Rebecca A. Simmons, MD

2:15 p.m.-2:45 p.m.  
Norbert Freinkel Award Lecture  
Translating Research on Diabetes and Obesity in Pregnancy into Prevention  
Assiamira Ferrara, MD, PhD

2:45 p.m.-3:00 p.m.  
181-OR  ADA Presidents’ Select Abstract Presentation: Fox01 Deficiency Impedes Beta-Cell Compensation for Maternal Insulin Resistance and Causes Gestational Diabetes in Female Mice  
JUN YAMAUCHI, TING ZHANG, SOJIN LEE, H. HENRY DONG, Pittsburgh, PA

3:00 p.m.-3:15 p.m.  
182-OR  Maternal Glucose and Insulin Are Associated with Lipid Metabolism and Adipogenesis Pathways in Human Umbilical Cord-Derived Mesenchymal Stem Cells: The Healthy Start Echo Cohort  
MADELINE KELEHER, DANA DABELEA, JACOB E. FRIEDMAN, KRISTEN E. BOYLE, Aurora, CO, Oklahoma City, OK

3:15 p.m.-3:30 p.m.  
183-OR  Placental Growth Factor and Fetal Growth in Women with Type 1 Diabetes Mellitus  
SIOBHAN BACON, DYLAN BURGER, MAYUR TAILOR, GEORGE A. TOMLINSON, HELEN R. MURPHY, DENICE FEIG, Toronto, ON, Canada, Ottawa, ON, Canada, Kanata, ON, Canada, Norwich, United Kingdom

3:30 p.m.-3:45 p.m.  
184-OR  In Utero Exposure to Gestational Diabetes Alters the Transcriptome and Methylome of Human Fetal Stem Cells Revealing an Enrichment of Interferon Related Pathways  
SARA E. PINNEY, APOORVA JOSHI, VICTORIA YIN, SO WON MIN, DAVID E. CONDON, ZHIPING WANG, Philadelphia, PA, Sioux Falls, SD

3:45 p.m.-4:00 p.m.  
185-OR  Effects of Exposure to Maternal Obesity In Utero on White Matter Connections between the Hypothalamus and Hippocampus in Children  
KATHLEEN A. PAGE, SHAN LUO, TING CHOW, RYAN PAYNE CABEEN, KRISTI CLARK, JASMIN ALVES, MAYRA P. MARTINEZ, THOMAS A. BUCHANAN, ANNY XIANG, Los Angeles, CA, Pasadena, CA

4:00 p.m.-4:15 p.m.  
186-OR  Plasma Glycated CD59 (pGCD59) Predicts Early Gestational Diabetes (GDM) and Abnormal Neonatal Outcomes: DALI Study Secondary Analysis  
JOSE HALPERIN, DONGDONG MA, MIGUEL A. LUQUE-FERNANDEZ, DELIA BOGDANET, GERNOT DESOYE, FIDELMA P. DUNNE, ON BEHALF OF DALI STUDY, Boston, MA, London, United Kingdom, Galway, Ireland, Graz, Austria

△ ADA-Supported Research
2:15 p.m.-4:15 p.m.  
(continued)

Oral Presentations  
Theme Area: Insulin Action/Molecular Metabolism  
Gut Microbes, Glucose Transport, and Diabetes (With State-of-the-Art Lecture)  
Room: W-2014 (West, Level 2)  
Chair: Matthew J. Potthoff, PhD

2:15 p.m.-2:45 p.m.  
State-of-the-Art Lecture  
**Gut Microbes and Diabetes**  
Jongsoon Lee, PhD

2:45 p.m.-3:00 p.m.  
187-OR  
*Gut Microbiota Regulate Pancreatic Growth, Exocrine Function, and Gut Hormones*  
EMRAH ALTINDIS, MARION SOTO, LUCIE ORLIAGUET, QIAN HUANG, CARLY CEDEROQUIST, ERCUMEN DIRICE, SHIHO FUJISAKA, JIANG HU, ROHIT KULKARNI, C. RONALD KAHN, Chestnut Hill, MA, Boston, MA, Toyama, Japan

3:00 p.m.-3:15 p.m.  
188-OR  
*Partial Depletion of CD206 M2-Like Macrophages Enhances Preadipocyte Differentiation via Reduction of Wnt Signaling*  
ALLAH NAWAZ, TAKASHI NAKAGAWA, HAJIME KAGAYA, SHIHO FUJISAKA, KAZUYUKI TOBE, KEISUKE OKABE, TOMONOBU KADO, JIANHUI LIU, MUHAMMAD BILAL, Toyama, Japan

3:15 p.m.-3:30 p.m.  
189-OR  
*Plasma Proteome Profiling of Prediabetes and Diabetes Progression: An IMI Direct Study*  
MUN-GWAN HONG, ANA VINUELA, RAGNA S. HÄUSSLER, MATILDA DALE, ROBERT W. KOIVULA, JUAN FERNANDEZ-TAJES, ANUBHA MAHAJAN, ROBERTO BIZZOTTO, ANDREA MARI, EMMANOUIL DERMITZAKIS, MARK MCCARTHY, PAUL W. FRANKS, EWAN PEARSON, JOCHEN M. SCHWENK, Solna, Sweden, Geneva, Switzerland, Oxford, United Kingdom, Padova, Italy, Malmö, Sweden, Dundee, United Kingdom

3:30 p.m.-3:45 p.m.  
190-OR  
*Weight-Loss after Exercise Increases Non-Insulin-Dependent Glucose Clearance in Adults with Metabolic Syndrome*  
ADITHYA HARI, CHRISTOPHER L. AXELROD, JACOB T. MEY, JOHN P. KIRWAN, Cleveland, OH, Baton Rouge, LA

3:45 p.m.-4:00 p.m.  
191-OR  
*New Regulators of Insulin-Stimulated GLUT4 Exocytosis*  
JINGSHI SHEN, Boulder, CO

4:00 p.m.-4:15 p.m.  
192-OR  
*A CRISPR Screen Identifies Rfwd2 as a Regulator of Brown Fat Glucose Transport*  
MATTHEW LYNES, QIAN HUANG, PENG YI, YU-HUA TSENG, Boston, MA
Oral Presentations
Theme Area: Islet Biology/Insulin Secretion
New Insights into Islet Signal Transduction
Room: W-2002 (West, Level 2)
Chair: Brian T. Layden, MD, PhD

2:15 p.m.-4:15 p.m.
(continued)

2:15 p.m.-2:30 p.m.
193-OR Glycemic Control via Glucagon Modulation by a Novel Brown Adipose Peptide Hormone
DAVID W. PISTON, ALESSANDRO USTIONE, SUBHADRA C. GUNAWARDANA, JING HUGHES, St. Louis, MO

2:30 p.m.-2:45 p.m.
194-OR A Versatile Platform for Intravital Imaging of Biosensor-Labelled Beta Cells In Situ
CHRISTOPHER A. REISSAUSS, SARAH A. TERSEY, KEN W. DUNN, AMELIA K. LINNEMANN, RAGHAVENDRA MIRMIRA, Indianapolis, IN

2:45 p.m.-3:00 p.m.
195-OR The P66Shc Protein Mediates Insulin Resistance in Pancreatic β Cells Under Lipotoxic Conditions
LUCIA DIPAOLA, ANNALISA NATALICCHIO, GIUSEPPINA BIONDI, NICOLA MARRANO, MARCO BUGLIANI, ANGELO CIGNARELLI, SEBASTIO PERRINI, PIERO MARCHETTI, LUIGI LAVIOLA, FRANCESCO GIORGINO, Bari, Italy, Pisa, Italy

3:00 p.m.-3:15 p.m.
196-OR Pharmacological Modulation of Prostaglandin E2 Receptor Activity Enhances β-Cell Mass in a Mouse Model of Type 2 Diabetes and Human Islets
SPENCER R. ANDREI, JENNIFER C. DUNN, ASHLEY A. CHRISTENSEN, VALERIE F. RICCIARDI, WILLIAM A. PACE, RICHARD M. BREYER, MAUREEN GANNON, Nashville, TN

3:15 p.m.-3:30 p.m.
197-OR IL-6 Protects Pancreatic β Cells from Oxidative Stress via NRF2 Mitochondrial Translocation and Mitophagy
MICHELLE MARASCO, ABASS M. CONTEH, CHARANYA MURALIDHARAN, ELIZABETH PFEIFER, AMELIA K. LINNEMANN, Indianapolis, IN

3:30 p.m.-3:45 p.m.
198-OR Role for the Cationic Amino Acid Transporter Slc7a2 in Alpha-Cell Proliferation and Islet Hormone Secretion
ERICK SPEARS, MATTHEW SHOU, WALTER A. SIV, CHUNHUA DAI, WENBIAO CHEN, ALVIN C. POWERS, DANIELLE DEAN, Nashville, TN

3:45 p.m.-4:00 p.m.
199-OR Time-Restricted Feeding Ameliorates Metabolic Dysfunction through the Restoration of Circadian Beta-Cell Function and Transcriptional Identity
MATTHEW BROWN, TRACY K. HER, ALEKSEY MATVEYENKO, Rochester, MN

4:00 p.m.-4:15 p.m.
200-OR Role of Delta Cell Gpr120 in the Regulation of Islet Function and Glucose Control
MARINE L. CROZE, SABRINA GRANZIERA, KEVIN VIVOT, ANAIS SZPIGEL, JULIEN GHISLAIN, VINCENT POITOUT, Montreal, QC, Canada, Montpellier, France
**Symposium**  
*Theme Area: Clinical Diabetes/Therapeutics*  
**On the Road to Automated Insulin Delivery (AID)**  
Room: N-Hall E (North, Exhibition Level)  
Co-Chairs: Stacey Anderson, MD and Lawrence Blonde, MD, FACP, MACE  

**4:30 p.m.-5:25 p.m.**  
**Performance Attributes of Pumps, Sensors, and Decision Support Required for AID**  
Timothy S. Bailey, MD, FACE, FACP, CPI  
**Recent and Future Advances in Artificial Pancreas Development**  
Jennifer B. Green, MD  
**Question and Discussion Period**

**Symposium**  
*Theme Area: Acute and Chronic Complications*  
**Hypoglycemia in Special Circumstances**  
Room: S-153 (South, Upper Mezzanine Level)  
Chair: Belinda P. Childs, APRN, MN, BC-ADM, CDE  

**4:30 p.m.-5:00 p.m.**  
**Exercise**  
Michael Riddell, PhD  
**After Metabolic Surgery**  
Mary-Elizabeth Patti, MD  
**Inpatients**  
Robert J. Rushakoff, MD

**Symposium**  
*Theme Area: Acute and Chronic Complications*  
**Once-Weekly Dulaglutide and Major Cardiovascular Events—Results of the REWIND Trial**  
Room: W-3001 (West, Level 3)  
Co-Chairs: Prem Pais, MBBS, MD and Denis Xavier, MD, MSc  

**4:30 p.m.-4:35 p.m.**  
**Introduction and Research Question**  
Gilles R. Dagenais, MD  
**Background, Design, and Outcomes**  
Rafael Diaz, MD  
**Participants and Follow-Up**  
Matthew C. Riddle, MD  
**Cardiovascular Outcomes**  
Hertzel C. Gerstein, MD, MSc, FRCPC  
**Renal Outcomes**  
Helen Colhoun, MD  
**Safety**  
Jeffrey L. Probstfield, MD  
**Summary and Implications**  
Lars Rydén, MD, PhD  
**Independent Commentary**  
Sophia Zoungas, MBBS (Hons), PhD, FRACP
4:30 p.m.-6:30 p.m.
(continued)

**Symposium**
*Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise*

**Language Matters—Improving Communication in Diabetes Care**
Room: S-203 (South, Level 2)
Chair: Jane K. Kadohiro, DrPH, APRN, CDE, FAADE

4:30 p.m.-5:00 p.m.  *Language Matters—A Health Care Professional’s Perspective*
Jane K. Dickinson, RN, PhD, CDE

5:00 p.m.-5:30 p.m.  *Language Matters—Perspectives from a Person Living with Diabetes*
Joe Solowiejczyk, RN, MSW, CDE

5:30 p.m.-6:00 p.m.  *The Role of the Clinician in Dismantling “Diabetes Stigma”*
Kevin Joiner, PhD, APRN, ANP-BC, CDE

6:00 p.m.-6:30 p.m.  *Strategies to Improve Communication between Patient and Provider*
Jane Speight, MSc, PhD, CPsychol, FBPsS

**Symposium**
*Theme Area: Clinical Diabetes/Therapeutics*

**Maternal Effects on Offspring Cognitive and Neurodevelopment**
Room: S-157 (South, Upper Mezzanine Level)
Chair: Kathleen A. Page, MD

4:30 p.m.-4:55 p.m.  *Effect of Maternal Diabetes on Autism Spectrum Disorders and ADHD Risk in Offspring, Epidemiology*
Anny Xiang, PhD

4:55 p.m.-5:20 p.m.  *Does Maternal Type 1 Diabetes Mellitus Lower Cognitive Function in Offspring?*
Peter Damm, MD, DMSc

5:20 p.m.-5:45 p.m.  *The Effect of Maternal Immune Activation on Early Brain Development and Cognition in Offspring (Human)*
Marisa N. Spann, PhD, MPH

5:45 p.m.-6:10 p.m.  *Maternal Nutrition Effects on Behavioral and Cognitive Outcomes (Nonhuman Primate)*
Elinor L. Sullivan, PhD

6:10 p.m.-6:30 p.m.  *Question and Discussion Period*

**Symposium**
*Theme Area: Epidemiology/Genetics*

**Screening Populations for Genetic Risk of Diabetes and Its Complications—Where Are We Now?**
Room: W-2022 (West, Level 2)
Chair: Stephen S. Rich, PhD

4:30 p.m.-5:00 p.m.  *Identifying People at Risk for Type 1 Diabetes*
Anette-Gabriele Ziegler, MD

5:00 p.m.-5:30 p.m.  *TrialNet’s Approach to Identifying Early Stage Type 1 Diabetes*
Carla Greenbaum, MD

5:30 p.m.-6:00 p.m.  *Using Genetics to Distinguish Type 1 Diabetes, Type 2 Diabetes, and Monogenic Diabetes*
Kashyap A. Patel, MRCP, PhD

6:00 p.m.-6:30 p.m.  *Predicting Risk for Chronic Kidney Disease—The APOL1 Story*
Barry I. Freedman, MD
Symposium
Theme Area: Insulin Action/Molecular Metabolism
mTOR Signaling in Cellular and Systemic Metabolism
Room: W-2014 (West, Level 2)
Chair: Kevin Corbit, PhD

4:30 p.m.-4:50 p.m.  Noncanonical mTOR Signaling in Brown Adipose Metabolism
David A. Guertin, PhD
4:50 p.m.-5:10 p.m.  Regulation of Lipogenesis by Multisite Phosphorylated S6K1
Paul L. Fox, PhD
5:10 p.m.-5:30 p.m.  Glutamine Sensing by mTORC1
Jenna L. Jewell, PhD
5:30 p.m.-5:50 p.m.  Hepatic Lipid Metabolism Downstream of mTORC1
Paul M. Titchenell, PhD
5:50 p.m.-6:10 p.m.  Cross Talk between the Innate Immune Kinase TBK1 and the Energy Sensing Kinase AMPK
with mTOR
Diane C. Fingar, PhD

6:10 p.m.-6:30 p.m.  Question and Discussion Period

Symposium
Theme Area: Integrated Physiology/Obesity
How Does Neuroscience Inform Our Care of Patients with Obesity?
Room: W-2001 (West, Level 2)
Chair: Ellen Schur, MD, MS

4:30 p.m.-5:00 p.m.  How Does Neuroscience Inform Treatment Strategies that Reduce the Salience of
High-Calorie Food?
Christian L. Roth, MD
5:00 p.m.-5:30 p.m.  Differential Effects of Exercise on Brain Regulation of Appetite
Marc Cornier, MD
5:30 p.m.-6:00 p.m.  Gut-Brain Axis in the Treatment of Obesity—The Neuroscience of Bariatric Surgery
Randy J. Seeley, PhD
6:00 p.m.-6:30 p.m.  Obesity and the Child’s Brain—Bridging Science, Policy, and Practice
Amanda Bruce, PhD

Symposium
Theme Area: Islet Biology/Insulin Secretion
The Excited Beta Cell—Novel Insights into Hormone Secretion
Room: W-2002 (West, Level 2)
Chair: Maria S. Remedi, PhD

4:30 p.m.-5:00 p.m.  Two-Pore-Domain Potassium Channel Control of Islet Hormone Secretion and Glucose
Homeostasis
David Jacobson, PhD
5:00 p.m.-5:30 p.m.  Ca2+ Microdomains Controlling Insulin Secretion
Sebastian Barg, PhD
5:30 p.m.-6:00 p.m.  Structural and Cellular Mechanisms Controlling KATP Channel Biogenesis and Trafficking
in the Islet
Show-Ling Shyng, PhD
6:00 p.m.-6:30 p.m.  New Approaches for Understanding Beta-Cell Heterogeneity and Connectivity
David Hodson, DVM, PhD
5:30 p.m.-6:30 p.m.

**Current Issues**

*Theme Area: Clinical Diabetes/Therapeutics*

**Should Advanced Diabetes Technology Be Used in Older Adults?**

Room: N-Hall E (North, Exhibition Level)

Chair: Hermes Florez, MD

5:30 p.m.-5:50 p.m.  
Technology Is Important for Older Adults  
Medha Munshi, MD

5:50 p.m.-6:10 p.m.  
Technology Has Too Many Challenges for Older Adults  
Grazia Aleppo, MD

6:10 p.m.-6:25 p.m.  
Wireless Innovations for Seniors with Diabetes Mellitus—Primary Results of the WISDM Study  
Richard E. Pratley, MD

6:25 p.m.-6:30 p.m.  
Question and Discussion Period
4:30 p.m.-6:30 p.m.

**Oral Presentations**
*Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise*

**Teens with Diabetes—Intervention, Assessment, and Understanding (With ADA Presidents’ Select Abstract Presentation)**
Room: S-208 (South, Level 2)
Chair: Jill Weissberg-Benchell, PhD, CDE

4:30 p.m.-4:45 p.m.
**201-OR**  
ADA Presidents’ Select Abstract Presentation: Shared Medical Appointments (SMA) Improve Psychosocial Outcomes in Adolescents with Type 1 Diabetes (T1D)  
JENNIFER RAYMOND, MARK W. REID, CARI BERGET, CINDY L. CAIN, BARBARA ANDERSON, GEORGEANNA J. KLINGENSMITH, Los Angeles, CA, Aurora, CO, Charlottesville, VA

4:45 p.m.-5:00 p.m.
**202-OR**  
Comparing Glycemic Control of Youth with T1D in NICU to Referred Youth: Quality Control (Group)  
DAVID V. WAGNER, JAKE MAHON, CELESTE JENISCH, SAMANTHA A. BARRY, HANNAH LUZOD, KIMBERLY KRAUS, MICHAEL A. HARRIS, Portland, OR, Worcester, MA

5:00 p.m.-5:15 p.m.
**203-OR**  
Characterizing Moment-to-Moment Fluctuations in Stress, Anxiety, and Blood Glucose Levels in Adolescents with Type 1 Diabetes  
KEELY BEBBINGTON, DANIEL RUDAIZKY, GRANT J. SMITH, ANNA HUNT, ELIZABETH A. DAVIS, TIMOTHY JONES, ASHLEIGH LIN, Perth, Australia, Nedlands, Australia

5:15 p.m.-5:30 p.m.
**204-OR**  
Advancing Our Understanding of the Relationships between Diabetes Distress and Depressive Symptoms with Biobehavioral Variables in Adolescents with Diabetes  
HIBA ABUJARADEH, JESSIE J. WONG, KOREY K. HOOD, Pittsburgh, PA, Palo Alto, CA, Stanford, CA

5:30 p.m.-5:45 p.m.
**205-OR**  
Sensitivity and Specificity of the PHQ-9 and PHQ-2 to Identify Depressive Symptoms in Teens with Type 1 Diabetes (T1D)  
ARWEN M. MARKER, RYAN MCDONOUGH, ANNA EGAN, MARK A. CLEMENTS, SUSANA R. PATTON, Lawrence, KS, Kansas City, MO, Kansas City, KS

5:45 p.m.-6:00 p.m.
**206-OR**  
A Randomized Controlled Trial to Improve Self-Monitoring of Blood Glucose among Youth with Type 1 Diabetes: Findings from Routine Screening  
JULIE WAGNER, KATE WEYMAN, EILEEN M. TICHY, EDA CENGIZ, KRISTYN ZAJAC, WILLIAM V. TAMBORLANE, Farmington, CT, New Haven, CT

6:00 p.m.-6:15 p.m.
**207-OR**  
Intentional Insulin Omission for Weight Loss and Psychosocial Outcomes among Youth with Type 1 Diabetes: Findings from Routine Screening  
JACLYN L. PAPADAKIS, LINDSAY M. ANDERSON, ANTHONY T. VESCO, MEREDYTH A. EVANS, JILL WEISSBERG-BENCHELL, Chicago, IL

6:15 p.m.-6:30 p.m.
**208-OR**  
Which Diabetes Strengths Matter Most? Associations with Key Outcomes  
VIENA T. CAO, SAHAR S. ESHTEHARDI, DEBORAH THOMPSON, LEFKOTHEA KARAVITI, MARISA E. HILLIARD, Houston, TX
Oral Presentations
Theme Area: Clinical Diabetes/Therapeutics
From Risk to Complications of Type 1 Diabetes Youth—What’s New? (With ADA Presidents’ Select
Abstract Presentation)
Room: S-10 (South, Exhibition Level)
Co-Chairs: Tandy Aye, MD, and Dorothy J. Becker, MD

4:30 p.m.-6:30 p.m.
(continued)

4:30 p.m.-4:45 p.m.
209-OR ADA Presidents’ Select Abstract Presentation: Type 1 Diabetes and the Developing Brain—A Longitudinal Study of Brain Growth by the Diabetes Research in Children Network (DirecNet)
ANA MARIA ARBELAEZ, STEFANI O’DONOGHUE, NELLY MAURAS, BRUCE A. BUCKINGHAM, NEIL H. WHITE, STUART A. WEINZIMER, TANDY AYE, EVA TSALIKIAN, DARRELL M. WILSON, WILLIAM V. TAMBORLANE, MICHAEL TANSEY, ALLISON CATO, TAMARA HERSHEY, LARRY A. FOX, KIMBERLY A. ENGLERT, ALLAN L. REISS, St. Louis, MO, Stanford, CA, Jacksonville, FL, Palo Alto, CA, New Haven, CT, Iowa City, IA

4:45 p.m.-5:00 p.m.
210-OR A Combined Method Improves Risk Prediction for Childhood Type 1 Diabetes in the TEDDY Study
LAURIC A. FERRAT, KENDRA VEHIK, SETH A. SHARP, ÅKE LERNMARK, ANETTE ZIEGLER, MARIAN REWERS, JIN-XIONG SHE, JORMA TOPPARI, BEENA AKOLKAR, JEFFREY KRISCHER, MICHAEL N. WEEDON, STEPHEN S. RICH, RICHARD A. ORAM, WILLIAM HAGOPIAN, TEDDY STUDY GROUP, Exeter, United Kingdom, Tampa, FL, Malmö, Sweden, Munich, Germany, Denver, CO, Augusta, GA, Turku, Finland, Bethesda, MD, Charlottesville, VA, Seattle, WA

5:00 p.m.-5:15 p.m.
211-OR Analysis of Longitudinal Autoantibody Profiles and the Progression Rates to Type 1 Diabetes
MOHAMED GHALWASH, VIBHA ANAND, BIN LIU, EILEEN KOSKI, KENNEY NG, JESSICA L. DUNNE, MARKUS LUNDGREN, MARIAN REWERS, RIITTA VEIJOLA, FOR T1DI STUDY GROUP, Yorktown Heights, NY, Cambridge, MA, New York, NY, Lund, Sweden, Denver, CO, Oulu, Finland

5:15 p.m.-5:30 p.m.
212-OR Factors Associated with Decline of C-Peptide in a Cohort of Young Children Diagnosed with Type 1 Diabetes
ANDREA STECK, XIANG LIU, JEFFREY KRISCHER, MICHAEL J. HALLER, RIITTA VEIJOLA, BEENA AKOLKAR, JORMA TOPPARI, WILLIAM HAGOPIAN, MARIAN REWERS, HELENA ELDING LARSSON, Aurora, CO, Tampa, FL, Gainesville, FL, Oulu, Finland, Bethesda, MD, Turku, Finland, Seattle, WA, Denver, CO, Malmö, Sweden

5:30 p.m.-5:45 p.m.
213-OR Lowering HbA1c during the First 2 Years Predicts a Lower Long-Term HbA1c on a Clinic Level
RAGNAR HANAS, LENA HANBERGER, ULF SAMUELSSON, KARIN ÅKESSON, Gothenburg, Sweden, Linköping, Sweden

5:45 p.m.-6:00 p.m.
214-OR Effects of Fluid Rehydration Strategy onCorrection of Acidosis and Electrolyte Abnormalities in Children with Diabetic Ketoacidosis
ARLETA REWERS, NATHAN DAVIS KUPPERMANN, MICHAEL J. STONER, ARIS GARRO, KIMBERLY QUAYLE, JONATHAN E. BENNETT, SAGE MYERS, JULIE K. MCMANEMY, LISE E. NIGROVIC, JENNIFER L. TRAINOR, LEAH TZIMENATOS, MARIA KWOK, CODY S. OLSEN, THERON C. CASPER, SIMONA GHETTI, NICOLE GLASER, Aurora, CO, Sacramento, CA, Columbus, OH, North Kingstown, RI, St. Louis, MO, Wilmington, DE, Philadelphia, PA, Houston, TX, Boston, MA, Chicago, IL, New York, NY, Salt Lake City, UT, Davis, CA

6:00 p.m.-6:15 p.m.
215-OR Safety and Performance of the Omnipod Hybrid Closed-Loop System in Young Children Aged 2-6 Years with Type 1 Diabetes
BRUCE A. BUCKINGHAM, GREGORY P. FORLENZA, JENNIFER SHERR, ALFONSO GALDERISI, LAYA EKHLASPOUR, JOON BOK LEE, JASON B. OCONNOR, BONNIE DUMAIS, LAUREN M. HUYETT, JENNIFER E. LAYNE, TRANG T. LY, Palo Alto, CA, Aurora, CO, New Haven, CT, Stanford, CA, Acton, MA

6:15 p.m.-6:30 p.m.
216-OR Cardiovascular (CV) Impact of BMI in Youth with Type 1 Diabetes (T1D)
KALIE L. TOMMERDAHL, KARL V. BAUMGARTNER, PETTER BJORNSTAD, AMY BAUMGARTNER, LAURA PYLE, JUDITH G. REGENSTEINER, JANE E.B. REUSCH, KRISTEN J. NADEAU, Aurora, CO, Denver, CO

ADA-Supported Research
4:30 p.m.-6:30 p.m.
(continued)

**Oral Presentations**

**Theme Area: Immunology/Transplantation**

**Islet and Pancreas Transplantation**

*Room: W-2006 (West, Level 2)*

*Chair: Peter L. Abrams, MD*

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**4:30 p.m.-4:45 p.m.**

**217-OR**  
Islet Transplantation vs. Standard of Care for Type 1 Diabetes Complicated by Severe Hypoglycemia from the Collaborative Islet Transplant Registry (CITR) and T1D Exchange (T1DX) Registry

MICHAEL R. RICKELS, NICOLE C. FOSTER, CASSANDRA M. BALLOU, BERNHARD J. HERING, RODOLFO ALEJANDRO, ROY BECK, KELLEE MILLER, FRANCA B. BARTON, Philadelphia, PA, Tampa, FL, Rockville, MD, Minneapolis, MN, Miami, FL

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**4:45 p.m.-5:00 p.m.**

**218-OR**  
Does the Reparixin (CXCR1/2 Inhibitor) Improve Islet Cell Engraftment and Clinical Outcomes after Pancreatic Islet Allotransplantation in Patients with Type 1 Diabetes Mellitus? A Randomized, Double-Blind, Prospective Study

PIOTR J. BACHUL, JUSTYNA E. GOLEBIEWSKA, MONICA PARA, FILIP ANTIC, LINDSAY BASTO, LAURENCIA PEREA, KAROLINA GOLAB, LING-JIA WANG, MARTIN L. TIBUDAN, CELESTE C. THOMAS, PIOTR WITKOWSKI, Chicago, IL, Gdansk, Poland

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**5:00 p.m.-5:15 p.m.**

**219-OR**  
Hydroxychloroquine and Metabolic Outcomes in Patients Undergoing Total Pancreatectomy and Autologous Islet Transplantation

RUTH MCDOWELL, KHAWLA F. ALI, VICENTE T. SAN MARTIN, RITA BOTTINO, JOHN P. KIRWAN, BETUL HATIPOGLU, Cleveland, OH, Pittsburgh, PA, Baton Rouge, LA

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**5:15 p.m.-5:30 p.m.**

**220-OR**  
Is There Any Prognostic Value of Diabetes-Associated Autoantibody Levels for Predicting Islet Graft Function in Patients with Long-Standing Type 1 Diabetes Mellitus?

PIOTR J. BACHUL, JUSTYNA E. GOLEBIEWSKA, FILIP ANTIC, MONICA PARA, LINDSAY BASTO, AARON C. LUCANDER, KAROLINA GOLAB, LAURENCIA PEREA, MARTIN L. TIBUDAN, LING-JIA WANG, CELESTE C. THOMAS, PIOTR WITKOWSKI, Chicago, IL, Gdansk, Poland, Durham, NC

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**5:30 p.m.-5:45 p.m.**

**221-OR**  
Pancreas Transplantation from Pediatric Donors: An Opportunity to Increase Donor Pool

CATERINA CONTE, CARLO SOCCI, SR., ANTONIO SECCI, PAOLA MAFFI, Milan, Italy

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**5:45 p.m.-6:00 p.m.**

**222-OR**  
BETA-2 Calculated Based on Single Fasting Blood Sample Allows to Define and Discriminate between Optimal and Suboptimal Islet Allograft Function Prior to the Clinical Need for Insulin Support

PIOTR J. BACHUL, JUSTYNA E. GOLEBIEWSKA, FILIP ANTIC, MONICA PARA, LINDSAY BASTO, KAROLINA GOLAB, LAURENCIA PEREA, LING-JIA WANG, MARTIN L. TIBUDAN, CELESTE C. THOMAS, PIOTR WITKOWSKI, Chicago, IL, Gdansk, Poland
4:30 p.m.-6:30 p.m. (continued)

**Oral Presentations**

*Theme Area: Integrated Physiology/Obesity*

**Mechanisms of Hepatic and Extrahepatic Insulin Action in Humans**

Room: W-2009 (West, Level 2)

Chair: Roy Taylor, MD

**4:30 p.m.-4:45 p.m.**

223-OR ▲ Pioglitazone Discontinuation in Patients with Nonalcoholic Steatohepatitis (NASH) Is Associated with Disease Recurrence

FERNANDO BRIL, ROMINA LOMONACO, SRILAXMI KALAVALAPALLI, JINPING LAI, KENNETH CUSI, Gainesville, FL

**4:45 p.m.-5:00 p.m.**

224-OR Diurnal Pattern of Insulin Action and Beta-Cell Function in Health and Type 2 Diabetes

DAVIDE ROMERES, MICHELE SCHIAVON, CLAUDIO COBELL, CHIARA DALLA MAN, ANANDA BASU, RITA BASU, Padova, Italy, Charlottesville, VA

**5:00 p.m.-5:15 p.m.**

225-OR Key Role for Glucose-Alanine Cycling in the Regulation of Hepatic Mitochondrial Oxidation during Starvation in Humans

KITT PETERSEN, SYLVIE DUFOUR, GARY CLINE, GERALD I. SHULMAN, New Haven, CT

**5:15 p.m.-5:30 p.m.**

226-OR The Lipoprotein Insulin Resistance Index Is a Measure of Hepatic and Total Insulin Resistance: The Federal Women’s Study

CELESTE K. CRAVALHO, ABBY G. MEYERS, LILIAN MABUNDO, ANNE E. SUMNER, STEPHANIE T. CHUNG, Bethesda, MD

**5:30 p.m.-5:45 p.m.**

227-OR Novel Method of Assessing Hypothalamic K\textsubscript{ATP} Channel Activation in Humans Using Magnetic Resonance Imaging (MRI)

SHIKSHA SHARMA, SANDRA ALEKSI, ROGER MAGINLEY, JR., ERIC LONTCHI YIMAGOU, LAXMI UPADHYAY, SHOBHIT BHANSALI, OANA SANDU, CRAIG A. BRANCH, MEREDITH HAWKINS, Bronx, NY, New York, NY, New Rochelle, NY

**5:45 p.m.-6:00 p.m.**

228-OR ▲ Cerebral Glucose Transport and Metabolism in Obesity

FELONA GUNAWAN, LIHONG JIANG, JESSICA LEVENTHAL, JOLANTA J. PACH, ELIZABETH SANCHEZ RANGEL, RENATA BELFORT-DEAGUIAR, ANASTASIA COPPOLI, DOUGLAS L. ROTHMAN, ROBERT SHERWIN, GRAEME F. MASON, JANICE J. HWANG, New Haven, CT

**6:00 p.m.-6:15 p.m.**

229-OR GLP-1 Infusions during Postprandial Insulin Clamps Enhance Muscle Microvascular Flow, Glucose Uptake, and Protein Anabolism in Older Men

HAITHAM ABDULLA, BETHAN E. PHILLIPS, MARIE C. LIMB, DANIEL J. WILKINSON, TEREZA JANDOVA, JESSICA CEGIELSKI, JOSEPH T. BASS, DEBBIE RANKIN, JONATHAN S. LEWIS, JOHN WILLIAMS, KEN SMITH, ISKANDAR RAUF IDRIS, PHILIP J. ATHERTON, Derby, United Kingdom, Nottingham, United Kingdom

**6:15 p.m.-6:30 p.m.**

230-OR Intramuscular Triglyceride Subcellular Localization Is Related to Insulin Sensitivity in Humans

DARCY E. KAHN, SIMONA ZARINI, LEIGH PERREAULT, SEAN A. NEWSOM, KATHLEEN A. HARRISON, BRYAN C. BERGMAN, Aurora, CO, Corvallis, OR
### MONDAY, JUNE 10, 2019—DAY-AT-A-GLANCE SCHEDULE

**Registration Hours:** 7:30 a.m.-4:00 p.m.  
**Shop Diabetes Store Hours:** 7:30 a.m.-6:45 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Acute and Chronic Complications</th>
<th>Behavioral Medicine, Clinical Nutrition, Education, and Exercise</th>
<th>Clinical Diabetes/Therapeutics</th>
<th>Epidemiology/Genetics</th>
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</thead>
</table>
| 8:00 a.m.-10:00 a.m. | **Oral Presentations**  
New Insights in Diabetic Kidney Disease—Clinical and Experimental Studies (With State-of-the-Art Lecture and ADA Presidents’ Select Abstract Presentation)  
Room: S-208 | **Symposium**  
Little Kids with Diabetes—Approaches to Care Across Nutrition, Eating, and Technology  
Room: S-154 | **Current Issues**  
(8:00 a.m.-8:55 a.m.)  
Glycemic Goals and Over-treatment—What’s Driving the Debate?  
Room: N-Hall E | **Oral Presentations**  
Epidemiology of Diabetes Outcomes  
Room: W-2022 |
| 10:10 a.m.-11:45 a.m. | **National Scientific & Health Care Achievement Awards Presentation and Outstanding Scientific Achievement Award Lecture—Room: W-3001 |  |  |  |
| 12:00 p.m.-1:00 p.m. | **Special Seminar**  
(12:30 p.m.-1:30 p.m.)  
Innovations in Medical Training  
Location: Exhibit Hall, Product Theater 3 (Booth 2000) | **Professional Interest Group Discussion**  
Dilemmas with Medical Devices—Right Device, Right Person, Right Place  
Room: S-157 | **Professional Interest Group Discussion**  
All Pregnant Women with Gestational Diabetes or Pre-existing Diabetes Should Be Induced by 38 Weeks  
Room: S-303 | **Professional Interest Group Discussion**  
New Insights and Remaining Challenges in Diabetes Management and Complications  
Room: S-153 |
<p>| 12:00 p.m.-1:00 p.m. | <strong>General Poster Session/Moderated Poster Discussions—Poster Hall (Hall F)</strong> |  |  |  |
| 12:00 p.m.-1:00 p.m. | <strong>ePoster Theater Sessions—Exhibit Hall (Halls A-C)</strong> |  |  |  |
| 1:00 p.m.-2:00 p.m. | Session Break (Take this opportunity to visit the Exhibit and Poster Halls) |  |  |  |</p>
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<td>Preclinical Study Including Animals and Basic Science</td>
<td>Insulin Resistance (With State-of-the-Art Lecture)</td>
<td>Organization of Liver Metabolism and Nonalcoholic Fatty Liver Disease</td>
<td>Stimulating Beta-Cell Proliferation or Beta-Cell Function to Treat Diabetes?</td>
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<td>Metabolic Health—From Cells to Special Populations</td>
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<td>Room: W-2009</td>
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**Professional Interest Group Discussion**
- Regulatory T-Cells Expressing Type 1 Diabetes-Reactive T-Cell Receptors and Chimeric Antigen Receptors to Promote Immune Tolerance
- Room: S-10
### Monday, June 10, 2019—Day-at-a-Glance Schedule (continued)

**Registration Hours:** 7:30 a.m.-4:00 p.m.  
**Shop Diabetes Store Hours:** 7:30 a.m.-6:45 p.m.

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| 2:15 p.m.-4:15 p.m. | **Symposium** Controversies in the Evaluation and Management of Dyslipidemia in Patients with Diabetes  
*Room: S-153* | **Symposium** Making the Numbers Meaningful—The Value of Qualitative Research in Diabetes  
*Room: S-203* | **Symposium** Got Milk? Variability in Milk Composition and Effects on Offspring Health  
*Room: S-157* | **Oral Presentations** Leveling Up Genome-Wide Association Studies (With ADA Presidents’ Select Abstract Presentation)  
*Room: W-2022* |
| Oral Presentations Hypoglycemia and Technology  
*Room: S-10* | **Oral Presentations** Effects of Exercise on Metabolic Health in Type 2 and Type 1 Diabetes  
*Room: S-208* | | **Symposium** Joint ADA/ISPAD Symposium—Understanding Heterogeneity in Pediatric Diabetes—First Step to Improving Outcomes  
*Room: S-154* | |
| 4:30 p.m.-6:30 p.m. | **Symposium** Beyond Anti-VEGF Therapy—New Approaches in Diabetic Retinopathy Clinical Trials  
*Room: S-303* | **Oral Presentations** The Wide-Ranging Field of Clinical Nutrition Research—From the Role of Nutrients to How We Eat  
*Room: S-10* | **Symposium** The CAROLINA Trial—First Results of the Cardiovascular Outcomes Trial Comparing Linagliptin vs. Glimepiride  
*Room: W-3001* | **Symposium** Are Taxes the Solution to the Diabetes Epidemic?  
*Room: W-2022* |
| Oral Presentations Diabetic Neuropathy—From Mouse to Man  
*Room: S-154* | **Oral Presentations** Innovative Diabetes Education Across Diverse Populations  
*Room: S-208* | **Oral Presentations** Evaluation of Trends for Diabetes Management Strategies  
*Room: S-203* | | |
| | **Symposium** Fat, Heat, Sugar—Regulation of Body Weight and Metabolic Health  
*Room: W-2002* | | |
| | **Symposium** The Wide-Ranging Field of Clinical Nutrition Research—From the Role of Nutrients to How We Eat  
*Room: S-10* | | **Symposium** Metabolites as Mediators  
*Room: W-2014* | |
| | **Symposium** The Wide-Ranging Field of Clinical Nutrition Research—From the Role of Nutrients to How We Eat  
*Room: S-10* | | **Symposium** Defense of Elevated Body Fatness in Obesity—Pathogenesis and Treatment  
*Room: W-2001* | |
| | **Symposium** The CAROLINA Trial—First Results of the Cardiovascular Outcomes Trial Comparing Linagliptin vs. Glimepiride  
*Room: W-3001* | | | |
| | **Symposium** Are Taxes the Solution to the Diabetes Epidemic?  
*Room: W-2022* | | | |
### MONDAY—DAY-AT-A-GLANCE

**Registration Hours:** 7:30 a.m.-4:00 p.m.

**Shop Diabetes Store Hours:** 7:30 a.m.-6:45 p.m.

**Exhibit Hall Hours:** 10:00 a.m.-2:00 p.m.

**Poster Hall Hours:** 7:30 a.m.-2:00 p.m.

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**Exhibit Hall Hours:** 10:00 a.m.-2:00 p.m.

**Poster Hall Hours:** 7:30 a.m.-2:00 p.m.

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**Symposium**

- Islet Transplantation Today and Tomorrow
  - Room: W-2006

**Symposium**

- Insulin Glucose Homeostasis and Cancer
  - Room: W-2014

**Oral Presentations**

- Fat, Heat, Sugar—Regulation of Body Weight and Metabolic Health
  - Room: W-2001

**Symposium**

- Will the Real Beta Cell Please Stand Up?
  - Room: W-2002

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**Symposium**

- The Emerging Role of B Cells in Type 1 Diabetes
  - Room: W-2006

**Symposium**

- Metabolites as Mediators
  - Room: W-2014

**Symposium**

- Defense of Elevated Body Fatness in Obesity—Pathogenesis and Treatment
  - Room: W-2001

**Oral Presentations**

- Live or Let Die? Pancreatic Beta-Cell Death and Apoptosis in Diabetes
  - Room: W-2002
Scientific Sessions
8:00 a.m.-8:55 a.m.

Current Issues
Theme Area: Clinical Diabetes/Therapeutics
Glycemic Goals and Overtreatment—What’s Driving the Debate?
Room: N-Hall E (North, Exhibition Level)
Co-Chairs: Anne L. Peters, MD and Jane E.B. Reusch, MD
8:00 a.m.-8:20 a.m. Clinician’s Should Aim to Achieve an A1C between 7% and 8% in Most Patients—The ACP Perspective
Timothy J. Wilt, MD, MPH
8:20 a.m.-8:40 a.m. Clinicians Should Aim to Achieve an A1C <7% in Many—The ADA Perspective
David D’Alessio, MD
8:40 a.m.-8:45 a.m. Rebuttal
Timothy J. Wilt, MD, MPH
8:45 a.m.-8:50 a.m. Rebuttal
David D’Alessio, MD
8:50 a.m.-8:55 a.m. Question and Discussion Period

8:00 a.m.-10:00 a.m.

Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Little Kids with Diabetes—Approaches to Care Across Nutrition, Eating, and Technology
Room: S-154 (South, Upper Mezzanine Level)
Chair: Randi Streisand, PhD
8:00 a.m.-8:30 a.m. Continuous Glucose Monitor and Pumps for Young Children with Type 1 Diabetes
Nana-Hawa Yayah Jones, MD
8:30 a.m.-9:00 a.m. Nutritional Challenges and Solutions for Families of Young Children with Diabetes
Carmel E. Smart, RD, PhD
9:00 a.m.-9:30 a.m. Eating and Other Interventions for Young Children with Diabetes
Mark A. Clements, MD, PhD, CPI
9:30 a.m.-10:00 a.m. Supporting Parents of Young Children with Type 1 Diabetes via a Crowdsourced Online Coping Intervention
Jessica Pierce, PhD

Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Taking a Stand (or Walk/Run/Lift) for Better Health—Improving Glycemic Management with Physical Activity
Room: S-203 (South, Level 2)
Chair: Sheri Colberg, PhD, FACSM
8:00 a.m.-8:30 a.m. Need a Break? The Metabolic Health Impact of Breaking Up Sedentary Time
Paddy C. Dempsey, PhD
8:30 a.m.-9:00 a.m. How Much Is Enough? The Dose-Response Effects of Exercise
Robert Ross, PhD
9:00 a.m.-9:30 a.m. High-Intensity Interval Training for Glycemic Management
Jenna B. Gillen, PhD
9:30 a.m.-10:00 a.m. Benefits of Resistance Exercise as a Treatment for Diabetes
Kim M. Huffman, PhD
MONDAY—PROGRAM

MONDAY, JUNE 10, 2019

8:00 a.m.-10:00 a.m.
(continued)

**Symposium**
**Theme Area: Clinical Diabetes/Therapeutics**

**The Impact of Payment Models on Diabetes Care**
Room: S-303 (South, Level 3)
Chair: Gillian Booth, MD, MSc

- 8:00 a.m.-8:30 a.m. *Single Payer Universal Health Care System*
  - David C. Aron, MD
- 8:30 a.m.-9:00 a.m. *Pay-for-Performance*
  - Devan Kansagara, MD, MCR
- 9:00 a.m.-9:30 a.m. *CMS State Innovation Model Initiative Impacts on Diabetes*
  - Hector Rodriguez, PhD, MPH
- 9:30 a.m.-10:00 a.m. *Bundled Payments for Diabetes Care*
  - Jeroen N. Struijs, PhD, MSc

**Symposium**
**Theme Area: Clinical Diabetes/Therapeutics**

**Joint ADA/JDRF Symposium—Continuous Glucose Monitoring in Pediatric Diabetes—Ready for Prime Time?**
Room: S-153 (South, Upper Mezzanine Level)
Co-Chairs: Roy W. Beck, MD, PhD and Aaron J. Kowalski, PhD

- 8:00 a.m.-8:30 a.m. *Overview of Continuous Glucose Monitoring Technology and Options—How Far Have We Come?*
  - David M. Maahs, MD, PhD
- 8:30 a.m.-9:00 a.m. *Strategies to Enhance New Continuous Glucose Monitoring Use in Early Childhood (SENCE)—Primary Study Results*
  - Linda DiMeglio, MD, MPH
- 9:00 a.m.-9:30 a.m. *Continuous Glucose Monitoring Intervention in Teens and Young Adults (CITY)—Primary Study Results*
  - Lori M. Laffel, MD, MPH
- 9:30 a.m.-10:00 a.m. *Use of Continuous Glucose Monitoring in Cystic Fibrosis—A Practical Approach to Early Dysglycemia Screening*
  - Christine L. Chan, MD

**Symposium**
**Theme Area: Integrated Physiology/Obesity**

**Organization of Liver Metabolism and Nonalcoholic Fatty Liver Disease**
Room: W-2001 (West, Level 2)
Co-Chairs: Shawn C. Burgess, PhD and John P. Thyfault, PhD

- 8:00 a.m.-8:30 a.m. *Where Should I Put This? Zonation/Compartmentalization of Metabolites in Liver*
  - Julian Griffin, MA, DPhil
- 8:30 a.m.-9:00 a.m. *Breaking Fat—Hepatic Lipid Droplet Catabolism and Fatty Acid Trafficking*
  - Douglas G. Mashek, PhD
- 9:00 a.m.-9:30 a.m. *Bad State of Repair—Hepatocellular Regeneration during Nonalcoholic Fatty Liver Disease*
  - Anna Mae Diehl, MD
- 9:30 a.m.-10:00 a.m. *Genetic Architecture of Nonalcoholic Fatty Liver Disease*
  - Elizabeth Speliotes, PhD
8:00 a.m.-10:00 a.m.  
(continued)

Symposium  
Theme Area: Islet Biology/Insulin Secretion  
Stimulating Beta-Cell Proliferation or Beta-Cell Function to Treat Diabetes?  
Room: W-2002 (West, Level 2)  
Chair: Maike Sander, MD

8:00 a.m.-8:30 a.m.  Human Beta-Cell Regeneration for Diabetes—Moving from Impossible to Possible  
Andrew F. Stewart, MD

8:30 a.m.-9:00 a.m.  Promoting Function to Treat Diabetes—Insulin Secretion  
Susumu Seino, MD, DMSci

9:00 a.m.-9:30 a.m.  Beta-Cell Proliferation and Survival—New Connections through DNA Damage Pathways  
Dawn B. Davis, MD, PhD

9:30 a.m.-10:00 a.m.  Promoting Function to Treat Diabetes—Glucose Sensing  
Matthew J. Merrins, PhD

9:00 a.m.-10:00 a.m.

Symposium  
Theme Area: Clinical Diabetes/Therapeutics  
Update on Diabetes Management in the Hospital  
Room: N-Hall E (North, Exhibition Level)  
Chair: Guillermo E. Umpierrez, MD, CDE, FACP, FACE

9:00 a.m.-9:25 a.m.  Managing Steroid-Induced Hyperglycemia  
Felicia A. Mendelsohn Curanaj, MD

9:25 a.m.-9:50 a.m.  Managing Hyperglycemia during Inpatient Nutritional Support  
Andjela T. Drincic, MD

9:50 a.m.-10:00 a.m.  Question and Discussion Period
8:00 a.m.-10:00 a.m.

Oral Presentations
Theme Area: Acute and Chronic Complications

New Insights in Diabetic Kidney Disease—Clinical and Experimental Studies (With State-of-the-Art Lecture and ADA Presidents’ Select Abstract Presentation)
Room: S-208 (South, Level 2)
Chair: David Cherney, MD, PhD

8:00 a.m.-8:30 a.m.
State-of-the-Art Lecture
Impact of the Worldwide Diabetes Pandemic on Diabetic Kidney Disease
Robert G. Nelson, MD, PhD

8:30 a.m.-8:45 a.m.
231-OR ADA Presidents’ Select Abstract Presentation: Pyruvate Kinase M2 Overexpression in Podocytes Ameliorates Nephropathy in Diabetic Mice
TAKANORI SHINJO, RONALD ST-LOUIS, JIALIN FU, KYOUNGMIN PARK, QIAN LI, HISASHI YOKOMIZO, MARC GREGORY YLI, HAIYAN WANG, AIMO KANNT, THORSTEN SADOWSKI, GEORGE L. KING, Boston, MA, Frankfurt, Germany

8:45 a.m.-9:00 a.m.
232-OR The Joint Contribution of Social Determinants Factors to Mortality Risk in Adults with Diabetic Kidney Disease
MUKOSO N. OZIEH, EMMA GARACCI, LEONARD E. EGEDE, Milwaukee, WI

9:00 a.m.-9:15 a.m.
233-OR Chronic Kidney Disease (CKD) Outcomes with Dulaglutide (DU) vs. Insulin Glargine (IG) in Type 2 Diabetes (T2D) and Moderate-to-Severe CKD by Albuminuria Status: AWARD-7
KATHERINE R. TUTTLE, BRIAN L. RAYNER, MARK LAKSHMANAN, BRAD WOODWARD, ANITA KWAN, MANIGE KONIG, FADY T. BOTROS, Spokane, WA, Cape Town, South Africa, Indianapolis, IN

9:15 a.m.-9:30 a.m.
234-OR Modified Endothelial Progenitor Cell (EPC) Transplantation May Improve Diabetic Kidney Disease (DKD)
NABANITA KUNDU, LAUREANO D. ASICO, JAIDEEP BANERJEE, PEDRO A. JOSE, SABYASACHI SEN, Washington, DC, Silver Spring, MD

9:30 a.m.-9:45 a.m.
235-OR Sphingosine Kinase 2-Mediated Pyroptosis of Renal Tubular Epithelial Cells Contributes to the Progression of Diabetic Nephropathy
SISHAN YAN, LANMEI LIANG, WENWEN LIU, WAI WILSON CHEUNG, WEI DING, TIAN LAN, Guangzhou, China, San Diego, CA, Shanghai, China

9:45 a.m.-10:00 a.m.
236-OR Effects of Dapagliflozin on Progression of Diabetic Kidney Disease: Analysis from DECLARE-TIMI 58 Trial
OFRI MOSENZON, STEPHEN D. WIVIOTT, THOMAS A. ZELNIKER, HIDDO L. HEERSPINK, JAMIE P. DWYER, AVIVIT CAHN, INGRID ANNA GAUSE-NILSSON, ANNA MARIA LANGKILDE, MARC S. SABATINE, ITAMAR RAZ, Jerusalem, Israel, Boston, MA, Groningen, Netherlands, Nashville, TN, Mölndal, Sweden, Gothenburg, Sweden
8:00 a.m.-10:00 a.m.
(continued)

Oral Presentations
Theme Area: Acute and Chronic Complications
Diabetes Management and Macrovascular Outcomes (With Edwin Bierman Award Lecture)
Room: S-10 (South, Exhibition Level)
Chair: Tina Vilsbøll, MD, DMSc

8:00 a.m.-8:30 a.m.
Edwin Bierman Award Lecture
*Linking Kidney and Cardiovascular Complications—Impact on Prognosis and Treatment*
Peter Rossing, MD, DMSc

8:30 a.m.-8:45 a.m.
237-OR Beneficial Impact of Intensified Multifactorial Intervention on Stroke—The Steno-2 Study
PETER GÆDE, JENS DELLGAARD, CHRISTINA KRUUSE, PETER ROSSING, HANS-HENRIK.D. PARVING, OLUF PEDERSEN, Slagelse, Denmark, Copenhagen, Denmark, Herlev, Denmark, Gentofte, Denmark

8:45 a.m.-9:00 a.m.
238-OR Long-Term Effects of Intensive Lifestyle Intervention on Cardiovascular Risk Factors in Patients with Diabetes in Real-World Clinical Practice: A 10-Year Longitudinal Study
HONGXIA ZHANG, SHAHEEN TOMAH, ADHAM MOTTALIB, SAHAR ASHRAFZADEH, OSAMA HAMDY, Taiyuan, China, Boston, MA

9:00 a.m.-9:15 a.m.
239-OR Association between Hemoglobin A1c and Stroke Risk in Patients with Type 2 Diabetes
YUN SHEN, LIZHENG SHI, ELIZABETH NAUMAN, PETER KATZMARZYK, EBONI G. PRICE-HAYWOOD, ALESSANDRA N. BAZZANO, SOMESH NIGAM, GANG HU, Baton Rouge, LA, New Orleans, LA

9:15 a.m.-9:30 a.m.
240-OR Impact of Insulin Treatment on Primary Outcomes in Cardiovascular Outcome Trials
JOANNA KHATIB, YIXUE SHAO, LIZHENG SHI, VIVIAN FONSECA, New Orleans, LA

9:30 a.m.-9:45 a.m.
241-OR Restenosis after Percutaneous Transluminal Coronary Angioplasty in Patients with Different Categories of Glucose Tolerance: A 2-Year Follow-Up Study
LEI ZHANG, YAN GU, XIAOYAN YIN, JUN WANG, NA WANG, YUXIU YANG, YANHU DONG, Qingdao, China

9:45 a.m.-10:00 a.m.
242-OR Do GLP-1RA and SGLT2i Reduce Cardiovascular Mortality in African-American Patients with Type 2 Diabetes? A Meta-analysis
BASEM M. MISHRIKY, JAMES R. POWELL, JENNIFER A. WITTWER, JENNIFER X. CHU, KERRY SEWELL, QIANG WU, DOYLE M. CUMMINGS, Greenville, NC
8:00 a.m.-10:00 a.m.  
(continued)

Oral Presentations

Theme Area: Clinical Diabetes/Therapeutics
Expanding Horizons on SGLT Inhibition (With ADA Presidents’ Select Abstract Presentation)
Room: S-157 (South, Upper Mezzanine Level)
Co-Chairs: Ildiko Lingvay, MD, MPH, MSCS and Joshua J. Neumiller, PharmD, CDE, FAFADE, FASCP

8:00 a.m.-8:15 a.m.
243-OR  ADA Presidents’ Select Abstract Presentation: Dapagliflozin Reduces Measured GFR by Reducing Renal Efferent Arteriolar Resistance in Type 2 Diabetes
ERIK J. VAN BOMMEL, MARCEL A. MUSKJET, MICHAEL JACOBUS VAN BAAR, MARK H. KRAMER, MAX NIEUWDORP, JAAP A. JOLES, DANIËL H. VAN RAALTE, Amsterdam, Netherlands, Utrecht, Netherlands

8:15 a.m.-8:30 a.m.
244-OR  Effects of Dapagliflozin on the Urinary Albumin-to-Creatinine Ratio in Patients with Type 2 Diabetes: A Predefined Analysis from the DECLARE-TIMI 58 Randomised, Placebo-Controlled Trial
ITAMAR RAZ, STEPHEN D. WIVIOTT, ILAN YANUV, ALIZA ROZENBERG, THOMAS A. ZELNIKER, AVIVIT CAHN, HIDDOR H. HEERSPINK, JAMIE P. DWYER, ERICA GOODRICH, DEEPAK L. BHATT, LAWRENCE A. LEITER, DARREN K. MCQUIRE, JOHN P. WILDING, INGRID ANNA GAUSE-NILSSON, MARTIN FREDRIKSSON, PETER A. JOHANSSON, ANNA MARIA LANGKILDE, MARC S. SABATINE, OFRI MOSENZON, Jerusalem, Israel, Boston, MA, Groningen, Netherlands, Nashville, TN, Toronto, ON, Canada, Dallas, TX, Liverpool, United Kingdom, Mölndal, Sweden, Gothenburg, Sweden

8:30 a.m.-8:45 a.m.
245-OR  Glucose Production and Utilization following Oral Glucose Load in Type 2 Diabetes Patients Treated with Dapagliflozin Alone and in Saxagliptin Combination
YUEJUAN QIN, AMALIA GASTALDELLI, MUHAMMAD ABDUL-GHANI, JOHN M. ADAMS II, ALI M. ALI, MOHAMED M. ELETREBI, ROBERT A. MARTINEZ, CURTIS L. TRIPLITT, RALPH A. DEFRONZO, EUGENIO CERSOSIMO, San Antonio, TX, Galveston, TX

8:45 a.m.-9:00 a.m.
246-OR  Contribution of Plasma Glucose and Hormones to the Acute Compensatory Rise in Endogenous Glucose Production (EGP) during Glucosuria in T2D Patients
MARIAM ALATRACH, CHRISTINA AGYIN IV, NITCHAKARN LAICHUTHAI, JOHN M. ADAMS II, MUHAMMAD ABDUL-GHANI, CURTIS L. TRIPLITT, RALPH A. DEFRONZO, EUGENIO CERSOSIMO, San Antonio, TX

9:00 a.m.-9:15 a.m.
247-OR  Real-World Effectiveness of SGLT2 Inhibitors vs. GLP-1 Receptor Agonists in Patients With and Without Cardiovascular Disease
ELISABETTA PATORNO, AJINKYA PAWAR, SEBASTIAN SCHNEEWEISS, ROBERT J. GLYNN, DAE H. KIM, BRENDAN M. EVERETT, LILY G. BESSETTE, SEYOOUNG C. KIM, Boston, MA

9:15 a.m.-9:30 a.m.
248-OR  Empagliflozin and Cardiorenal Outcomes in Patients with Nonproteinuric Kidney Disease in the EMPA-REG OUTCOME Trial
SILVIO E. INZUCCHI, BERNARD ZINMAN, JYOTHIS GEORGE, MICHAELA MATTHEUS, MAXIMILIAN VON EYNATTEN, CHRISTOPH WANNER, SIBYLLHE HAUSKE, New Haven, CT, Toronto, ON, Canada, Ingelheim, Germany, Wuerzburg, Germany

9:30 a.m.-9:45 a.m.
249-OR  Empagliflozin Selected Cardiovascular and Safety Outcomes in Routine Care: First Results from the Empagliflozin Comparative Effectiveness and Safety (EMPRISE) Study
ELISABETTA PATORNO, AJINKYA PAWAR, JESSICA FRANKLIN, MEHL NAIJAFZADEH, ANOUK DERUZA-LUYET, KIMBERLY BRODOVICZ, STEVEN SAMBEVSKI, LILY G. BESSETTE, MARTIN KULLDORFF, SEBASTIAN SCHNEEWEISS, Boston, MA, Ingelheim, Germany, Ridgefield, CT

9:45 a.m.-10:00 a.m.
250-OR  Beta-Cell Rest Induced by Dapagliflozin Improves β-Cell Secretory Capacity in Type 2 Diabetes Patients: A Randomized Controlled Trial vs. Glitazide
ERIK J.M. VAN BOMMEL, MARCEL H. MUSKJET, MICHAEL JACOBUS VAN BAAR, MARK H. KRAMER, MAX NIEUWDORP, CAMERON B. VERCHERE, DANIËL H. VAN RAALTE, Amsterdam, Netherlands, Vancouver, BC, Canada
Oral Presentations
Theme Area: Epidemiology/Genetics
Epidemiology of Diabetes Outcomes
Room: W-2022 (West, Level 2)
Chair: Justin B. Echouffo Tcheugui, MD, PhD

8:00 a.m.-10:00 a.m. (continued)

8:00 a.m.-8:15 a.m.
251-OR  Relationship of Short-Term HbA1c Change with Vascular Events, Severe Hypoglycaemia, and Mortality
NATALIE NANAYAKKARA, TOSHIAKI OHKUMA, MARK WOODWARD, ESQ., JOHN CHALMERS, SOPHIA ZOUNGAS, Melbourne, Australia, Camperdown, Australia, Oxford, United Kingdom, Sydney, Australia

8:15 a.m.-8:30 a.m.
252-OR  Cardiorespiratory Fitness Predicts Lower Mortality Rates in Type 2 Diabetes
ANDREW C. WILLS, WILLIAM K. KNOWLER, JEFFREY CURTIS, MUIDEEN T. OLAIYA, Phoenix, AZ

8:30 a.m.-8:45 a.m.
253-OR  Microvascular Complications in Latent Autoimmune Diabetes of Adults: Results from the UKPDS
ERNESTO MADDALONI, RUTH L. COLEMAN, RURY R. HOLMAN, Rome, Italy, Oxford, United Kingdom

8:45 a.m.-9:00 a.m.
254-OR  Novel Biomarkers Predicting Renal Dysfunction in People with Dysglycemia in the ORIGIN Trial
HERTEL GERSTEIN, GUILLAUME PARE, MATTHEW J. MCQUEEN, SHUN FU LEE, AIMO KANNT, SIBYLL HEUSS, Hamilton, ON, Canada, Frankfurt, Germany

9:00 a.m.-9:15 a.m.
255-OR  Temporal Trend in the Prevalence and Incidence of Depression and Antidepressant Usages in Incident Type 2 Diabetes from U.S. and UK
JOHN DIBATO, DIGSU KOYE, WILLIAM POLONSKY, OLGA MONTVIDA, SANJOY KETAN PAUL, Melbourne, Australia, San Diego, CA

9:15 a.m.-9:30 a.m.
256-OR  Costarting Sitagliptin with Metformin Is Associated with a Lower Likelihood of Disease Progression in Newly Treated Patients with Type 2 Diabetes
SCOTT A. CAMPBELL, PETER E. LIGHT, SCOT H. SIMPSON, Edmonton, AB, Canada

9:30 a.m.-9:45 a.m.
257-OR  High Glucose Levels and Risk of Vascular Diseases—Observational Studies and Mendelian Randomization Studies of the General Population
FRIDA EMANUELSSON, SARAH MAROTT, ANNE TYBJAERG-HANSEN, BØRGE GRØNNE NORDESTGAARD, MARIANNE BENN, Copenhagen, Denmark

9:45 a.m.-10:00 a.m.
258-OR  Use of High Sensitivity Cardiac Troponin T and I for Risk Classification in Type 2 Diabetes
OLIVE TANG, KUNIHIRO MATSUHITA, JOSEF CORESH, BILL MCEVOY, A. RICHEY SHARRETT, CHRISTIE M. BALLANTYNE, RON C. HOUGEVEEN, ELIZABETH SELVIN, Baltimore, MD, Galway, Ireland, Houston, TX
8:00 a.m.-10:00 a.m.  
(continued)

**Oral Presentations**  
*Theme Area: Immunology/Transplantation*

**Preclinical Study Including Animals and Basic Science**  
Room: W-2006 (West, Level 2)  
Chair: Yong Wang, MD

8:00 a.m.-8:15 a.m.  
**259-OR**  
Magnetic Resonance Imaging of Transplanted Islets Labeled with Exendin-4-Conjugated Manganese Magnetism-Engineered Iron Oxide Nanoparticles  
JYUHN-HUARNG JUANG, CHIA-RUI SHEN, JIUN-JIE WANG, SHU-TING WU, CHEN-YI CHEN, CHEN-WEI KAO, SUNG-HAN LIN, YUN-MING WANG, Taoyuan, Taiwan, Hsinchu, Taiwan

8:15 a.m.-8:30 a.m.  
**260-OR**  
Encapsulation of Islets with Tannic Acid Enhances Islet Function  
JESSIE BARRA, VERONIKA KOZLOVSKAYA, EUGENIA KHARLAMPIEVA, GREG KORBUTT, HUBERT M. TSE, Birmingham, AL, Edmonton, AB, Canada

8:30 a.m.-8:45 a.m.  
**261-OR**  
Core-Shell Spherification: A New Microencapsulation Platform for Hyaluronic Acid and PEGDA  
FRANCIS KARANU, STEPHEN HARRINGTON, LINDSEY OTT, Kansas City, MO, Kansas City, KS

8:45 a.m.-9:00 a.m.  
**262-OR**  
INAD 012-776 Pilot Study: Allogeneic “Neo-Islets,” Composed of Mesenchymal Stem and Islet Cells, Are Immune Protected and Dose-Dependently and Durably Control Autoimmune T1DM in Pet Dogs  
CHRISTOF WESTENFELDER, SABIHA S. CHOWDHURY, ANNA GOOCH, Salt Lake City, UT

9:00 a.m.-9:15 a.m.  
**263-OR**  
IgM Therapy Reverses Autoimmune Diabetes and Prevents Islet Allo- and Xenotransplant Rejection  
MINGYANG MA, KENNETH L. BRAYMAN, PREETI CHHABRA, Charlottesville, VA

9:15 a.m.-9:30 a.m.  
**264-OR**  
Treatment with Human Placental Lactogen (hPL-A) Improves Glucose Homeostasis One Year after Pancreatic Islets Transplantation in Mice Anterior Eye Chamber  
GIULIA DONADEL, ROBERTO ARRIGA, VALENTINA MARCHETTI, DONATELLA PASTORE, ANDREA COPPOLA, FRANCESCA PACIFICI, MARIA GIOVANNA SCIOLI, AUGUSTO ORLANDI, DAVID DELLA-MORTE, Rome, Italy
Oral Presentations

Theme Area: Insulin Action/Molecular Metabolism

Insulin Resistance (With State-of-the-Art Lecture)
Room: W-2014 (West, Level 2)
Chair: Ji Miao, PhD

8:00 a.m.-10:00 a.m.
(continued)

8:00 a.m.-8:30 a.m.
State-of-the-Art Lecture
Mechanisms of Insulin Signaling and Resistance
Alan Saltiel, PhD

8:30 a.m.-8:45 a.m.

265-OR Myeloid CREBZF Couples Inflammatory Signals to Systemic Insulin Resistance by Regulating Immune Response of the Adipose Tissue
ZHIMIN HU, YUXIAO LIU, ZHENGSHUAI LIU, ZEHUA ZHAO, AOYUAN CUI, FENGGUANG MA, YAQIAN XUE, YAMEI HAN, FEIFEI F. ZHANG, JIANGAO FAN, YU LI, Shanghai, China

8:45 a.m.-9:00 a.m.

266-OR Plasma Membrane sn-1,2 Diacylglycerol Mediates Lipid-Induced Hepatic Insulin Resistance
KUN LYU, YE ZHANG, DONGYAN ZHANG, MARIO KAHN, YUICHI NOZAKI, SANJAY BHANOT, JONATHAN BOGAN, GARY CLINE, VARMAN SAMUEL, GERALD I. SHULMAN, New Haven, CT, Carlsbad, CA, West Haven, CT

9:00 a.m.-9:15 a.m.

267-OR Cardiomyocyte Insulin Resistance Manifests on High-Glucose Fibroblast-Derived Extracellular Matrix
STEPHAN NIEUWOUDT, XINMING WANG, SUBHADIP SENAPATI, PAUL PARK, SAM SENYO, Cleveland, OH

9:15 a.m.-9:30 a.m.

268-OR Insulin Resistance in the Liver, but Not Muscle or Adipose, Is Essential for Remission from Newly Diagnosed Type 2 Diabetes by Short-Term Insulin Intensive Therapy
XUESI WAN, ZHIMIN HUANG, YANBING LI, Guangzhou, China

9:30 a.m.-9:45 a.m.

269-OR ▲ miR-409-3p Regulates Angiogenesis Brown Fat Adiposity and Insulin Resistance
DAKOTA R. BECKER-GREENE, HAO LI, WINONA WU, DENIZHAN OZDEMIR, IVANA HOLLAN, MARK W. FEINBERG, BASAK ICLI, Boston, MA, Lillehammer, Norway

9:45 a.m.-10:00 a.m.

270-OR Adipocyte Integrin-Linked Kinase Is Necessary for the Development of Diet-Induced Adipose Insulin Resistance
AIMEE BUGLER-LAMB, CHANDANI HENNAYAKE, ANNIE HASIB, MICHAEL L. ASHFORD, LI KANG, Dundee, United Kingdom
8:00 a.m.-10:00 a.m.  
(continued)

Oral Presentations  
Theme Area: Integrated Physiology/Obesity  
Metabolic Health—From Cells to Special Populations  
Room: W-2009 (West, Level 2)  
Chair: Ursula White, PhD

8:00 a.m.-8:15 a.m.  
271-OR  Whole-Exome Sequence Identifies Potentially Functional Rare Variants in Bardet-Biedl Syndrome (BBS) Genes that Associate with Obesity in American Indians  
Samantha E. Day, Yunhua L. Muller, Sayuko Kobes, Hye In Kim, Christopher V. Van Hout, Nehal Gosalia, Bin Ye, Alan R. Shuldiner, Robert L. Hanson, Cigdem Koroglu Altok, Clifton Bogardus III, Leslie J. Baier, Phoenix, AZ, Tarrytown, NY

8:15 a.m.-8:30 a.m.  
272-OR  Metabolically Healthy Obesity Is Not So Healthy  
Yvonne Commodore-Mensah, Mariana Lazo, Olive Tang, Justin B. Echoffu Tcheugui, Chiadi E. Nduemele, Vijay Nambi, Christinie M. Ballantyne, Dan Wang, Elizabeth Selvin, Baltimore, MD, Houston, TX

8:30 a.m.-8:45 a.m.  
273-OR  Intrapancreatic Adipose Tissue of Nondiabetic and Type 2 Diabetic Subjects and Relationships with Islet Morphometry  
Mara Suleiman, Carmela De Luca, Paolo De Simone, Ugo Boggi, Francesca Grano, Marco Bugliani, Piero Marchetti, Lorella Marselli, Pisa, Italy, Siena, Italy

8:45 a.m.-9:00 a.m.  
274-OR  Beta-Cell Dysfunction Is Associated with Impaired Insulin-Mediated Suppression of Glucagon in Obese Hispanic Americans  
Xi Chen, Enrique R. Maldonado Corchado, Aurora Merovci, Emin Case, Devjit Tripathy, Ralph A. Defronzo, San Antonio, TX

9:00 a.m.-9:15 a.m.  
275-OR  Higher Liver Fat and Whole-Body Insulin Sensitivity in Newly Diagnosed Type 2 Diabetes Patients with a Variant in Transmembrane 6 Superfamily Member 2 Protein  
Kalman Bodis, Julia Szendroedi, Juliane Maria Ahlers, Yanislaiva Karusheva, Oana P. Zaharia, Sofia Antonioiu, Jr., Birgit Knebel, Yuliya Kupriyanova, Jong-Hee Hwang, Volker Burkart, Karsten Muessig, Hadi Al-Hasani, Michael Roden, Daniel F. Markgraf, Düsseldorf, Germany

9:15 a.m.-9:30 a.m.  
276-OR  Rethinking Metabolically Healthy Obesity: What Is the Underlying Risk?  
Christopher L. Axelrod, Adithya Hari, Jacob T. Mey, Robbie A. Beyl, John P. Kirwan, Baton Rouge, LA, Cleveland, OH

9:30 a.m.-9:45 a.m.  
277-OR  Lean Tissues as Novel Determinants of Pear vs. Apple Body Shape and Metabolic Health in Humans  
Kalypso Karastergiou, New York, NY

9:45 a.m.-10:00 a.m.  
278-OR  Increased Cortisol Excretion in Morbid Obesity Is Associated with Higher Body Weight but More Favorable Glucose Metabolism Parameters  
Johanna Brix, Eva-Christina Krzizek, Andrea Tura, Giovanni Pacini, Bernhard Ludwig, Vienna, Austria, Padua, Italy, Padova, Italy
10:10 a.m.-11:45 a.m.
National Scientific & Health Care Achievement Awards Presentation

and

Outstanding Scientific Achievement Award Lecture

Obesity and the Biology of Weight Regulation
Sadaf Farooqi, MB, ChB (Hons), PhD
Room: W-3001 (West, Level 3)

12:00 p.m.-1:00 p.m.

Professional Interest Group Discussion
Theme Area: Clinical Diabetes/Therapeutics
Dilemmas with Medical Devices—Right Device, Right Person, Right Place
Room: S-157 (South, Upper Mezzanine Level)
Chair: Anne L. Peters, MD
12:00 p.m.-12:05 p.m. Challenges in Selecting Diabetes Medical Devices
Jenise C. Wong, MD, PhD
12:05 p.m.-12:10 p.m. Not the Right Device?
Viral N. Shah, MD
12:10 p.m.-12:15 p.m. Every Day (and Not So Every Day) Challenges for Device Users
Joseph A. Aloi, MD
12:15 p.m.-12:45 p.m. Panel Discussion
Anne L. Peters, MD
John R. Petrie, PhD, FRCP
Jenise C. Wong, MD, PhD
Viral N. Shah, MD
Joseph A. Aloi, MD
12:45 p.m.-1:00 p.m. Question and Discussion Period

Professional Interest Group Discussion
Theme Area: Clinical Diabetes/Therapeutics
Improving Transitions in Diabetes Care
Room: S-154 (South, Upper Mezzanine Level)
Chair: Alexander Turchin, MD, MS
12:00 p.m.-12:20 p.m. Transitions to Adult Care for Youth with Diabetes
Katharine Garvey, MD, MPH
12:20 p.m.-12:40 p.m. The Transition from Outpatient to Inpatient Health Care for Patients with Diabetes
Guillermo E. Umpierrez, MD, CDE, FACP, FACE
12:40 p.m.-1:00 p.m. The Hospital to Home Transition of Care for Patients with Diabetes
Daniel J. Rubin, MD, MSc, FACE
12:00 p.m.-1:00 p.m. (continued)

Professional Interest Group Discussion
Theme Area: Clinical Diabetes/Therapeutics
All Pregnant Women with Gestational Diabetes or Preexisting Diabetes Should Be Induced by 38 Weeks
Room: S-303 (South, Level 3)
Chair: Jennifer Wyckoff, MD
12:00 p.m.-12:10 p.m. Welcome, Introduction, and Opening Poll
   Jennifer Wyckoff, MD
12:10 p.m.-12:30 p.m. Pro
   Chloe Zera, MD, MPH
12:30 p.m.-12:50 p.m. Con
   Howard Berger, MD
12:50 p.m.-1:00 p.m. Question and Discussion Period

Professional Interest Group Discussion
Theme Area: Epidemiology/Genetics
New Insights and Remaining Challenges in Diabetes Management and Complications
Room: S-153 (South, Upper Mezzanine Level)
Chair: Hsin-Chieh “Jessica” Yeh, PhD
12:00 p.m.-12:05 p.m. Welcome and Michaela Modan Memorial Award Presentation
   Hsin-Chieh “Jessica” Yeh, PhD
12:05 p.m.-12:25 p.m. Recent Resurgence in Selected Complications in Young and Middle-Aged Adults
   Edward W. Gregg, PhD
12:25 p.m.-12:45 p.m. Challenges to Individualizing Diabetes Management in Older Adults
   Medha Munshi, MD
12:45 p.m.-1:00 p.m. Question and Discussion Period

Professional Interest Group Discussion
Theme Area: Immunology/Transplantation
Regulatory T-Cells Expressing Type 1 Diabetes-Reactive T-Cell Receptors and Chimeric Antigen Receptors to Promote Immune Tolerance
Room: S-10 (South, Exhibition Level)
Chair: Massimo Pietropaolo, MD
12:00 p.m.-12:30 p.m. T-Cells Expressing Chimeric Antigen Receptor Promote Immune Tolerance
   Everett Meyer, MD, PhD
12:30 p.m.-1:00 p.m. Avidity and Bystander Suppressive Capacity of Human Regulatory T-Cells Expressing De Novo Autoreactive T-Cell Receptors in Type 1 Diabetes
   Wen-I Yeh, PhD
MONDAY, JUNE 10, 2019

12:00 p.m.-1:00 p.m. (continued)

General Poster Session

Poster Hall (Hall F, North, Exhibition Level)

All posters will be displayed Saturday, Sunday, and Monday. Poster presenters in the following categories will be at their posters during this period for questions and discussion with attendees.

Presented Categories

**Theme Area: Acute and Chronic Complications**

Complications—Macrovascular—Atherosclerotic Cardiovascular Disease and Human Diabetes
Posters: 404-P to 473-P

Complications—Macrovascular—Cellular Mechanisms of Atherogenesis in Diabetes
Posters: 474-P to 488-P

Complications—Nephropathy—Basic and Experimental Science
Posters: 489-P to 521-P

Complications—Nephropathy—Clinical and Translational Research
Posters: 522-P to 550-P

Complications—Retinopathy
Posters: 583-P to 608-P

Complications—Diabetic Dyslipidemia
Posters: 609-P to 620-P

**Theme Area: Clinical Diabetes/Therapeutics**

Pediatrics—Type 1 Diabetes
Posters: 1343-P to 1384-P

**Theme Area: Epidemiology/Genetics**

Genetics—Type 1 Diabetes
Posters: 1691-P to 1698-P

Genetics—Type 2 Diabetes
Posters: 1699-P to 1725-P

**Theme Area: Integrated Physiology/Obsesity**

Obesity—Animal
Posters: 1985-P to 2045-P

Obesity—Human
Posters: 2046-P to 2119-P

**Theme Area: Islet Biology/Insulin Secretion**

Islet Biology—Apoptosis
Posters: 2120-P to 2138-P

Islet Biology—Beta Cell—Development and Postnatal Growth
Posters: 2139-P to 2160-P

Islet Biology—Beta Cell—Stimulus-Secretion Coupling and Metabolism
Posters: 2161-P to 2182-P

Islet Biology—Signal Transduction
Posters: 2183-P to 2197-P

**Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise**

**Diabetes Education**
Posters: 647-P to 717-P

**Psychosocial, Behavioral Medicine**
Posters: 800-P to 892-P

**Theme Area: Clinical Diabetes/Therapeutics**

Pediatrics—Obesity and Type 2 Diabetes
Posters: 1316-P to 1342-P

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MONDAY—PROGRAM
12:00 p.m.-1:00 p.m.  
(continued)

Moderated Poster Discussions  

Poster Hall (Hall F, North, Exhibition Level)

Continuing Education Credit is not awarded for Moderated Poster Discussions.

Explore the Poster Hall with a Moderated Poster Discussion. Poster presenters will share their perspectives and highlight novel or recent developments in question and answer discussions with session moderators.

Follow the steps below to attend a Moderated Poster Discussion:

- Identify the discussion you are interested in attending from the schedule listed below
- Note the location of the discussion. Discussions will start at the first poster board number in the discussion
- Proceed to the location of the discussion at least 5 minutes before the start

There is no required sign-up to attend a discussion, however space and equipment is available on a first-come, first-served basis.

Presented Discussions

**Theme Area: Acute and Chronic Complications**  
**Hypoglycemia—From Bedside to Bench**  
Posters: 367-P to 372-P  
Location: Poster Hall (First poster in discussion)  
Moderator: Rory J. McCrimmon, MD

**Theme Area: Acute and Chronic Complications**  
**Diabetic Neuropathy—Mechanisms and Management**  
Posters: 551-P to 556-P  
Location: Poster Hall (First poster in discussion)  
Moderator: Solomon Tesfaye, MB, ChB, MD, FRCP

**Theme Area: Acute and Chronic Complications**  
**Walking the Path of New Research**  
Posters: 621-P to 626-P  
Location: Poster Hall (First poster in discussion)  
Moderator: James Wrobel, DPM, MS

**Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise**  
**Impact of Exercise on Skeletal Muscle and Adipose Tissue to Improve Metabolic Health**  
Posters: 718-P to 723-P  
Location: Poster Hall (First poster in discussion)  
Moderator: Carrie E. McCurdy, PhD

**Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise**  
**Nutrition Research—From the Bench, to the Gut, to Our Meal**  
Posters: 753-P to 758-P  
Location: Poster Hall (First poster in discussion)  
Moderator: Barbora de Courten, MD, PhD MPH, FRACP

**Theme Area: Insulin Action/Molecular Metabolism**  
**Insulin and Insulin Signaling**  
Posters: 1781-P to 1786-P  
Location: Poster Hall (First poster in discussion)  
Moderator: Ivana Semova, PhD

**Theme Area: Integrated Physiology/Obesity**  
**Factors Regulating Hepatic Insulin Clearance, Liver Fat, and Glucose Production In Vivo**  
Posters: 1843-P to 1848-P  
Location: Poster Hall (First poster in discussion)  
Moderator: Jason J. Winnick, PhD

**Theme Area: Integrated Physiology/Obesity**  
**Muscle Mashup in the Regulation of Metabolism and Insulin Action**  
Posters: 1928-P to 1933-P  
Location: Poster Hall (First poster in discussion)  
Moderator: John P. Kirwan, PhD
Continuing Education Credit is not awarded for ePoster Theater Sessions.

Poster presenters will display a digital poster of their work that will include a high-level overview of the poster findings in an open discussion with the session moderator.

Follow the steps below to attend an ePoster Theater Session:

- Identify which session you are interested in attending from the schedule listed below
- Discussions will take place in one of two ePoster Theaters located within the Exhibit Hall (booth 933)
- Proceed to the location of the session at least 5 minutes before the start

Seating is limited and available on a first come, first-served basis.

<table>
<thead>
<tr>
<th>Theme Area: Clinical Diabetes/Therapeutics</th>
<th>Theme Area: Select Categories</th>
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<tr>
<td>The Skinny on Incretins</td>
<td>Diabetes Research Across the Spectrum—From Cell-Based to Clinical Translation</td>
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<td>Posters: 980-P to 985-P</td>
<td>Posters: 1-LB to 6-LB</td>
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<tr>
<td>Location: Exhibit Hall (ePoster Theater A/booth 933)</td>
<td>Location: Exhibit Hall (ePoster Theater B/booth 933)</td>
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<tr>
<td>Moderator: Ildiko Lingvay, MD, MPH, MSCS</td>
<td>Moderator: Jose C. Florez, MD, PhD</td>
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</table>
12:30 p.m.-1:30 p.m.

**Special Seminar**
*Theme Area: Acute and Chronic Complications*
**Innovations in Medical Training**
Location: Exhibit Hall, Product Theater 3 (Booth 2000)
Chair: Robert H. Eckel, MD
12:30 p.m.-1:10 p.m. Cardiometabolic Medicine—A Call for a New Subspecialty Training Track to Address the Diabetes Burden
   Robert H. Eckel, MD
1:10 p.m.-1:30 p.m. Question and Discussion Period

1:00 p.m.-2:00 p.m.
**Session Break**
Take this opportunity to visit the Exhibit and Poster Halls

2:15 p.m.-4:15 p.m.

**Symposium**
*Theme Area: Acute and Chronic Complications*
**Controversies in the Evaluation and Management of Dyslipidemia in Patients with Diabetes**
Room: S-153 (South, Upper Mezzanine Level)
Chair: Peter Reaven, MD
2:15 p.m.-2:45 p.m. How Should We Approach Dyslipidemia in Young Patients (<30 Years of Age) with Either Type 1 or Type 2 Diabetes?
   Amy Sanghavi Shah, MD, MS
2:45 p.m.-3:15 p.m. How Should We Approach Dyslipidemia in Elderly Diabetic Patients (>75 Years of Age) Without Cardiovascular Disease?
   Dan Streja, MD
3:15 p.m.-3:45 p.m. When LDLc Is at Goal, but Triglycerides Are Elevated, What Should We Do?
   Savitha Subramanian, MD
3:45 p.m.-4:15 p.m. Should We Treat Dyslipidemia in Patients with Diabetes and Severe Chronic Renal Failure (eGFR <30) and if so, How?
   Lisa Tannock, MD

**Symposium**
*Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise*
**Making the Numbers Meaningful—The Value of Qualitative Research in Diabetes**
Room: S-203 (South, Level 2)
Co-Chairs: Marisa E. Hilliard, PhD and Robin Whittemore, PhD
2:15 p.m.-2:45 p.m. When Qualitative Findings Contradict Quantitative Data—A Look into Ethnic Minority and Immigrant Populations
   Tricia S. Tang, PhD, RP Psych
2:45 p.m.-3:15 p.m. Out of the Mouth of Babes—How Qualitative Research Contributes to a Stronger Intervention Development
   Faisal Malik, MD, MSHS
3:15 p.m.-3:45 p.m. In Their Own Words—Qualitative Studies of Difficult Conversations about Diabetes
   Marilyn D. Ritholz, PhD
3:45 p.m.-4:15 p.m. Tech Overload? Qualitative Findings on the Uptake of Continuous Glucose Monitoring/Pumps in Diabetes Management
   Molly L. Tanenbaum, PhD
**Symposium**

**Theme Area: Clinical Diabetes/Therapeutics**

**Got Milk? Variability in Milk Composition and Effects on Offspring Health**

Room: S-157 (South, Upper Mezzanine Level)

Chair: Elvira Isganaitis, MD, MPH

2:15 p.m.-2:35 p.m. **Maternal Obesity or Diabetes—Effects on Milk Composition and Offspring Outcomes**

David A. Fields, PhD

2:35 p.m.-2:55 p.m. **Breast Milk, Microbiota, and Intestinal Immune Homeostasis**

W. Allan Walker, MD

2:55 p.m.-3:15 p.m. **Restoring the Infant Gut Microbiome in Breastfed Infants over the First Year of Life**

Jennifer T. Smilowitz, PhD

3:15 p.m.-3:35 p.m. **FGF21 in Milk (Rodent and Human) Controls Neonatal Intestinal Function**

Francesc Villarroya, PhD

3:35 p.m.-3:55 p.m. **Human Milk Oligosaccharides Protect Against the Development of Autoimmune Diabetes in NOD-Mice**

Belinda van’t Land, PhD

3:55 p.m.-4:15 p.m. **Question and Discussion Period**

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**Symposium**

**Theme Area: Clinical Diabetes/Therapeutics**

**Joint ADA/ISPAD Symposium—Understanding Heterogeneity in Pediatric Diabetes—First Step to Improving Outcomes**

Room: S-154 (South, Upper Mezzanine Level)

Co-Chairs: Ingrid M. Libman, MD, PhD and David M. Maahs, MD, PhD

2:15 p.m.-2:45 p.m. **Types of Pediatric Diabetes—Is There a Classification That Works?**

Dana Dabelea, MD, PhD

2:45 p.m.-3:15 p.m. **Heterogeneity in Type 1 Diabetes—Is It a Single Disease?**

Andrea Steck, MD

3:15 p.m.-3:45 p.m. **Type 2 Diabetes Factors in the Etiology of Type 1 Diabetes—Implications for Prevention, Diagnosis, and Treatment**

Maria J. Redondo, MD, PhD, MPH

3:45 p.m.-4:15 p.m. **Type 2 Diabetes Across the Lifespan—Who Is Worse Off, Youth or Adults?**

Silva Arslanian, MD

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**Symposium**

**Theme Area: Clinical Diabetes/Therapeutics**

**Major Advances and Discoveries in Diabetes—The Year in Review**

Room: N-Hall E (North, Exhibition Level)

Chair: William T. Cefalu, MD

2:15 p.m.-3:15 p.m. **Clinical Advancements in Diabetes over the Past Year**

Daniel J. Drucker, MD

3:15 p.m.-4:15 p.m. **Major Discoveries in Diabetes over the Past Year**

Juleen R. Zierath, PhD
Symposium  
*Theme Area: Immunology/Transplantation*

**Islet Transplantation Today and Tomorrow**  
Room: W-2006 (West, Level 2)  
Chair: Betul Hatipoglu, MD

2:15 p.m.-2:45 p.m.  
Updates on Clinical Islet Transplant Trials  
Kirstie K. Danielson, PhD

2:45 p.m.-3:15 p.m.  
Bio-synthetic Materials for Encapsulation/Bioengineering Approaches  
Omid Veiseh, PhD

3:15 p.m.-3:45 p.m.  
An Unlimited Islet Cell Source  
Nayara C. Leite, PhD

3:45 p.m.-4:15 p.m.  
Question and Discussion Period

Symposium  
*Theme Area: Insulin Action/Molecular Metabolism*

**Insulin Glucose Homeostasis and Cancer**  
Room: W-2014 (West, Level 2)  
Chair: Xiling Shen, PhD, MSc

2:15 p.m.-2:45 p.m.  
Regulation of Insulin Signaling and Cancer  
Marcus Goncalves, MD, PhD

2:45 p.m.-3:15 p.m.  
Glucose Sensing and Cancer  
Yujiang Geno Shi, PhD

3:15 p.m.-3:45 p.m.  
Insulin, IGF1, and Metabolic Vulnerabilities in Lung Cancer  
Nada Kalaany, PhD

3:45 p.m.-4:15 p.m.  
IGFs and Cancer  
Valentine Macaulay, MD, PhD, FRCP

Symposium  
*Theme Area: Islet Biology/Insulin Secretion*

**Will the Real Beta Cell Please Stand Up?**  
Room: W-2002 (West, Level 2)  
Chair: Mark O. Huising, PhD

2:15 p.m.-2:45 p.m.  
Developmental Histories of Beta Cells Generate Functional and Proliferative Heterogeneity  
Nikolay Ninov, PhD, BSc

2:45 p.m.-3:15 p.m.  
Heterogeneity in Beta-Cell Aging  
Cristina Aguayo-Mazzucato, MD, PhD

3:15 p.m.-3:45 p.m.  
Heterogeneity in Beta-Cell Proliferation and Function  
Maria L. Golson, PhD

3:45 p.m.-4:15 p.m.  
Beta-Cell Heterogeneity—A Neuronal Story  
Sangeeta Dhawan, PhD
Oral Presentations
Theme Area: Acute and Chronic Complications
Hypoglycemia and Technology
Room: S-10 (South, Exhibition Level)
Chair: Belinda P. Childs, APRN, MN, BC-ADM, CDE

2:15 p.m.-2:30 p.m.
279-OR How to Use rtCGM Data to Predict Future Severe Hypoglycemia?
NORBERT HERMANNS, DOMINIC EHRMANN, PETER CALHOUN, GUIDO FRECKMANN, LUTZ HEINEMANN,
Bad Mergentheim, Germany, Tampa, FL, Ulm, Germany, Düsseldorf, Germany

2:30 p.m.-2:45 p.m.
280-OR Machine Learning to Predict Hypoglycemic Events from Continuous Glucose Monitoring Data
PRATIK AGRAWAL, LINGTAO CAO, YUAN-CHI CHANG, GRETCHEN P. JACKSON, SARAH KEFAYATI,
VENKATA PAVULURI, SAKET SATHE, DEEPAK S. TURAGA, RODRIGUE NGUEYEP, EDWARD VITKIN, LONG
VU, YUXIANG ZHONG, Northridge, CA, Hayward, CA, Yorktown Heights, NY, Nashville, TN, San Francisco, CA,
New York, NY, Haifa, Israel

2:45 p.m.-3:00 p.m.
281-OR Directness and Sustainability of rtCGM Effects on Hypoglycemia: A Secondary Analysis of the Hypode
Study
DOMINIC EHRMANN, LUTZ HEINEMANN, GUIDO FRECKMANN, DELIA WALDENMAIER, NORBERT
HERMANNS, Bad Mergentheim, Germany, Düsseldorf, Germany, Ulm, Germany

3:00 p.m.-3:15 p.m.
282-OR Impact of a Hybrid Closed-Loop Insulin Delivery System on Hypoglycemia Awareness in Individuals with
Type 1 Diabetes
MARIE-ANNE BURCKHARDT, JULIE DART, GRANT J. SMITH, MARY B. ABRAHAM, NIRUBASINI
PARAMALINGAM, JOANNE M. O’DEA, MARTIN DE BOCK, ELIZABETH A. DAVIS, TIMOTHY JONES, Perth,
Australia

3:15 p.m.-3:30 p.m.
283-OR Structured Nurse-Led Intervention following Ambulance Call Out for Hypoglycemia Reduces Cardiovascular
Mortality in Type 2 Diabetes
SAM PEARSON, KAVITA KULAVARASALINGAM, PAUL BAXTER, AMELIA K. MITCHELL-GEARS, BEVERLEY
ANN WHITTAM, RAMZI AJJAN, Leeds, United Kingdom, Huddersfield, United Kingdom

3:30 p.m.-3:45 p.m.
284-OR How Do Patients and Caregivers Prioritize Outcomes for Type 1 Diabetes (T1D) Treatment?
MARJANA MARINAC, CAMPBELL T. HUTTON, CAROL MANSFIELD, JESSIE SUTPHIN, KATHLEEN
GALLAHER, SEAN SULLIVAN, Washington, DC, Research Triangle Park, NC, New York, NY

3:45 p.m.-4:00 p.m.
285-OR Conversations and Reactions around Severe Hypoglycemia (CRASH): U.S. Results from a Global Survey of
People with T1DM or Insulin-Treated T2DM and Caregivers
FRANK J. SNOEK, ALINA JILETCOVICI, DONALD M. BUSHNELL III, CHRISTOPHER J. CHILD, SANJAY
K. BAJPAI, ERIK SPAEPEN, JOSH THOMAS, ZANETA BALANTAC, MARK PEYROT, BETH MITCHELL,
Amsterdam, Netherlands, Indianapolis, IN, Seattle, WA, Windlesham, United Kingdom, Carmel, IN,
Bekkevoort, Belgium, Bethesda, MD, Baltimore, MD

4:00 p.m.-4:15 p.m.
286-OR Phase 3 Results for Dasiglucagon as a Fast and Effective Treatment for Severe Hypoglycemia
THOMAS R. PIEBER, ULRIKE HOEVELMANN, JULIE WILLARD, LEONA PLUM-MOERSCHEL, ULRIK
MOURITZEN, RAIMIN TEHRANCHI, RONNIE ARONSON, Graz, Austria, Neuss, Germany, San Diego, CA,
Mainz, Germany, Glostrup, Denmark, Copenhagen, Denmark, Toronto, ON, Canada
Oral Presentations

Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise

Effects of Exercise on Metabolic Health in Type 2 and Type 1 Diabetes

Room: S-208 (South, Level 2)
Chair: David Wright, PhD

2:15 p.m.-2:30 p.m.

287-OR Acute Exercise Enhances the Differentiation Rate of Human Adipocyte Precursor Cells
PALLAVI VARSHNEY, LISA M. GUTH, CARA M. ANDERSON, ARTHE RAAJENDIRAN, MATTHEW J. WATT, JEFFREY F. HOROWITZ, Ann Arbor, MI, Chicago, IL, Melbourne, Australia, Victoria, Australia

2:30 p.m.-2:45 p.m.

288-OR Novel Epigenetic Mechanism for Maternal Exercise Effects on Offspring Metabolic Health
JOJI KUSUYAMA, ANA B. WAGNER, MICHAEL F. HIRSHMAN, LAURIE J. GOODYEAR, Boston, MA

2:45 p.m.-3:00 p.m.

289-OR Aerobic Exercise Counteracts Mitochondrial Dysfunction in the Insulin Resistant Brain
GREGORY RUEGSEGGER, PATRICK M. VANDERBOOM, SURENDRAS DEASARI, KATHERINE KLAUS, K. SREEKUMARAN NAIR, Rochester, MN

3:00 p.m.-3:15 p.m.

290-OR High-Intensity Interval Training and Moderate-Intensity Continuous Training Induce Similar Modifications to Factors Regulating Skeletal Muscle Lipolysis
BENJAMIN J. RYAN, MICHAEL W. SCHLEH, PALLAVI VARSHNEY, ALISON LUDZKI, JENNA B. GILLEN, KATIE FOUG, BENJAMIN D. CARR, JEFFREY F. HOROWITZ, Ann Arbor, MI

3:15 p.m.-3:30 p.m.

291-OR Exercise Modulates Glucose Metabolism in Part through Changes in the Gut Microbiome
BRUNA BRANDAO, MENGYAO E. LI, WEIKANG CAI, THIAGO M. BATISTA, MICHAEL F. HIRSHMAN, LAURIE J. GOODYEAR, C. RONALD KAHN, Boston, MA

3:30 p.m.-3:45 p.m.

292-OR Renin-Angiotensin System Inhibition, Cardiorespiratory Fitness, and Mortality Risk in Diabetic Patients
PETER KOKKINOS, JONATHAN N. MYERS, LABROS SIDOSSIS, CHARLES FASELIS, PUNEET NARAYAN, ERIC NYLEN, XUEMIEI SUI, HANS MOORE, PAMELA KARASKI, Washington, DC, Palo Alto, CA, New Brunswick, NJ, Burke, VA, Columbia, SC

3:45 p.m.-4:00 p.m.

293-OR Flexible Insulin Therapy: Untethered Insulin Regimen Using Insulin Degludec and Continuous Subcutaneous Insulin Infusion (CSII) in Avidly Exercising Patients with T1D: FIT Untethered Study
RONNIE ARONSON, AICHUA LI, RUTH E. BROWN, SARAH MCGAUGH, LOREN YAVELBERG, MICHAEL RIDDELL, Toronto, ON, Canada

4:00 p.m.-4:15 p.m.

294-OR Type 1 Diabetes Patients with Residual Beta-Cell Function Display Improved Time in Euglycemia and Less Glycaemic Fluctuation after Exercise
GUY S. TAYLOR, KIERAN SMITH, JADINE SCRAGG, AYAT BASHIR, RICHARD A. ORAM, TIMOTHY J. MCDONALD, EMMA J. STEVENSON, JAMES A. SHAW, DANIEL J. WEST, Newcastle upon Tyne, United Kingdom, Exeter, United Kingdom
Oral Presentations
Theme Area: Clinical Diabetes/Therapeutics
Making Sense of Glucose Monitoring
Room: S-303 (South, Level 3)
Co-Chairs: Pablo F. Mora, MD, FACE, CDE and Viral N. Shah, MD

2:15 p.m.-2:30 p.m.
295-OR User Acceptance of the Eversense® CGM System in a Home Use Setting: The House Study
MAGNUS LONDAHL, MONA LANDIN-OLSSON, STIG ATTVALL, Lund, Sweden, Gothenburg, Sweden

2:30 p.m.-2:45 p.m.
296-OR Diminished Sensor Performance of the Abbott Freestyle Libre Intermittently-Viewed Continuous Glucose Monitoring System (ICGMS) during Hypoglycemia and Acute Exercise in People with Type 1 Diabetes
OTHMAR MOSER, MAX L. ECKSTEIN, OLIVIA MCCARTHY, RACHEL DEERE, JASON PITT, DAVID M. WILLIAMS, JENNIFER HAYES, STEPHEN C. BAIN, RICHARD M. BRACKEN, Swansea, United Kingdom

2:45 p.m.-3:00 p.m.
297-OR Usefulness of Coefficient of Variation (CV) to Assess Hypoglycemia in Older Adults with Type 1 Diabetes (T1D)
ELENA TOSCHI, CHRISTINE SLYNE, ALYSSA B. DUFOUR, ASTRID ATAKOV-CASTILLO, SAM CARL, KAYLA SIFRE, JORDAN GREENBERG, MEDHA MUNSHI, Boston, MA

3:00 p.m.-3:15 p.m.
298-OR Sustained Improvement in Glycaemia following Flash Glucose Monitoring: An Expanded Worldwide Analysis
SUJIT JANGAM, JORDAN LANG, TIMOTHY DUNN, YONGJIN XU, GARY HAYTER, Alameda, CA, Reno, NV, Oakland, CA

3:15 p.m.-3:30 p.m.
299-OR The Association of British Clinical Diabetologists UK-Wide Audit of Freestyle Libre Use in Diabetes—Effect on Glycaemic Control
HARSHAL DESHMUKH, EMMA G. WILMOT, DAVID BISHOP, DAVID W. LIPSCOMB, RUMAISA BANATWALLA, REZA ZAIDI, ZOE V. SMITH, LOUISE OVEREND, SHAFIE KAMARUDDIN, CHERYL M. HALL, JACQUELINE MACFADYEN, ANNE KILVERT, ROBERT E. RYDER, CHRISTOPHER WALTON, THOZHUKAT SATHYAPALAN, Hull, United Kingdom, Derby, United Kingdom, Sunderland, United Kingdom, Brighton, United Kingdom, Surrey, United Kingdom, Liverpool, United Kingdom, London, United Kingdom, Carlisle, United Kingdom, Darlington, United Kingdom, Dunedin, New Zealand, North Lanarkshire, United Kingdom, Northampton, United Kingdom, Birmingham, United Kingdom

3:30 p.m.-3:45 p.m.
300-OR Individualized Hemoglobin A1C: A New Glycemic Marker Determined Using Continuous Glucose Monitoring
RICHARD M. BERGENSTAL, TIMOTHY DUNN, YONGJIN XU, RAMZI AJJAN, Minneapolis, MN, Alameda, CA, Leeds, United Kingdom

3:45 p.m.-4:00 p.m.
301-OR The Impact of Continuous Glucose Monitoring in Youth with Type 1 Diabetes, Aged 16-21
MYRON LEE, JANE HOLMES-WALKER, KAYE FARRELL, Sydney, Australia, Westmead, Australia

4:00 p.m.-4:15 p.m.
302-OR Causes of Blinded CGM Failure during Clinical Trials in Patients with T2D
SERGIO SALDIVAR-SALAZAR, MARCIA A. TESTA, JOHANNA F. HAYES, DONALD C. SIMONSON, Wellesley Hills, MA, Boston, MA
Oral Presentations
Theme Area: Epidemiology/Genetics
Leveling Up Genome-Wide Association Studies (With ADA Presidents’ Select Abstract Presentation)
Room: W-2022 (West, Level 2)
Chair: Lu Qi, MD, PhD

2:15 p.m.-2:30 p.m.
303-OR ADA Presidents’ Select Abstract Presentation: Transethnic Association Study of Type 2 Diabetes in More than a Million Individuals
ANUBHA MAHAJAN, XUELING SIM, WEIHUA ZHANG, JENNIFER E. BELOW, HIDETOSHI KITAJIMA, LEO SPEIDEL, ANDREW MORRIS, Oxford, United Kingdom, Singapore, Singapore, London, United Kingdom, Nashville, TN, Liverpool, United Kingdom

2:30 p.m.-2:45 p.m.
304-OR Polygenic Risk Score Predicts Type 2 Diabetes Susceptibility in a Diverse Consumer Genetic Database
MICHAEL L. MULTHAUP, RYOSUKE KITA, NICHOLAS ERIKSSON, STELLA ASLIBEKYAN, JANIE SHELTON, RUTH I. TENNEN, ESTHER KIM, BERTRAM KOELSCH, Mountain View, CA

2:45 p.m.-3:00 p.m.
305-OR Genomic Basis to Shared Influences on Pubertal Timing and Type 2 Diabetes
DIANA L. COUSMINER, RAJASHREE MISHRA, MARIANA A. ARGENZIANO, ELISABETTA MANDUCHI, KENYATA M. HODGE, CHUN SU, MICHELLE LEONARD, SUMEI LU, JAMES A. PIPPIN, MATTHEW JOHNSON, ANDREW D. WELLS, ALESSANDRA CHESI, BENJAMIN F. VOIGHT, STRUAN F. GRANT, Philadelphia, PA

3:00 p.m.-3:15 p.m.
306-OR Gene-Environment Interactions for Type 2 Diabetes in UK Biobank
ABHISHEK NAG, ANUBHA MAHAJAN, MARK MCCARTHY, Oxford, United Kingdom

3:15 p.m.-3:30 p.m.
307-OR Interaction of Diabetes Genetic Risk and Successful Lifestyle Modification in the Diabetes Prevention Program
SRIDHARAN RAGHAVAN, KATHLEEN A. JABLONSKI, LINDA M. DELAHANTY, NISA MARUTHUR, AARON LEONG, PAUL W. FRANKS, WILLIAM C. KNOWLER, JOSE C. FLOREZ, DANA DABELEA, DPP RESEARCH GROUP, Denver, CO, Rockville, MD, Boston, MA, Baltimore, MD, Malmö, Sweden, Phoenix, AZ, Aurora, CO

3:30 p.m.-3:45 p.m.
308-OR Genome-Wide Association Study of Food Frequency Questionnaire Single Nutrients and Dietary Patterns Uncover Hundreds of Genetic Associations
JOANNE B. COLE, AARON LEONG, JOEL HIRSCHHORN, JOSE C. FLOREZ, Boston, MA

3:45 p.m.-4:00 p.m.
309-OR Deep Learning Model of Pancreatic Islet Epigenome Refines Association Signals at Type 2 Diabetes Susceptibility Loci
AGATA WESOLOWSKA-ANDERSEN, MATHIAS THURNER, ANUBHA MAHAJAN, FERNANDO ABAITUA, JASON TORRES, VIBE NYLANDER, ANNA L. GLOYN, MARK MCCARTHY, Oxford, United Kingdom

4:00 p.m.-4:15 p.m.
310-OR Integrating Islet and Skeletal Muscle Enhancer RNA Signatures with Diverse Omics Data Enables Fine-Mapping of Diabetes and Related Trait GWAS Loci
STEPHEN PARKER, ARUSHI VARSHNEY, FUSION TISSUE STUDY, Ann Arbor, MI

ADA-Supported Research
Oral Presentations
Theme Area: Integrated Physiology/Obesity

Fat, Heat, Sugar—Regulation of Body Weight and Metabolic Health
Room: W-2001 (West, Level 2)
Chair: Hang Shi, PhD

2:15 p.m.-2:30 p.m.
311-OR CREBZF as a Novel Target of Glucose Sensing Signaling in the Control of Adaptive Thermogenesis in the Adipose Tissue
AOYUAN CUI, ZHENGSHUAI LIU, FENG GUANG MA, JINYUN BAI, YAOQIAN XUE, YUXIAO LIU, ZHIMIN HU, YAMEI HAN, FEIFEI F. ZHANG, JING GAO, XIN GAO, YU LI, Shanghai, China

2:30 p.m.-2:45 p.m.
312-OR Functional Decline in Brown Adipose Progenitors during BAT Remodeling
ZAN HUANG, ZENGDI ZHANG, HAI-BIN RUAN, Minneapolis, MN

2:45 p.m.-3:00 p.m.
313-OR PACAP from the Ventromedial Hypothalamic Nucleus Controls Both Energy Balance and Glucose Homeostasis
NADEJDA BOZADJIEVA, RACHEL A. ROSS, BRADFORD LOWELL, JONATHAN N. FLAK, Ann Arbor, MI, Boston, MA

3:00 p.m.-3:15 p.m.
314-OR Mechanisms of AgRP Neuron-Induced Hunger
ZACHARY KNIGHT, San Francisco, CA

3:15 p.m.-3:30 p.m.
315-OR Two Brown Adipocyte Subpopulations with Distinct Thermogenic Activity Coexist and Undergo Dynamic Interconversions upon Changes in Environmental Temperature
ANYING SONG, MIN JEE JANG, XIWEI WU, LEI JIANG, PHILIPP E. SCHERER, QIONG WANG, Duarte, CA, Pasadena, CA, Monrovia, CA, Dallas, TX

3:30 p.m.-3:45 p.m.
316-OR Suppressing Adipose Tissue Inflammation Promotes Insulin Resistance in Mice
QINGZHANG ZHU, PHILIPP E. SCHERER, Dallas, TX

3:45 p.m.-4:00 p.m.
317-OR Spatio-temporal Signature of Hypothalamic Transcriptome in Obesity
TOMOHIRO TANAKA, Nagoya, Japan

4:00 p.m.-4:15 p.m.
318-OR Targeting PPARγ Phosphorylation Prevents Obesity by Inducing a Brown-Like Healthy Remodeling of Adipose Tissue
NABIL RABHI, STEPHEN R. FARMER, Boston, MA
Symposium
Theme Area: Acute and Chronic Complications
Beyond Anti-VEGF Therapy—New Approaches in Diabetic Retinopathy Clinical Trials
Room: S-303 (South, Level 3)
Co-Chairs: Yun Z. Le, PhD and Susanne Mohr, PhD
4:30 p.m.-6:30 p.m.

Symposium
Theme Area: Clinical Diabetes/Therapeutics
The CAROLINA Trial—First Results of the Cardiovascular Outcomes Trial Comparing Linagliptin vs. Glimepiride
Room: W-3001 (West, Level 3)
Co-Chairs: Nikolaus Marx, MD, FESC, FAHA and Julio Rosenstock, MD
4:30 p.m.-6:30 p.m.

Mechanisms in the Pathogenesis of Diabetic Retinopathy—A Synthesis of Perspective
Maria B. Grant, MD

Tie2 Activation for Diabetic Retinopathy and Nephropathy—Razuprotifib (AKB-9778) Clinical Trial Results
Peter A. Campochiaro, MD

Systemic and Retinal-Specific Effects of Fenofibrate in Retinopathy Outcomes of FIELD and ACCORD EYE
Emily Chew, MD

Next Generation Intravitreal Combination Agents as an Alternative to Anti-VEGF Treatment
Jennifer I. Lim, MD
Symposium
Theme Area: Epidemiology/Genetics
Are Taxes the Solution to the Diabetes Epidemic?
Room: W-2022 (West, Level 2)
Chair: Karen R. Siegel, PhD, MPH
4:30 p.m.-5:00 p.m.  Overview of Food Policy Levers for the Prevention of Obesity and Diabetes
                        Kelly D. Brownell, PhD
5:00 p.m.-5:30 p.m.  The National Perspective—Progress Made and Future Measures
                        Margo Wootan, DSc
5:30 p.m.-6:00 p.m.  The City Perspective—Soda Taxes in Berkeley, Philadelphia, and Beyond
                        Jennifer Falbe, ScD, MPH
6:00 p.m.-6:30 p.m.  Epidemiology Meets Econometrics—Methods for Food Policy Impact Evaluation
                        Benjamin T. Allaire, MS

Symposium
Theme Area: Immunology/Transplantation
The Emerging Role of B Cells in Type 1 Diabetes
Room: W-2006 (West, Level 2)
Co-Chairs: Jonathan D. Katz, PhD and Massimo Pietropaolo, MD
4:30 p.m.-5:00 p.m.  Studies Across Autoimmune Diseases and Patients with Multiple Autoimmune Diseases
                        Propelled Our Understanding of Type 1 Diabetes as an Autoimmune Disease
                        Jane H. Buckner, MD
5:00 p.m.-5:30 p.m.  Function of High Affinity Insulin-Reactive B Lymphocytes in Autoimmune Diabetes—Roles of Risk Alleles and Failure of Molecular Pathways That Maintain Immune Tolerance
                        John C. Cambier, PhD
5:30 p.m.-6:00 p.m.  Bridging Mice to Humans—Invasion of the Killer B Cells in Type 1 Diabetes
                        David V. Serreze, PhD
6:00 p.m.-6:30 p.m.  Question and Discussion Period

Symposium
Theme Area: Insulin Action/Molecular Metabolism
Metabolites as Mediators
Room: W-2014 (West, Level 2)
Chair: Heather Ferris, MD, PhD
4:30 p.m.-4:50 p.m.  Oxysterols in Inflammation
                        Jason Cyster, PhD
4:50 p.m.-5:10 p.m.  Linking Metabolism, Epigenetic, and Cancer—Lessons from SIRT6
                        Raul Mostoslavsky, MD, PhD
5:10 p.m.-5:30 p.m.  Reactive Metabolites in the Regulation of Metabolism
                        Matthew D. Hirschey, PhD
5:30 p.m.-5:50 p.m.  Ketones as Regulators
                        Peter A. Crawford, MD, PhD
5:50 p.m.-6:10 p.m.  Ketones and Inflammation
                        Vishwa Deep Dixit, DVM, PhD
6:10 p.m.-6:30 p.m.  Question and Discussion Period
Symposium
Theme Area: Integrated Physiology/Obesity
Defense of Elevated Body Fatness in Obesity—Pathogenesis and Treatment
Room: W-2001 (West, Level 2)
Chair: Ania M. Jastreboff, MD, PhD

4:30 p.m.-5:00 p.m.  Theoretical and Evolutionary Perspectives on Body Fat Regulation
John Speakman, PhD, DSc

5:00 p.m.-5:30 p.m.  Neuroscience Findings Relevant to Defense of Elevated Body Fat
Ellen Schur, MD, MS

5:30 p.m.-6:00 p.m.  Is the Trajectory of Body Fatness “Set” In Utero?
Leanne Redman, PhD, FTOS

6:00 p.m.-6:30 p.m.  Can Treatment Approaches Lower the Defended Level of Body Fat?
Cara B. Ebbeling, PhD
**Oral Presentations**

**Theme Area: Acute and Chronic Complications**

**Diabetic Neuropathy—From Mouse to Man**

Room: S-154 (South, Upper Mezzanine Level)

Chair: Kara R. Mizokami-Stout, MD

**4:30 p.m.-6:30 p.m.**

**319-OR**

Deficit of Retrograde Axonal Transportation Was Mediated via Activation of Macrophage RAGE Signaling in Experimental Diabetic Polyneuropathy  
SHO OSONOI, HIROKI MIZUKAMI, KAZUHIRA TAKAHASHI, KAZUHIRO KUDO, KAZUNORI SANGO, SOROKU YAGIHASHI, Hirosaki, Japan, Tokyo, Japan

**4:45 p.m.-5:00 p.m.**

**320-OR**

Axonal Swellings in Diabetic Patients With and Without Neuropathy  
PALL KARLSSON, SANDRA SIF GYLFADOTTIR, SOLOMON TESFAYE, ANDREW S. RICE, JENS RANDER NYENGAARD, TROELS S. JENSEN, SR., DAVID BENNETT, ANDREAS THEMISTOCLEOUS, Aarhus, Denmark, Sheffield, United Kingdom, London, United Kingdom, Oxford, United Kingdom

**5:00 p.m.-5:15 p.m.**

**321-OR**

A Genetic Locus on Chromosome 1p36 Associated with Cardiovascular Autonomic Neuropathy in Type 2 Diabetes  
YALING TANG, HETAL SHAH, XIUQIN SUN, BRUCE A. PERKINS, MICHAEL J. WAGNER, ALISON MOTSINGER-REIF, JOHN B. BUSE, JOSYF MYCHALECKYJ, RODICA POP-BUSUI, ALESSANDRO DORIA, Boston, MA, Beijing, China, Toronto, ON, Canada, Chapel Hill, NC, Raleigh, NC, Charlottesville, VA, Ann Arbor, MI

**5:15 p.m.-5:30 p.m.**

**322-OR**

Risk Factors for Peripheral and Cardiovascular Autonomic Neuropathy in Type 1 Diabetes: Thirty Years of Follow-Up in DCCT/EDIC  
BARBARA BRAFFETT, ROSE GUBITOSI-KLUG, JAMES W. ALBERS, EVA L. FELDMAN, CATHERINE MARTIN, NEIL H. WHITE, TREVOR J. ORCHARD, MARIA F. LOPES-QUIRELAA, PHILIP RASKIN, RODICA POP-BUSUI, THE DCCT/EDIC STUDY GROUP, Rockville, MD, Cleveland, OH, Ann Arbor, MI, St. Louis, MO, Pittsburgh, PA, Charleston, SC, Dallas, TX

**5:30 p.m.-5:45 p.m.**

**323-OR**

Prediction of Future Neuropathy Onset Using Corneal Confocal Microscopy: A Longitudinal Multinational Consortium Study  
BRUCE A. PERKINS, LEIF ERIK LOVBLOM, VERA BRIL, MARYAM FERDOUSI, ANDREJ ORSZAG, KATIE EDWARDS, NICOLA PRITCHARD, ANTHONY W. RUSSELL, CIROUS DEGHANI, DANIEL PACAUD, KENNETH ROMANCHUK, JEAN MAH, MARIA JEZIORSKA, ANDREW MARSHALL, RONI M. SHTEIN, RODICA POP-BUSUI, STEPHEN I. LENTZ, ANDREW J. BOULTON, MITRA TAVAKOLI, NATHAN EFRON, RAYAZ A. MALIK, Toronto, ON, Canada, Manchester, United Kingdom, Brisbane, Australia, Calgary, AB, Canada, Ann Arbor, MI, Exeter, United Kingdom, Doha, Qatar

**5:45 p.m.-6:00 p.m.**

**324-OR**

Rapid Corneal Nerve Fibre Loss Predicts Neuropathy Progression in Diabetes: A Longitudinal Multinational Consortium Study  
EVAN J.H. LEWIS, LEIF ERIK LOVBLOM, MARYAM FERDOUSI, MARIA JEZIORSKA, DANIEL PACAUD, NICOLA PRITCHARD, RONI M. SHTEIN, NATHAN EFRON, MITRA TAVAKOLI, VERA BRIL, RAYAZ A. MALIK, BRUCE A. PERKINS, Toronto, ON, Canada, Manchester, United Kingdom, Calgary, AB, Canada, Brisbane, Australia, Ann Arbor, MI, Exeter, United Kingdom, Doha, Qatar

(continued on next page)
6:00 p.m.-6:15 p.m.  
**325-OR** Early Parallel Progression of Peripheral and Cardiac Autonomic Nerve Dysfunction in Recent-Onset Type 1 Diabetes Patients  
Gidon J. Bönhof, Alexander Strom, Oana P. Zaharia, Julia Szendroedi, Karsten Muessig, Michael Roden, Dan Ziegler, Düsseldorf, Germany

6:15 p.m.-6:30 p.m.  
**326-OR** A Novel Machine Learning Analysis of Brain Multimodal Magnetic Resonance Imaging Classifies Painful Diabetic Neuropathic Pain Severity with High Accuracy  
Dinesh Selvarajah, Kevin Teh, Gordon P. Sloan, Pallai Rappai Shillo, Iain D. Wilkinson, Solomon Tesfaye, Sheffield, United Kingdom
Oral Presentations
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
The Wide-Ranging Field of Clinical Nutrition Research—From the Role of Nutrients to How We Eat
Room: S-10 (South, Exhibition Level)
Chair: Kimber L. Stanhope, PhD, RD

4:30 p.m.-6:30 p.m.
(continued)

327-OR Prediabetes Conversion to Normoglycemia Is Superior Adding a Low-Carbohydrate Formula Diet to Lifestyle Intervention—A 12-Month Subanalysis of the ACCORH Study
STEPHAN MARTIN, WINFRIED BANZER, ALOYS BERG, KLAUS-MICHAEL BRAUMANN, DAGMAR FUHRER, MARTIN HALLE, DAVID MCCARTHY, MICHEL PINGET, GEORG PREDEL, HERMANN TOPLAK, Düsseldorf, Germany, Frankfurt, Germany, Freiburg, Germany, Hamburg, Germany, Essen, Germany, Munich, Germany, London, United Kingdom, Strasbourg, France, Cologne, Germany, Graz, Austria

4:30 p.m.-4:45 p.m.

328-OR Degree of Glycemic Improvement in Patients with Diabetes Enrolled in Real-World Intensive Lifestyle Intervention in Relation to Baseline A1C: Five-Year Longitudinal Observation
MHD WAEL TASABEJHI, SHAHEEN TOMAH, SAHAR ASHRAFZADEH, ADHAM MOTTALIB, OSAMA HAMDY, Boston, MA

4:45 p.m.-5:00 p.m.

329-OR Shared Medical Appointments (SMA) with Weight Management vs. SMA Alone for Overweight or Obese Patients with Type 2 Diabetes
WILLIAM S. YANCY, JR., CYNTHIA COFFMAN, MATTHEW CROWLEY, MOAHAD DAR, AMY S. JEFFREYS, MATTHEW L. MACIEJEWSKI, CORRINE I. VOILS, ANNA E. BARTON, DAVID EDELMAN, Durham, NC, Greenville, NC, Madison, WI, Richmond, VA

5:00 p.m.-5:15 p.m.

330-OR A 30% Increased Insulin Dose Is Necessary to Control Postprandial Hyperglycemia for High Protein Meals in Individuals with Type 1 Diabetes Using Insulin Pump Therapy
MEGAN A. PATERSON, CARMEL E. SMART, JORDAN RAFFERTY, BRETT FENTON, DARRELL PRICE, DEBORAH C. FOSKETT, ANDREW MAHER, PETER HOWLEY, BRUCE R. KING, New Lambton Heights, Australia, Newcastle, Australia, Gosford, Australia, Southport, Australia, Gold Coast, Australia, Callahan, Australia

5:15 p.m.-5:30 p.m.

331-OR Glycemic Index and Postprandial Blood Glucose Excursions, Insulin Requirements, and Hunger in T1D
BELINDA S. LENNERZ, DONALD C. SIMONSON, GARRY M. STEIL, DAVID S. LUDWIG, Boston, MA

5:30 p.m.-5:45 p.m.

332-OR Determining the Impact of Additional Macronutrients on the Glycemic-Insulin Dynamic Model
BOYI JIANG, YUXIANG ZHONG, PRATIK AGRAWAL, TONI L. CORDERO, ROBERT VIGERSKY, Northridge, CA

(continued on next page)
6:00 p.m.-6:15 p.m.  
333-OR Assessing Mealtime Macronutrient Content: Patient Perceptions vs. Expert Analyses via a Novel Phone App  

6:15 p.m.-6:30 p.m.  
334-OR Supplementation with Histidine-Containing Dipeptides Improves Cardiometabolic Risk Factors: A Meta-analysis of Randomized Controlled Trials  
KIRTHI ARAVIND MENON, AYA MOUSA, CLARA MARQUINA, BARBORA DE COURTEN, Melbourne, Australia
**Oral Presentations**
*Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise*

**Innovative Diabetes Education Across Diverse Populations**
Room: S-208 (South, Level 2)
Chair: Donna Ryan, RN, RD, MPH, CDE

**4:30 p.m. - 6:30 p.m. (continued)**

**335-OR** Flash Sensor-Based Glucose Monitoring Accompanied by Structured Education Is More Effective in Reducing HbA1c and Diabetes Distress
BERNHARD KULZER, LILLI PRIESTERROTH, NORBERT HERMANNS, THOMAS HAAK, DOMINIC EHRMANN, Bad Mergentheim, Germany, Mainz, Germany

**336-OR** An Online Insulin Pump and CGM Curriculum for Trainees: TeKnO T1D
BRYNN MARKS, GRETCHEN WALDMAN, DIANE E. STAFFORD, KATHARINE GARVEY, JOSHUA NAGLER, JOSEPH I. WOLFSDORF, Boston, MA, Stanford, CA, Brookline, MA

**337-OR** Injection Technique (IT) Training in Subjects Injecting into Lipohypertrophy (LH)—The Tianjin Randomized Controlled Trial (RCT)
LIMING CHEN, QIULING XING, JING LI, JIANXIN ZHOU, YI YUAN, HAIYAN XU, YING WANG, BRIAN K. PFLUG, KENNETH STRAUSS, LAURENCE HIRSch, Tianjin, China, Shanghai, China, Beijing, China, Basking Ridge, NJ, Franklin Lakes, NJ, Erembodegem, Belgium

**338-OR** Leveraging the Project ECHO Model for Type 1 Diabetes (T1D) in California and Florida: Democratizing Knowledge in Underserved T1D Communities
NICOLAS CUTTRISS, CLAUDIA ANEZ-ZABALA, LINDA G. BAER, ANGELINA BERNIER, MARINA BASINA, STEPHANIE L. FILIPP, KOREY K. HOOD, MATTHEW J. GURKA, RAYHAN LAL, MICHAEL J. HALLER, DAVID M. MAAHS, HUI HU, MARISSA TOWN, ELENI SHEEHAN, C. JASON WANG, KATARINA YABUT, ASHBY F. WALKER, FOR THE ECHO T1D STUDY GROUP, Stanford, CA, Gainesville, FL

**339-OR** Yo Puedo! A Self-Management Group and mHealth Program for Low-Income Adults with Type 2 Diabetes in Mexico City
ROBIN WHITTEMORE, MIREYA VILAR-COMPTE, SELENE DE LA CERDA, ROBERTA DELVY, SANGCHOON JEON, SORAYA I. BURRHA-MÉNDEZ, ANNEL A. LOZANO-MARRUFO, RAFAEL PEREZ-ESCAMILLA, West Haven, CT, Mexico City, Mexico, New Haven, CT

**340-OR** Supports for Using Retail Pharmacists in Delivering Diabetes Education in Saudi Arabia
YASMIN KHAN, SARAH TURKISTANI, ALY H. BAYOUMI, MAURA J. MCNAMARA, JENNIFER LEBLANC, DAVID M. POBER, WILLIAM C. HSU, Boston, MA, Riyadh, Saudi Arabia

**341-OR** An Individualized, Simple, Patient-Centered Carb Counting Tool
SHULAMIT WITKOW, IDIT F. LIBERTY, IRINA GOLOUB, MALKA KAMINSKY, OLGA OTTO, YONES ABU RABIA, ILANA HARMAN BOEHM, Beersheba, Israel, Nitzanim, Israel

**342-OR** The Feasibility and Acceptability of a Diabetes Survival Skills Intervention for Incarcerated Persons Transitioning to the Community
LOUISE A. REAGAN, RICK A. LAGUERRE, COLLEEN GALLAGHER, Storrs, CT, Windsor, CT, Wethersfield, CT
**Oral Presentations**
*Theme Area: Clinical Diabetes/Therapeutics*

**Evaluation of Trends for Diabetes Management Strategies**
Room: S-203 (South, Level 2)
Chair: Gillian Booth, MD, MSc

**4:30 p.m.-6:30 p.m. (continued)**

343-OR  
Trends in A1C and Lipid Testing, Antilipid Therapy, and Target Attainment following First-Time Glucose-Lowering Drug Treatment in Type 2 Diabetes, Denmark, 2000-2017  
JAKOB S. KNUDSEN, DANIEL R. WITTE, ADAM HULMAN, PERNILLE F. RØNN, TORSTEN LAURITZEN, HENRIK T. SØRENSEN, REIMAR W. THOMSEN, Aarhus, Denmark, Gentofte, Denmark, Risskov, Denmark

344-OR  
Persistent Treatment Gaps and Disparities in U.S. Diabetes Mellitus Care in 2005-2016  
POOYAN KAZEMIAN, FATMA M. SHEBL, NICOLE MCCANN, ROCHELLE WALENSKY, DEBORAH J. WEXLER, Boston, MA

345-OR  
A Retrospective U.S. Real-World Evidence Study on Glycemic Goal Achievement within 2 Years Post-Basal Insulin Initiation  
XUEJUN V. PENG, PHILLIP R. HUNT, TERRY A. DEX, ROBERT LUBWAMA, NEIL SKOLNIK, LAWRENCE BLONDE, Bridgewater, NJ, Waltham, MA, Jenkintown, PA, New Orleans, LA

346-OR  
Primary Care Implementation Study to Increase Diabetes Prevention Program Referrals  
JAMES W. KECK, KAREN L. ROPER, ALISHA THOMAS, LAURA HIERONYMUS, Lexington, KY

347-OR  
The Long-Term Effects of an Intensive Lifestyle Intervention on Medicare Outcomes  
PETER J. HUCKFELDT, CHRISTOPHER FRENIER, NICHOLAS M. PAJEWSKI, MARK ESPELAND, ANNE L. PETERS, RAMON CASANOVA, LAWRENCE J. CHESKIN, DANA GOLDMAN, Minneapolis, MN, Winston-Salem, NC, Los Angeles, CA, Fairfax, VA

348-OR  
Impact of Endocrinology ECHO on Utilization in Medicaid Patients with Complex Diabetes  
SAUL BLECKER, EMILY LEMIEUX, MAGGIE PAUL, CAROLYN BERRY, MATTHEW F. BOUCHONVILLE, BRANT HAGER, SANJEEV ARORA, JOHN BILLINGS, New York, NY, Albuquerque, NM

349-OR  
Major Cardiovascular Outcomes among At-Risk High-Deductible Health Plan Members  
J. FRANK WHARAM, FANG ZHANG, CHRISTINE LU, ADRIAN F. HERNANDEZ, JAMIE WALLACE, DENNIS ROSS-DEGNAN, JOSEPH P. NEWHOUSE, Boston, MA, Durham, NC

350-OR  
Disparities in Uptake of Guideline-Recommended Postpartum Diabetes Screening after GDM  
SUSAN D. BROWN, AI-LIN TSAI, MONIQUE M. HEDDERSO, CHARLES QUESENBERY, ASSIAMIRA FERRARA, Oakland, CA
Oral Presentations

Theme Area: Clinical Diabetes/Therapeutics

Type 1 and Gestational Diabetes Mellitus Pregnancies and Outcomes

Room: S-153 (South, Upper Mezzanine)
Chair: Wanda Nicholson, MD, MPH, MBA

4:30 p.m.-6:30 p.m. (continued)

4:30 p.m.-4:45 p.m.

351-OR  Continuous Glucose Monitoring in Pregnant Women with Type 1 Diabetes: Cost-Effectiveness Analyses of the CONCEPTT Randomized Controlled Trial
HELEN R. MURPHY, DENICE FEIG, NASHITA PATEL, Norwegian, United Kingdom, Toronto, ON, Canada, London, United Kingdom

4:45 p.m.-5:00 p.m.

352-OR  Maternal Triglycerides in Gestational Diabetes Are Strongly Associated with Increased Newborn Hepatic Fat Independent of Subcutaneous Fat
TERI L. HERNANDEZ, SARAH S. FARABI, NICOLE HIRSCH, EMILY Z. DUNN, ELIZABETH A. HAUGEN, DAVID BRUMBAUGH, MARK S. BROWN, JACOB E. FRIEDMAN, LINDA (LYNN) A. BARBOUR, Aurora, CO, St. Louis, MO, Denver, CO, Oklahoma City, OK

5:00 p.m.-5:15 p.m.

353-OR  Comparison of Methods for Classifying Heterogeneity in Gestational Diabetes (GDM) and Association with Outcomes
DAVID MCINTYRE, LENE R. MAODSEN, KRISTEN S. GIBBONS, DAVID A. SACKS, RONALD C. MA, WING H. TAM, PATRICK CATALANO, South Brisbane, Australia, Aarhus, Denmark, Brisbane, Australia, Pasadena, CA, Hong Kong, China, Boston, MA

5:15 p.m.-5:30 p.m.

354-OR  Physiologic Pathways in Pregnancy Glycemic Regulation Implicated through Genetic Clustering Analysis
CAMILLE E. POWE, MIRIAM UDLER, CATHERINE ALLARD, JAEGIL KIM, PATRICE PERRON, LUIGI BOUCHARD, JOSE C. FLOREZ, MARIE-FRANCE HIVER, Boston, MA, Sherbrooke, QC, Canada, Cambridge, MA

5:30 p.m.-5:45 p.m.

355-OR  Is Classification of GDM Phenotypes Dependent on Ethnicity?
KRISTEN S. GIBBONS, DAVID MCINTYRE, RONALD C. MA, WING TAM, LENE R. MAODSEN, DAVID A. SACKS, PATRICK CATALANO, Brisbane, Australia, South Brisbane, Australia, Hong Kong, China, Aarhus, Denmark, Pasadena, CA, Boston, MA

5:45 p.m.-6:00 p.m.

356-OR  Effects of First Trimester Exercise on Pregnancy Hyperglycemia and GDM
SAMANTHA F. EHRlich, ROMAIN NEUGEBAUER, JUANRAN FENG, MONIQUE M. HEDDERSON, ASSIAMIRA FERRARA, Knoxville, TN, Oakland, CA

6:00 p.m.-6:15 p.m.

357-OR  Early Pregnancy Trace Element Mixtures and Gestational Glucose Levels Late in the 2nd Trimester
YINNAN ZHENG, CUILIN ZHANG, PAIGE L. WILLIAMS, MARC WEISSKOPF, PATRICK J. PARSONS, CHRISTOPHER D. PALMER, GERMAINE M. BUCK LOUIS, TAMARRA JAMES-TODD, Boston, MA, Bethesda, MD, Albany, NY, Fairfax, VA

6:15 p.m.-6:30 p.m.

358-OR  Adiponectin, Leptin, and FGF-21 Levels in Adolescents Exposed and Not Exposed to Gestational Diabetes—Results from the Danish National Birth Cohort
FREJA BACH KAMPMEIN, ANNE CATHRINE BAUN THUESSEN, LINE HJORT, METTE BJERRE, JAN FRYSTYK, INGE TETENS, ANNE AHRENDBT Bjerregaard, JøRGE E. CHAVARRO, SJURDUR F. OLSEN, PETER DAMM, ALLAN A. VAAG, LOUISE GRUNNET, Kongens Lyngby, Denmark, Copenhagen, Denmark, Aarhus, Denmark, Odense, Denmark, Boston, MA, Gothenburg, Sweden

ADA-Supported Research
Oral Presentations
Theme Area: Islet Biology/Insulin Secretion
Live or Let Die? Pancreatic Beta-Cell Death and Apoptosis in Diabetes
Room: W-2002 (West, Level 2)
Chair: Emilyn Alejandro, PhD

4:30 p.m.-6:30 p.m.
(continued)

359-OR 12/15-Lipoxygenase in Islets and Macrophages Independently Promotes Autoimmune Diabetes in NOD Mice
ANNIE ROCIO PINEROS ALVAREZ, ABHISHEK KULKARNI, KARA ORR, LINDSEY GLENN, CHRISTOPHER A. REISSAUS, MARIMAR HERNANDEZ-PEREZ, MAUREEN GANNON, MARCIA J. MCDUFFIE, JERRY NADLER, RAGHAVENDRA MIRMIRA, MARGARET A. MORRIS, SARAH A. TERSEY, Indianapolis, IN, Norfolk, VA, Nashville, TN, Charlottesville, VA

4:45 p.m.-5:00 p.m.
360-OR A Novel Genetic Syndrome of Early-Onset Diabetes, Microcephaly, and Epilepsy Due to Homozygous YIPF5 Mutations
MARIA LYTRIVI, ELISA DE FRANCO, KASHYAP A. PATEL, MARIANA IGOILLO ESTEVE, CRISTINA COSENTINO, MATTHEW N. WAKELING, BELMA HALILLOGLU, MELEK YILDIZ, TUSHAR GODBOLE, ANDREW T. HATTERSLEY, MIRIAM CNOP, Brussels, Belgium, Exeter, United Kingdom, Istanbul, Turkey, Nashik, India

5:00 p.m.-5:15 p.m.
361-OR ER Stress Attenuation Is Involved in PAHSA-Induced Reduction of T1D in Nonobese Diabetic (NOD) Mice
ISMAIL SYED, MARIA FERNANDEZ RUBIN DE CELIS, JAMES F. MOHAN, PEDRO M. MORAES-VIERIA, ARCHANA VIJAYAKUMAR, ANDREW T. NELSON, DIONICIO SIEGEL, ALAN SAGHATELIAN, DIANE MATHIS, BARBARA KAHN, Boston, MA, St. Louis, MO, Campinas, Brazil, San Diego, CA, LA Jolla, CA

5:15 p.m.-5:30 p.m.
362-OR Deletion of METTL14 in Beta Cells in Adult Mice Induces Diabetes Related to Increased ER Stress
LILI MEN, JUAN SUN, DECHENG REN, Dalian, China, Chicago, IL, Indianapolis, IN

5:30 p.m.-5:45 p.m.
363-OR ChREBP-Beta Controls Both Proliferation and Cell Death of Pancreatic Beta Cells
LIORA S. KATZ, GABRIEL BRILL, MARK A. HERMAN, DONALD SCOTT, New York, NY, Durham, NC

5:45 p.m.-6:00 p.m.
364-OR Beta-Cell Glucose-Regulated Micropetide 1 (BGRM1) Controls Cellular Homeostasis in Pancreatic Beta Cells
MARK LI, FAN SHAO, MASON E. SWEAT, QINGWEN QIAN, YUWEI GUO, SAMUEL B. STEPHENS, YUMI IMAI, LING YANG, HUOJUN CAO, Iowa City, IA

6:00 p.m.-6:15 p.m.
365-OR The NLRP3 Inflammasome Mediates Early Beta-Cell Dysfunction Triggered by Islet Amyloid
HEATHER C. DENROCHE, NAHAE KIM, KIANA YAU, DOMINIKA NACKIEWICZ, PAUL C. ORBAN, IMELDA SUEN, CAMERON B. VERCHERE, Vancouver, BC, Canada

6:15 p.m.-6:30 p.m.
366-OR TCF19 Promotes Functional Beta-Cell Mass and Proliferative Capacity by Regulating DNA Damage Repair Pathways
GRACE H. YANG, JEE YOUNG HAN, SUKANYA LODH, JOSEPH T. BLUMER, DANIELLE FONTAINE, DAWN B. DAVIS, Madison, WI, Milwaukee, WI, Sacramento, CA
### TUESDAY, JUNE 11, 2019—DAY-AT-A-GLANCE SCHEDULE

Registration Hours: 7:30 a.m.-10:30 a.m.  
Shop Diabetes Store Hours: 7:30 a.m.-12:00 p.m.

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<th>Time</th>
<th>Acute and Chronic Complications</th>
<th>Behavioral Medicine, Clinical Nutrition, Education, and Exercise</th>
<th>Clinical Diabetes/Therapeutics</th>
<th>Epidemiology/Genetics</th>
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<td>7:30 a.m.- 9:30 a.m.</td>
<td>Symposium Hypoglycemia in Type 2 Diabetes Room: S-153</td>
<td>Symposium Improving Quality of Care and Safety in the Inpatient Setting Room: S-203</td>
<td>Symposium CREDENCE and CARMELINA—Results from Two Major Clinical Trials in Kidney and Cardiovascular Disease in Diabetes Room: N-Hall E</td>
<td>Symposium Genetics and Epigenetics of Diabetic Complications Room: S-154</td>
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<td>9:45 a.m.- 11:45 a.m.</td>
<td>Symposium Oral Semaglutide—The PIONEER Program Trials Room: N-Hall E</td>
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### Symposium Schedule

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<td>9:00 a.m.</td>
<td>Immunology/Transplantation: Adipose Tissue at the Single-Cell Level</td>
<td>S-157</td>
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<tr>
<td>9:30 a.m.</td>
<td>Immunology/Transplantation: Beta-Cell Organelles Talk Amongst Themselves</td>
<td>S-303</td>
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<td>9:45 a.m.</td>
<td>Integrated Physiology/Obsesity: Go with Your Gut—Intestinal Regulation</td>
<td>S-208</td>
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<td>of Metabolism</td>
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<td>10:00 a.m.</td>
<td>Islet Biology/Insulin Secretion: CREDENCE and CARMELINA—Results from</td>
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<td>Two Major Clinical Trials in Kidney and Cardiovascular Disease in Diabetes</td>
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<td>10:45 a.m.</td>
<td>Islet Biology/Insulin Secretion: Genetics and Epigenetics of Diabetic</td>
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<td>Complications</td>
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<td>11:45 a.m.</td>
<td>Islet Biology/Insulin Secretion: Adipose Tissue at the Single-Cell Level</td>
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<tr>
<td>11:45 a.m.</td>
<td>Islet Biology/Insulin Secretion: Beta-Cell Organelles Talk Amongst Themselves</td>
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<tr>
<td>12:00 p.m.</td>
<td>Islet Biology/Insulin Secretion: Genetics and Epigenetics of Diabetic</td>
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**Note:**
- Times listed are in 24-hour format.
- Rooms are subject to change.
- Additional sessions and discussions may be added to the schedule.

**TUESDAY—DAY-AT-A-GLANCE**
Scientific Sessions
7:30 a.m.–9:30 a.m.

Symposium
Theme Area: Acute and Chronic Complications
Hypoglycemia in Type 2 Diabetes
Room: S-153 (South, Upper Mezzanine Level)
Chair: Alice Y.Y. Cheng, MD, FRCPC
7:30 a.m.–8:00 a.m. Is Hypoglycemia in Type 2 Diabetes an Increasing Problem in Clinical Practice?
Kamlesh Khunti, MD, PhD, FRCGP, FRCP
8:00 a.m.–8:30 a.m. Clinical Consequences of Hypoglycemia in Older Adults—An Epidemiologic Perspective
Elizabeth Selvin, PhD, MPH
8:30 a.m.–9:00 a.m. The Psychological Impact of Hypoglycemia in Type 2 Diabetes
Frans Pouwer, PhD
9:00 a.m.–9:30 a.m. Adjunctive Therapies for Improving Outcomes of Hypoglycemia in Type 2 Diabetes
Sophia Zoungas, MBBS (Hons), PhD, FRACP

Symposium
Theme Area: Behavioral Medicine, Clinical Nutrition, Education, and Exercise
Improving Quality of Care and Safety in the Inpatient Setting
Room: S-203 (South, Level 2)
Chair: Jane Jeffrie Seley, DNP, MSN, MPH, GNP, BC-ADM, CDE, CDTC, FAAD, FAAN
7:30 a.m.–8:00 a.m. Human Error and At-Risk Behaviors with Insulin Therapy—A Cause for Continued Concern
Susan Paparella, MSN, RN
8:00 a.m.–8:30 a.m. Implementing Protocols That Create a Culture of Safety
Timothy Lyons, MD
8:30 a.m.–9:00 a.m. Using m-Health to Provide Innovative Diabetes Care in the Emergency Department
Sanjay Arora, MD
9:00 a.m.–9:30 a.m. Developing Technological Tools for Inpatient Diabetes Clinician Education
Sowmya Gururaj Setty, MBBS, MRCP (UK)
Symposium
Theme Area: Clinical Diabetes/Therapeutics
CREDENCE and CARMELINA—Results from Two Major Clinical Trials in Kidney and Cardiovascular Disease in Diabetes
Room: N-Hall E (North, Exhibition Level)
Co-Chairs: Vlado Perkovic, MBBS, PhD, FRACP, FASN, FAHMS and Julio Rosenstock, MD
7:30 a.m.-7:40 a.m.  Canagliflozin and Renal Events in Diabetes with Established Nephropathy Clinical Evaluation (CREDENCE)—Study Background and Methods
            Rajiv Agarwal, MD, MBBS, FASN, BRCU
7:40 a.m.-7:52 a.m.  CREDENCE—Recap of Primary and Main Renal Results
            Meg Jardine, MD, PhD
7:52 a.m.-8:05 a.m.  CREDENCE—Cardiovascular Outcomes Deep Dive
            Bruce Neal, MB, ChB, PhD
8:05 a.m.-8:15 a.m.  CREDENCE—Cardiovascular and Renal Outcomes by Baseline Cardiovascular Disease
            Kenneth W. Mahaffey, MD, PhD
8:15 a.m.-8:25 a.m.  CREDENCE—Clinical Implications
            Bernard Zinman, CM, MD
8:30 a.m.-8:40 a.m.  Linagliptin Trial in Type 2 Diabetes Mellitus at High Cardiovascular Risk with Chronic Kidney Disease (CARMELINA)—Introduction, Rationale, and Study Design
            Steven E. Kahn, MB, ChB
8:40 a.m.-8:50 a.m.  CARMELINA—Primary Cardiovascular Results
            Nikolaus Marx, MD, FESC, FAHA
8:50 a.m.-9:00 a.m.  CARMELINA—Proven Safety with No Effect on Heart Failure
            Darren K. McGuire, MD, MHSc
9:00 a.m.-9:10 a.m.  CARMELINA—Renal Outcomes
            Robert D. Toto, MD
9:10 a.m.-9:20 a.m.  CARMELINA—New Renal Subanalyses
            Christoph Wanner, MD
9:20 a.m.-9:30 a.m.  CARMELINA—Implications for Management in Type 2 Diabetes Mellitus with Chronic Kidney Disease
            Mark E. Cooper, MBBS, PhD

Symposium
Theme Area: Epidemiology/Genetics
Genetics and Epigenetics of Diabetic Complications
Room: S-154 (South, Upper Mezzanine Level)
Chair: Mary-Elizabeth Patti, MD
7:30 a.m.-8:00 a.m.  Diabetes Complications—An Overview
            Eoin Brennan, PhD
8:00 a.m.-8:30 a.m.  Epigenetics in Nonalcoholic Fatty Liver Disease
            Renaud Dentin, PhD
8:30 a.m.-9:00 a.m.  Epigenetics of Inflammation and Diabetic Vascular Complications
            Rama Natarajan, PhD
9:00 a.m.-9:30 a.m.  Genetics of Diabetic Kidney Disease
            Niina Sandholm, DSc


**Symposium**  
*Theme Area: Insulin Action/Molecular Metabolism*  
**Adipose Tissue at the Single-Cell Level**  
Room: S-157 (South, Upper Mezzanine Level)  
Chair: C. Ronald Kahn, MD  
7:30 a.m.-7:35 a.m.  
*Introduction to Session*  
C. Ronald Kahn, MD  
7:35 a.m.-8:00 a.m.  
*The Dynamics of Adipose Niche in Response to Environmental Challenges*  
Yu-Hua Tseng, PhD  
8:00 a.m.-8:25 a.m.  
*Adipose Development and Expansion in Obesity*  
Rana K. Gupta, PhD  
8:25 a.m.-8:50 a.m.  
*Deconstructing Adipogenic Niches Using Single Cell Expression Profiling*  
James G. Granneman, PhD  
8:50 a.m.-9:15 a.m.  
*Resolving Adipose Stromal Cell Heterogeneity and Function*  
Bart Deplancke, PhD  
9:15 a.m.-9:30 a.m.  
*Question and Discussion Period*  

**Symposium**  
*Theme Area: Integrated Physiology/Obesity*  
**Go with Your Gut—Intestinal Regulation of Metabolism**  
Room: S-208 (South, Level 2)  
Chair: Darleen A. Sandoval, PhD  
7:30 a.m.-8:00 a.m.  
*Bile Acid Regulation of Intestinal Lipid Sensing*  
Rebecca Haeusler, PhD  
8:00 a.m.-8:30 a.m.  
*FGF21 and the Pancreas*  
David J. Mangelsdorf, PhD  
8:30 a.m.-9:00 a.m.  
*Control of Feeding Behavior and Macronutrient Selection by Endocrine FGFs*  
Karen K. Ryan, PhD  
9:00 a.m.-9:30 a.m.  
*Gut Microbes and Creeping Fat*  
Suzanne Devkota, PhD  

**Symposium**  
*Theme Area: Islet Biology/Insulin Secretion*  
**Beta-Cell Organelles Talk Amongst Themselves**  
Room: S-303 (South, Level 3)  
Chair: Scott Soleimanpour, MD  
7:30 a.m.-8:00 a.m.  
*The Role of Endoplasmic Reticulum-Associated Protein Degradation (ERAD) in Beta-Cell Dedifferentiation*  
Ling Qi, PhD  
8:00 a.m.-8:30 a.m.  
*Pancreatic Beta-Cell Mitochondrial Dynamics and Mitophagy in Type 2 Diabetes and Beyond*  
Manuel R. Benito, PhD, DPhil  
8:30 a.m.-9:00 a.m.  
*The Role of Autophagy in Maintenance of Pancreatic Beta-Cell Homeostasis*  
Amelia K. Linnemann, PhD  
9:00 a.m.-9:30 a.m.  
*Insulin Granule Biogenesis and Trafficking*  
Samuel B. Stephens, PhD
**Symposium**  
*Theme Area: Clinical Diabetes/Therapeutics*

**Oral Semaglutide—The PIONEER Program Trials**

Room: N-Hall E (North, Exhibition Level)  
Chair: John B. Buse, MD, PhD

9:45 a.m.–11:45 a.m.

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<td>Introduction</td>
<td>John B. Buse, MD, PhD</td>
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<td>10:15 a.m.</td>
<td>Oral Semaglutide—How Does It Compare to Alternatives?</td>
<td>Richard E. Pratley, MD</td>
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<td>10:35 a.m.</td>
<td>PIONEER 6—Trial Design and Baseline Characteristics</td>
<td>Stephen C. Bain, MA, MD, FRCP</td>
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<td>10:50 a.m.</td>
<td>PIONEER 6—Cardiovascular Outcomes</td>
<td>Mansoor Husain, MD, FRCP</td>
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<td>11:05 a.m.</td>
<td>PIONEER 6—Metabolic and Safety Outcomes</td>
<td>Ofri Mosenzon, MD, MSc</td>
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<td>11:20 a.m.</td>
<td>Summary</td>
<td>John B. Buse, MD, PhD</td>
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<td>11:25 a.m.</td>
<td>Independent Commentary</td>
<td>Vivian Fonseca, MD</td>
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<td>11:35 a.m.</td>
<td>Question and Discussion Period</td>
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367-P ☐ Severe Hypoglycemia and Risk of Falls in Type 2 Diabetes: The Atherosclerosis Risk in Communities (ARIC) Study
ALEXANDRA K. LEE, STEPHEN P. JURASCHEK, B. GWEN WINDHAM, CLARE LEE, A. RICHEY SHARRETT, JOSEF CORESH, ELIZABETH SELVIN, San Francisco, CA, Boston, MA, Jackson, MS, Baltimore, MD

368-P ☐ Effects of Mild Hypoglycaemia on Cognitive Function in Type 2 Diabetes
MALIN NILSSON, NICOLE J. JENSEN, MICHAEL GEJL, IVAN BRANDSLUND, HEIDI STORGAARD, METTE ZANDER, KAMILA MISKOWIAK, JØRGEN RUNGBY, Copenhagen, Denmark, Aarhus, Denmark, Vejle, Denmark, Hellerup, Denmark, Charlottenlund, Denmark

369-P ☐ Effects of Nocturnal Hypoglycemia on Quality of Life and Mood During Daily Life in Type 1 Diabetes—A CGM-Based Analysis
MARIE M. HENRIKSEN, HENRIK U. ANDERSEN, BIRGER THORSTEINSSON, SR., ULRIK PEDERSEN-BJERGAARD, Hillerød, Denmark, Gentofte, Denmark

370-P ☐ Changes in Glutamate Dynamics in the Anterior Cingulate Cortex with Recurrent Hypoglycemia in Type 1 Diabetes
YOUNG WOO PARK, DINESH DEELCHAND, ANJALI KUMAR, AMIR MOHEET, YUAN ZHANG, LYNN E. EBERLY, ELIZABETH R. SEAQUIST, GULIN OZ, Minneapolis, MN

371-P ☐ Hypoglycemia in the Brain IsRequired to Augment Counterregulatory Responses to Hypoglycemia when Liver Glycogen Levels Are Enhanced
SHANA O. WARNER, MARTA S. SMITH, BEN FARMER, JASON J. WINNICK, Cincinnat i, OH, Nashville, TN

372-P ☐ Activation of the Nrf2 Pathway Provides Protection against Hypoglycaemia-Induced Cognitive Impairment in a Rodent Model of Type 1 Diabetes
ALISON D. MCNEILLY, JENNIFER GALLAGHER, ALBENA T. DINKOVA-KOSTOVA, RORY J. MCC RIMMON, Dundee, United Kingdom

373-P Recurrent Insulin-Induced Hypoglycemia Leads to Weight Gain in Association with Increased Adiposity and Reduced Basal Metabolic Rate
ALISON D. MCNEILLY, JENNIFER GALLAGHER, RORY J. MCCRIMMON, Dundee, United Kingdom

374-P Reduced Rates of Hypoglycemia Irrespective of the Definition Used When Switching to Insulin Degludec (degludec) from Other Basal Insulins in Routine Clinical Care: The ReFLeCT Study
HAROLD W. DE VALK, MICHAEL FEHER, TROELS K. HANSEN, JOHAN H. JENDLE, ÁNGEL MERCANTE, METTE M. KOEFOED, EHSAN PARVARESH RIZI, ESTHER ZIMMERMANN, GIAN PAOLO FADINI, Utrecht, Netherlands, London, United Kingdom, Aarhus, Denmark, Örebro, Sweden, Castellón de la Plana, Spain, Sabborg, Denmark, Padova, Italy

375-P Switching to Insulin Degludec from Other Basal Insulins Reduces Rates of Hypoglycemia across Patient Subgroups in Routine Clinical Care: The ReFLeCT Study
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376-P Type 2 Diabetes Individuals Are at High Risk of Continuous Glucose Monitoring Detected Hypoglycemia Regardless of Degree of Metabolic Control
ELEKTRA SZYMANSKA-GARBACZ, ANNA BORKOWSKA, LESZEK CZUPRYNIACZ, Lodz, Poland, Warsaw, Poland

377-P Prospective Risk Assessment of Hypoglycemia in Type 1 Diabetes Mellitus Outpatient Pediatric Population
KRISTINA COSSEN, JANET FIGUEROA, ANDREW B. MUIR, Atlanta, GA
378-P Human Voice Is Modulated by Hypoglycemia and Hyperglycemia in Type 1 Diabetes
LESZEK CZUPIRYNIAK, EWELINA SIELSKA-BADUREK, AGNIESZKA NIEBISZ, MARIA SOBOL, MAGDALENA KMICIEC, KATARZYNA JEDRA, ELEKTRA SZYMANSKA-GARBACZ, KAZIMIERZ NIEMCZYK, Warsaw, Poland, Lodz, Poland

379-P Changes in Diabetes Management after a Hospital Visit for Severe Hypoglycemia
PAVITHRA VIJAYAKUMAR, SHULING LIU, PETER A. KAHN, ROZALINA G. MCCOY, ANDREW J. KARTER, KASIA J. LIPSKA, New Haven, CT, Rochester, MN, Oakland, CA

380-P Online CME Improves Clinical Knowledge/Competence Related to Managing T2D in Older Patients with Hypoglycemic Risk
AMY LARKIN, MICHAEL LACOUTURE, ANNE LE, New York, NY

381-P Real-World Evidence that Impaired Awareness of Hypoglycemia Increases Severe Hypoglycemia Rates in T2DM (InHypo-DM Study)
ALEXANDRIA RATZKI-LEEWING, STEWART B. HARRIS, NATALIE H. AU, SUSAN WEBSTER-BOGAERT, JUDITH B. BROWN, SONJA M. REICHERT, BRIDGET L. RYAN, London, ON, Canada

382-P Insulin Requirements after Hospital Discharge in Patients with Type 2 Diabetes
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383-P The Potential Role of IL-6 in Defective Glucose Sensing following Recurrent Hypoglycaemia
ALISON D. MCNEILLY, JENNIFER GALLAGHER, RORY J. MCCRIMMON, Dundee, United Kingdom

384-P An Integrated Summary of Safety and Efficacy of a Ready-to-Use Liquid Glucagon Rescue Pen for the Treatment of Severe Hypoglycemia in Adults
MARK P. CHRISTIANSEN, MARTIN J. CUMMINS, STEVEN J. PRESTRELSKI, MOHAMMED K. JUNAIDI, Walnut Creek, CA, Chicago, IL

385-P Blocking the Nicotinic Receptors of the Parasympathetic Nervous System Prevents Severe Hypoglycaemia-Induced Fatal Cardiac Arrhythmias in Rats
CANDACE M. RENO, JUSTIN BAYLES, YIQING HUANG, MILAN B. OXSPRING, SIMON FISHER, Salt Lake City, UT

386-P Chronic and Acute Consumption of a Ketogenic Diet Leads to Deficits in Hypoglycemic Counter-regulation in Mice
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387-P N-acetyl Cysteine Does Not Prevent Impaired Awareness of Hypoglycemia
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388-P Interrelationship between Hypoglycemia and CV and Mortality Outcomes in Type 2 Diabetes in the CARMELINA Trial
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389-P Comparison of Hormonal Response to a Mixed-Meal Challenge in Individuals with Hypoglycemia after Sleeve Gastrectomy vs. Gastric Bypass
CLARE LEE, TODD BROWN, MICHAEL SCHWEITZER, THOMAS MAGNUSON, JEANNE CLARK, Baltimore, MD

390-P Changes in Glycaemic Variability after RYGB: A One-Year Prospective Study with Comparison to Patients with Post-bariatric Hypoglycaemia
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391-P Hypoglycemia Reductions with the Dexcom G6 CGM System's Predictive Alert
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392-P Impact of Late Glucose Checks on Hypoglycemia Incidence
LAURA J. DUNLAP, ALANA D. WEBER, JESSIE SCAPINELLO, ANDERSON SCHRADER, WILLIAM P. BURGESS, Charlotte, NC, Phoenix, AZ, Lakeland, FL

393-P Association of Hypoglycemia Prevention Measures with Quality of Life: A Retrospective Analysis of Electronically-Reported Patient Data
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394-P Nonsevere Hypoglycemia Treatment in Adults with Type 1 Diabetes: A Validation Study of Carbohydrate Intake at Different Glucose Thresholds
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395-P Hypoglycemia and Cardiovascular Outcomes among Older Adults: The Atherosclerosis Risk in Communities Study
JUSTIN B. ECHEOFFO TCHEUGUI, NATALIE R. DAYA, ALEXANDRA K. LEE, OLIVE-TANG, B. GWEN WINDHAM, AMIL SHAH, ELIZABETH SELVIN, Baltimore, MD, San Francisco, CA, Jackson, MS, Boston, MA

396-P SGLT2 Inhibition Suppresses Glucagon Response to Hypoglycemia in Male but Not Female Rats with Streptozotocin-Induced Type 1 Diabetes
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397-P Relationship between HbA1c and Declines in Racial Differences of Serious Hypoglycemia in the Veteran Administration (VHA) 2004-2015
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398-P Prediction of Five-Year Severe Hypoglycemia Risk in Adult Patients with Type 2 Diabetes
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399-P Deintensification of Diabetes Treatment in Elderly Patients with Type 2 Diabetes Mellitus
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400-P Impact of Hypoglycemic Episodes (Hypos) on Type 1 Diabetes Mellitus (T1DM)
EMMA D. SULLIVAN, JESSALYN KEMP, JAMES PIERCY, VICTORIA HIGGINS, Bollington, United Kingdom

401-P Acute Low Glucose Alters Human Primary Astrocyte Expression of Endoplasmic Reticulum Stress and Mitochondrial Associated Genes, Which Is Blunted after Recurrent Low Glucose
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402-P Higher Glucose Thresholds for Hypoglycemia Alarms on Continuous Glucose Monitoring Systems Correlate with Less Time in Hypoglycemia
YU KUEI LIN, MAN HUNG, ANU SHARMA, OWEN CHAN, MICHAEL VARNER, DANIELLE GROAT, DANA DOPITA, SIMON FISHER, Salt Lake City, UT, South Jordan, UT

403-P Cerebral Blood Flow Responses to Hypoglycemia in Healthy Humans Treated with Induction Protocol to Produce Impaired Awareness of Hypoglycemia
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404-P Metformin Treatment Rescues Alterations of Insulin-Sensitive Glucose Transporters in the Lung of Insulin-Resistant Mice
ALLISON CAMPOLO, ZAHRA MARIA, MYRON HINSDALE, LIN LIU, VERONIQUE LACOMBE, Stillwater, OK, Edmond, OK
405-P 🟩 Transcription Factor Tcf21 Regulates Fibrosis in Ischemic or Hyperglycemic State
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406-P 🟩 Effect of Metformin onDicarbonyl Stress in Patients with Type 2 Diabetes and Chronic Heart Failure
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407-P 🟩 Growth Differentiation Factor 15, Coronary Atherosclerosis and Diabetic Kidney Disease in Adults with Type 1 Diabetes (T1D)
PETTER BJORNSTAD, RACHEL M. SIPPL, MARIAN REWERS, JANET K. SNELL-BERGEON, Aurora, CO, Denver, CO

408-P 🟩 Plasma Omentin Levels Are Inversely Associated with Atherosclerosis in Type 2 Diabetes Patients with Elevated Plasma Adiponectin Levels
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409-P 🟩 Cardiac Biomarkers and Incident Peripheral Arterial Disease (PAD) in Patients with Type 2 Diabetes in the ADVANCE Trial
CAITLIN W. HICKS, DAN WANG, KUNIHIRO MATSUSHITA, JOHN CHALMERS, MARK WOODWARD, ESQ., ELIZABETH SELVIN, Baltimore, MD, Sydney, Australia, Oxford, United Kingdom

Moderated Poster Discussion: Molecular Insights Into Macrovascular Complications (Posters: 410-P to 415-P), see page 106.

410-P 🟩 An Impaired Mitophagy-Lysosome System Contributes to Hyperglycemia Cardiotoxicity
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411-P 🟩 PRMT1 Upregulation and ADMA Accumulation Contribute to the High Sensitivity of Zucker Diabetic Fatty Rats to Myocardial Ischemia/Reperfusion Injury
YAN XIONG, YUAN LIN, YANPING LEI, ZHI-MIN HE, XIN-KE ZHOU, Guangzhou, China

412-P 🟩 Oleate Prevents Palmitate-Induced Apoptosis and Autophagy in Human Cardiac Progenitor Cells by Inhibiting p38 MAPK and c-Jun Phosphorylation
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413-P 🟩 SIRT1 Overexpression Restores the Protective Effects of Ischemic Post-conditioning in Diabetic Mice via Modulating Akt Signaling Pathway
MINGGE DING, KE ZENG, MINGZHE YU, CHAOYANG LIU, FENG FU, Xi’an, China

414-P 🟩 Insulin Secretion Capacity Relates to Human Ventricular Myocardial Mitochondrial Function
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415-P 🟩 Detection of Vascular Endothelial Cell DNA in the Circulation Using Dual Amplification Refractory Mutation System PCR
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416-P 🟩 The Ceramide-Based Coronary Event Risk Test (CERT) Predicts Cardiovascular Mortality in Cardiovascular Disease Patients with Type 2 Diabetes Mellitus as Well as in Those without Diabetes
ANDREAS LEHIERER, AXEL MUENDELEIN, CHRISTOPH H. SAELY, REJO LAASKONEN, MITJA LAAPERI, ALEXANDER VONBANK, BARBARA LARCHER, ARTHUR MADEC, IRIS BAUMGARTNER, PETER FRAUNBERGER, HEINZ DREXEL, Feldkirch, Austria, Triesen, Liechtenstein, Espoo, Finland, Bern, Switzerland
417-P Serum Ceramide Ratios Predict Cardiovascular Events in Patients with Type 2 Diabetes Independently from the Presence of Coronary Artery Disease
ANDREAS LEIHERER, AXEL MUENDLEIN, CHRISTOPH H. SAELY, REJO LAAKSONEN, MITJA LAAPERI, ALEXANDER VONBANK, BARBARA LARCHER, ARTHUR MADER, PETER FRAUNBERGER, HEINZ DREXEL, Feldkirch, Austria, Triesen, Liechtenstein, Espoo, Finland, Bern, Switzerland

418-P The Branched-Chain Amino Acids Valine and Leucine Predict All-Cause Mortality in Cardiovascular Disease Patients Independently from the Presence of Type 2 Diabetes Mellitus
AXEL MUENDLEIN, ANDREAS LEIHERER, CHRISTOPH H. SAELY, ALEXANDER VONBANK, BARBARA LARCHER, ARTHUR MADER, PETER FRAUNBERGER, HEINZ DREXEL, Feldkirch, Austria, Triesen, Liechtenstein, Bern, Switzerland

419-P LDL Particle Size Is a Predictor of Cardiovascular Events in Cardiovascular Disease Patients with Nonalcoholic Fatty Liver Disease as Well as in Those without Nonalcoholic Fatty Liver Disease
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420-P Micro- and Macrovascular Events in Patients with T2D—Results from the Global DISCOVER Study
SUZANNE V. ARNOLD, HUNGTA CHEN, JAVIER CID-RUZAFA, PETER FENICI, MARILIA B. GOMES, KAMLESH KHUNTI, GABRIELA LUPORINI SARAIVA, JESUS MEDINA, ANTONIO NICOLUCCI, STUART POCOCK, SHAUKIL M. KOSIBOROD, Kansas City, MO, Gaithersburg, MD, Barcelona, Spain, Cambridge, United Kingdom, Rio de Janeiro, Brazil, Leicester, United Kingdom, Madrid, Spain, Pescara, Italy, London, United Kingdom, Mumbai, India, Moscow, Russian Federation, Saita, Japan, Luton, United Kingdom, Liverpool, United Kingdom, Tokyo, Japan

421-P Documentation of Heart Failure in Outpatients with Type 2 Diabetes and Evidence of Volume Overload: A Report from the Diabetes Collaborative Registry (DCR)
SUZANNE V. ARNOLD, MIKHAIL N. KOSIBOROD, PHILIP JONES, MICHAEL H. BEASLEY, ABHINAV GOYAL, JEANINE M. CORDOVA, GREGG C. FONAROW, LEO J. SEMAN, Kansas City, MO, Dearborn, MI, Atlanta, GA, Phoenix, AZ, Los Angeles, CA, Ridgefield, CT

422-P Long-Term Incidence of Cardiovascular Disease across the Natural History of Type 2 Diabetes
JAEJIN AN, GREGORY A. NICHOLS, LEI QIAN, RONG WEI, TERESA HARRISON, MERCEDES A. MUNIS, ZHUOXIN LI, TRACEY WEISS, KRISTY IGLAY, SWAPNIL RAJPATHAK, KRISTI REYNOLDS, Pasadena, CA, Portland, OR, Kenilworth, NJ, Rahway, NJ, North Wales, PA

423-P Racial and Ethnic Disparities in Mortality and Cardiovascular Disease in Patients with Type 2 Diabetes in a U.S. Integrated Health-Care System
JAEJIN AN, GREGORY A. NICHOLS, LEI QIAN, RONG WEI, TERESA HARRISON, MERCEDES A. MUNIS, ZHUOXIN LI, TRACEY WEISS, KRISTY IGLAY, SWAPNIL RAJPATHAK, KRISTI REYNOLDS, Pasadena, CA, Portland, OR, Kenilworth, NJ, Rahway, NJ, North Wales, PA

424-P HDL miR-181c as a Novel Biomarker for Diabetic Vascular Complications in Australian Aboriginal People
KAITLIN R. MORRISON, CHRISTINA BURSILL, EMMA SOLLY, TOMER SHEMESH, STEPHEN NICHOLLS, ALEX D. BROWN, JOANNE T.M. TAN, Adelaide, Australia

425-P Inhibition of miR-181c Rescues Diabetes-Impaired Angiogenesis
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426-P ROCK2 Regulates Monocytic Migration and Cell-to-Cell Adhesion in Vascular Endothelial Cells
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443-P Reduced Cardiorenal Function and In-Hospital Mortality in Patients with Type 2 Diabetes Mellitus and ST-Segment Elevation Myocardial Infarction
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444-P Evaluating Factors Associated with Cardiovascular and Cerebrovascular Complications of Type 2 Diabetes
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447-P Low Muscle Mass Is Associated with Carotid Atherosclerosis in Korean Men with Type 2 Diabetes
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449-P Pulsed Electromagnetic Field Attenuates Cardiomyocyte Damages Induced by Ischemia in Hyperglycemic H9c2 Cells
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457-P One-Year Administration of Anti-PCSK9 Antibody Is Enough to Stabilize Vulnerable Coronary Plaques in Diabetic Patients, which Are Resistant to Intensive Statin Therapy
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458-P 'H-MRS Lipid Spectra of Interventricular Septum (SEP): A Novel Marker of Cardiovascular (CV) Events in Hyperglycemic (HG) Patients
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459-P Risk for Type 2 Diabetes and Cardiovascular Health in Children Treated with Second-Generation Antipsychotics
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460-P Treatment with Dipeptidyl Peptidase Inhibitors (DPP-4_Rx) Is Associated with Significant Reduction in Macrovascular Events Independent of Glucose Control
MARIANA GARCIA-TOUZA, Kansas City, MO

461-P Prothrombotic State Is Associated with Impaired Arterial Wall Elastic Properties in Patients with Type 2 Diabetes Mellitus
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462-P Diabetes Is Associated with Progression of Coronary Arterial Calcification in Patients New to Dialysis
NEIL ROY, DANWEN YANG, SYLVIA ROSAS, Boston, MA

463-P Linagliptin Ameliorated Heart Damage Associated with the Suppression of Necroptosis in Type 1 Diabetic Mice
TARO HIRAI, YUTA TAKAGAKI, KEIZO KANASAKI, DAISUKE KOYA, Kahoku, Ishikawa, Japan

464-P Visceral Adiposity Index Identifies Both Type 2 Diabetes Mellitus and Prediabetes Better than Established Indices of Visceral Obesity in a Pad Cohort
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467-P Estimation of 10-Year Cardiovascular Risk among Newly Diagnosed Type 2 Diabetes Patients in the "Evaluation of Effectiveness of Treatment Paradigm for Newly Diagnosed Type 2 Diabetes Patients in China (NEW2D)" Study Population  
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468-P Nonalcoholic Steatohepatitis Is Associated with Diabetic Cardiomyopathy in Type 2 Diabetes  
DONG-HYEOK CHO, Gwangju, Republic of Korea

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JIONG WANG, WANNING WANG, LU CAI, Louisville, KY

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YUNFEI LIAO, SR., LULU CHEN, ESQ., TIANSHU ZENG, ESQ., Wuhan, China

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475-P Exendin-4 Stimulates eNOS Activation by Upregulation of Scavenger Receptor Type B Class I in Human Endothelial Cells  
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476-P Pemafibrate, a PPAR Alpha Agonist, Attenuates Neointima Formation after Vascular Injury in Nondiabetic and Diabetic Mice  
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477-P Inhibiting Myeloperoxidase (MPO) Prevents Onset and Reverses Established High-Fat Diet (HFD)-Induced Microvascular Insulin Resistance (IR)  
EUGENE BARRETT, WEIDONG CHAI, KEVIN W. AYLOR, LI-MING GAN, ERIK MIKAELSSON, Charlottesville, VA, Gothenburg, Sweden

478-P Accelerating Atherosclerosis by Autoimmune Process in Nonobese Diabetic Mice Made ApoE Deficient by CRISPR/Cas9 Gene Editing  
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479-P Combination of Trans-resveratrol and Hesperetin Corrects Unscheduled Increased Glucose Metabolism Driving Dysfunction of Human Periodontal Ligament Fibroblasts in Hyperglycemia In Vitro
NAILA RABBANI, AMAL A. ASHOUR, MINGZHAN XUE, PAUL THORNALLEY, Coventry, United Kingdom, Taif, Saudi Arabia, Doha, Qatar

480-P ▲ Diabetes and Experimental Myocardial Infarction Synergize to Accelerate Atherosclerosis Destabilization
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HON-CHI LEE, XIAOJING SUN, XIAO-LI WANG, TONG LU, Rochester, MN

482-P Linagliptin Induces M2 Macrophage Polarization and Suppresses Progression of Atherosclerosis in High-Fat-Fed ApoE-Deficient Mice
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483-P Pioglitazone Suppresses Macrophage Proliferation in Apolipoprotein-e Deficient Mice by Activating PPARY
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484-P Acute Hyperglycemia In Vivo Promotes a Proatherogenic Monocyte Phenotype
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485-P Combination of Trans-resveratrol and Hesperetin Corrects Unscheduled Increased Glucose Metabolism Driving Endothelial Cell Dysfunction in Hyperglycemia In Vitro
PAUL THORNALLEY, AMAL A. ASHOUR, MINGZHAN XUE, NAILA RABBANI, Doha, Qatar, Taif, Saudi Arabia, Coventry, United Kingdom

486-P Hyperglycemia Promotes Epigenetic Priming of RELA/p65 Gene in Cord Blood-Derived CD34+ Stem Cells and Their Differentiation into Proinflammatory CD16 Myeloid Cell Population
MARIA CRISTINA VINCI, VERA VIGORELLI, STEFANO GENOVESE, GIULIO POMPILIO, Milan, Italy

487-P The Activation of mTORC1 in Leukocytes of Patients with Cancer and Diabetes
TAMARA VATSEBA, LIUBOV K. SOKOLOVA, VIKTOR V. PUSHKAREV, OLENA I. KOVZUN, VOLODYIMIR M. PUSHKAREV, MYKOLA D. TRONKO, Ivano-Frankivsk, Ukraine, Kyiv, Ukraine

488-P Effects of Novel Antidiabetic Therapy on Platelet Reactivity in Patients with Type 2 Diabetes Mellitus
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Moderated Poster Discussion: Diabetic Nephropathy—Basic Science and Experimental Models
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489-P ▲ Loss of Neurphilin 1 in Podocytes Aggravates Diabetic Nephropathy
RUI CHENG, XUEMIN HE, JIAN-XING MA, Oklahoma City, OK, Guangzhou, China

490-P ▲ Administration of AAV-Containing Glyoxalase-1 Attenuated Nephropathy in Rats with Chronic Diabetes
KESHORE BIDASEE, FADHEL AHMED ALOMAR, SR., Omaha, NE, Dammam, Saudi Arabia
491-P Obesity-Induced Kidney Damage Is Attenuated by Genetic Deletion of miR-379 in Mice
MARYAM ABDOLLAHI, MITSUO KATO, RAGADEEPTHI TUNDUGURU, LINDA L. LANTING, RAMA NATARAJAN, Duarte, CA

492-P A Novel Renoprotective Target of SGLT2 Inhibitor: HIF-1α Inhibition and AMPK Activation in Renal Proximal Tubular Epithelial Cells
RYOICHI BESSHO, YUMI TAKIYAMA, TAKAO TAKIYAMA, TSUGUHITO OTA, Asahikawa, Japan

493-P Synchrotron Radiation Micro-CT Reveals Glomerular Loss without Glomerular or Renal Hypertrophy in Streptozotocin-Induced Type 1 Diabetic Mice
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494-P Whole-Kidney 3D Imaging and Image Analysis Enables Detailed Quantification of Diabetic Nephropathy Features in the Uninephrectomized db/db Mouse Model
LISBETH N. FINK, FREDERIKKE E. SEMBACH, URMAS ROOSTALU, THEA JOHANSEN, JACOB LERKE SKYTTE, THOMAS SECHER, KELD FOSGERAU, NIELS VRANG, JACOB JELSING, JACOB HECKSHER-SØRENSEN, TANJA X. PEDERSEN, Hørsholm, Denmark

495-P Kidney May Regulate SGLT2-Dependent Glucose Reabsorption through Sweet Taste Receptors: Implications for Diabetes
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496-P A New Method to Image Sweet Taste Receptors in the Pathogenesis of Diabetic Nephropathy: Detection of 18F Lactisole with PET/CT
LUPING ZHOU, WEI HUANG, NAN LIU, XIU M. MA, MAN GUO, QING CHEN, CHENLIN GAO, YONG XU, Luzhou, China

497-P Fyn-Dependent Tyrosine Phosphorylation of Tgm2 Modulates p53-Tgm2-p62 Complex in Renal Proximal Tubular Epithelial Cells
EIJIRO YAMADA, SHUICHI OKADA, CLAIRE C. BASTIE, MASANOBU YAMADA, Maebashi, Japan, Coventry, United Kingdom

498-P Involvement of Phosphorylation of Beta-1 Integrin in Renin Production and Blood Pressure Regulation in Diabetic Nephropathy
KAICHIRO SAWADA, MASAO TOYODA, NOBUMICHI SAITO, MORITSUGU KIMURA, HITOMI MORIYA, MASAFUMI FUKAGAWA, Isehara, Japan

499-P The Relative Roles of Pro-oxidant Enzymes Nox4 and Nox5 in Diabetic Kidney Disease
JAY C. JHA, MARK E. COOPER, CHRIS KENNEDY, KARIN JANDELEIT-DAHM, Melbourne, Australia, Ottawa, ON, Canada

500-P The Performance of Four Different Exosome Isolation Methods for Urinary Exosomal microRNA Profiling in Patients with Diabetic Kidney Disease
KIYOUNG LEE, DAEHO LEE, IE BYUNG PARK, Incheon, Republic of Korea, Seoul, Republic of Korea

501-P ROCK2 Activation Accelerates Podocyte Injury in Diabetic Kidney Disease
KEICHIRO MATOBA, DAJJI KAWANAMI, YUSUKE TAKEDA, YOSUKE NAGAI, KAZUNORI UTSUNOMIYA, Tokyo, Japan, Minato, Japan

502-P Urinary Levels of Deoxyribonuclease-1 and Lysosomal Alpha-Glucosidase Were Associated with the Progression of Diabetic Nephropathy
YASUSHI KABURAGI, EMII ITO, HIROYUKI UNOKI-KUBOTA, Tokyo, Japan

503-P Inhibition of Glucose Transporter 9 Increases Serum Uric Acid Level but Attenuates Renal Albumin Excretion in Streptozotocin-Induced Diabetic Rats: A Role of Hepatic Uric Acid Metabolism
CHUPING CHEN, JIANMIN RAN, RUIYI ZHANG, GUANGSHU CHEN, PING ZHU, JINGXIAN QIU, RONGSHAO TAN, YAN LIU, Guangzhou, China

504-P TGF-β1 and VCAM-1 as Early Diagnostic Biomarkers of Diabetic Kidney Disease Progression
CHUB DARIA, NATALIIA PERTSEVA, Dnipro, Ukraine
505-P ROCK2 Regulates TGF-Beta-Induced Expression of CTGF and Profibrotic Genes via NF-kappa B and Cytoskeleton Dynamics in the Mesangial Cells  
YOSUKE NAGAI, DALI KAWANAMI, KEIICHIRO MATOBA, YUSUKE TAKEDA, KAZUNORI UTSUNOMIYA, Tokyo, Japan, Minato, Japan

506-P WITHDRAWN

507-P Influence of Past Information to Precision of Diabetic Nephropathy Aggravation Prediction  
AKIRA KOSEKI, MASAKI ONO, MICHIMARU KUDO, KYOICHI HAIDA, MASAKI MAKINO, ATSUSHI SUZUKI, Tokyo, Japan, Toyko, Japan

508-P Gemigliptin Ameliorates Renal Fibrosis by Attenuating NLRP3-Mediated Inflammation in a Murine Model  
GWONSOO JUNG, YEON-KYUNG CHOI, JUNG BEOM SEO, SUNG DON PARK, NAYOUNG KIM, MIN-JI KIM, JUNG-GUK KIM, IN-KYU LEE, KEUN-GYU PARK, Daegu, Republic of Korea

509-P Utility of Serum Cystatin C in Early Kidney Dysfunction in Prediabetics  
JULIA I.F. BRANDA, BIANCA ALMEIDA, SANDRA R.G. VIVOLO, São Paulo, Brazil

510-P Protection of Kidney and Pancreas in Diabetes via Rescuing Disruption of STRA6-Retinol Cascade by SGLT2 Inhibitor, not Sulfonlurea  
SHYI-JANG SHIN, Kaohsiung, Taiwan

511-P The Renoprotective Effect of Evogliptin, a Dipeptidyl Peptidase-4 Inhibitor, in a Mouse Model of Renal Fibrosis  
NAYOUNG KIM, IN-KYU LEE, SUNG DON PARK, MIN-JI KIM, JUNG-GUK KIM, YEON-KYUNG CHOI, KEUN-GYU PARK, MI-JIN KIM, Daegu, Republic of Korea

512-P Sexual Differences in Progression of Diabetic Nephropathy in over 26 Type 1 Diabetic Mice  
WANNING WANG, LU CAI, Louisville, KY

513-P Adenosine Signal Plays an Important Role in Renoprotective Effects of SGLT2 Inhibitor in Proteinuric Diabetic Mice  
KEIJI SHIMADA, YUTA TAKAGAKI, KEIZO KANASAKI, DAISUKE KOYA, Kahoku, Japan, Ishikawa, Japan

514-P Group 2 Innate Lymphoid Cells Promote Renal Fibrosis through the Production of Th2 Cytokines in Diabetic Kidney Disease  
LU DAN QIN, CUIPING LIU, LUPING ZHOU, CHENLIN GAO, TING ZHANG, MAN GUO, WEI HUANG, ZONGZHE JIANG, SR., JING YA DING, YONG XU, Luzhou, China

515-P Mitochondrial AKT1 in Renal Tubules Is a Novel Modulator for the Development of Glomerulosclerosis and Subsequent Renal Failure  
HUGO YOU-HSIEN LIN, YU-HAN CHEN, ALBERT TA, HSIAOCHE LIN, YUMAY CHEN, PING H. WANG, Irvine, CA

516-P Preventive Effect of Sulforaphane on Type 2 Diabetes-Induced Diabetic Nephropathy via AMPK-Mediated Activation of Glucose/Lipid Metabolism and Nrf2 Antioxidative Function  
ZHOU LI, LU CAI, YIKE SUN, Louisville, KY

517-P Communication from Tubular Epithelial Cells to Podocytes through Bim/NFAT2 Pathway  
CHUNMEI XU, XIAOJUN ZHOU, XUE SHEN, SHAN JIANG, TIANYUE XIE, ZHWEI ZOU, QIAN ZHANG, RUI ZHANG, YIQIAN XING, LIN LIAO, JIANJUN DONG, Jinan, China, Linyin, China

518-P Involvement of Low-Density Lipoprotein Receptor-Related Protein 5 in Chronic Kidney Diseases via Modulation of TGF-β-Smad2/3 Signaling  
XUEMIN HE, RUI CHENG, CHAO HUANG, YANMING CHEN, JIAN-XING MA, Guangzhou, China, Oklahoma City, OK

519-P Acute Kidney Injury Sensitivity in Diabetic Murine Model  
SANG HEON SONG, SANG SOO KIM, IN JOO KIM, Busan, Republic of Korea

520-P Hyperglycemia-Induced Mitochondrial Dysfunction in Diabetic Kidney Disease May Be Mediated by Crabtree Effect in Kidney Proximal Tubule Epithelial Cells  
MANJULA DARSHI, JIWAN JOHN KIM, VIKTOR DREL, ANNE N. MURPHY, San Antonio, TX, La Jolla, CA

521-P Sodium Butyrate Alleviates High-Glucose-Induced Renal Glomerular Endothelial Cells Pyroptosis  
JUNLING GU, WEI HUANG, YOUHUA XU, YONG XU, Luzhou, China, Macau, China
COMPLICATIONS—NEPHROPATHY—CLINICAL AND TRANSLATIONAL RESEARCH

Moderated Poster Discussion: Complications Nephropathy—Clinical and Translational Studies
(Posters: 522-P to 527-P), see page 106.

522-P Long-Term Renal Outcomes in Young Onset Type 2 Diabetes
TIMOTHY MIDDLETON, STEVE CHADBAN, LYNDA M. MOLYNEAUX, SR., MARIO I. D’SOUZA, MARIA I. CONSTANTINO, DENNIS YUE, MARGARET MCGILL, TED WU, STEPHEN M. TWIGG, JENCIA WONG, Sydney, Australia, Camperdown, Australia

523-P Axon Guidance Pathway (AGP) Proteins Associate with ESKD and Kidney Lesions in Type 2 Diabetes
PIERRE SAULNIER, EIICHIRO SATAKE, HELEN C. LOOKER, JAN SKUPIEN, ANDRZEJ KROLEWSKI, ROBERT NELSON, Poitiers, France, Boston, MA, Phoenix, AZ, Kraków, Poland

524-P RNA-Sequencing of Laser-Microdissected Glomeruli and Tubules Reveal Differentially Expressed Genes in Diabetic Kidney Disease
RONALD C.W. MA, NANA JIN, CHOI WAN LUK, HEUNG MAN LEE, CADMON K.P. LIM, WING YEE SO, RONALD C.K. CHAN, HUI Y. LAN, CHI FAI NG, JULIANA C. CHAN, TING-FUNG CHAN, CHEUK CHUN SZETO, TRANSCEND CONSORTIUM, Hong Kong, China

525-P Integrated Mirnome and Proteomic Analyses in Plasma and Progression to ESRD in Diabetes
EIICHIRO SATAKE, JAN SKUPIEN, ZAIPUL I. MD DOM, HIROKI KOBAYASHI, KATSUHITO IHARA, MARCUS G. PEZZOLESI, MONIKA NIEWCZAS, ANDRZEJ KROLEWSKI, Boston, MA, Kraków, Poland, Salt Lake City, UT

526-P Dapagliflozin Improves the Urinary CKD273 Proteomic Score When Added to Renin-Angiotensin Blockade in Patients with Type 2 Diabetes and Nephropathy
FREDERIK PERSSON, MIE K. EICKHOFF, HARALD MISCHAK, MARIE FRIMODT-MOLLER, PETER ROSSING, Gentofte, Denmark, Hannover, Germany, Copenhagen, Denmark

527-P The Effect of Angiotensin II (ANG II) Infusion on Plasma Uric Acid (PUA) in Patients with Type 1 Diabetes (T1D)
YULIYA LYTVYN, KEVIN D. BURNS, ANDRIY LYTVYN, JAYA P. AMBINATHAN, OLUVATOSIN OSUNTOKUN, LUCAS C. GODOWN, DAVID KERNEY, JOHN D. PARKER, Toronto, ON, Canada, Ottawa, ON, Canada, Oakville, ON, Canada

528-P Hemoglobin Glycation Index Is Associated with Incident Chronic Kidney Disease in Subjects with Impaired Glucose Metabolism: A 10-Year Longitudinal Cohort Study
JI HYE HUH, WONJIN KIM, MIN KYUNG KIM, Wonju, Republic of Korea, Seoul, Republic of Korea

529-P Weight Change and the Incidences of End-Stage Renal Disease and Proliferative Diabetic Retinopathy in Patients with Newly Diagnosed Diabetes Mellitus: A Nationwide Cohort Study
HYUK-SANG KWON, KI-HO SONG, Seoul, Republic of Korea

530-P Early Insulin Initiation in T2DM Is Associated with Prevention of eGFR Decline and Lower Insulin Dose Requirements
JOTHYDEV KESAVADEV, ROHIT WARRIER, LAKSHMY RAMACHANDRAN, ARUN SHANKAR, ASHWIN DAVID, NEETHU A. AJAI, GEETHU SANAL, KAVITHA THAMPIRAJ, GOPIKA KRISHNAN, SUNITHA JOTHYDEV, Trivandrum, India, Kochi, India

531-P Weight Change and the Incidences of End-Stage Renal Disease and Proliferative Diabetic Retinopathy in Patients with Newly Diagnosed Diabetes Mellitus: A Nationwide Cohort Study
HYUK-SANG KWON, KI-HO SONG, Seoul, Republic of Korea

532-P Effect of ABC Control of Diabetes on the Prevalence of Chronic Kidney Disease in Patients with Type 2 Diabetes from Tibet in China
ZHANG CHENGHUI, WU YUNHONG, WANG SUYUAN, LI MINGXIA, Chengdu, China

533-P Association of Serum Branched-Chain Amino Acids with Kidney Function Decline in Type 2 Diabetes: The Hong Kong Diabetes Register
LEE-LING LIM, ERIC S. LAU, HEUNG MAN LEE, CLAUDIA H. TAM, CADMON K.P. LIM, ANDREA LUK, ELAINE CHOW, RONALD C. MA, JULIANA C. CHAN, ALICE P. KONG, Hong Kong, China
534-P Serum Sclerostin, Body Composition, and Sarcopenia in Hemodialysis Patients with Diabetes
FRANCISCO BANDEIRA, MARIA CAROLINA W. MEDEIROS, MARIO HENRIQUES JUNIOR, NATALIA ROCHA SILVA, MARIA ELBA BANDEIRA FARIAS, LEONARDO FARIAS, Recife, Brazil

535-P Relationship between Renal Capacities to Reabsorb Glucose and Kidney Disease in Patients with Diabetes
ODETTE MATAR, LOUIS POTIER, YAWA ABOULEKA, FRÉDÉRIC FUMERON, KAMEL MOHAMMEDI, SAMY HADJADJ, RONAN ROUSSEL, GILBERTO VELHO, MICHEL MARRE, Paris, France, Bordeaux, France, Poitiers, France

536-P Association between Uric Acid Level and Incidence of Macroalbuminuria in People with Type 2 Diabetes Mellitus: A 4.5-Year Cohort Study
YUN-JU LAI, SR., Nantou, Taiwan

537-P sCD93 Is a Potential Biomarker for Diabetic Nephropathy
SANG BAE LEE, HO SEON PARK, MINYOUNG LEE, ARIM CHOI, JONG SUK PARK, CHUL WOO AHN, SEUNG PYO LEE, SHINAE KANG, Seoul, Republic of Korea

538-P Copeptin and Renin Angiotensin Aldosterone System (RAAS) Activation in Long-Standing Type 1 Diabetes (T1D)
PETTER BJORNSTAD, JULIE A. LOVSHIN, YULIYA LYTVYN, PATTARA WIROMRAT, LINH T. CHUNG, CARISSA L. VINOVSKIS, LEIF ERIK LOVBLOM, GENEVIEVE BOULET, VESTA S. LAI, JOSEPHINE M. TSE, LESLIE CHAM, ANDREJ ORSZAG, ALANNA WEISMAN, HILLARY A. KEENAN, MICHAEL H. BRENT, NARINDER PAUL, VERA BRIL, BRUCE A. PERKINS, DAVID CHERNEY, Aurora, CO, Toronto, ON, Canada, Denver, CO, Boston, MA, London, ON, Canada

539-P The Trend of Diabetic Kidney Disease with Low eGFR and Absence of Albuminuria in Type 2 Diabetic Patients in Japan from 1996-2015
YOSHINORI KAKUTANI, MASANORI EMOTO, KATSUHITO MORI, YUKO YAMAZAKI, AKINOBU OCHI, TOMOAKI MORIOKA, SHINYA FUKUMOTO, ATSUSHI SHIOJI, TETSUO SHOJI, MASAAKI INABA, Osaka, Japan

540-P Time Is an Independent Risk Factor for Diabetic Nephropathy in African Americans (AA) Compared with Caucasians
ALDO DE FERRARI, FERNANDO OVALLE, Birmingham, AL

541-P The Il-8-CXCR1/2 Axis and Its Targeting in Diabetic Kidney Disease
FRANCESCA ROCCHIO, MOUFIDA BEN NASR, FRANCESCA D’ADDIO, CRISTIAN LORETTI, VERA USUELLI, EMMA ASSI, MONIKA NIEWCZAS, BASSET EL ESSAWY, MARCUS G. PEZZOLESI, DOMENICO CORRADI, GIANVINCENZO ZUCCOTTI, PAOLO FIORINA, Milan, Italy, Boston, MA, Cairo, Egypt, Salt Lake City, UT, Parma, Italy

542-P One-Year eGFR Decline Rate Predicts Renal Outcome in High-Risk Japanese Patients with Hypercholesterolemia and Diabetic Retinopathy
SHU MEGURO, YASUNORI SATO, HIROSHI ITOH, Tokyo, Japan

543-P A Clinical, Proteomics and Artificial Intelligence-Driven Model to Predict Acute Kidney Injury in Diabetic Patients Undergoing Coronary Angiography—Results from the Catheter SAMPLED Blood Archive in Cardiovascular Diseases Study
NASRIEN E. IBRAHIM, CIAN P. MCCARTHY, SHREYA SHRESTHA, HANNA GAGGIN, RENATA MUKAI, CRAIG A. MAGARET, RHONDA F. RHYNE, JAMES JANUZZI, JR., Boston, MA, Kirkland, WA, Wellesley Hills, MA

544-P Efficacy and Safety of Insulin Degludec in Adults with T2D Macroalbuminuria and Chronic Kidney Disease Stage 2 and 3B
MARIA DOLORES GARCIA DE LUCAS, BEATRIZ AVILES BUENO, JULIAN OLALLA, JUDITH LOPEZ-FERNANDEZ, Malaga, Spain, Marbella, Spain, Bilbao, Spain, Tenerife, Spain

545-P The Difference in the Effects on Microalbuminuria Depending on the Order of GLP-1RA and SGLT2i Therapy in Type 2 Diabetes
MASAYA OHARA, KOKA MOTOYAMA, ANNA TAMAI, TAKESHI SAKURA, YOSUKE YAKUSHIJI, MASAYUKI HOSOI, Osaka, Japan

546-P Deep Learning Predictions of Diabetic Retinopathy Associated with Progression of Renal Disease in Type 1 Diabetes
JOSEPH C. MELLOR, AMOS J. STORKEY, HELEN COLHOUN, PAUL M. MCKEIGUE, ON BEHALF OF THE SDRN-T1BIO INVESTIGATORS, Edinburgh, United Kingdom
547-P Utility of Galectin-3 as a Biomarker of Prediabetes and Complications of Type 2 Diabetes Mellitus
NABILA A. ABDELLA, OLUSEGUN A. MOJIMINIYI, Kuwait City, Kuwait

548-P Baicalin Attenuates Fibrosis Process in Human Renal Proximal Tubular Cells in Hyperglycemic Condition
JUNGEUN NAM, JUNG HYE KIM, KAHUI PARK, SANG BAE LEE, JI SUN NAM, JONG SUK PARK, SU JEONG PARK, YU SIK KIM, CHUL WOO AHN, SR., Seoul, Republic of Korea

549-P Renal Outcome of Patients with Type 2 Diabetes Exhibiting Normoalbuminuric Renal Insufficiency
YUI NISHIWAKI, KO HANAI, TETSUYA BABAZONO, Tokyo, Japan

550-P Age at Diabetes Onset and Risk for Diabetic Kidney Disease
CHARLYNE CARPENTIER, SEVERINE DUBOIS, YAWA ABOULEKA, BEATRICE DULY-BOUHANICK, SAMY HADJ-ADJ, REGIS COUTANT, RONAN ROUSSEL, GILBERTO VELHO, MICHEL MARRE, Angers, France, Paris, France, Toulouse, France, Poitiers, France

COMPLICATIONS—NEUROPATHY

Moderated Poster Discussion: Diabetic Neuropathy—Mechanisms and Management (Posters: 551-P to 556-P), see page 175.

551-P ☀ The Impact of Type 1 Diabetes on Motor Dynamics in the Brain
CHRISTINE M. EMBURY, VEGA A. WERE, GRACE H. LORD, ANDJELA DRINCIC, CYRUS DESOUZA, TONY W. WILSON, Omaha, NE

552-P ☀ Baroreflex Function and Postprandial Hypotension in Older Adults With and Without Type 2 Diabetes
KENNETH M. MADDEN, BORIS FELDMAN, GRAYDON S. MENEILLY, Vancouver, BC, Canada

553-P ☀ Differential Effects of High-Intensity Interval Training on Somatosensory and Autonomic Nerve Function in Patients with Type 2 Diabetes
GIDON J. BÖNHOF, ALEXANDER STROM, MARIA APOSTOLOPOULOU, DOMINIK PESTA, MICHAEL RODEN, DAN ZIEGLER, Düsseldorf, Germany

554-P ☀ Glycemic Variation Predicts Microvascular Risk in both ACCORD and VADT
JIN ZHOU, PETER REAVEN, Tucson, AZ, Phoenix, AZ

555-P ☀ Poor Sleep Quality Linked to Decreased Brain Gray Matter Density in Type 2 Diabetes
CRISTINA CABRERA-MINO, BHASWATI ROY, MARY A. WOO, RAJESH KUMAR, SARAH E. CHOI, Los Angeles, CA

556-P ☀ Noninvasive Measurements of AGE Products in the Crystalline Lens of the Eye Can Distinguish Subjects with Prediabetes and Type 2 Diabetes and Correlated with Severity of Neuropathy
MITRA TAVAKOLI, Exeter, United Kingdom

557-P Impact of Extensive HbA1c Control on Major Microvascular Complications in Type 2 Diabetes Mellitus with Short Duration of Disease
MITRA TAVAKOLI, FUKASHI ISHIBASHI, Exeter, United Kingdom, Hatsukaichi, Japan

558-P Rate of Progression of Utah Early Neuropathy Symptom Score in Diabetic Neuropathy
J. ROBINSON SINGLETON, PETER E. HAUSER, CATHY REVERE, STORMY C. FOSTER-PALMER, ADRIENNE B. APERGISIS, A. GORDON SMITH, Salt Lake City, UT, Richmond, VA

559-P The Triglyceride Glucose Index (TyG Index), Surrogate Marker of Insulin Resistance and Dementia: Population-Based Study
SANG MO HONG, KYUNGDO HAN, CHEOL-YOONG PARK, Gyeonggi, Republic of Korea, Seoul, Republic of Korea

560-P Thermal Indicators of Previously Undiagnosed Diabetic Peripheral Neuropathy
MARK R. BURGE, CHRISTOPHER STEWART CALDER, JEFFREY WIGDAHL, VINAYAK JOSHI, XIAOSHAN GUO, JUSTIN C. CARMICHAEL, PETER SOLIZ, Albuquerque, NM
561-P Serum C-Peptide Concentrations Are Inversely Associated with Cardiovascular Autonomic Neuropathy in Type 2 Diabetic Individuals With and Without Renal Impairment Independently of Estimated Glomerular Filtration Rate
JIN OOK CHUNG, SEON-YOUNG PARK, DONG HYEOK CHO, DONG JIN CHUNG, MIN YOUNG CHUNG, Gwangju, Republic of Korea

562-P The Effect of Vitamin D Supplementation on the Cytokines Levels in Patients with Type 2 Diabetes Mellitus and Diabetic Neuropathy
ANNA P. STEPANOVA, TATYANA L. KARONOVA, MICHAEL GALAGoudZA, ELENA YU VASILEVA, EDWARD B. JUDE, Saint Petersburg, Russian Federation, Manchester, United Kingdom

563-P Autonomic Neuropathy in Type 1 Diabetes (T1D): Findings from the T1D Exchange
KARA R. Mizokami-Stout, RYAN BAILEY, NICOLE C. FOSTER, LYNN ANG, GRAZIA ALLEPO, CAROL J. LEVY, MICHAEL R. RICKELS, VIRAL N. SHAH, SARIT POLSKY, MICHELLE KATZ, BRYCE A. NELSON, ANDERS CARLSON, FRANCESCO VENDRAME, RODICA POP-BUSUI, Ann Arbor, MI, Tampa, FL, Chicago, IL, New York, NY, Philadelphia, PA, Aurora, CO, Boston, MA, Greeneville, SC, Minneapolis, MN, Miami, FL

564-P Secreted Factors from Dental Pulp Stem Cells Ameliorated Neural Functions in Streptozotocin-Induced Diabetic Mice
EMIRI MIURA-YURA, SHIN TSUNEKAWA, KEIKO NARUSE, MIYUKA KAWAI, MAKOTO KATO, HIROMI SHIMODA, YUICHIRO YAMADA, MIKIO MOTEKI, SAEKO ASANO, TATSUHIITO HIMENO, MASAKI KONDO, YOSHIRO KATO, JIRO NAKAMURA, HIDEKI KAMIYA, Nagakute, Japan, Nagoya, Japan

565-P Serum 25-Hydroxy Vitamin D Levels in Relation to Diabetic Peripheral Neuropathy in Patients with Type 2 Diabetes
LEI ZHANG, YAN GU, YUXIU YANG, YAMEI ZHU, YANHU DONG, Qingdao, China

566-P Mild Increase of Proinflammatory Macrophages Correlates with Reduction of Nerve Fiber Density in Sural Nerve of Human Type 2 Diabetic Subjects
HIROKI MIZUKAMI, SHO OSONOI, KAZUHISA TAKAHASHI, KAZUHIRO KUDO, CHIEKO ITABASHI, SOROKU YAGIHASHI, Hirokaki, Japan

567-P Influence of Sex on Cardiovascular Autonomic Neuropathy in Patients with Type 1 Diabetes
LIA NATTERO-CHÁVEZ, SARA ALONSO DIAZ, LAURA MONTANEZ, ELENA FERNÁNDEZ, SANDRA REDONDO LOPEZ, MARTA GARNICA UREÑA, ANE BAYONA, HÉCTOR FRANCISCO ESCOBAR-MORREALE, MANUEL LUQUE RAMÍREZ, Madrid, Spain

568-P Pain Threshold of Intraepidermal Nerve Terminal Reflects Small Nerve Fiber Function and Rises in Early Phase of Diabetes
HIDEYUKI SASAKI, SHOHEI KISHIMOTO, KENJI OGAWA, SEIGO KURISU, KISHIO NANJO, Wakayama, Japan, Osaka, Japan

569-P Prefrontal Cortex Brain Damage and Glycemic Control in Patients with Type 2 Diabetes
SARAH E. CHOI, BHASWATI ROY, RAJESH KUMAR, MATTHEW FREEBY, RASHMI S. MULLUR, MARY A. WOO, Los Angeles, CA

570-P The Slipping Slipper Sign Predicts Risk of Falling in Patients with Type 2 Diabetes Mellitus
MOSHANTI M. RAMDATH, RESHAM R. NANDLAL, JR., LEELA KRISHNA TEJA BOPPANA, SURUPAL TEELUCK-SINGH, Port of Spain, Trinidad and Tobago, San Fernando, Trinidad and Tobago, Saint Joseph, Trinidad and Tobago, Saint Augustine, Trinidad and Tobago

571-P Analysis of Hearing Loss Characteristics in Prediabetic Patients
YAN MENG, XIAOMING ZHUANG, BIN LU, XIAOJUAN WU, Beijing, China

572-P Lower Insulin Secretion Is Associated with Parahippocampal Gyrus Atrophy in Elderly Patients with Type 2 Diabetes Mellitus
YUKO ADACHI, KAZUKI OTA, RYOKO ISHI, KEEHO CHOE, YUKI HIRAMATSU, SEIZABURO MASUDA, SAYO KOSEKI, TOMOHITO HAYASHI, NANA KOMATSU, ERI UEDA, YASUFUMI MIZUGUCHI, ISAO MINAMI, TETSUYA YAMADA, TAKAYUKI WATANABE, Yokohama, Japan, Tokyo, Japan

573-P Diagnostic Performance of Heart Rate Variability for Detecting Diabetic Cardiac Autonomic Neuropathy
BO KYUNG KOO, MIN KYONG MOON, Seoul, Republic of Korea
574-P  Recurrent Short-Term Hypoglycemia and Hyperglycemia Enhance Apoptosis and Oxidative Stress through Polyol Pathway and Endoplasmic Reticulum Stress Pathway in Schwann Cells
AYAKO KATO, YASUAKI TATSUMI, HIDEJI YAKO, TATSUHITO HIMENO, MASAKI KONDO, YOSHIRO KATO, HIDEKI KAMIYA, KAZUNORI SANGO, JIRO NAKAMURA, KOICHI KATO, Nagoya, Japan, Tokyo, Japan, Nagakute, Japan

575-P  Retinal Dysfunction in Diabetic Patients: Clinical Feasibility of a Handheld Electroretinogram to Predict Diabetic Complications
MIYUKA KAWAI, TATSUHITO HIMENO, YURIKO YAMADA, YUKI ASANO, YUKAKO SUGIURA, HIROMI SHIMODA, YUKA SHIBATA, MASAKI KONDO, SHIN TSUNEKAWA, HIDEKI KAMIYA, JIRO NAKAMURA, Nagakute, Japan, Nagoya, Japan

576-P  Prevalence of Vitamin B12 Deficiency and Clinical Neuropathy with Metformin Use in Type 2 Diabetes Mellitus Patients
VEERAPPA KOTHIWALE, NAHUSH D. CHAFEKAR, PRAKASH BABALICHE, NIKHIL A. CHOUGULE, Belgaum, India

577-P  Increased Symptoms of Peripheral Neuropathy and Depression in Insulin-Treated Type 2 Diabetic Patients Are Associated with Reduced BDNF Serum Protein Levels and Val66Met-SNP
AMIR BASHKIN, AKRAM SAFADI, SR., BELLA GROSS, NETANEL A. HOROWITZ, RIVKA SHARON, ESTHER SHAOUL, MARINA NODELMAN, DAVID AZOULAY, Nahariya, Israel, Haifa, Israel

578-P  Evaluation of Autonomic Function and Its Relation to Glucose Variability, Insulin Resistance, and Oxidative Stress in Prediabetes
RUMYANA DIMOVA, NEVENA CHAKAROVA, GEORGI KIRILOV, GRET A GROZHEVA, TSvetALINA TANKOVA, Sofia, Bulgaria

579-P  Prevalence of and Risk Factors for Peripheral Neuropathy in Chinese Patients with Diabetes: A Multicenter Cross-Sectional Study
QI PAN, Beijing, China

580-P  Cardiovascular Autonomic Neuropathy Is Associated with Carotid Intima-Media Thickness and Arterial Stiffness in Patients with Type 2 Diabetes
TAE SEO SOHN, Uijeongbu, Republic of Korea

581-P  Impacts of Glucose Fluctuation Management on Nerve Function in Type 2 Diabetes Patients with the First Episode of Cerebral Infarction
JIANING LI, Nanjing, China

582-P  Disambiguating the Nucleus Ambiguous with Single-Cell Transcriptomics
TATIANA COVERDELL, RACHAEL IVISON, JENKANG TAO, JOHN CAMPBELL, Charlottesville, VA, Boston, MA

COMPLICATIONS—RETINOPATHY
Moderated Poster Discussion: Biomarkers and Mechanisms of Diabetic Retinopathy (Posters: 583-P to 588-P), see page 106.

583-P  Increase in Mitochondrial Ceramide Contributes to Diabetes-Induced Retinal Endothelial Cell Damage
DAVID PEGOUSKE, YAN LEVITSKY, SANDRA HAMMER, TODD A. LYDIC, ARTEM MUCHNIK, DENIS A. PROSH-LYAKOV, JULIA V. BUSIK, East Lansing, MI

584-P  WITHDRAWN

585-P  Identifying Clinical Variables Critical for Effective Diabetic Retinopathy Prediction
RU WANG, ZHUQI MIAO, Stillwater, OK

586-P  Vitreous and Serum Measurements of Retinol Binding Protein 3 in the Clinical Evaluation of Diabetic Retinopathy
WARD FICKWEILER, HISASHI YOKOMIZO, KYOUNGMIN PARK, SAMANTHA M. PANIAGUA, I-HSIEN WU, DAVID M. POBER, VANESSA BAHNAM, ALLEN CLERMONT, LLOYD P. AIELLO, JENNIFER K. SUN, GEORGE L. KING, Boston, MA
587-P
miR34a-Induced Loss of Nicotinamide Phosphoribosyltransferase Mediates Diabetes-Induced Retinal Vascular Senescence
MANUELA BARTOLLI, RAVIRAJSINH JADEJA, MENAKA THOUNAOJAM, DIANA GUTSAEVA, PAMELA MARTIN, Augusta, GA

588-P
Diabetes Leads to Sodium-Glucose Cotransporter 2 (SGLT2) Increase in the Retina
SAMEER P. LELEY, QIANYI LUO, ALPHA L. ALEX, ASHAY D. BHATWADEKAR, West Lafayette, IN, Indianapolis, IN

589-P
Could Diabetic Retinopathy Predict Cerebrovascular Disease? Evidence from Our Observation and Pooling Studies
JIAN-BO ZHOU, RUI-HENG ZHANG, XIAO-RONG ZHU, JIN-KUI YANG, Beijing, China

590-P
Is Abdominal Obesity Associated with Diabetic Retinopathy in Chinese individuals: An Exploratory Study
JIAN-BO ZHOU, JING YUAN, YAO-HUA CAI, LIN-PING SHU, JIN-KUI YANG, Beijing, China

591-P
Feasibility of Implementing Point-of-Care Diabetic Retinopathy Screening into the Workflow at a Pediatric Diabetes Clinic
RISA M. WOLF, CHRYSTAL G. THOMAS, T.Y. ALVIN LIU, ROOMASA CHANNA, Baltimore, MD, Houston, TX

592-P
Diabetic Retinopathy Grade as Predictor of Outcomes in Patients with Type 2 Diabetes and Lower Extremity Amputations—Multicentric Longitudinal Seven-Year Study
KIRAN SHAH, SUNDARAM NATARAJAN, VISHWANATH PARSEWAR, VYANKATESH K. SHIVANE, Mumbai, India, Nanded, India

593-P
Diabetes Enhances Translation of the mRNA Encoding CD40 in Müller Glia to Promote Retinal Inflammation
SADIE K. DIERSCHKE, ALLYSON TORO, WILLIAM P. MILLER, MICHAEL D. DENNIS, Hershey, PA

594-P
Homocysteine as a Predictor for Diabetic Retinopathy Risk and Management
AMANY M. TAWFIK, RYAZ MOHAMED, SUHIB ALHUSBAN, SUNG MIN CHU, ABRAHAM Q. KHALIL, MANUELA BARTOLLI, MOHAMED AL-SHABRAWY, Augusta, GA, Auburn, GA

595-P
Progression of Retinopathy in Adolescents with Type 1 Diabetes
VALLIMAYIL VELAYUTHAM, GERALD LIEW, ANDRZEJ S. JANUSZEWSKI, YOON HI CHO, PAUL Z. BENITEZ-AGUIRRE, MARIA E. CRAIG, ALICIA JENKINS, KIM C. DONAGHUE, Campbelltown, Australia, Sydney, Australia, Westmead, Australia

596-P
Previous Dramatic Reduction of HbA1c and Retinopathy in Type 2 Diabetes
ALICE LARROUMET, JEAN-FRANCOIS KOROBELNIK, NINON FOUSSARD, LAURENCE BLANCO, KAMEL MOHAMMEDI, MARIE MONLUN, VINCENT RIGALLEAU, Passac, France, Bordeaux, France

597-P
Retinol Binding Protein 3 in Diabetic Retinopathy: Mechanisms of Protective Activity
HISASHI YOKOMIZO, KYOUNGMIN PARK, ALLEN CLERMONT, YASUTAKA MAEDA, WARD FICKWEILER, ATSUSHI ISHIKADO, QIAN LI, CHIH-HAO WANG, DAVID M. POBER, J-HSIEN WU, HILLARY A. KEENAN, LLOYD P. AIELLO, JENNIFER K. SUN, GEORGE L. KING, Boston, MA, Fukuoaka, Japan, Takatsuki, Japan, Cambridge, MA

598-P
Lower Hematocrit Is Predictive of Treatment-Required Eye Diseases in Japanese Patients with Diabetes Mellitus
MASAHIKO YAMAMOTO, KAZUYA FUJIHARA, TAEKO OSAWA, MAYUKO HARADA, MASAHIRO ISHIZAWA, HIROSHI SUZUKI, HIJIME ISHIGURO, HIROYASU SEIDA, NAUTO YAMANAKA, YASUHIRO MATSUBAYASHI, HIROHITO SONE, Niigata, Japan, Tokyo, Japan

599-P
Diabetic Retinopathy (DR) Screening Performance of General Ophthalmologists, Retina Specialists, and Artificial Intelligence (AI): Analysis from a Pivotal Multicenter Prospective Clinical Trial
ELI IPP, VIRAL N. SHAH, BRUCE W. BODE, SRINIVAS R. SADDA, Torrance, CA, Aurora, CO, Atlanta, GA, Los Angeles, CA

600-P
The 1000 Qatar Omics Study: Development of New Analytical Tools for Early Prediction and Treatment of Diabetic Retinopathy in Qatar
SUJITHA SUBASHPADMAJAYA, LAILA JERMAN, ALYA AL-KURBI, KHALID FAKHRO, ALICIA J. JENKINS, ANAND HARDIKAR, AMMIRA SARAH AKIL, Doha, Qatar, Sydney, Australia

601-P
WITHDRAWN
602-P Explaining an Artificial Intelligence (AI) System for Diabetic Retinopathy (DR) Screening in Primary Care
NISHIT UMESH PAREKH, MALAVIKA BHASKARANAND, CHAITHANYA RAMACHANDRA, SANDEEP BHAT, KAUSHAL SOLANKI, Los Angeles, CA

603-P Circulating Inflammatory Cells and Inflammome Activation in Diabetics with Diabetic Retinopathy (DR)
MARIANA D. DUPONT, ANA LEDA LONGHINI, GOPALKRISHNA SREEJIT, RAM PRASAD, PRABHAKARA NAGAREDDY, MARIA B. GRANT, Birmingham, AL

604-P Automated Diabetic Retinopathy Screening in the Primary Care Setting Improves Compliance with Follow-Up Ophthalmic Care
JAMES C. LIU, SHAWN RAMCHAL, ELLA GIBSON, JESSICA KUO, KAUSHAL SOLANKI, MALAVIKA BHASKARANAND, EMILY FONDAHN, RITHWICK RAJAGOPAL, St. Louis, MO, Los Angeles, CA, Woodland Hills, CA

605-P WITHDRAWN

606-P Point-of-Care Retinal Photography Is Effective in Identifying Diabetic Retinopathy in Patients Not Routinely Followed by Ophthalmology in the Intermountain West
MATTHEW WAHL, ANN HAYNES, MICHELLE L. LITCHMAN, ANGELA FAGERLIN, REBECCA K. DELANEY, JULIE NEUBERGER, GLADYS S. ADJEI-POKU, MARISOL SERRATO, MARY ELIZABETH HARTNETT, SIMON FISHER, Salt Lake City, UT

607-P Hyperhomocysteinemia Is Closely Associated with Macular Edema in Type 2 Diabetes
JIANBO LI, HONGMAN ZHANG, QING LV, HUAN LU, JUN ZHOU, Nanjing, China

608-P Higher Level of Angiopoietin-Like Protein-2 Is Associated with Diabetic Macular Edema in Patients with Type 2 Diabetes Mellitus
NING ZHANG, YAXIN AN, RUILI YIN, DONG ZHAO, Beijing, China

DIABETIC DYSLIPIDEMIA

Moderated Poster Discussion: New Concepts in Lipidology (Posters: 609-P to 614-P), see page 104.

609-P Effect of Rosuvastatin on Lipoprotein Sphingolipids in Patients with Type 2 Diabetes
CLARE B. KELLY, SAMAR M. HAMMAD, RICHARD L. KLEIN, MARIA F. LOPES-VIRELLA, ALBINA GOSMANOVA, MISTI J. LEYVA, CHRISTOPHER E. ASTON, TIMOTHY LYONS, Charleston, SC, Edmond, OK, Oklahoma City, OK

610-P Sphingosine Kinase 1 Dissociates Glucocorticoid-Induced Insulin Resistance and Hepatic Dyslipidemia
REBECCA A. LEE, ARIEL TSAY, MAGGIE CHANG, NICHOLAS YIV, JEN-CHYWAN WANG, Berkeley, CA

611-P Berberine Prevented High-Fat Diet-Induced Metabolic Disorders via Inhibition of Whole Lipid Metabolism
MUYU YU, MIRIAYI ALIMUJIANG, JUN YIN, Shanghai, China

612-P Eicosapentaenoic Acid (EPA) Inhibits Human HDL Oxidation in a Concentration-Dependent Manner at a Pharmacologic Dose In Vitro
SAMUEL SHERRATT, R. PRESTON MASON, Beverly, MA, Boston, MA

613-P Preventive Effect of Sulforaphane on Type 2 Diabetes-Induced Diabetic Cardiomyopathy via AMPK-Mediated Activation of Glucose/Lipid Metabolism and Nrf2 Function
YIKE SUN, LU CAI, ZHUO LI, Louisville, KY

614-P Optimal Control of Glucose and Lipid Profiles Is Critical to the Effective “Neo-Islet” Therapy of Insulin Dependent Pet Dogs
ANNA GOOCH, SABIHA S. CHOWDHURY, CHRISTOF WESTENFELDER, Salt Lake City, UT

615-P A Novel Lipid-Lowering Drug Pemafibrate Enhances Effects of Statins in Serum Lipids in Japanese Patients with Type 2 Diabetes
MASATAKA KUSUNOKI, YUKIE NATSUME, YOSHIHARU OSHIDA, TETSURO MIYATA, Nagoya, Japan, Tokyo, Japan
616-P
Long-Term Statin Persistence Is Poor among High-Risk Patients with Baseline Diabetes: A Real-World Administrative Claims Analysis
PETER P. TOTH, SEPHY PHILIP, MICHAEL HULL, CRAIG B. GRANOWITZ, Sterling, IL, Bedminster, NJ, Eden Prairie, MN

617-P
Current Practices and Gaps in Management of Type 2 Diabetes Mellitus (T2DM) with Dyslipidemia as per American Diabetes Association (ADA) Guidelines Subset Analysis from LEADD (Learning with Experts to Advance Diabetic Dyslipidemia Management) Study
AMBika GOPALAKRISHNAN UNNIKRISHNAN, ASHOK KUMAR DAS, BANSHI D. SABBO, SANJAY KALRA, VAGEESH AYYAR, MANGESH HARIHAR TIWASKAR, Pune, India, Pondicherry, India, Ahmedabad, India, Karnal, India, Bangalore, India, Mumbai, India

618-P
Effect of Liraglutide Combined with Human Umbilical Cord Mesenchymal Stem Cells on Liver Injury of T2DM with NAFLD Rats by Mediating Toll-Like Receptor 4/Nuclear Factor-kappa B Signaling Pathway and Oxidative Stress
PIN CHEN, Fuzhou, China

619-P
Lipid Profile and Prevalence of Dyslipidemia in Type 1 Diabetes Adults in Spain
MARIA GEMMA RODRIGUEZ CARNERO, DIEGO GARCIA BERMUDEZ, CRISTINA SANCHEZ RODRIGUEZ, MADRID, Spain, Granada, Spain, Pamplona, Spain, Valencia, Spain, Oviedo, Spain, Seville, Spain, Lleida, Spain, Bilbao, Spain, Pontevedra, Spain, Barcelona, Spain, Malaga, Spain, Madrid, Spain

620-P
Novel Case of Diabetes Mellitus with VLCAD Deficiency
CATHERINE E. PRICE, ANTHONY A. TAYLOR, Winston-Salem, NC

FOOT CARE—LOWER EXTREMITIES
Moderated Poster Discussion: Walking the Path of New Research (Posters: 621-P to 626-P), see page 175.

621-P
Cardiovascular Mortality and Orthostatic Hypotension in Type 2 Diabetic Patients (T2D) with Lower Limb Lesions—Italian Diabetic Patients’ Association-Section of Treviso Project
MARIA SAMBATARO, LUISA SAMBADO, GAIA SPINETTI, ELENA SEGANFREDDO, ENRICA TREVISOLI, MARIALISA MARCON, PIERO MARIA STEFANI, ANNAMARIA GIACOBAI, MILAN, Italy

622-P
Mechanism of Lin28a Promoting Vascular Smooth Muscle Cell Proliferation and Migration in Restenosis
QIAN ZHANG, XIANGWEN ZHANG, YI ZHANG, CHUNMEI XU, SHAN JIANG, LIU ZHANG, YUXIAO CUI, PIYUN GONG, JIANJUN JIANG, YUEQI LI, JINAN, China

623-P
Impaired Nrf2 Function Corresponds with Delayed Wound Healing in Diabetes
JOSEPH KUHN, JOSHUA A. DABH, ALVARO P. VILLARREAL, SALMA ABDOU, DAMON WILSON, DANIEL CERADINI, NEW YORK, NY

624-P
WITHDRAWN

625-P
Metallothionein Improves Angiogenic Function of Endothelial Progenitor Cells via HIF-1α/ SDF-1/Akt Pathway in Diabetic Limb Ischemia
KAI WANG, JINGYUE ZHANG, SHAN JIANG, CHENQIANG ZHANG, KAI YU, CHEN, WINTERGERST, PAUL N. EPSTEIN, LILIAN YIN, SHENZHEN, China

626-P
Association between Peripheral Neuropathy and Biomechanics Performance in Patients with Type 2 Diabetes Mellitus
WUQUAN DENG, FANG DENG, BING CHEN, YU MA, XIAOYAN JIANG, DAVID ARMSTRONG, HE ZHOU, CHONGQING, China, LOS ANGELES, CA, HOUSTON, TX

627-P
Efficacy and Safety of Allogeneic Platelet Rich Plasma in Treatment of Diabetic Patients with Lower Limb Ulcers: A Pilot Study
WUQUAN DENG, MIN HE, BING CHEN, YU MA, DAVID ARMSTRONG, JOHNSON BOEY, CHONGQING, China, LOS ANGELES, CA, SINGAPORE, SINGAPORE
628-P Insulin’s Regulation of CXCL1 Expression Is Critical for Neutrophil Recruitment and the Development of Periodontitis and Poor Wound Healing in Diabetes
TAKANORI SHINJO, QIAN LI, ATSUSHI ISHIKADO, KYOUNGMIN PARK, RONALD ST-LOUIS, HISASHI YOKOMIZO, JIALIN FU, MARC GREGORY YU, HAIYAN WANG, HATICE HASTURK, THOMAS E. VAN DYKE, GEORGE L. KING, Boston, MA, Takatsuki, Japan, Cambridge, MA

629-P Bedside Blind Bone Biopsy for Diagnosis of Diabetic Foot Osteitis Allows Similar Healing Rate as Conventional Bone Biopsy
FLORINE FÉRON, LOUIS POTIER, GAUTHIER PÉAN DE PONFILLY, DIANE-CÉCILE GAUTHIER, ANNE-LISE MUNIER, EMMANUEL LECORCHE, NATHALIE GRALL, MARIE LALOI-MICHELIN, FREDERIC MERCIER, TIPHAINE VIDAL-TRECAN, MICHEL MARRE, JEAN-PIERRE RIVELINE, JEAN-FRANCOIS GAUTIER, RONAN ROUSSEL, JEAN-PHILIPPE KEVORKIAN, Paris, France

630-P Systemic Inflammatory Response Syndrome (SIRS) Criteria as a Predictor of Clinical Outcomes in Diabetic Foot Infections
JUNHO AHN, EASTON C. RYAN, DANE WUKICH III, JAVIER LA FONTAINE, PETER A. CRISOLOGO, LAWRENCE A. LAVERY, Dallas, TX

631-P Negative Pressure Wound Therapy May Affect Circulating Plasma MicroRNAs in Patients with Diabetic Foot Ulceration
PRZEMYSŁAW KAPUSTA, JERZY HOHENDORFF, JUSTYNA ZURANSKA, SEBASTIAN BORYS, PAWEL KONIECZNY, BEATA M. KIEC-WILK, PAWEL P. WOLKOW, MACIEJ MALECKI, Kraków, Poland

632-P Anterior vs. Posterior Circulation for Below-Knee Amputations in Patients with Severe Peripheral Arterial Disease
ELLIOT WALTERS, KATHLEEN COERDT, JING WANG, JENNA C. BEKENY, MANAS NIGAM, CHRISTOPHER ATTINGER, Washington, DC

633-P Assessment of Calf Skeletal Muscle in Individuals with Diabetes and a Foot Ulcer Using Diffusion MRI
MASOUD EDALATI, MARY HASTINGS, CHRISTOPHER J. SORENSEN, MICHAEL J. MUELLER, JIE ZHENG, St. Louis, MO, Kirkwood, MO

634-P Poor Adherence to Medication and HbA1c Level Predict Risk of Amputation in Patients with Diabetes Mellitus—Historical Cohort Study Using a Nationwide Claims Database
MASANORI KANEKO, KAZUYA FUJIHARA, TAEKO OSAWA, MAYUKO HARADA, MASARU KITAZAWA, YASUHIRO MATSUBAYASHI, TAKAHO YAMADA, NAUTA YAMANAKA, HIROYASU SEIDA, HIROHITO SONE, Niigata, Japan, Tokyo, Japan

635-P Therapeutic Footwear Is the Main Way to Prevent Foot Ulcer Relapse, but Is Insufficiently Respected
MARIE LALOI-MICHELIN, TIPHAINE VIDAL-TRECAN, FLORINE FÉRON, JEAN-PHILIPPE KEVORKIAN, DIDIER ACKER, CLARA BOUCHE, JEAN-FRANCOIS GAUTIER, JEAN-PIERRE RIVELINE, Paris, France

636-P Effect of Obesity and Weight Variations on the Decline of Ankle-Brachial Index in Type 2 Diabetes Subjects without Peripheral Artery Disease
YEOREE YANG, JAYOUNG LIM, EUN YOUNG LEE, KUN-HO YOON, BONG-YUN CHA, SEUNG-HWAN LEE, YUN-JUNG CHO, Seoul, Republic of Korea

637-P Angiopoietin-Like 2 Is a Potential Biomarker for Diabetic Foot Patients
YAN WANG, LONGYAN YANG, ZHAOHUI ZHENG, XIN WANG, DONG ZHAO, Beijing, China

638-P Innovative Diagnostic Tool for Assessment of Plantar Skin Temperature to Spot Diabetes-Related Foot Complications
ARATI A. SHAHADE, ANUJ A. SHAHADE, AMBRISH M. SHAHADE, SAGAR P. WAGH, SHOUNAK OZARKAR, Pune, India

639-P Pharmacological Mobilization and Recruitment of Bone Marrow Stem Cells Accelerates Diabetic Wound Healing in Rats with Diabetic Complications
LE QI, ALI REZA AHMADI, JINNY HUANG, QING LIN, MELISSA CHEN, HIROSHI KUWABARA, KENICHI IWASAKI, JAMES BURDICK, ZHAO LI, Baltimore, MD

640-P Willingness to Adopt Devices for Prevention of Foot Ulcers in High-Risk Diabetic Patients
TAYLOR NOVICE, CHANDU VEMURI, CATHERINE GILBERT, ANTHONY J. FICI, ELIZABETH F. VANWIEREN, BRIAN M. SCHMIDT, Ann Arbor, MI
641-P  Relationship of Sarcopenia and Microcirculation Assessed by Skin Perfusion Pressure in Patients with Type 2 Diabetes  
CHANHEE JUNG, DUGHYUN CHOI, CHUL-HEE KIM, JI OH MOK, Bucheon, Republic of Korea

642-P  Diagnosing Peripheral Neuropathy with a Remote Temperature Monitoring Mat  
BRIAN J. PETERSEN, MIN ZHOU, JONATHAN D. BLOOM, GARY M. ROTHENBERG, DAVID ARMSTRONG, Somerville, MA, Ann Arbor, MI, Los Angeles, CA

643-P  WITHDRAWN

644-P  QTc Prolongation as a Risk Factor for Increased Mortality in People with Diabetes and Charcot Osteoarthropathy  
JOHAN SCHOUG, KATARINA FAGHER, MAGNUS LONDAHL, Lund, Sweden

645-P  QTc Prolongation as a Risk Factor for Five-Year Survival after Above-Ankle Amputation in Patients with Type 2 Diabetes  
SHOBITHA PUVANESWARALINGAM, KATARINA FAGHER, MAGNUS LONDAHL, Lund, Sweden

646-P  The Efficacy and Safety of Cold Atmospheric Plasma as a Novel Therapy for Diabetic Wound In Vivo and In Vitro  
RUI HE, QIN LI, MUYU YU, TAO WANG, HUIJUAN LU, JUNXI LU, WEI ZHU, MING LOU, JIANKANG ZHANG, HAIWEI GAO, WANLI XING, DONG WANG, FANG LIU, Shanghai, China, Beijing, China

DIABETES EDUCATION

Moderated Poster Discussion: Novel Diabetes Education Strategies for Providers and Patients  
(Posters: 647-P to 652-P), see page 104.

647-P  Role of Diabetes Educators in Providing Insulin Pump Training for School Nurses and School Physicians—Kuwait Experience  
ZAHRA RAHME, NAGLAA MESBAH, FAHED ALJASER, EGLAL SAAD, NEHAD ABDULRAHEEM TAHA, Kuwait City, Kuwait

648-P  Developing a National Competency-Based Diabetes Curriculum in Undergraduate Medical Education: A Delphi Study  
SAPNA SHAH, MAGGIE MCCANN, C. YU, Toronto, ON, Canada

649-P  Making Glucose the Next Vital Sign: An Educational Intervention to Teach Clinicians How to Improve Inpatient Glycemic Control  
JANE JEFFRIE SELEY, FELICIA A. MENDELSOHN CURANAJ, TIFFANY YEH, MICHELE YEUNG, JOHN FALCONE, New York, NY

650-P  An Audit of the Clinical Outcomes of DAFNE Singapore (2011-2018)  
SARAH TAN, SURESH RAMA CHANDRAN, HUEE BOON LIM, KALA ADAIKAN, SU-YEN GOH, DAPHNE GARDNER, Singapore, Singapore

651-P  Validation of a Clinically Relevant Knowledge Assessment in Pediatric Type 1 Diabetes  
ANASTASIA ALBANESE-O’NEILL, JANN W. MACINNES, NICOLE T. THOMAS, MICHAEL J. HALLER, DESMOND SCHATZ, JANET SILVERSTEIN, JANNEY ADAMS, REBECCA OYETORO, BRITTANY A. KERSHAW, KIRA ANDERSON, ANGELINA BERNIER, Gainesville, FL, Orlando, FL

652-P  A Group-Based Food Monopoly-Style Game Improved Blood Glucose Control in Newly Diagnosed Type 2 Diabetes  
YUEH CHU WU, YU-MING WANG, EDY KORNELIUS, CHIEN NING HUANG, Taichung, Taiwan
**Moderated Poster Discussion:** Delivering Contemporary Diabetes Education (Posters: 653-P to 658-P), see page 106.

653-P  
Changes in Knowledge and Self-Efficacy following a Reproductive Health (RH) Intervention (READY-Guys) in Transition Clinic for Adolescent and Young Adult (AYA) Males with T1D  
ANDREA F.R. FISCHL, DENISE CHARRON-PROCHOWNIK, HIBA ABUJARADEH, SUSAN M. SEREKA, JESSICA FINNEY, ANA M. DIAZ, NICOLE CHARACHE, INGRID LIBMAN, Pittsburgh, PA

654-P  
Effect of a Streamlined Diabetes Device Clinic Model on Education Utilization and Glycemic Control among Insulin Pump Patients  
CANDICE K. PARK, JANET G. ZAPPE, ELIZABETH SNYDER, KATHLEEN M. DUNGAN, Columbus, OH

655-P  
Effect of an Interdisciplinary Care and Diabetes Self-Management Education Program on Weight among Persons with Social and Clinical Complex Profile  
VIRIDIANA A. DELATORRE-SALDANA, RUBEN SILVA-TINOCO, JORGE HERNÁNDEZ, EILEEN B. GUZMAN, LILIA CASTILLO-MARTÍNEZ, ARTURO OREA-TEJEDA, HÉCTOR GALLARDO-RINCÓN, CARMEN MARTÍNEZ-ANZURES, ALMA SEGÓVIA, TERESA CUÁTECONTZI-XOCHİTİOTZI, Mexico City, Mexico

656-P  
Characteristics Associated with Dropout in the National Diabetes Prevention Program, Montana, 2008-2016  
DOROTA CARPENEDO, SARAH M. BROKAW, SONJA TYSK, JESSIE FERNANDEZ, TODD S. HARWELL, STEVEN D. HELGERSON, DOROTHY M. GOHDES, Helena, MT, Seattle, WA, Albuquerque, NM

657-P  
Inclusion of the Patient Voice: Aligned HCP and Patient Education in Diabetes  
RICHARD S. BEASER, WENDY TURELL, ALISSA R. SEagal, Boston, MA, Needham, MA

658-P  
Influence of Patient Health Literacy (HL) on Supporter Roles in Diabetes Self-Management  
BETH FIELDS, AARON A. LEE, JOHN PIETTE, RANAK B. TRIVEDI, D. SCOTT OBROSKY, MARIA K. MOR, MICHELE HEISLER, ANN-MARIE ROSLAND, Pittsburgh, PA, Ann Arbor, MI, Menlo Park, CA

659-P  
Family Caregivers’ Roles in Supporting Adults’ Self-Management of Diabetes  
BETH FIELDS, KERI L. RODRIGUEZ, LENA K. MAKAROUN, CLAIRE H. ROBINSON, JANE FORMAN, ANN-MARIE ROSLAND, Pittsburgh, PA, Ann Arbor, MI

660-P  
Nationwide Capacity Building Model in Gestational Diabetes Management for Primary Care Physicians in India  
PUSHKAR KUMAR, SANDEEP BHALLA, HARESH CHANDWANI, Gurgaon, India, Gurugram, India

661-P  
Medical Officers (MOs) Training in Diabetes Management by Public Health Foundation of India (PHFI)—A Role Model to Improve Primary Health Care in Chronic Conditions  
PUSHKAR KUMAR, SANDEEP BHALLA, HARESH CHANDWANI, ANURADHA MONGA, Gurgaon, India, Gurugram, India

662-P  
Facilitators and Barriers to Healthy Eating among American Indian/Alaska Native Adults with Type 2 Diabetes: Stakeholder Perspectives  
KELLY R. MOORE, SARAH A. STOTZ, ANGELA G. BREGA, KELLY L. GONZALES, Aurora, CO, Portland, OR

663-P  
Online Diabetes Nutrition Education for American Indian and Alaska Native Adults with Type 2 Diabetes: Stakeholder Perspectives  
SARAH A. STOTZ, ANGELA G. BREGA, KELLY R. MOORE, Aurora, CO, Denver, CO

664-P  
What Do Youth with Type 1 Diabetes (T1DM) and Caregivers Know about Cardiovascular Disease (CVD) Risk and Reduction?  
JODI KRALL, KRISTINE RUPPERT, ANA M. DIAZ, JESSICA FINNEY, LINDA M. SIMINERIO, INGRID LIBMAN, Pittsburgh, PA

665-P  
Diabetes Self-Management Education (DSME): What Will It Take to Improve Participation?  
JODI KRALL, JUSTIN KANTER, KRISTINE RUPPERT, VINCENT C. ARENA, FRANCIS X. SOLANO, JR., LINDA M. SIMINERIO, Pittsburgh, PA

666-P  
Development of a Self-Stigma Scale in Patients with Diabetes  
KAWOUN SEO, JEONGHWA CHO, BON JEONG KU, ANCHO LIM, GEUMBO KO, YOUNGSHIN SONG, Daejeon, Republic of Korea
667-P Effect of the Diabetes BeHaS Program on Diabetes Self-Care, Diabetes Empowerment, and Physical Function in Older Adults with Type 2 Diabetes
KEUMOK PARK, BON JEONG KU, BOHYUN KIM, SOHYUN JIN, YOUNGSHIN SONG, Daejeon, Republic of Korea

668-P A Coaching Intervention with Low Literacy Progress Report Improves Glycemic Control
RACHEL WOLF, CATHERINE S. BARNES, CLAIRE WAN, JANE CAUDLE, DAVID C. ZIEMER, Atlanta, GA, Decatur, GA

669-P Factors to Improve Attendance at Diabetes Self-Management Education Classes
RACHEL WOLF, CATHERINE S. BARNES, JANE CAUDLE, SHREYAS G. KRISHNAPURA, JACQUELINE L. DUPONT, ROCHANDA J. CRAWFORD, PATRICE L. DICKERSON, DAVID C. ZIEMER, Atlanta, GA, Duluth, GA

670-P Provider Medication Use Changes for Better and Worse with Education
SUNANDA SARKAR, CATHERINE S. BARNES, JANE CAUDLE, SMITHA M. JOHN, KYRA P. CLARK, ERICA HEIMAN, JUDITH C. VOLCY, STACIE SCHMIDT, DAVID C. ZIEMER, Atlanta, GA, Decatur, GA

671-P Patients Feel Responsible for Self-Care and Understand That Clinic Visits Are Vital, but Want More Interim Support
RACHEL WOLF, KATE A. YEAGER, JANE CAUDLE, CLAIRE WAN, CATHERINE S. BARNES, DAVID C. ZIEMER, Atlanta, GA, Decatur, GA

672-P Diabetes Education Model for Primary Care Physicians (PCPs)
SANDEEP BHALLA, PUSHKAR KUMAR, RAKESH MEHRA, Gurugram, India, Gurgaon, India

673-P Certificate Course in Evidence-Based Management of Diabetic Retinopathy: A Unique Partnership Model for Capacity Building of Primary Care Physicians in India
SANDEEP BHALLA, PUSHKAR KUMAR, HARESH CHANDWANI, MANOJ JOSHI, Gurugram, India, Gurgaon, India

674-P Glycemic Management Practice Guideline Combined with a Multidisciplinary Champion Team Approach Increased the Use of Basal Bolus Insulin Regimen and Reduced the Use of Sliding Scale Insulin
MAGDALENA M. BOGUN, ELEANOR ZAGOREN, KEVIN ACKERMAN, ALANA M. CIOLEK, New York, NY

675-P Final Outcomes of a Four-Year Effort to Support, Scale, and Sustain the National Diabetes Prevention Program
YVONNE MENSA-WILMOT, AUGUSTINA MENSA-KWAQ, KIMBERLY D. FARRIS, SHELLY-ANN BOWEN, SHARANYA THUMMALAPALLY, MONICA D. MURPHY, GIA E. RUTLEDGE, Atlanta, GA

676-P The Efficacy and Safety of Careful Management of Self-Dose-Adjustment Intervention of Basal Insulin by the Nurse in Outpatients with T2DM
XILING HU, XUBIN YANG, HONGRONG DENG, XIAODI GUO, BIN YAO, Guangzhou, China

677-P Biomimetic Phase Angle in Diabetes and Change after an Interdisciplinary Care and Diabetes Self-Management Education Program
RUBEN SILVA-TINOCO, TERESA CUATECONTZI-XOCHITIOTZI, LILIA CASTILLO-MARTÍNEZ, PLACIDO LEÓN-GARCÍA, DOLORES CABRERA-GERARDO, JORGE HERNÁNDEZ, ALDO FERREIRA-HERMOSILLO, CLAUDIA ZÁRATE, VIRIDIANA A. DELATORRE-SALDAÑA, Mexico City, Mexico

678-P Drivers of Weight Loss in a CDC-Recognized Virtual Diabetes Prevention Program
STEFANIE L. PAINTER, WEI LU, JENNIFER BOLLYKY, Mountain View, CA

679-P Learner Preferences Related to Diabetes Medical Education
AMY LARKIN, MICHAEL LACOUTURE, New York, NY

680-P Impact of Continuous Glucose Monitoring Shared Medical Appointments on Planned Self-Management Changes
JULIA E. BLANCHETTE, DAWN NOE, NICHOLAS GALLOWAY, HILLARY SULLIVAN, ANNY HA, DIANA ISAACS, Cleveland, OH, Avon Lake, OH

681-P Survey of Medical Staff on Use of Glucagon Injection in the Event of Serious Hypoglycemia in Japanese Diabetic Patients—Reason for Poor Spread of Glucagon Use in Japan
NOBUMICHI SAITO, MASAO TOYODA, MORITSUGU KIMURA, MASAFUMI FUKAGAWA, Isehara, Japan

ADA-Supported Research
682-P Early Detection and Prevention of Dulaglutide-Induced Asymptomatic Nocturnal and Persistent Hypoglycemia in Patients with Advanced Diabetic Kidney Disease
HARUMI NISHIHARA, MAYA INOUE, JUNKO UMERE, KAORI ARAI, TOMIKO SUDO, JUNKO SASAKI, CHIAMI KOIZUMI, MASUMI SAITO, HIROSHI SUNAGAWA, AIZAN HIRAI, Ichihara, Japan, Tsukuba, Japan, Minano, Japan, Katori, Japan, Uruma, Japan

683-P Multidisciplinary Predialysis Team Education for Patients with Diabetic Nephropathy May Prolong Survival and Decrease the Mortality after the Induction of Dialysis
MAMIKO HITOMI, TERUKO SATO, TATSUMI MORIYAN, Sagamihara, Japan, Tokyo, Japan

684-P Assessment of Individual Self-Management Using the Novel LMC Skills, Confidence, and Preparedness Index (SCPI)
RONNIE ARONSON, AIHUA LI, RUTH E. BROWN, NAOMI ORZECH, ASHLEY LYONS, ASHLEIGH WALKER, Toronto, ON, Canada

685-P Insights into Online Delivery of the National Diabetes Prevention Program
ELIZABETH ELY, RAJAI JABRAH, Atlanta, GA

686-P Temporal Association of Adherence to Diabetes Self-Management and Glycemic Control from Adolescence to Adulthood in a Longitudinal Cohort of Women with Type 1 Diabetes (T1D)
SUSAN M. SEREIKI, ANDREA F. FISCHL, DENISE CHARRON-PROCHOYNIK, Pittsburgh, PA

687-P Early Detection of Insulin-Derived Amyloid Deposits in Abdominal Wall and the Management of Insulin Injection Site Using CGM and Abdominal Wall CT Examination
AIZAN HIRAI, KEIJI HIRAI, HARUMI NISHIHARA, JUNKO SASAKI, TOMIKO SUDO, KOJI FUJIMURA, TAKAHIRO KAGEYAMA, Ichihara, Japan, Saitama, Japan, Chiba, Japan

688-P Factors Associated with Diabetes Prevention Program (DPP) Compliance and Weight Loss among Low Income Participants

689-P The Effect of Multidisciplinary Intervention on Diabetes Control in Patients with Poor Glycemic Control
LINOY GABAY, IDAN MENASHE, ILAN YEHOUSHUA, Beersheba, Israel, Kiryat Gat, Israel

690-P Building a Healthy Temple: A Faith-Based Diabetes Self-Management Support Program
SUMMER R. WILMOTH, LEAH CARRILLO, MEIXIA PAN, DIANA CHAVARRIA, BRADLEY WILHITE, DEBORAH PARRA-MEDINA, MEIZI HE, San Antonio, TX, Austin, TX

691-P Validation of the Diabetes Knowledge Test and the Diabetes Attitude Scale 3, in a Diabetic Population in Venezuela
YAMILETH MARCANO, ENMANUEL J. VELÁSQUEZ, Blainville, QC, Canada, Caracas, Bolivian Republic of Venezuela

692-P Development and Adoption of CDISC Clinical Data Standards for Type 1 Diabetes (T1D)
JOHN M. OWEN, Austin, TX

693-P Baseline Characteristics and Self-Care Behavior Goals of Adolescents with Type 1 Diabetes Enrolled in MyDiaText™
TARA KAUSHAL, L.E. KATZ, MICHELLE E. MAROWITZ, JANET JOSEPH, DEAN P. RITTER, TERRI H. LIPMAN, Philadelphia, PA

694-P Assessing Social Support in Diabetes Camp
CHRISTINE A. BEEBE, MONICA T. JOYCE, TERESA ALESIA, San Diego, CA, Lake Forest, IL, Maywood, IL

695-P The Network of 37 Community-Based Education Centers for Diabetes Self-Management in Gyeonggi Province, Korea
EUNJI KIM, Suwon, Republic of Korea

696-P The CDC Web-Based Diabetes Self-Management Education and Support Toolkit
JACQUELYN HOUSTON, LAURA E. EDWARDS, Atlanta, GA, Raleigh, NC
697-P Final Outcomes of a 5-Year National Effort to Increase Awareness, Availability, Referrals, and Coverage for the CDC-Recognized Diabetes Prevention Programs and DSMES Programs
AUGUSTINA MENSA-KWA, YVONNE MENSA-WILMOT, KIMBERLY D. FARRIS, SHELLY-ANN BOWEN, SHARANYA THUMMALAPALLY, MONICA D. MURPHY, GIA E. RUTLEDGE, Atlanta, GA

698-P Factors Significantly Associated with Adherence to Diabetes Medications: Findings from a Large Japanese Claims Database
YUTA YAGUCHI, KAZUYA FUJIIHARA, TAEKO OSAWA, MASAHIKO YAMAMOTO, MASANORI KANEKO, MASARU KITAZAWA, MAYUKO HARADA, YASUHIRO MATSUBAYASHI, TAKAHO YAMADA, NAOTA YAMANAKA, HIROYASU SEIDA, HIROHITO SONE, Niigata, Japan, Tokyo, Japan

699-P Assessment and Management of Falling in Type 2 Diabetic Patients with Diabetic Kidney Disease
SHIN IKEJIMA, TOMOMI TAKAHASHI, SEIYA KONDO, JUNKO UMEZU, MIKA UEMA, AIZAN HIRAI, Odate, Japan, Tokyo, Japan, Usuki, Japan, Minano, Japan, Uruma, Japan, Ichihara, Japan

700-P Treatment of New-Onset Type 2 Diabetes after Age 65: A Longitudinal Cohort Study
PRAVITA MISHRA, ANJALI GOPALAN, RICHARD W. GRANT, Oakland, CA

701-P Predictors of Engagement and Weight Loss in Real-World Diabetes Prevention Program (DPP)
MONA AUYOUNG, KIMBERLY LUU, MONICA RUIZ, CHRIS WALKER, ATHENA PHILIS-TSIMIKAS, ADDIE L. FORTMANN, San Diego, CA

702-P Perceptions of Caribbean Type 2 Diabetes Patients towards Insulin Prescription and Therapy
CHIDUM E. EZENWAKA, PHILIP C. ONUOHA, RIAN MARIE EXTAVOUR, SAFIYA S. YEARWOOD, Trinidad, Trinidad and Tobago

703-P A Model Project of Structured Group Education Demonstrated Significant and Reproducible Effect on Good Metabolic Control
JARMILA JIRKOVSKA, Prague, Czech Republic

704-P Tailoring of a Pragmatic MA Health Coaching Intervention for Diverse T2D Populations
TAYLOR CLARK, LINDA GALLO, JOHANNA A. EUYOQUE, KIMBERLY L. SAVIN, JULIA I. BRAVIN, HALEY SANDOVAL, DUVIA LARA LEDESLMA, ATHENA PHILIS-TSIMIKAS, ADDIE L. FORTMANN, San Diego, CA

705-P Health Extension: A Better Way to Manage Diabetes?
CHRISTINA J. DIETZ, PETER TILKEMEIER, WINDSOR W. SHERILL, DANIELLE E. MCFALL, MICHELLE D. STANCIL, MICHELLE A. PARISI, CELIA BEAUCHAMP, HANNAH N. WHITE, Clemson, SC, Greenville, SC

706-P Enrollment in a Diabetes Prevention Program in the San Francisco Safety Net
STEPHANIE KIM, AUDREY H. TANG, CHARLOTTE KUO, REBECA S. GARCIA, SARAH KIM, ELIZABETH MURPHY, San Francisco, CA

707-P Diabetes Education through Shared Medical Appointment: Utilizing Digital Health—A Comparison of Platforms and Integrating Devices with Result Review
MATTHEW FAIRMAN, LEIHANNE KRAMER HUSTAK, ANNE J. MAGGIORIE, MARIANNE SUMEGO, Cleveland, OH

708-P Effectiveness of CHO-Counting on Glycometabolic Control and Comparison between the Methods of I/CHO Ratio Calculation in Subjects with Cystic Fibrosis-Related Diabetes (CFRD)
VALERIA GRANCINI, ALESSIA GAGLIO, VERONICA RESI, EVA PALMIERI, EMANUELA ORSI, Milan, Italy

709-P The Use of Advanced Learning Formats and Partnerships to Enhance CME and Diabetes Care
CHRISTINA HOSMER-GALLO, LAUREN K. WELCH, BROOKE HEEFELE, New York, NY

710-P The Relationship between Health Literacy, Cardiovascular Disease Knowledge, and Diabetes Prevention Knowledge in Middle Eastern Patients at a Free Clinic
CHRISTOPHER KAWATA, LUOHUA JIANG, Irvine, CA

711-P Factors Associated with Insulin Adherence in Patients Initiating Insulin Therapy: A Three-Month Prospective Study
SHIHMING MA, RUEY HSIA WANG, SR., CHUN MING LEE, HUI-CHUN HSU, TAO-CHUN LEE, SIH-YU CHEN, Taipei, Taiwan, Kaohsiung, Taiwan, Pingtung, Taiwan
712-P Lessons from a Pragmatic Trial to Implement a Patient Self-Management Support Program in Primary Care
DOUGLAS FERNALD, DANIELLE M. HESSLER, VICKY BOWYER, BONNIE JORTBERG, ROBYN WEARNER, LAWRENCE FISHER, PERRY DICKINSON, Aurora, CO, San Francisco, CA

713-P Predictors of Reach and Patient Engagement in a Program Involving Family Supporters of Adults in Phone-Based Diabetes Management
SHELLEY C. STOLL, JOHN PIETTE, RANAK B. TRIVEDI, AARON A. LEE, D. SCOTT OBROSKY, MARIA K. MOR, MICHELE HEISLER, ANN-MARIE ROSLAND, Ann Arbor, MI, Menlo Park, CA, Pittsburgh, PA

714-P How Often Do Patients on Insulin Therapy Measure Postprandial Glycemia and Modify Insulin Doses Accordingly? From an Online Survey in Spain
CRISTINA TEJERA, EDURNE LECUMBERRI, ARACELI MUÑOZ-GARACH, FRANCISCO JAVIER AMPUDIA BLASCO, FRANCISCO JAVIER AMPUDIA BLASCO, Ferrol, Spain, Madrid, Spain, Málaga, Spain, Valencia, Spain

715-P Reimbursement of Transition-Related Services in an Adult Diabetes Clinic
FARAHNAZ JOARDER, HARPREET NAGRA, LAURA ANDREAS, LOLIS ROCHA, KIMBERLY KRAUS, Portland, OR

716-P Addressing Barriers to Diabetes Education and Care in Low Socioeconomic Latinos in Georgia
J. SONYA HAW, INA CECILIA FLORES, DENISSE CRISTINA PIRRAS FIMBRES, BRITT ROTBERG, ALEXANDRA MIGDAL, HEQIONG WANG, FRANCISCO J. PASQUEL, GUILLERMO E. UMPIERREZ, Atlanta, GA, Decatur, GA

717-P Effect of Telephone Coaching Support on Glycemic Control in Type 2 Diabetes Treated with Glargine U300 Insulin
DIEGO BELLIDO GUERRERO, SR., VIRGINIA BELLIDO, CRISTOBAL MORALES, SR., JOSÉ GARCÍA, SR., ARACELI MUÑOZ-GARACH, JUAN LUIS FERNANDEZ MORERA, BEATRIZ GONZALEZ AGUILERA, ESQ., MARTÍN LÓPEZ DE LA TORRE, PAULINA FUENTEALBA, Ferrol, Spain, Oviedo, Spain, Seville, Spain, Málaga, Spain, Mieres, Spain, Granada, Spain, Barcelona, Spain

EXERCISE

Moderated Poster Discussion: Impact of Exercise on Skeletal Muscle and Adipose Tissue to Improve Metabolic Health (Posters: 718-P to 723-P), see page 175.

718-P Post-exercise Enhancement of Insulin-Stimulated Glucose Uptake in Insulin-Resistant Rat Skeletal Muscle Concomitant with Greater γ3-AMPK Activity and Insulin-Stimulated AS160 Phosphorylation on Key Regulatory Phosphosites
MARK W. PATAKY, EDWARD B. ARIAS, XIAOHUA ZHENG, HAIYAN WANG, GREGORY D. CARTEE, Ann Arbor, MI

719-P Inducible Estrogen-Related Receptor Alpha Overexpression Stimulates Skeletal Muscle Oxidative Metabolism and Improves Exercise Endurance in Mice
JING LI, ANGELICA HAMILTON, JANICE M. HUSS, Duarte, CA

720-P Exercise Training Causes Vast Changes in the Circulating Factor Profile of Human Subjects
ROELAND MIDDELBEEK, JEFFREY J. RICHARD, LESLIE A. ROWLAND, PASQUALE NIGRO, HUI PAN, JONATHAN DREYFUSS, LAURIE J. GOODYEAR, Boston, MA

721-P Exercise Training Alters Subcutaneous Adipose Tissue Morphology in Obese Adults Even without Weight Loss
CHIWOON AHN, BENJAMIN J. RYAN, JENNA B. GILLEN, ALISON LUDZKI, MICHAEL W. SCHLEH, BENJAMIN A. REINHEIMER, JEFFREY F. HOROWITZ, Ann Arbor, MI, Toronto, ON, Canada

722-P Maternal Exercise Improves Metabolic Health of Grand-Offspring
ANA B.A. WAGNER, JOJI KUSUYAMA, PASQUALE NIGRO, MICHAEL F. HIRSHMAN, LAURIE J. GOODYEAR, Boston, MA

723-P A Single Session of Exercise Increases Resident Macrophages in Subcutaneous Adipose Tissue from Healthy Human Subjects
ALISON LUDZKI, EMILY M. KRUEGER, TOREE C. BALDWIN, NATALIE M. TAYLOR, LINDSEY A. MUIR, CAREY LUMENG, JEFFREY F. HOROWITZ, Ann Arbor, MI

724-P Timing of Basal Insulin Reduction to Prevent Hypoglycemia during Exercise in Adults and Adolescents with Type 1 Diabetes Using Insulin Pump Therapy: Preliminary Results
SEMAH TAOUGUI, NADINE TALEB, ELSA HEYMAN, VIRGINIE MESSIER, CORINNE SUPPERE, SERGE BERTHOIN, REMI RABAASA-LHORET, Montreal, QC, Canada, Lille, France
725-P Reducing Hypoglycemic Risk during Postprandial Exercise with Closed-Loop Insulin Delivery in Adults with Type 1 Diabetes: Announced and Unannounced Exercise
SEMAH TAGOUGUI, NADINE TALEB, CORINNE SUPPERE, INÈS BOUKABOUS, VIRGINIE MESSIER, RÉMI RABASA-LHORET, Montreal, QC, Canada

726-P Impaired Glucose Tolerance Blunts Exercise-Training Induced Improvements in Aerobic Exercise Capacity
TARA MACDONALD, PRERANA PATHAK, SARAH LESSARD, Boston, MA

727-P WITHDRAWN

728-P Accuracy of Energy Expenditure Measurements by Activity Monitors in Type 1 Diabetes and Control Subjects
RUBIN POONI, SARAH MCGAUGH, RIDDHI PATEL, MICHAEL RIDDELL, Toronto, ON, Canada

729-P Post-Breakfast Physical Activity Is Most Optimal for Improving Postprandial Glycemic Control in Healthy Adults
THOMAS P. SOLOMON, ELOISE TARRY, CHLOE O. HUDSON, ALICE I. FITT, MATTHEW LAYE, Birmingham, United Kingdom, Caldwell, ID

730-P Inverse Association between Physical Activity and Blood Glucose Is Independent of Sex, Menopause, and Family History of Diabetes
XIANG HU, XUEJIANG GU, Wenzhou, China

731-P Exercise Training Does Not Alter Resting Fatty Acid Mobilization from Adipose Tissue
MICHAEL W. SCHLEH, BENJAMIN J. RYAN, JENNA B. GILLEN, PALLAVI VARSHNEY, KATIE FOUG, ALISON LUDZKI, JEFFREY F. HOROWITZ, Ann Arbor, MI, Toronto, ON, Canada

732-P Insulin Sensitivity Nonresponders after Long-Term Intensive Exercise Training Are Characterized by Perturbed Amino Acid Metabolism and Mitochondrial Dysfunction
SINDRE LEE, HANNE L. GULSÉTH, CHRISTIAN A. DREVON, KARE I. BIRKELAND, Oslo, Norway

733-P Circulating Vaspin Level Was Changed with Endothelial Function, but Not with Visceral or Ectopic Fat during Lifestyle Modification in Korean Type 2 Diabetes
KYUNG AH HAN, KYUNGWAN MIN, Seoul, Republic of Korea

734-P Perceived Barriers to Physical Activity in People with Type 1 Diabetes Using CGM
CAMILLE C. ANDRE, YOGISH C. KUDVA, VIKASH DADLANI, MARZIA CESCON, SHELLY K. MCCRARY-SPIZTER, MEI MEI CHURCH, COREY REID, KANCHAN KUMARI, DIVYA CHOUDHARY, FRANCIS J. DOYLE III, EYAL DASSAU, JORDAN E. PINSKER, Santa Barbara, CA, Rochester, MN, Cambridge, MA

735-P Seasonal Variation in Vascular Function in People with Type 2 Diabetes Who Exercise Regularly
HIROTO HONDA, MAKOTO IGAKI, Ibaraki, Japan, Toyooka, Japan

736-P Two Years Moderate Resistance Training Prevents Type 2 Diabetes but Does Not Reduce Cardiovascular Risk for Patients with Prediabetes
QINGQING LOU, Nanjing, China

737-P Physical Activity Levels among Latino Adults with Type 2 Diabetes
WENDY C. BEVIER, NAMINO M. GLANTZ, CHARIS B. HOPPE, JESSIKAH MORALES, ARIANNA J. LAREZ, MARY M. CONNEELY, KONG Y. CHEN, DAVID KERR, Santa Barbara, CA, Bethesda, MD

738-P Meta’omic Analysis of Elite Athletes Identifies a Performance-Enhancing Microbe that Functions via Lactate Metabolism
ALEKSANDAR KOSTIC, Boston, MA

739-P Type 2 Diabetes Is an Independent Predictor of Lowered Peak Aerobic Capacity in Patients with Reduced and Nonreduced Ejection Fraction Heart Failure
TAKAHIRO ABE, TAKASHI YOKOTA, Sapporo, Japan

740-P Cardiorespiratory Fitness and Heart Failure in Patients with Diabetes
CHARLES FASELIS, JONATHAN N. MYERS, PUNEET NARAYAN, PAMELA KARASIK, HANS MOORE, ALI AHMED, HELEN M. SHERIFF, ERIC NYLEN, PETER KOKKINOS, Washington, DC, Palo Alto, CA, Burke, VA
741-P More Time-in-Range during Days with Structured Exercise vs. Sedentary Days in Adults with Type 1 Diabetes

742-P Magnitude of A1C Improvement in Relation to Weight Loss after Intensive Lifestyle Intervention in Real-World Diabetes Practice: Thirteen Years of Observation
AHMED H. ELDIB, SHAHEEN TOMAH, ADHAM MOTTALIB, SAHAR ASHRAFZADEH, OSAMA HAMDY, Boston, MA

743-P New Insulin Algorithm Reduces Carbohydrate (CHO) Requirements during Prolonged Outdoor Exercise
MICHAEL MUELLER-KORBSCH, LISA FRÜHWALD, MICHAEL HEER, MARIA FANGMEYER-BINDER, DAVID REINHART-MIKOCKI, Vienna, Austria, Wien, Austria

744-P Associated Factors with Limb Muscle Volume Distribution in Type 2 Diabetes
KOKA MOTOYAMA, SATOSHI TAZOE, ANNA TAMAI, TAKESHI SAKURA, MASAYA OHARA, YOSUKE YAKUSHIJI, MARIKO FUKUMOTO, MASAYUKI HOISOI, Osaka, Japan

745-P Lipidomics Studies on Brown Adipose Tissue by Exercise and Liraglutide in db/db Mice
RUILI YIN, NING ZHANG, DONG ZHAO, Beijing, China

746-P Effects of Exercise Modes to Improve Insulin Sensitivity in Obese and Patients with Type 2 Diabetes—A Meta-analysis
MARIO GARCIA, KRISTIN R. PERALES, AMY E. WAGLER, SUDIP BAJPEYI, El Paso, TX

747-P Risk Factors for Hypoglycemia in Type 1 Diabetes Individuals during Intensive Sport Exercise—Data from the “SportGiveChance: Diabetic Runners and Cyclists for More Sport for All in Europe” Event
JERZY HOHENDORFF, DAMIAN UCIEKLAK, JAN SKUPIEN, BARTIOMIEJ MATEJKO, ANGELICA DI GIACOMO, MACIEJ MALECKI, TOMASZ KLUPA, Kraków, Poland, Spoleto, Italy

748-P Effects of Exercise on Continuous Glucose Monitoring Outcomes in Type 2 Diabetes: A Meta-analysis
MATTHEW MUNAN, CAMILA LEMOS PINTO OLIVEIRA, JORDAN REES, NORMAND G. BOULE, Edmonton, AB, Canada

749-P What Type of Physical Activity Is More Important? The Nagahama Study
FUMIKA MANO, KAORI IKEDA, DAISUKE TANAKA, NOBUYA INAGAKI, Kyoto, Japan

750-P Oral Carbohydrate Demand during Endurance Exercise Is Dependent on Pre-exercise Blood Glucose Concentration in People with Type 1 Diabetes: A Randomized Crossover Trial
MAX L. ECKSTEIN, OTHMAR MOSER, ALEXANDER MUeller, PHILIP BIRNBAUMER, FELIX ABERER, GERT KOEHLER, CAREN SOURIJ, HARALD KOJZAR, PETER N. PFERSCHY, PAVEL DIETZ, RICHARD M. BRACKEN, PETER HOFMANN, HARALD SOURIJ, Swansea, United Kingdom, Graz, Austria, Mainz, Germany

751-P Effect of Morning (Fasting) vs. Afternoon High-Intensity Interval Exercise on Blood Glucose in Type 1 Diabetes
JANE E. YARDLEY, Camrose, AB, Canada

752-P Japanese Radio Calisthenics Prevents Reduction of Skeletal Muscle Volume in Patients with Type 2 Diabetes
TOMONORI KIMURA, TAKURO OKAMURA, YOSHITAKA HASHIMOTO, TAKAFUMI SENMARU, EMI USHIGOME, MASAHIDE HAMAGUCHI, MAI ASANO, MASAHIRO YAMAZAKI, MICHIAKI FUKUI, Kyoto, Japan

NUTRITION—CLINICAL

Moderated Poster Discussion: Nutrition Research—From the Bench, to the Gut, to Our Meal (Posters: 753-P to 758-P), see page 175.

753-P Protein vs. Carbohydrate in Gestational Diabetes
KIMBERLY K. TROUT, CHARLENE COMPER, CELESTE P. DURNWALD, Philadelphia, PA
754-P Full-Fat and Low-Fat Dairy, within the Same Caloric Intake, Have Similar Impact on A1C and Cardiovascular Risk Factors: A Randomized Controlled Study
JOANNA MITRI, SHAHEEN TOMAH, ADHAM MOTTALIB, VERONICA SALSBERG, SAHAR ASHRAFZADEH, TAH A ELSEAIDY, AHMAD AL MARADNI, KHALED ALSIBAI, AHMED H. ELDBI, MHD WAEL TASAEBEHJ, DAVID M. POBER, OSAMA HAMD Y, Boston, MA, Worcester, MA

755-P A Plant-Based Meal Stimulates Incretin and Insulin Secretion More than an Energy- and Macronutrient-Matched Standard Meal in Type 2 Diabetes: A Randomized Crossover Study
HANA KAHLEROVA, ANDREA TURA, MARTA KLEMENTOVA, LENKA BELIN OVA, MARTIN HALUZIK, RENATA PAVLOVICova, MARTIN HILL, TEREZIE PELIKANOVA, Washington, DC, Padua, Italy, Prague, Czech Republic

756-P Changes in Gut Microbiota in Response to a Plant-Based Diet Are Related to Changes in Weight, Body Composition, and Insulin Sensitivity: A 16-Week Randomized Clinical Trial
HANA KAHLEROVA, ANDREA TURA, NEAL BARNARD, Washington, DC, Padua, Italy

757-P Intensive Lifestyle Intervention for Diabetes Patients with Food Insecurity: A Preplanned Subgroup Analysis of the REAL HEALTH Randomized Clinical Trial (RCT)
SETH BERKOWITZ, DEBORAH J. WEXLER, YUCHIAO CHANG, BIANCA C. PORNEALA, LINDA M. DELAHANTY, Chapel Hill, NC, Boston, MA

758-P Medical Food (MF) with Butyrate Producing (BP)+Mucin Regulating (MR) Microbes Improves Glucose Control (GC) in T2D
ORVILLE G. KOLTERMAN, FANNY PERRAUDEAU, MOHAN S. IYER, JOHN S. EID, JAMES BULLARD, MARCUS F. SCHICKELBERGER, ANDREW CHENG, NICHOLAS JUSTICE, PAUL MCMURDIE, BRENDON STONEBURNER, JESSICA GINES, SURABHI TYAGI, COLLEEN CUTCLIFFE, La Jolla, CA, San Francisco, CA, Richmond, CA

759-P Analysis of a Two-Year Continuous Care Intervention Including Nutritional Ketosis—Exploring Baseline Predictors of Diabetes Reversal and Remission
SHAMINIE J. ATHINARAYANAN, AMY MCKENZIE, REBECCA N. ADAMS, SARAH HALLBERG, JAMES P. MCCARTER, STEPHEN PHINNEY, San Francisco, CA, St. Louis, MO, Elk Grove, CA

760-P Factors Associated with Resolution of Steatosis and Fibrosis in T2D Patients Following Two Years of Continuous Care Intervention
SHAMINIE J. ATHINARAYANAN, REBECCA N. ADAMS, AMY MCKENZIE, SARAH HALLBERG, STEPHEN PHINNEY, JAMES P. MCCARTER, San Francisco, CA, Elk Grove, CA, St. Louis, MO

761-P Correlation of Periodontal Inflamed Surface Area with Glycemic Status in Patients with Controlled Type 2 Diabetes Mellitus and Uncontrolled Type 2 DM With and Without Microvascular Complications
CHANDNI RADHAKRISHNAN, ROSAMMA JOSEPH VADAKKEKUTTICAL, KRISHNA ANIL, FAIROZ CHERIYALINGAL GAO PMABATH, Kozhikode, India

762-P Association of Sleep Duration with Metabolic, Anthropometric, and Lifestyle Factors in Type 2 Diabetes: Analysis of Components of the U-shaped Relationship
HITOMI NAKAYAMA, YASUSHI YAMADA, KENTARO YAMADA, SHIMPEI IWATA, NOBUHIKO WADA, YUJI TAJIRI, MASATOSHI NOMURA, Kurume, Japan, Asakura, Japan, Fukuoka, Japan

763-P Serum Fatty Acid Composition and Gut Microbiota Are Associated with Obesity in Type 2 Diabetes Patients
MARIKO HIGA, MIKI KAWAI, RUMA ETO, FUCHIGAMI AYAKO, GENKI SATO, MAI HIJIKATA, KORU YAMASHITA, TAKAMASA ICHIJO, Yokohama, Japan, Yokohamashi, Japan, Tokyo, Japan

764-P Low Dietary Energy Density (DED) Diet Is Associated with Favorable Dietary Pattern in Japanese Patients with Type 2 Diabetes (T2DM)
YASUNAGA TAKEDA, KAZUYA FUJIHARA, MARIKO HATTA, SAKIKO Y. MORIKAWA, CHIKA HORIKAWA, DAISHI ISHI, RINA NEDACHI, HIROSHI MARUKAWA, HIROHIITO SONE, JDDM STUDY GROUP, Nigata, Japan, Tokyo, Japan

765-P Effects of an Advanced Carbohydrate Counting Course on Diet Composition in Insulin-Treated Type 2 Diabetes
MERETE B. CHRISTENSEN, THORHALLUR I. HALLDORSSON, ANDERS GOTFREDSEN, EVA HOMMELE, PETER GADE, SJURDUR F. OLSEN, KIRSTEN NØRGAARD, Hvidovre, Denmark, Reykjavik, Iceland, Gentofte, Denmark, Slagelse, Denmark, Copenhagen, Denmark
766-P Development and Validation of a Smartphone-Based Short Food Frequency Questionnaire for Chinese Population
DAIZHI YANG, CHAOFAN WANG, SIHUI LUO, XUEYING ZHENG, QIONGYAN LIN, XUEYING WEI, JINHUA YAN, JIANPING WENG, Guangzhou, China, Guangdong, China, Hefei, China

767-P Family Support for Medical Nutritional Therapy and Dietary Intake among Japanese Patients with Type 2 Diabetes
CHIKA HORIKAWA, YASUNAGA TAKEDA, MARIKO HATTA, DAI ISHII, SAKIKO Y. MORIKAWA, KAZUYA FUJIHARA, HIROSHI MAEGAWA, HIROHITO SONE, Niigata, Japan, Tokushima, Japan, Otsu, Japan

768-P Efficacy and Safety of Low-Carb Diet of 50g/Day and 120g/Day in Obese Patients
TAKAKO KIKUCHI, Tokyo, Japan

769-P Short-Term Dietary Reduction of Branched-Chain Amino Acids Reduces Meal-Induced Insulin Secretion and Modifies Microbiome Composition in Overweight Patients with Type 2 Diabetes
YANISLAVA KARUSHEVA, THERESA VAN GEMERT, KLAUS STRASSBURGER, DANIEL F. MARKGRAF, TOMAS JELENIK, LUCIA MASTROTOTARO, MARIE-CHRISTINE SIMON, OANA P. ZAHARIA, KÁLMÁN BODIS, FELIX BÄRENZ, DIETER SCHMOLL, VOLKER BURKART, KARSTEN MUSSIG, JULIA SZENDROEDI, MICHAEL RODEN, Düsseldorf, Germany, Bonn, Germany, Frankfurt, Germany

770-P Association between Diet Quality and Glycemic Control in African Americans with Type 2 Diabetes
BETTINA TAHSIN, KATHRYN S. KEIM, LEON FOGELFELD, LOUIS FOGG, ELIZABETH LYNCH, Chicago, IL

771-P Protein Intake at Breakfast Contributes to Maintenance of Skeletal Muscle Mass in Japanese Elderly Patients with Type 2 Diabetes
SODAI KUBOTA, HITOSHI KUWATA, SAKI OKAMOTO, DAI ISHII, SAKIKO Y. MORIKAWA, CHIKA HORIKAWA, MITSUTOSHI KATO, HIROSHI MAEGAWA, HIROHITO SONE, JDDM STUDY GROUP, Niigata, Japan, Tokushima, Japan, Katsushika, Japan, Otsu, Japan

772-P Effect of a Low n6/n3 PUFA Diet on Intrahepatic Fat Content in Obese Adolescents
MICHELLE A. VAN NAME, JENNIFER M. CHICK, MARY SAVOYE, BRIDGET PIERPONT, BRITTANY GALUPPO, ARIEL FELDSTEIN, NICOLA SANTORO, New Haven, CT, Milford, CT, San Diego, CA

773-P The Study of Metabolic Improvement by Nutritional Intervention Controlling Endogenous GIP (Mini Egg Study): A Randomized, Double-Blinded, Crossover Study
NAOKI SAKANE, HIDETO TAKASE, JUNKO SUZUKI, CHIKA SUZUKAMO, SHINSUKE NIRENGI, AKIKO SUGANUMA, NORIKO OSAKI, Kyoto, Japan, Tokyo, Japan, Tochigi, Japan

774-P Not Carbohydrate but Sucrose Intake Is Associated with Gut Dysbiosis in Japanese Patients with Type 2 Diabetes
YOSHIKazu HASHIMOTO, MASAHIDE HAMAGUCHI, AYUMI KAJI, RYOSUKE SAKAI, RYO INOUE, SAORI KASHIWAGI, KATSURA MIZUSHIMA, KAZUHIKO UCHIYAMA, TOMOHISA TAKAGI, YUJI NAITO, MICHIAKI FUKUI, Kyoto, Japan

775-P Significant Association of Food Group Intake with Obesity among Patients with Type 2 Diabetes Mellitus in Japan
MARIKO HATTA, KAZUYA FUJIHARA, YASUNAGA TAKEDA, RINA NEDACHI, DAI ISHII, SAKIKO Y. MORIKAWA, CHIKA HORIKAWA, MITSUTOSHI KATO, HIROSHI MAEGAWA, HIROHITO SONE, JDDM STUDY GROUP, Niigata, Japan, Tokushima, Japan, Katsushika, Japan, Otsu, Japan

776-P Low AMY1 Copy Number Variations Are Associated with Cardiometabolic Risk Factors in Overweight or Obese Adults
CLARA MARQUINA, AYA MOUSA, NEGAR NADERPOOR, BARBARA DE COURTEN, Melbourne, Australia

777-P Enteral Nutrition in Critically Ill Patients with Hyperglycemia: A Meta-analysis of Randomized Controlled Trials with Trial Sequential Analysis
MAGALI KUMBIER, FLAVIA MORAES SILVA, LANA C. PINTO, JUSSARA ALMEIDA, FRANZOSI OELLEN, Porto Alegre, Brazil

778-P Positive Effects Including Prevention of Type 2 Diabetes by Making One Meal a Vegetarian Diet in Japanese—A Randomized Crossover Trial
EITA NISHIMORI, SATOSHI OGATA, MOTOJI NAKA, Nagano, Japan
779-P Comparative Effects of Two Types of Pasta vs. White Rice on Postprandial Glucose Levels in Adults with Type 1 Diabetes
JORDAN E. PINSKER, STAMATINA ZAVITSANOU, JENNIFER S. MASSA, SUNIL DESHPANDE, MEI MEI CHURCH, CAMILLE C. ANDRE, FRANCIS J. DOYLE III, ALICIA MICHELSON, JAMIE CREASON, EYAL DASSAU, DAVID M. EISENBERG, Santa Barbara, CA, Cambridge, MA, Boston, MA

780-P Effect of Partial Meal Replacement on Glycemic Variability in Patients with Type 2 Diabetes: A Randomized Clinical Trial
JIANG ZHOU, JINGYI LU, XIAOQING MA, JIAHUI PENG, LINGWEN YING, WEI LU, WEI ZHU, YUQIAN BAO, Shanghai, China

781-P Glycemic Response to Diabetes-Specific Formulas and Associations with Sex, Age, Body Mass Index, and A1c in Adults with Type 2 Diabetes: A Subgroup Analysis
CAROLYN J. ALISH, Columbus, OH

782-P Personalized, Machine Learning-Based Nutrition Reduces Diabetes Markers in Type 2 Diabetic Patients
YATIR BEN SHLOMO, SHAHAR AZULAY, TALI RAVEH-SADKA, YOSSI COHEN, ARIEL HANEMANN, Hod Hasharon, Israel, Adanim, Israel

783-P Correlations between Serum 25-Hydroxy Vitamin D and Vascular Disease in Type 2 Diabetics
NAN LI, LU XU, YANRU WANG, SHAOLING YANG, PENG YANG, JIAQI DONG, HONG LI, SHEN QU, Shanghai, China

784-P Effects of Low-Carb and Low-Fat Dietary Strategies on Lipid Profile in Subjects with Prediabetes—DiNA-P
NINA MEYER, LAVINIA MURIELLE DIEKMANN, STEFAN KABISCH, ULRIKE DAMBECK, ANDREAS F. PFEIFFER, Potsdam, Germany, Berlin, Germany

785-P Effects of Metformin and Behavioral Weight Loss on Serum Short-Chain Fatty Acids (SCFAs)
NOEL T. MUELLER, MINGYU ZHANG, STEPHEN P. JURASCHEK, EDGAR MILLER, NISA M. MARUTHUR, LAWRENCE J. APPEL, HSIN-CHIEH “JESSICA” YEH, Baltimore, MD, Boston, MA

786-P Serum Dehydroepiandrosterone Sulfate Concentration and Animal Protein Intakes Are Important Factors for Skeletal Muscle Mass in Japanese Patients with Type 2 Diabetes
SHOTA MOYAMA, HITOSHI KUWATA, YOSHIYUKI HAMAMOTO, DAIISHII, YUTAKA SEINO, Osaka, Japan, Kobe, Japan

787-P Prevalence of Metabolic Syndrome in Indian Women with Polycystic Ovarian Syndrome (PCOS) and the Correlation of Dietary Nutrient Composition and Physical Activity on Components of the PCOS—A Pilot Study
RUCHA MEHTA, HETI VARMA, Ahmedabad, India

788-P Effects of Sucralose Ingestion vs. Sucralose Taste on Metabolic Responses to a Glucose Load in Subjects with Normal Weight and Obesity
M. YANINA PEPOINO, ALEXANDER D. NICHOL, KRISTINA ROTHER, CLARA SALAME, Urbana, IL, Bethesda, MD, CHampaign, IL

789-P Association of Zinc Intake with Obesity in Japanese Patients with Type 2 Diabetes Mellitus (T2DM)
RINA NEDACHI, KAZUYA FUJIHARA, MARIKO HATTA, YASUHIRO MATSUBAYASHI, YASUNAGA TAKEDA, DAI ISHII, CHIKA HORIKAWA, NORIKO KATO, HIROSHI MAEGAWA, HIROHITO SONE, Niigata, Japan, Tokyo, Otsu, Japan

790-P The Amount of Carbohydrate in the Diet Affects Glucose Dynamics Day and Night
SINCE SCHMIDT, AJENTHEN RANJAN, MERETE B. CHRISTENSEN, KIRSTEN NØRGAARD, Gentofte, Denmark, Hvidovre, Denmark

791-P Patient Preferences for Medical Nutrition Therapy
PHILIP G. CLERC, JANA L. WARDIAN, Fort Sam Houston, TX, San Antonio, TX

792-P Effect of Oral Aminergic Supplementation on Type 2 Diabetes and Diabetic Nephropathy in BTBR ob/ob Mice
INGE EVERAERT, MAXIME HANSSENS, HANS J. BAELEDE, WIM DERAVE, Ghent, Belgium, Leiden, Netherlands
793-P  **Serum Vitamin C Level Is Associated with Low Mortality Dependent on Metabolic Syndrome and Periodontitis Status**
PEILING TSOU, CHANG-JIUN WU, Houston, TX

794-P  **Effect of Intermittent Very-Low-Calorie Diet on Glycemic Control and Cardiovascular Risk Factors in Obese Patients with Type 2 Diabetes Mellitus**
MONGKONTIDA UMPHONSATHIEN, PREDEAPORN RATTANASIAN, WANLAPA SUANSAWANG, SIRIPORN LOKATTACHIRIYA, WEEARAPAN KOVIDHUNKIT, Bangkok, Thailand

795-P  **Effect of Protein Intake (PI) on Postprandial Glycemia in Children and Adolescents with Type 1 Diabetes Mellitus**
DALIA DALLE, SARINE G. SHAHMIRIAN, MARYANN O’RIORDAN, TERESA N. ZIMMERMAN, JAMIE R. WOOD, Cleveland, OH

796-P  **A Systematic Review of Diabetes-Related Outcomes in Food Provision Studies**
JOSEPH B. MARTINEZ, JUANITA A. DRAIME, JULIA GARDNER, SARAH E. BERMAN, ALEDA M.H. CHEN, Princeton, NJ, Dayton, OH, Cedarville, OH

797-P  **Composition of Morning and Afternoon Meals Affects Metabolism and Inflammation in Human Adipose Tissue**
KATHARINA KESSLER, KARSTEN JÜRCHOTT, NATALIA N. RUDOVICH, ANDREAS F. PFEIFFER, OLGA RAMICH, Cambridge, United Kingdom, Berlin, Germany, Bülach, Switzerland, Nuthetal, Germany

798-P  **The Prevalence and Impact of Food Insecurity on Glycemic Control in Low-Income Latinos with Type 2 Diabetes**
INA CECILIA FLORES, DENISSE CRISTINA PORRAS FIMBRES, J. SONYA HAW, ALEXANDRA MIGDAL, BRITT ROTBERG, HEQIONG WANG, RODOLFO J. GILINDO, GUILLERMO E. UMPIERREZ, Atlanta, GA, Decatur, GA

799-P  **Vascular Structure and Functional Responses to Consecutive High-Fat Feeding between Insulin Treatment Regimens in Adults with Type 1 Diabetes and Matched Controls**
LAUREN L. O’MAHONEY, ANTONIS STAVROPOULOS, KAREN BIRCH, RAMZI AJJAN, OLIVER J. PRICE, MATTHEW CAMPBELL, Leeds, United Kingdom

**PSYCHOSOCIAL, BEHAVIORAL MEDICINE**

Moderated Poster Discussion: Emerging and Young Adults with Diabetes (Posters: 800-P to 805-P), see page 104.

800-P  **A Comparative Effectiveness Trial for Youth with Type 1 Diabetes to Reduce Alcohol Use in College**
LAUREN E. WISK, ELIZA NELSON, KARA M. MAGANE, ELISSA R. WEITZMAN, Los Angeles, CA, Boston, MA

801-P  **Group Appointments (GA) via Home Telehealth (HT) for Young Adults (YA) with Type 1 Diabetes (T1D) May Improve Psychosocial Functioning**
DANIEL I. BISNO, MARK W. REID, CARI BERGET, CINDY L. CAIN, GEORGEANNA J. KLINSENSMITH, JENNIFER RAYMOND, Los Angeles, CA, Aurora, CO

802-P  **Text Messaging as a Behavioral Intervention Component for Adolescents and Young Adults with T1D**
MAUREEN MONAGHAN, CONNIE WONG, RANDI STREISAND, Washington, DC

803-P  **Modifiable Diabetes-Specific Factors and Glycemic Control in Economically Vulnerable and Racial/Ethnic Minority Young Adults with Type 1 Diabetes**
SHIVANI AGARWAL, LAUREN KANAPKA, JENNIFER RAYMOND, ASHBY F. WALKER, ANDREA GERARD GONZA-LEZ, DAVIDA F. KRUGER, MARIA JOSE REDONDO, MICHAEL R. RICKELS, VIRAL N. SHAH, ASHLEY BUTLER, VICTORIA MILLER, ALANDRA VERDEJO, ROBIN L. GAL, STEVEN M. WILLI, JUDITH A. LONG, Bronx, NY, Tampa, FL, Los Angeles, CA, Gainesville, FL, Aurora, CO, Detroit, MI, Houston, TX, Philadelphia, PA

804-P  **Alcohol Consumption Patterns among Young Adults with Type 1 Diabetes**
ALISSA J. ROBERTS, JENNIFER R. LAW, CYNTHIA SUERKEN, BETH A. REBOUSSIN, JEAN M. LAWRENCE, CRAIG TAPLIN, ELIZABETH MAYER-DAVIS, CATHERINE PIHOKER, Seattle, WA, Chapel Hill, NC, Winston-Salem, NC, Pasadena, CA
805-P
Barriers and Facilitators of Participation in Clinical Trials among Youth and Young Adults with Type 1 Diabetes and Their Caregivers

Moderated Poster Discussion: Psychosocial Assessment Issues in Diabetes (Posters: 806-P to 811-P), see page 106.

806-P
Quantifying Carbohydrate Intake: A Reliable, Valid, Sensitive Alternative to 24-Hour Dietary Recall
DANIEL COX, MATTHEW A. MONCRIEF, TOM BANTON, VICTORIA M. NGO, HARSIMRAN SINGH, ANNE M. DIAMOND, ANTHONY L. MCCALL, Charlotteville, VA, Newport Beach, CA, Ithaca, NY

807-P
The Diabetes-Related Emotional and Attitude Distress (DREAD) Scale
MARY DE GROOT, MICHAEL CRAVEN, ELIZABETH A. VRANY, ZACHARY SIMONS, Indianapolis, IN, Baltimore, MD

808-P
A New Measure of Diabetes-Specific Self-Compassion for Parents of Youth with Type 1 Diabetes (T1D)
MOLLY L. TANENBAUM, JESSIE J. WONG, SARAH HANES, KOREY K. HOOD, Palo Alto, CA, Stanford, CA

809-P
Comparison of the Acceptability and Psychometric Properties of Scales Assessing the Impact of Type 1 Diabetes on Quality of Life: Results of the Your SAY: QoL Study
JANE SPEIGHT, ELIZABETH HOLMES-TRUSCOTT, CHRISTEL HENDRICKX, ELIZABETH COATES, SIMON R. HELLER, DEBBIE COOKE, Melbourne, Australia, Geelong, Australia, Sheffield, United Kingdom, Guildford, United Kingdom

810-P
Japanese Version of the Diabetes Distress Scale: Validation and Identification of Individuals at High Risk for Diabetes-Related Distress
NENE TAKAMI, KENTARO OKAZAKI, NORIYUKI TAKAHASHI, MINA SUEMATSU, WATARU OHASHI, Nagoya, Japan, Nagakute, Japan

811-P
Validation of Self-Administered Online Neurocognitive Assessment in Adults with Diabetes and CKD
NAOMI CHAYTOR, CELESTINA BARBOSA-LEIKER, LAURA GERMINE, STERLING M. MCPHERSON, KATHERINE R. TUTTLE, Spokane, WA, Acton, MA

812-P
High Diabetes Distress Associated with Lower Diabetes Quality of Life in College Students
ELIZABETH A. BEVERLY, EMILY H. GUSEMAN, ROCHELLE G. RENNIE, AMBER M. HEALY, Athens, OH

813-P
Similarities and Differences in Adults’ Experiences with Type 1 and Type 2 Diabetes Distress
ELIZABETH A. BEVERLY, ROCHELLE G. RENNIE, EMILY H. GUSEMAN, AMBER HEALY, Athens, OH

814-P
Determinants of Diabetes Self-Care in Two Populations of Arabs with Type 2 Diabetes Living in Their Country of Origin or in the United States: A Comparative Analysis
OLA ALI SUKKARIEH-HARATY, LINDA JABER, JOELLE ABI KHARMA, NATALI FARRAN, MAYA BASSIL, Byblos, Lebanon, Detroit, MI, Beirut, Lebanon

815-P
Eating Behaviors, Personality Traits, and Diabetes Fatalism: Predictors of HbA1c in Type 2 Diabetes
NATALI FARRAN, OLA ALI SUKKARIEH-HARATY, DALAL AL BAKHOUR, MAYA BASSIL, Beirut, Lebanon, Byblos, Lebanon

816-P
Pediatric Preferences for an Ideal Artificial Pancreas (AP): Unique Features to Reduce Self-Care Burdens of Type 1 Diabetes (T1D)
PERSIS V. COMMISSARIAT, LINDSAY ROETHKE, LISA K. VOLKENING, DEBORAH A. BUTLER, JENNIFER L. FINNEGAN, EYAL DASSAU, STUART A. WEINZIMER, LORI M. LAFFEL, Boston, MA, New Haven, CT, Cambridge, MA

817-P
Validation of a New Survey to Assess Incorporation of Type 1 Diabetes (T1D) into Identity of Young Persons: Accepting Diabetes and Personal Treatment (ADAPT) Survey
PERSIS V. COMMISSARIAT, LISA K. VOLKENING, LINDSAY ROETHKE, ZIJING GUO, JENNIFER L. FINNEGAN, EYAL DASSAU, STUART A. WEINZIMER, LORI M. LAFFEL, Boston, MA, New Haven, CT, Cambridge, MA
818-P Diabetes-Specific Family Functioning and Implications for Adults with Type 2 Diabetes
LINDSAY S. MAYBERRY, ROBERT A. GREEVY, JR., LI-CHING HUANG, SHILIN ZHAO, CYNTHIA BERG, Nashville, TN, Salt Lake City, UT

819-P Personalized Texts Improve Adherence and A1c over 6 Months among High-Risk Adults with Type 2 Diabetes
LINDSAY S. MAYBERRY, LYNDSDA A. NELSON, ROBERT A. GREEVY, JR., KENNETH WALLSTON, SUNIL KRPALANI, CHANDRA Y. OSBORN, ERIN M. BERGER, LAUREN LE STOURGEON, SARAH E. WILLIAMSON, ANDREW J. SPIEKER, CHAD GENTRY, ANNE W. BROWN, BECKY P. GREGORY, S. WILL ACUFF, TOM ELASY, Nashville, TN

820-P WITHDRAWN

821-P WITHDRAWN

822-P Awareness, Knowledge, and Health Beliefs of American Indian/Alaska Native (AIAN) Girls and Their Mothers Regarding Risk Reduction of Gestational Diabetes Mellitus (GDM)
DENISE CHARRON-PROCHOWNIK, SUSAN M. SEREika, SARAH A. STOTZ, ANDREA F. FISCHL, NANCY O’BANION, JEFFREY POWELL, MELANIE L. ASPAAS, SHARINella GOUDEAU, SHELLEY J. THORKELson, SANDRA BEIRNE, KELLY R. MOORE, Pittsburgh, PA, Aurora, CO, Tulsa, OK, Shippock, NM, Albuquerque, NM

823-P Characteristics of Type 1 Diabetes (T1D) Patients Attending a Young Adult Diabetes Clinic (YADC) as a Component of Transition from Pediatric to Adult Diabetes Care
FARAHNAZ JOARDER, HARPREET NAGRA, LOLIS ROCHA, LAURA ANDREAS, INES GUTTMANN-BAUMAN, ANDREW J. AHMANN, Portland, OR

824-P Ecological Momentary Assessment of Diabetes Self-Management: A Systematic Review of Methods and Procedures
SOOHYUN NAM, ROBIN WHITCOMBE, DAVID VLAHOV, GENEVIEVE DUNTON, West Haven, CT, Orange, CT, Pasadena, CA

825-P Δ Depressive Symptoms Are Associated with Lower Diabetes Self-Management in Adults with Type 1 Diabetes
CRISTY R. GENO RASMUSSEN, KIMBERLY A. DRISCOLL, RACHEL M. SIPPL, AMY C. ALMAN, AMENA KESHAWARZ, JANET K. SNELL-BERGEON, Aurora, CO, Tampa, FL

826-P WITHDRAWN

827-P Prevalence and Clinical Characteristics of Sleep Disorders in Japanese Patients with Type 2 Diabetes: A Case-Control Study
HIROSHI MURAKAMI, MAKOTO DAiMON, SATORU MIZUSHIRI, Hirosaki, Japan

828-P The Impact of Diabetes and Depression Status on Weight Loss Outcomes in Mexican Patients with Severe Obesity
MARCELA RODRIGUEZ FLORES, SYLVANA STEPHANO Z., MARIA RABASA, JUANA MONTOYA, CLAUDIA VELEZ, EDUARDO GARCIA, SR., Mexico City, Mexico

829-P The Choice Should Be Yours: Diabetes-Related Distress by Insulin Delivery Method for Patients with Type 1 Diabetes
JANA L. WARDIAN, MARK W. TRUE, JEFFREY A. COLBURN, IRENE FOLARON, JOSHUA M. TATE, DARRICK BECKMAN, San Antonio, TX

830-P Influence of Social Circumstances on Maintenance of Body Weight and Incident Type 2 Diabetes: Analyses from the Diabetes Prevention Program
JANNIE NIELSEN, MOHAMMED K. ALI, Atlanta, GA

831-P Comparing Experience and Satisfaction of Adults with Type 1 Diabetes Participating in Interventions to Reduce Diabetes Distress
VICKY BOWYER, LAWRENCE FISHER, DANIELLE M. HESSLER, WILLIAM POLONSKY, UMESH MASHARANI, JOSÉ PARRA, MANSI DEDHIA, San Francisco, CA, San Diego, CA

832-P Diabetes and Doom: Lay Perceptions of Diabetes Stratified by Biometrics in Latinos with Type 2 Diabetes
NAMINO M. GLANTZ, ARIANNA J. LAREZ, JESSIKAH MORALES, CHARIS B. HOPPE, WENDY C. BEVIER, MARY M. CONNEELY, CARLOS ALATORRE, ROSIRENE PACZKOWSKI, DAVID KERR, Santa Barbara, CA, Indianapolis, IN

Δ ADA-Supported Research
833-P Relationship between Prediabetes and Depression in Korean Adults
EONJU JEON, SUNG-WOO KIM, JI-HYUN LEE, HO-SANG SHON, Daegu, Republic of Korea

834-P Weight Change and Dementia Risk in Patients with New-Onset Type 2 Diabetes: A Nationwide Cohort Study
HYUK-SANG KWON, SOON JIB YOO, MIN-KYUNG LEE, GA EUN NAM, Seoul, Republic of Korea, Bucheon, Republic of Korea, Gyeonggi, Republic of Korea

835-P Examining and Validating Social Support (SS) Related to Reproductive Health (RH) Behaviors and Seeking Preconception Counseling (PC) in Female Adolescents with Diabetes
HIBA ABUJARADEH, SUSAN M. SEREIKA, DOROTHY J. BECKER, ANDREA F. FISCHL, DENISE CHARRON-PROCHOWNIK, Pittsburgh, PA

836-P Cannabis Use in Adults with Type 1 Diabetes (T1D) Is Associated with Poor Glycemic Control and Increased Risk for Diabetic Ketoacidosis (DKA)
VIRAL N. SHAH, DANIEL D. TAYLOR, NICOLE C. FOSTER, ROY BECK, HALIS K. AKTURK, GREGORY L. KINNEY, Aurora, CO, Denver, CO, Tampa, FL

837-P Diabetes Support Needs in People with Severe Mental Illness and Diabetes
VIBEKE STENOV, INGRID WILLAING, LENETTE KNUDSEN, DORTE L. HANSEN, LENE E. JOENSEN, Gentofte, Copenhagen, Denmark

838-P Financial Incentives to Improve Glycemic Control in Adults with Diabetes: A Pilot Randomized Controlled Trial
LEONARD E. EGEDE, REBEKAH J. WALKER, HEATHER L. PRIGMORE, JONI S. WILLIAMS, JENNIFER A. CAMPBELL, APRILL DAWSON, Milwaukee, WI

839-P Outcomes of Systematic User Involvement and User Research in a National Patient-Reported Outcomes Diabetes Initiative
SOREN E. SKOVLUND, LISE MELLERGAARD NØRGAARD, SIMON STEFANSSEN, TRINE HONNENS DE LICHTENBERG, LISE EJSSKAER, Aalborg, Denmark

840-P Lower Health-Care Utilization among Diverse Adolescents and Young Adults (AYA) Who Receive Culturally Discordant Care
JAQUELIN J. FLORES GARCIA, JENNIFER RAYMOND, SHIVANI AGARWAL, ALEJANDRA TORRES SANCHEZ, MARK W. REID, Los Angeles, CA, Bronx, NY

841-P Clinically Elevated T1D Distress and Depression in Parents of Kids with New-Onset Type 1 Diabetes (T1D)
AMY E. NOSER, MARK A. CLEMENTS, ALEXANDRA MONZON, SHIDEH MAJIDI, SUSANA R. PATTON, Lawrence, KS, Kansas City, MO, Aurora, CO, Kansas City, KS

842-P Damage Control (Group) for Youth with T1D: Capturing the True Value of NICH
DAVID V. WAGNER, CELESTE JENISCH, NATALIE C. KOSKELA-STAPLES, INES GUTTMANN-BAUMAN, CHRISTOPHER E. LARSEN, LENA TEPLITSKY, MICHAEL A. HARRIS, Portland, OR, Gainesville, FL

843-P Hypoglycemia Unawareness Is Associated with Attachment and Reflective Functioning in People with Type 1 Diabetes
PETROS THOMAKOS, FAY GRIVA, OLGA KEPAPTSOGLOU, ASMINA MITRAKOU, GRIGORIS VASLAMATZIS, CHRISTOS ZOUPAS, Athens, Greece

844-P Tobacco Use Patterns and Clinical Outcomes in the T1D Exchange
CARLA RASH, JULIE WAGNER, SHEILA M. ALESSI, NICOLE C. FOSTER, WILLIAM V. TAMBORLANE, MICHELLE A. VAN NAME, Farmington, CT, Tampa, FL, New Haven, CT

845-P Relationship between Financial Hardship and Glycemic Control in Older Adults with Diabetes
REBEKAH J. WALKER, EMMAR BARACCI, LEONARD E. EGEDE, Milwaukee, WI

846-P Patients with T2D Are Willing To Do More than Their HCPs Expect to Overcome Therapeutic Inertia
JAMES CHAMBERLAIN, RICHARD WOOD, MICHELLE ROBERTS, STEVEN EDELMAN, Salt Lake City, UT, San Francisco, CA, Bridgewater, NJ, San Diego, CA

847-P Diabetes-Specific Social Capital through Peer Support—A Study of Facilitators
LENE E. JOENSEN, MATHILDE OVERGAARD, KIRSTEN NØRGAARD, INGRID WILLAING, Gentofte, Denmark
848-P Understanding Diabetes-Related Stigma in African-American Churches: The Blame and Shame Game
GRETCHEN PIATT, Ann Arbor, MI

849-P Comparative Effectiveness of In-Person and Conference Call Group Lifestyle Interventions in Primary Care—The Real Health Diabetes Randomized Clinical Trial (RCT)
LINDA M. DELAHANTY, YUCHIAO CHANG, BIANCA C. PORNEALA, JEANNA MCCARTHY, VALERIE M. GOLDMAN, DOUGLAS E. LEVY, DEBORAH J. WEXLER, Boston, MA

850-P Modeling Pathways between Psychological Distress, Emergent Symptoms and Side Effects, and Endpoint A1C during Treatment
MÁRCIA A. TESTA, MAXWELL SU, DONALD C. SIMONSON, Boston, MA

851-P Sleep and Quality of Life in Adolescents with Type 1 or Type 2 Diabetes
MELISSA S. FAULKNER, Atlanta, GA

852-P Reduction in Emotional Burden in Type 2 Diabetes Is Associated with Improved Medication Adherence: Results from COMRADE
DOYLE M. CUMMINGS, MACKENZIE BROWN, LESLEY LUTES, BERTHA HAMBRIDGE, MARISSA A. CARRAWAY, SHVAJIRAO P. PATIL, ALYSSA ADAMS, KERRY LITTLEWOOD, SHEILA B. EDWARDS, PEGGY GATLIN, Greenville, NC, Kelowna, BC, Canada, Tampa, FL

853-P Caring for Someone with Type 1 Diabetes: Health-Related Quality of Life of Parents and Partners
MARISA E. HILLIARD, CHARLES G. MINARD, DAVID G. MARRERO, MAARTJE DE WIT, DEBORAH THOMPSON, ALANDRA VERDEJO, BARBARA ANDERSON, Houston, TX, Tucson, AZ, Amsterdam, Netherlands, Tampa, FL, Charlottesville, VA

854-P Personality, Self-Management Behaviors, and Glycemic Control among Japanese Patients with Type 2 Diabetes Mellitus (T2DM)
SAKIKO Y. MORIKAWA, KAZUYA FUJIIHARA, MARIKO HATTA, YASUNAGA TAKEDA, DAI ISHI, JUNKO YACHIDA, CHIKA HORIKAWA, MITSUTOSHI KATO, HIROSHI MAEGAWA, HIROHITO SONE, Tokushima, Japan, Niigata, Japan, Tokyo, Japan, Otsu, Japan

855-P The Relationship between Primary Care Providers’ Perceptions of Patient Motivation and Their Referral Practices for the National Diabetes Prevention Program Lifestyle Change Program
XUANPING ZHANG, MICHAEL CANNON, ANDREW LANZA, TAMKEEN KHAN, MATTHEW C. JACKSON, KUNTHEA NHIM, Atlanta, GA, Chicago, IL

856-P Can Monetary-Based Reinforcement for Self-Monitoring Blood Glucose (SMBG) Impact Psychosocial Outcomes? A Randomized Controlled Trial
JESSIE J. WONG, ANANTA ADDALA, KOREY K. HOOD, JULIE WAGNER, EDA CENGIZ, EILEEN M. TICHY, KATE WEMAN, DIANA NARANJO, Palo Alto, CA, San Jose, CA, Stanford, CA, Farmington, CT, New Haven, CT, San Francisco, CA

857-P Relationship between Housing Insecurity and Diabetes Care and Self-Care Behaviors
ELISE MOSLEY-JOHNSTON, REBEKAH J. WALKER, HEATHER L. PRIGMORE, LEONARD E. EGEDE, Milwaukee, WI

858-P Assessing Sleep Characteristics in Young Children with Type 1 Diabetes
MANUELA SINISTERRA, SAMANTHA HAMBURGER, CARRIE TULLY, NICOLE HERRERA, EMILY HAMBURGER, SARAH S. JASER, RANDI STREISAND, Washington, DC, Nashville, TN

859-P Social Support and Diabetes Distress among Adults with Alabama Medicaid
CAROLINE A. PRESLEY, FAVE L. MONDESIH, APRIL A. AGNE, KEVIN R. RIGGS, MARIA PISU, EMILY B. LEVITAN, JANET M. BRONSTEIN, ANDREA CHERINGTON, Birmingham, AL

860-P Benefits of Real-Time Sharing and Following of Continuous Glucose Monitoring Data from Youth
ANDREW PARKER, MARK DERDZINSKI, SARAH PUHR, JOHN WELSH, TOMAS C. WALKER, ANNKA JIMENEZ, San Diego, CA

861-P Barriers to Technology Use in Pediatric Patients with Type 1 Diabetes
DAVID TSAI, MARK W. REID, JAQUELIN J. FLORES GARCIA, JENNIFER RAYMOND, Los Angeles, CA

862-P Association of Parent Executive Function and Child Glycemic Control in Type 1 Diabetes
CARRIE TULLY, SAMANTHA P. BENTO, SAMANTHA HAMBURGER, MEREDITH ROSE, RANDI STREISAND, Washington, DC
863-P Insomnia Severity and Insulin Adherence
Yaguang Zheng, Mary T. Korytkowski, Susan M. Sereika, Lora E. Burke, Charles W. Atwood, Patrick J. Strollo, Jr., Bomin Jeon, Eileen R. Chasens, Pittsburgh, PA

864-P Utilizing Certified Diabetes Educators to Manage Smoking Cessation

865-P Some Diabetes Words Really Do Hurt—Measuring the Emotional Burden of Diabetes Language
Linda J. Beene, Renee Hinton, Jane Overland, Sydney, Australia, Kawana, Australia

866-P Lifestyle Change Program Session Completion and Cardiometabolic Outcomes in Real-World Clinical Practice
Hisao-Ching Huang, Kristen M. Azar, Sylvia Sudat, Alice Pressman, Robert Romanelli, Palo Alto, CA, Walnut Creek, CA

867-P The Impact of Diabetes on Daily Life: Highlights from People with T1D and Their Caregivers
Jeffrey Bisham, Allyson Hughes, Magaly Perez-Nieves, Ludi Fan, Alicia McAuliffe-Fogarty, Boston, MA, Indianapolis, IN

868-P A Needs-Based Approach for Uncontrolled Hyperglycemia
Samir Malkani, Kristin L. MacGregor, Richard A. Haas, Denise H. Wong, Mohamed Noumou, Morgan Reynolds, Worcester, MA, West Hartford, CT, Hartford, CT

869-P A Path Model of Quality of Life in Insulin-Treated Patients: A Nine-Month Prospective Study
Ruey H. Wang, Sr., Tao-Chun Lee, Hui-Chun Hsu, Sih-Yu Chen, Kaohsiung, Taiwan, Pingtung, Taiwan, Taipei, Taiwan

870-P Utilities to Measure Valuation of Diabetes in Haiti
Clement Belanger-Bishinga, Colin Partridge, Eddy Jean Baptiste, Marie-Nancy Charles Larco, Philippe Larco, Julia E. Von Oettingen, Ketly Altenor, Montreal, QC, Canada, San Francisco, CA, Port-au-Prince, Haiti, Montrouis, Haiti

871-P The Impact of Integrated Behavioral Health in a Diabetes Center
Kristin L. MacGregor, Kelly S. Demartini, Samantha A. Barry, Alan G. Derr, Michael J. Thompson, Worcester, MA, New Haven, CT

872-P Impact of Psychosocial Factors and Nutrition Using a 12-Week Course on Diabetes Management for Veterans
Nancy Farrell, Redlands, CA

873-P “I Had Nobody to Represent Me”—How Patient Perceptions of Diabetes Health Care Providers’ Age, Gender, and Ethnicity Impact Shared Decision-Making
Tehmina Ahmad, Shriya Hari, Devin E. Cleary, C. Yu, Toronto, ON, Canada

874-P Experiences of Young Professionals with Type 1 Diabetes Mellitus Launching into the Workplace
Jennifer Saylor, Jeremy B. Yorgason, Mallery A. Millett, Amy L. Jackson, Michelle Ness, Anna Floreen Sabino, Newark, DE, Provo, UT, Lindon, UT, Boston, MA

875-P To Treat High Diabetes Distress or Not: Determining the Clinical Impact of Targeted Interventions with Type 1 Adults

876-P Peer Support in Primary Care through the Shanghai Integration Model
Patrick Y. Tang, Yuexing Liu, Muchieh M. Coufal, Yiqing Qian, Chun Cai, Edwin B. Fisher, Weiping Jia, Chapel Hill, NC, Shanghai, China, Plano, TX

877-P Correlates of Retention among Participants in the National Diabetes Prevention Program (National DPP) Lifestyle Change Program, 2012-2017
Svetlana Masalovich, Robin Soler, Bryce Smith, Rajai Jabrah, Elizabeth Ely, Michael Cannon, Atlanta, GA

878-P Beyond Tracking: The Benefits of Contextual Annotation in a Diabetes Digital Therapeutic
Michelle Dugas, Kenyon Crowley, Weiguang Wang, Anand K. Iyer, Malinda M. Peeples, Mansur Shomali, Guodong Gao, College Park, MD, Columbia, MD, Baltimore, MD
879-P  Using Telehealth to Enhance Engagement and Reduce Patient Burden in the Management of Gestational Diabetes: A Randomized Trial in a Diverse Community Setting
HARSIMRAN SINGH, MICHELLE SENDEJAS, LIA B. PALLIVATHUCAL, MEGHAN GONZALEZ, STEPHANIE DECKER, ANA R. PIMENTEL, MARTIN D. MILLS, DAVID T. AHN, JOHN BILLIMEK, Newport Beach, CA, Irvine, CA

880-P  Polypharmacy Is Not Associated with Emotional Distress in Adults with Type 2 Diabetes
CARLY A. SOLON, MALKA Z. SEARS, CLAIRE J. HOOGENDOORN, ELIZABETH K. SENG, SETH A. MARGOLIS, JEFFREY S. GONZALEZ, Bronx, NY, Providence, RI

881-P  Patient and Clinician Usability Rating of Commercially Available Diabetes Apps
HELEN N. FU, TERRENCE ADAM, JEAN F. WYMAN, Minneapolis, MN

882-P  Overcoming Family and Cultural Challenges for Chinese American Patients with Diabetes: Provider Guidelines
CATHERINE A. CHESLA, KEVIN M. CHUN, CHRISTINE M. KWAN, San Francisco, CA, Hong Kong, China

883-P  Diabetes Distress: Provider Perspectives
ANN-MARIE JOHN, Springfield, VA

884-P  Mi Puente: A Care Transitions Intervention for At-Risk Hispanics with Multiple Cardiometabolic Conditions
JULIA I. BRAVIN, MICHELLE L. ANDERSON, TAYLOR CLARK, KIMBERLY L. SAVIN, DUVIA LARA LEDESMAN, JOHANNA A. EUYOQUE, ADDIE L. FORTMANN, ATHENA PHILIS-TSIMIKAS, LINDA GALLO, San Diego, CA

885-P  Efficacy of a Telehealth Preventive Cardiology Lifestyle Intervention Program to Treat High-Risk South Asians
VIJAYA PARANESWARAN, KIRANBIR JOSAN, ABHA KHANDELWAL, FAHIM ABBASI, RAJESH DASH, Stanford, CA

886-P  Smoking and Cessation Patterns of People with Diabetes
SEYDA OZCAN, FERIDE GORURGOZ, ASLI CARKOGLU, ZELIHA AKBULUT, MIMI NICHTER, MARK NICHTER, SR., Istanbul, Turkey, Tucson, AZ

887-P  Biological and Psychological Risk Factors for Eating Disorders in Type 1 Diabetes
DAWN LEE-AKERS, JUDY SIMON, ERIN AKERS, Mill Creek, WA, Seattle, WA

888-P  High Engagement over 12 Months with a Text Messaging Intervention for Type 2 Diabetes
LYNDSAY A. NELSON, ROBERT A. GreEY, JR., ANDREW J. SPIEKER, KENNETH WALLSTON, LINDSAY S. MAYBERRY, Nashville, TN

889-P  Early Engagement in a Continuous Care Intervention Predicts One-Year Improvements in Weight and HbA1c among Adults with T2D
REBECCA N. ADAMS, AMY MCKENZIE, SHAMINIE J. ATHINARAYANAN, SARAH HALLBERG, JAMES P. MCCARTER, STEPHEN PHINNEY, San Francisco, CA

890-P  If We Build It, Will They Come? Engagement Data from a Young Adult Diabetes Transition Clinic
HARPREET NAGRA, FARAH NÁJJOARDER, LAURA ANDREAS, INES GUTTMANN-BAUMAN, KIMBERLY KRAUS, LOLIS ROCHA, Portland, OR

891-P  Hypoglycemia Prevention Behaviors Prevent Moderate Hypoglycemic Events: The REPLACE-BG Trial
MARGARET A. CRAWFORD, MARTHA M. WHITE, DAVID R. STRONG, JOHN P. PIERCE, La Jolla, CA

892-P  Weight Outcomes from a Lifestyle Change Program vs. Usual Care in Real-World Clinical Practice: A Matched-Cohort Analysis
ROBERT ROMANELLI, HISAO-CHING HUANG, SYLVIA SUDAT, ALICE PRESSMAN, KRISTEN M. AZAR, Palo Alto, CA, Walnut Creek, CA

CLINICAL THERAPEUTICS/NEW TECHNOLOGY—DIABETES PREVENTION

893-P  A Smartphone App-Based Lifestyle Intervention for Weight Loss, Improvement of Hemoglobin A1c (A1c), and Prediabetes
CHERIE LISA VAZ, NICHOLAS CARNES, HUAQING ZHAO, KEVIN JON WILLIAMS, Philadelphia, PA
894-P The Risk for Type 2 Diabetes beyond Age: Contributors to the FINDRISC-Score in Each Age Category
DOMINIC EHLMANN, TOBIAS J. ETTER, JOERG WEISSMANN, BERNHARD KULZER, NORTERT HERMANNNS, Bad Mergentheim, Germany, Mannheim, Germany

895-P Effects of Dapagliflozin, Metformin, or Exercise on Markers of Cardiometabolic Risk: The PRE-D Trial
KRISTINE FÆRCH, MARTIN B. BLOND, HANAN AMADID, LEA BRUHN NIELSEN, MARIA TVERMOSEGAARD, MATHIAS RIED-LARSEN, KRISTIAN KARSTOFT, FREDERIK PERSSON, MARIT E. JØRGENSEN, Gentofte, Copenhagen, Denmark

896-P Standard Breakfast as a More Physiological Test of Glucose Tolerance than OGTT in Obese Patients—Relationship with 24-h Glycemic Variability and Insulin Resistance
AMEL REZKI, MARINOS FYSEKIDIS, EMMANUEL COSSON, PAUL VALENSI, Bondy, France, Bobigny, France

897-P Continuous Glucose Monitoring (CGM) in Management of Patients with Severe Traumatic Brain Injury
IVONA DASKALOVA, TZVELENA TOTOMIROVA, NIKOLAY PETROV, MILA ARNAUDOVA, Sofia, Bulgaria

898-P CGM Metrics Identify Dysglycemic States in Subjects with Normal OGTT from the TrialNet Pathway to Prevention Study
DARRELL M. WILSON, PATRICK NELSON, DAVID SCHEINKER, SUSAN PIETROPAOLO, MARIA ACEVEDO-CALADO, MAHDI EBRAHIMI, ANDREA STECK, JESSICA L. DUNNE, CARLA GREENBAUM, MASSIMO PIETROPAOLO, Stanford, CA, Southfield, MI, Houston, TX, Aurora, CO, New York, NY, Seattle, WA

899-P Barriers and Facilitators to Implementation of the Group-Based Diabetes Prevention Program within a Large Health-Care System
MEGHAN HALLEY, CATHERINE NASRALLAH, NINA K. SZWERINSKI, JOHN P. PETERSEN, ROBERT J. ROMANELLI, KRISTEN AZAR, Palo Alto, CA

900-P Long-Term Effectiveness of a DPP for Prediabetic Hispanic Women
PALAK D. SHAH, RICHARD FEINN, JENNIFER ROCKFELD, ANNE W. CAMP, North Haven, CT, New Haven, CT

901-P Effects of Dapagliflozin, Metformin, or Exercise on Glycaemic Variability and Mean Glucose Levels in Prediabetes: The PRE-D Trial
KRISTINE FÆRCH, DORTE VISTISEN, MARTIN B. BLOND, LEA BRUHN NIELSEN, HANAN AMADID, THOMAS F. DEJGAARD, MATHIAS RIED-LARSEN, KRISTIAN KARSTOFT, FREDERIK PERSSON, MARIT E. JØRGENSEN, Gentofte, Copenhagen, Denmark

902-P Effectiveness of Evidence-Based Diabetes Prevention Program in Adults at High Risk of Developing Type 2 Diabetes: A Systematic Review and Meta-analysis
KANNIKAR H. WECHKUNANUKUL, FIONA BENTON, JOSEPHINE MCGILL, SHAHID ULLAH, Hilton, Australia, Adelaide, Australia

903-P Unique Cardiovascular Risk Stratification Using Prediabetes Metrics in High-Risk South Asian Cohort
JENNIFER L. SHEARER, KIRANBIR JOSAN, ABHA KHANDELWAL, SHRIRAM NALLAMSHETTY, FAHIM ABBASI, RAJESH DASH, Stanford, CA, Mountain View, CA, Palo Alto, CA

904-P Identification, Diagnosis, and Treatment of Prediabetes in Veterans at VA Central Iowa
GRETCHEN THORSON, JULIANNE M. PATTERSON, KARMEN JØRGENSEN, ZACHARY P. VEIGULIS, Des Moines, IA

905-P Safety, Adherence, and Treatment Satisfaction with Dapagliflozin, Metformin, or Exercise in Individuals with Prediabetes: The Pre-D Trial
HANAN AMADID, MARTIN B. BLOND, LEA BRUHN, KIM K. CLEMMESEN, CAMILLA T. VAINØ, FREDERIK PERSSON, MARIT E. JØRGENSEN, KRISTINE FÆRCH, Gentofte, Denmark
CLINICAL THERAPEUTICS/NEW TECHNOLOGY—GLUCOSE MONITORING AND SENSING

**ePoster Theater Session**: Advances in Glucose Monitoring (Posters: 906-P to 911-P), see page 141.

906-P ☐ Safety and Efficacy of Continuous Glucose Monitoring at an ADA Camp
   ANIELA SOSNOWSKI, LOWELL SCHMELTZ, Rochester, MI, Farmington Hills, MI

907-P ☐ Striking Improvements in HbA1c following Commencement of Flash Glucose Monitoring in Type 1 Diabetes
   FRASER W. GIBB, ROLAND H. STIMSON, JOHN A. MCKNIGHT, VICTORIA TYNDALL, STUART A. RITCHIE, NICOLA N. ZAMMITT, ANNA R. DOVER, Edinburgh, United Kingdom

908-P ☐ Accuracy Comparison of the Freestyle Libre Pro Continuous Glucose Monitoring (CGM) and Point-of-Care (POC) Testing in Noncritically Ill Hospitalized Patients with Type 2 Diabetes Treated with Basal-Bolus Insulin Regimen
   RODOLFO J. GALINDO, MARIA A. URRUTIA, GEORGIA DAVIS, AMEER KHOWAJA, BONNIE S. ALBURY, ISABEL ANZOLA, ASHLEY A. JOHNSON, PRIYATHAMA VELLANKI, SAUMETH CARDONA, MAYA FAYMAN, ALEXANDRA MIGDAL, CESAR ZAMBRANO, LIMIN PENG, FRANCISCO J. PASQUEL, GUILLERMO E. UMPIERREZ, Atlanta, GA, Minneapolis, MN

909-P ☐ Real-World Assessment of Connected Remote Continuous Glucose Monitoring Combined with Tele-consultations in a Pediatric Type 1 Diabetes Population
   INGE GIES, BRECHT VERMEULEN, Brussels, Belgium, Gent, Belgium

910-P ☐ Improved Accuracy of 14-Day Factory-Calibrated FreeStyle Libre System with New Glucose Algorithm
   SHRIDDHARA ALVA KARINKA, TIMOTHY S. BAILEY, RONALD L. BRAZG, ERWIN S. BUDIMAN, KRISTIN CASTORINO, MARK P. CHRISTIANSEN, DAVID R. LILJENQUIST, HANGQING LIU, Alameda, CA, Escondido, CA, Renton, WA, Santa Barbara, CA, Walnut Creek, CA, Idaho Falls, ID

911-P ☐ Are New Metrics for Glucose Management Needed in Older Adults?
   ELENA TOSCHI, CHRISTINE SLYNE, ASTRID ATAKOV-CASTILLO, JORDAN GREENBERG, KAYLA SIFRE, SAM CARL, ALYSSA B. DUFOUR, Medha Munshi, Boston, MA

912-P T2D Users of a Digital Diabetes Management System Experience an Increase of In-Range Glucose Levels Linked to App Engagement
   YIFAT HERSHCOVITZ, SHARON DAR, EITAN FENIGER, Caesarea, Israel

913-P Reduction of Blood Glucose Average Less than 140mg/dl in People with Type 2 Diabetes Using a Digital Diabetes Management System
   YIFAT HERSHCOVITZ, SHARON DAR, EITAN FENIGER, Caesarea, Israel

914-P Connected Glucose Meter plus CDE Coaching Improves Diabetes Patient Empowerment and Distress in Real-World Outcomes Setting
   JENNIFER BOLLYKY, WEI LU, STEFANIE L. PAINTER, JIAT LING POON, MAGALY PEREZ-NIEVES, Mountain View, CA, Indianapolis, IN

915-P Characteristics Associated with Improved Blood Glucose Control for a Large Diabetes Population Using a Connected Blood Glucose Meter with CDE Support
   WEI LU, CHRISTOPHER WHALEY, STEFANIE L. PAINTER, JENNIFER BOLLYKY, Mountain View, CA, Santa Monica, CA

916-P Comparison of Personal vs. Professional Continuous Glucose Monitoring Related to Calibration
   SOICHI TAKEISHI, HIROKI TSUBOI, Inuyama, Japan

917-P Prediction Abilities for a Risk of Hypoglycemia in Glycemic Variability Metrics
   SOICHI TAKEISHI, HIROKI TSUBOI, Inuyama, Japan

918-P Real-World Association of Glucose Monitoring Frequency and Glycemic Metrics in the United States
   EUGENE WRIGHT, JR., NAUNIHAL VIRDI, TIMOTHY DUNN, Charlotte, NC, Alameda, CA

919-P Canada Real-World Analysis of Flash Glucose Monitoring and Impact on Time-in-Range and Hypoglycemia
   LORI BERARD, NAUNIHAL VIRDI, TIMOTHY DUNN, Winnipeg, MB, Canada, Alameda, CA
920-P Flash Glucose Monitoring (FGM) in Real-Life: 18-Month Clinical Experience
COSIMO RODIA, CRISTINA BIANCHI, ALESSANDRA BERTOLOTTA, ROSA GIANNARELLI, FABRIZIO CAMPi, STEFANO DEL PRATO, MICHELE ARAGONA, Pisa, Italy

921-P Managing Trend Arrows with FGM: Effects on Glycemic Control in Type 1 Diabetic (T1DM) Subjects
COSIMO RODIA, CRISTINA BIANCHI, ALESSANDRA BERTOLOTTA, ROSA GIANNARELLI, FABRIZIO CAMPi, SIMONA GENNAI, STEFANO DEL PRATO, MICHELE ARAGONA, Pisa, Italy

922-P Diabits—An AI-Powered Smartphone Application for Blood Glucose Monitoring and Predictions
AMIR HAYERI, West Vancouver, BC, Canada

923-P WITHDRAWN

924-P Pattern Mining of Trajectories of Glucose Values of Continuous Glucose Monitoring System by Artificial Intelligence in Type 2 Diabetes Patients
MASAKI MAKINO, RYO YOSHIMOTO, MIZUHO KONDO-ANDO, YASUMASA YOSHINO, IZUMI HIRATSUKA, WAKAKO MAKI, SAHOKO SEKIGUCHI-UEDA, AYAKO KAKITA, MEGUMI SHIBATA, YUSUKE SEINO, TAKESHI TAKAYANAGI, MASASI ONO, AKIRA KOSEKI, MICHlHARU KUDO, KIOICHI HAIc, RIYOSUKE YANAGIYA, NOBUKI HAYAKAWA, ATSUSHI SUZUKI, Toyoake, Japan, Tokyo, Japan, Aichi, Japan, Nagoya, Japan

925-P Performance of Sensors for Continuous Glucose Monitoring (CGM) under Extreme Sports Conditions in People with Diabetes
ELIAS DELGADO, MARfON M.J. FOKKERT, P. R. VAN DIJK, MIREILLE A. EDENS, ALBERTO DIEZ, SR., R.J. SLINGERLAND, HENK BILO, Oviedo, Spain, Zwolle, Netherlands, Groningen, Netherlands, Ponferrada, Spain

926-P Frequency of Hypoglycemia by Gender in Healthy Individuals without Diabetes—Not So Different After All
STEPHANIE DUBOSE, ZOEY LI, VIRAL N. SHAH, JENNIFER SHERR, WILLIAM V. TAMBRORLANE, RICHARD M. BERGENSTAL, ROY BECK, Tampa, FL, Aurora, CO, New Haven, CT, Minneapolis, MN

927-P Use of Mobile-Enabled Reminders Feature Is Associated with Improved Behavioral and Glycemic Outcomes in the Real World
RICARDO CARLOS ABAD JUAN, TONG SHENG, SARINE BABIKIAN, MICHAEL GREENFIELD, Mountain View, CA

928-P Capturing Clinical Trends and Lifestyle Behaviour Data of Patients with Diabetes Using an AI-Powered Digital Therapeutic in India
RAJEEV CHAWLA, ARJUN KRISHNASKUMAR, VARSHA KHATRY, ABHISHEK SHAH, SHILPA JOSHI, BEHRAM PARDIWALA, SHARAT KOLKE, VIKRANT SHAH, ROMMEL IDNANI, VINOD MATTOO, New Delhi, India, Mumbai, India

929-P Clinical Factors Associated with the Glucagon Stimulation Test and Daily and Day-to-Day Glucose Variability Determined by Continuous Glucose Monitoring in Type 2 Diabetic Patients
MAKOTO OHARA, HIROE NAGAIKE, SATOSHI GOTO, HIDEKI KUSHIMA, MUNENORI HIROMURA, TAKESHI YAMAMOTO, YUSAKU MORI, TOMOYASU FUKUI, TSUTOMU HIRANO, Tokyo, Japan

930-P Blood Glucose Levels Prediction Accuracy for T1DM Patients Using Neural Networks to Combine Insulin Doses, Food Nutrients, and Heart Rate
MARIA CRISTINA FOSS-FREITAS, GABRIEL S. MOREIRA, VITOR P. ANTLOGA, CAMILO R. NETO, EDUARDO MATOS RODRIGUES, MARIANA FERRACINI DA COSTA, ANDRÉ PEREIRA DOS SANTOS, YURI K. MATSUMOTO, Ribeirão Preto, Brazil, São José dos Campos, Brazil, São Paulo, Brazil

931-P Hyperglycemia following Early vs. Late Meal Boluses
LISA M. NORLANDER, EDWARD T. NYKAZA, BRANDON ARBITER, BRUCE A. BUCKINGHAM, RAYHAN LAL, Palo Alto, CA, Stanford, CA

932-P Impacts of Glucose Variability on the Correlation between Estimated Hemoglobin A1c and Measured Glycated Hemoglobin A1c in Patients with Type 2 Diabetes
DAIZHI YANG, BEISI LIN, WEN XU, XUBIN YANG, BIN YAO, XUEYING WEI, Guangzhou, China, Guangdong, China

933-P Overnight vs. Continuous Long-Term Closed-Loop Control: Patient-Reported Experiences
JACLYN SHEPARD, LINDA GONDER-FREDERICK, SUE A. BROWN, LAURA L. KOLLAR, EMMA EMORY, BORIS KOVATCHEV, Charlottesville, VA
934-P  Continuous, Quantitative, Selective, Nonenzymatic Glucose Monitoring Using Conductimetric Analysis  
BING WANG, SUMITA PENNATHUR, KUANG-HUA CHOU, Santa Barbara, CA

935-P  Identification of Characteristic Daily Glucose Excursions Associated with Triopathy in Adults with Type 1 Diabetes  
YASUTAKA MAEDA, MAYUKO MORITA, AYUMI TAMURA, KYOKO TAKASU, YUKIE KUROGI, IKUMI NIMURA, RIE YOSHIKOA, MASAE MINAMI, Fukuoka, Japan

936-P  Annual Cost to Achieve Cost Effectiveness of Continuous Glucose Monitoring in Hypoglycemia-Unaware Type 1 Diabetes Patients Using Intensive Insulin in the United Kingdom  
S. PINAR BILIR, CARESSE CAMPBELL, RICHARD HELLMUND, JULIE MUNAKATA, San Francisco, CA, Fairfax, VA, Alameda, CA

937-P  Self-Reported Acute Psychological Stress Is Associated with CGM-Based Hyperglycemia in Type 1 Diabetes  
VIKASH DADLANI, JORDAN E. PINSKER, KANCHAN KUMARI, CAMILLE C. ANDRE, MARZIA CESCON, COREY REID, SHELLY K. MCCRAY-SPITZER, PRABIN THAPA, MEI MEI CHURCH, DIVYA CHOUDHARY, FRANCIS J. DOYLE III, EYAL DASSAU, YOGISH C. KUDVA, Rochester, MN, Santa Barbara, CA, Cambridge, MA

938-P  A Novel Wireless Continuous Glucose Monitoring System Using Semiconductor Integration  
MUHAMMAD MUJEEB-U-RAHMAN, MEISAM HONARVAR NAZARI, MEHMET SENCAN, Irvine, CA

939-P  Real-World Performance of the Guardian Connect System with Sugar.lQ  
SIDDHARTH ARUNACHALAM, YUXIANG ZHONG, SINU BESSY ABRAHAM, PRATIK AGRAWAL, ROBERT VIGERSKY, TONI L. CORDERO, FRANCINE R. KAUFMAN, Northridge, CA

940-P  Toward a Novel Tiny Continuous Glucose Monitor (CGM): Step 3, Building an Enhanced Ratio-meteric Detector Using a Buried Dual Junction Diode (BDJ)  
SUMITA PENNATHUR, Santa Barbara, CA

941-P  Frequency of Blood Glucose Monitoring in Relation to Medical Cost and Glycemic Control in Hospitalized Patients with Type 2 Diabetes  
LEI ZHANG, YAN GU, YUXIU YANG, NA WANG, WEIGUO GAO, JUN WANG, XIAOYAN YIN, YANHU DONG, Qingdao, China

942-P  Caregivers of Children with Type 1 Diabetes Value Real-Time Functions of Continuous Glucose Monitoring  
JENISE C. WONG, FATEMA ABDULHUSSAIN, BRITTANY J. YEUNG, EDGAR J. VELAZQUEZ, San Francisco, CA

943-P  Improvement in Glycemic Variability with Dulaglutide Therapy Evaluated by Continuous Glucose Monitoring System: A Real-World Experience of Indian Patients with Type 2 DM  
SONALI A. PATANGE, Mumbai, India

944-P  Blood Glucose Prediction for Type 2 Diabetic Patients Using Machine Learning  
DAEYEON KIM, HAN-BEOM LEE, YEOJOO KIM, SANG JIN KIM, SANG-JEONG LEE, SUNG WAN CHUN, Cheonan, Republic of Korea

945-P  The Characteristics of Patients with Intermittent Large Positive Spikes in the Morning Fasting Glucose (FG), “Hyper-Spikers”  
ALLEN B. KING, Salinas, CA

946-P  HbA1c Is Already Not Enough for Glucose Control Assessment in Type 1 and Type 2 Diabetes  
TVZETELINA TOTOMIROVA, IVONA DASKALOVA, MILA ARNAUDOVA, Sofia, Bulgaria

947-P  Glucose Variability: Insulin Pump vs. Multiple Daily Injection in Type 1 Diabetes Evaluated by Continuous Glucose Monitoring  
ADRIAN E. PROIETTI, SR., ANDREA V. DAGHERO, SR., MARIA LUJAN SCAPUZZI, MARIA L. IGLESIAS, SR., JUAN PATRICIO NOGUEIRA, SR., Buenos Aires, Argentina, Formosa, Argentina

948-P  Analysis of Key Metrics for Continuous Glucose Monitoring Data in Adults without Diabetes  
GUIDO FRECKMANN, STEFAN PLEUS, SINA ULBRICH, DELIA WALDENMAIER, ANNETTE BAUMSTARK, MANUELA LINK, CORNELIA HAUG, Ulm, Germany

949-P  Associations between Body Composition and Glycemic Variability in Japanese Type 2 Diabetes  
ASAKO MIZOGUCHI, Aichi, Japan
950-P  WITHDRAWN

951-P  A Clinical Decision Support System for Basal-Bolus Insulin Therapy Is Moving to Hospital Routine Care: Efficacy, Safety, and Usability Confirmed
KATHARINA M. LICHTENEGGER, FELIX ABERER, ALEXANDRU C. TUCA, KLAUS DONSA, BERNHARD HÖLL, LUKAS SCHAUPP, JOHANNES PLANK, PETER BECK, FRIEDRICH FRUHWALD, THOMAS R. PIEBER, JULIA K. MADER, Graz, Austria

952-P  Improving Glycemic Management of Patients with Type 2 Diabetes in Acute Geriatric Care by Using a Basal Insulin Algorithm Incorporated into a Workflow and Decision Support System
ANGELA LIBISSELLER, KATHARINA M. LICHTENEGGER, JULIA KOPANZ, ANTONELLA DE CAMPO, TATJANA WIESINGER, LISA WEIDINGER, LISA LAUBREITER, WALTER SCHIPPINGER, THOMAS TRUSKALLER, BETTINA C. LACKNER, PETER BECK, BERNHARD HÖLL, THOMAS R. PIEBER, Graz, Austria

953-P  Sustainable Improvement in Quality of Blood Glucose Control in Users of mySugr’s Integrated Diabetes Management Solution
HARALD MAYER, RAFAEL P. BANKOSEGGER, JOHANNA KOBER, Vienna, Austria

954-P  Continuous Glucose Monitoring in Hospitalized Patients: A Systematic Meta-analysis and Review
NASSEH HASHEMI, KIM HOULIND, NIELS EJSKJAER, Aalborg, Denmark, Kolding, Denmark

955-P  Evaluating Early Initiation of Continuous Glucose Monitoring (CGM) among Youth Diagnosed with Type 1 Diabetes (T1D)
JESSIE J. WONG, SUSAN MICHELLE CLAY, GREGORY P. FORLENZA, SARAH HANES, R. PAUL WADWA, KOREY K. HOOD, Palo Alto, CA, Aurora, CO, Stanford, CA

956-P  Patient-Reported Outcomes and Improved Glycemic Control with CGM in Well-Controlled Elderly Diabetes Patients
SPELA VOLCANSEK, MOJCA LUNDER, ANDREJ JANEZ, Ljubljana, Slovenia

957-P  Differences in Glucose Level between Left Arm and Right Arm Using Continuous Glucose Monitors
NICOLE KIM, KEVIN PHAM, ALLEN SHEK, JEREMY J. LIM, SACHIN A. SHAH, Stockton, CA, Fairfield, CA, Vacaville, CA

958-P  Analysis of Accuracy of Flash Glucose Monitoring in Japanese Subjects without Diabetes
SATOSHI YOSHINO, EIJIRO YAMADA, SHUICHOKADA, TSUGUMICHI SAIITO, MASANOBU YAMADA, Maebashi, Japan

959-P  The Association of British Clinical Diabetologists’ Audit of Freestyle Libre in Diabetes in United Kingdom—Effect on Hypoglycaemia Awareness
EMMA G. WILMOT, HARSHAL DESHMUKH, DAVID BISHOP, DAVID W. LIPSCOMB, RUMAISA BANATWALLA, REZA ZAIDI, ZOE V. SMITH, LOUISE O’REVERS, SHAFIE KAMARUDDIN, CHERYL M. HALL, ANNE KILVERT, JACQUELINE MACFADYEN, THOZHUKAT SATHYPALAN, CHRISTOPHER WALTON, ROBERT E. RYDER, Derby, United Kingdom, Hull, United Kingdom, Sunderland, United Kingdom, Brighton, United Kingdom, Surrey, United Kingdom, Liverpool, United Kingdom, London, United Kingdom, Carlisle, United Kingdom, Darlington, United Kingdom, Dunedin, New Zealand, Northampton, United Kingdom, North Lanarkshire, United Kingdom, Birmingham, United Kingdom

960-P  Personalized Diabetes Management Using Data from Continuous Glucose Monitors
DANIEL R. MILLER, ANDREW T. WARD, DAVID M. MAHHS, DAVID SCHEINKER, Stanford, CA

961-P  Glycemic Control and Glycemic Variability Before and After Hypoglycemia in Patients with T1D Treated with MDI or CSI
ANDREAS MELMER, THOMAS ZÜGER, TINA PÖTTLER, HARALD KOJZAR, MONIKA CIGLER, FELIX ABERER, MARKUS LAIMER, JULIA K. MADER, Bern, Switzerland, Graz, Austria

962-P  Continuous Glucose Monitor Readings Lag Interstitial Glucose by Several Minutes
PENN MASON MCCLATCHEY, JR., ETHAN S. MCCLAIN, IAN M. WILLIAMS, JUSTIN M. GREGORY, DAVID CLIFFEL, DAVID WASSERMAN, Nashville, TN, Old Hickory, TN, Palo Alto, CA

963-P  Impact of Exercise on Glycemia among Users of Flash Glucose Monitoring
KENDALL COVINGTON, SUJIT JANGAM, TIMOTHY DUNN, Alameda, CA
964-P CGM-Tele Monitoring in Older Adults with T1D: Results of a Pilot Study
MARK D. HARMEL, VALERIE F. RUELAS, EDWARD T. NYKAZA, ANNE L. PETERS, Los Angeles, CA, Palo Alto, CA

965-P Glucose Sensor Accuracy after Subcutaneous Glucagon Injections Near to Sensor Site
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966-P The Long-Term Impact of a Flash Glucose Monitoring System on Glycemic Control
ATSUSHI FUJIYA, TOSHIKI KIYOSE, TAIGA SHIBATA, HIROSHI SOBAJIMA, Ogaki, Japan

967-P Association between Visit-to-Visit Blood Pressure Variability and Blood Glucose Control, a Retrospective Analysis of Three Population-Based Cohorts of Diabetic Patients
SHUO ZHANG, LI XIE, WEITUO ZHANG, BIYUN QIAN, Shanghai, China

968-P Volatile Organic Compounds in Breath Predict Hypoglycemia Well Before Plasma Glucose Levels Fall
AMANDA P. SIEGEL, ALI DANESHKHAI, KIEREN J. MATHER, MANGILAL AGARWAL, Indianapolis, IN

969-P Use of Professional CGM in T2DM Patients with Low Socioeconomic Status
NEHA MEHRTRA, DIVYA SISTLA, MARY T. KORYTKOWSKI, SANN MON, McKeeseport, PA, Pittsburgh, PA

970-P The Clinical Accuracy Evaluation of Noninvasive Glucometer Based on Metabolic Heat Conformation Method: A Multicenter Study
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971-P The Precision and Accuracy of Many Modern Blood Glucose Meters at High Altitude
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972-P Expanded Real-World Use Reaffirms Strong Correlation between Scanning Frequency of Flash Glucose Monitoring and Glucose Control
JORDAN LANG, SUJIT JANGAM, TIMOTHY DUNN, GARY HAYTER, Alameda, CA, Oakland, CA

973-P The Feasibility of Continuous Glucose Monitoring in Youth with Type 2 Diabetes Mellitus: A Pilot Study
ALLISON LAROCHE, KRISTINA UTZSCHNEIDER, CATHERINE PIHOKER, Seattle, WA

974-P Beyond Carbohydrate Counting (CC)
JOHN S. MELISH, Honolulu, HI

975-P Comparison of Glycemic Variability, Assessed by Continuous Glucose Monitoring System (CGMS) during Early Post-Transplantation Period, between the Recipients of Kidney and Liver Transplantation
HEUNG YONG JIN, YU JI KIM, KYUNG AE LEE, TAE SUN PARK, Jeonju, Republic of Korea

976-P Post Market Clinical Follow-Up (PMCF) Registry to Demonstrate the Long Term Safety of the EverSense CGM System
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977-P Validation of the Noninvasive Blood Glucose Monitoring Device Nirlus
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978-P Ambulatory Glucose Monitoring and Pre-Ramadan Counseling in Patients with Type 2 Diabetes: Results from a Single Center Real-World Study
SALOMI SAJID SHAIKH, SHEHLA SAJID SHAIKH, Mumbai, India

979-P Lower Glucose Thresholds for Hyperglycemia Alarm and Narrower Threshold Range for Hyper/Hypoglycemia Alarm on Continuous Glucose Monitoring Systems Correlate with Lower Average Glucose Levels and Longer Time-in-Range
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980-P ☏ Tirzepatide, a Dual GIP and GLP-1 Receptor Agonist, Improves Markers of Beta-Cell Function and Insulin Sensitivity in Type 2 Diabetes Patients
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981-P ☏ GIP and GLP-1 Potentiative Sulfonylurea-Induced Insulin Secretion in HNF1A Diabetes
ALEXANDER S. CHRISTENSEN, SOFIE HAEDERSDAL, HEIDI STORGAARD, KATHRINE ROSE, NINA L. HANSEN, JENS J. HOLST, TORBEN HANSEN, FILIP K. KNOP, TINA VILSBØLL, Hellerup, Denmark, Copenhagen, Denmark

982-P ☏ A Double-Blinded, Placebo Controlled, Single Ascending Dose Study for Safety, Tolerability, Pharmacokinetics, and Pharmacodynamics after Subcutaneous Administration of Novel Long-Acting GLP-1/GIP/Glucagon Triple Agonist (HM15211) in Healthy Obese Subjects
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983-P ☏ Effect and Safety of Flexible Dose Adjustment with Oral Semaglutide vs. Sitagliptin in Type 2 Diabetes: PIONEER 7
JOHN B. BUSE, BRUCE W. BODE, YOUNG MIN CHO, ERIK CHRISTIANSEN, CHRISTIN L. HERTZ, ANN MERTENS, SIGNE O. WALLENSTEIN, THOMAS R. PIEBER, FOR THE PIONEER 7 INVESTIGATORS, Chapel Hill, NC, Atlanta, GA, Seoul, Republic of Korea, Søborg, Denmark, Bagsværd, Denmark, Leuven, Belgium, Aalborg, Denmark, Graz, Austria

984-P ☏ Real-World Adherence and Discontinuation of GLP-1 Receptor Agonist (GLP-1RA) Therapy in Type 2 Diabetes (T2D) Patients in the U.S.
TRACY WEISS, KRISTY IGLAY, RICHARD D. CARR, AJAY PRATAP MISHRA, LINGFENG YANG, SWAPNIL RAJPATHAK, Kenilworth, NJ, Rahway, NJ, Copenhagen, Denmark, North Wales, PA, Upper Gwynedd, PA

985-P ☏ Oral Semaglutide as Add-On to Insulin in T2D: PIONEER 8
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986-P ☏ Efficacy of Semaglutide by Background Sodium–Glucose Cotransporter 2 Inhibitor: A Post Hoc Analysis of SUSTAIN 9
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987-P ☏ Real-World Weight Change, Adherence, and Discontinuation among Type 2 Diabetes (T2D) Patients Initiating GLP-1 Receptor Agonists (GLP-1RAs) in the UK
TRACY WEISS, KRISTY IGLAY, RICHARD D. CARR, AJAY PRATAP MISHRA, LINGFENG YANG, SWAPNIL RAJPATHAK, Kenilworth, NJ, Rahway, NJ, Copenhagen, Denmark, North Wales, PA, Upper Gwynedd, PA

988-P ☏ MEDI0382, an Oxyntomodulin-Like Peptide with Targeted GLP-1/Glucagon Receptor Activity, Promotes a Dose-Dependent Increase in Gastric Emptying Time
DARREN ROBERTSON, VICTORIA E. PARKER, PHILIP AMBERY, MARCELLA PETRONE, TAO WANG, TIM HEISE, LEONA PLUM-MOERSCHEL, LUTZ JERMUTUS, BOAZ HIRSHBERG, JURIS J. MEIER, Cambridge, United Kingdom, Gaithersburg, MD, Neuss, Germany, Mainz, Germany, Bochum, Germany

989-P ☏ MEDI0382, an Oxyntomodulin-Like Peptide with Targeted GLP-1/Glucagon Receptor Activity: Safety Study in Subjects of Japanese and Chinese Descent
DARREN ROBERTSON, MARCELLA PETRONE, LAN-FENG TSAI, ROBERT A. GASSER, JR., Cambridge, United Kingdom, Gaithersburg, MD

990-P ☏ Therapeutic Effect of a Novel Long-Acting GLP-1/GIP/Glucagon Triple Agonist (HM15211) in a NASH and Fibrosis Animal Model
JUNG KUK KIM, JONG SUK LEE, DAEJIN KIM, EUNJIN PARK, YOUNG HOON KIM, IN YOUNG CHOI, Seoul, Republic of Korea
991-P Potential of a Novel Long-Acting Glucagon Analog, HM15136, for the Treatment of Obesity
JUNG KUK KIM, JINYOUNG KIM, SEON MYEONG LEE, JONGSOO LEE, SANG HYUN LEE, IN YOUNG CHOI,
Seoul, Republic of Korea

992-P Dulaglutide (DU) Has Better Glycemic Effectiveness vs. Basal Insulin (BI) in Injection-Naive Patients with Type 2 Diabetes (T2D): The DISPELTM Study
REEMA MODY, QING HUANG, MARIA YU, XIAN ZHANG, LIYA WANG, MICHAEL GRABNER, HIREN Patel,
Indianapolis, IN, Wilmington, DE, Toronto, ON, Canada

993-P A 12-Week, Randomized, Placebo-Controlled Study Assessing the Efficacy and Safety of Three Dose-Escalation Algorithms of Tirzepatide, a Novel Dual GIP and GLP-1 Receptor Agonist, in Patients with Type 2 Diabetes
JUAN P. FRIAS, MICHAEL A. NAUCK, CHARLES BENSON, ROSS BRAY, ZVONKO MILICEVIC,
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994-P Effects of Dulaglutide and Trelagliptin on β-Cell Function after One Year in Patients with Type 2 Diabetes: DUET-Beta Extension Study
YOSHIHISU KONDO, SHINOBU SATOH, YASUO TERAUCHI, Yokohama, Japan, Chigasaki, Japan

995-P Semaglutide in Patients with Type 2 Diabetes: Real-World Analysis in the Canadian LMC Diabetes Registry: The SPARE Study
RUTH E. BROWN, AIDEN R. LIU, REENA MAHBUBANI, RONNIE ARONSON, Toronto, ON, Canada, Missisauga,
ON, Canada

996-P Therapeutic Effect of a Novel Long-Acting GLP-1/GIP/Glucagon Triple Agonist (HM15211) in a Dyslipidemia Animal Model
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Seoul, Republic of Korea

997-P Effect on DPP-4 Inhibitors on Fat Metabolism in Patients with Diabetes and Obesity
ALEXANDER AMETOV, SR., DINARA GUSENBEKOVA, JR., Moscow, Russian Federation

998-P Efficacy and Safety of Semaglutide by Baseline BMI in SUSTAIN 1-5 and 7
ADIE VILJOEN, JUAN P. FRIAS, THEIS GONDOLF, OLUF HANSEN, NELUN WIJAYASINGHE, JEFF UNGER,
Stevenage, United Kingdom, Los Angeles, CA, Søborg, Denmark, Montclair, CA

999-P Liraglutide Treatment in Obese Diabetic Patients Modulates Gut Microbiota
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1000-P Efficacy and Safety of Semaglutide 0.5 mg vs. Dulaglutide 1.5 mg Once Weekly in Type 2 Diabetes: A Post Hoc Analysis of SUSTAIN 7
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1001-P Effects of Efpeglenatide on Body Weight, BMI, and Waist Circumference in Patients With Obesity Without Diabetes Stratified by Baseline Characteristics: A Subanalysis of BALANCE 205
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1002-P Sacubitril/Valsartan Increases Postprandial Glucagon-Like Peptide-1 Concentrations and Has Synergistic Effects when Combined with Sitagliptin
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1003-P Clinical Response (HbA1c ≥1% and/or Body Weight ≥5% Reduction) to Semaglutide by Baseline HbA1c and Body Weight in the SUSTAIN Program
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1005-P Efficacy and Safety of Evogliptin in a Brazilian T2DM Population—A Bridging Study
ADRIANA C. FORTI, JOÃO SOARES FELÍCIO, LUIS AUGUSTO RUSSO, JOÃO EDUARDO SALLES, CINTIA CERCATO, Fortaleza, Brazil, Belém, Brazil, Rio de Janeiro, Brazil, Brasília, Brazil, São Paulo, Brazil

1006-P Real-World Effectiveness of Semaglutide in Early Users from a U.S. Commercially Insured (CI) and Medicare Advantage (MA) Population
JAY VISARIA, TAM DANG-TAN, PAUL V. PETRARO, BAL K. NEPAL, VINCENT WILLEY, Wilmington, DE, Plainsboro, NJ

1007-P Incretin Therapy with DPP-4-I and GLP1-RA for the Hospital Management of Elderly Adults with Type 2 Diabetes
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1008-P Efficacy of Dulaglutide on Renal Functions in the Real-World Clinical Practice for Diabetes in Japan
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1009-P The Dual GIP and GLP-1 Receptor Agonist Tirzepatide Regulates Lipid and Carbohydrate Metabolism through GIPR in Adipose Tissue
RICARDO JUSTIN SAMMIS, MICHAEL E. CHRISTE, XIAOPING RUAN, JULIE MOYERS, AJIT REGMI, WILLIAM C. ROELL, Indianapolis, IN

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1011-P Therapeutic Potential of Novel Combination of a Long-Acting Glucagon Analog (HM15136) and Antidiabetic Drugs for the Treatment of Obesity
YOUNG JIN PARK, JONG SUK LEE, JUNG KUK KIM, DAEJIN KIM, YOUNG HOON KIM, IN YOUNG CHOI, Seoul, Republic of Korea

1012-P The Factors Influencing the Changes of Adipocytokines in Patients with Newly Diagnosed T2DM Treated with Exenatide
HONG RONG DENG, WEN XU, XUBIN YANG, LONGYI ZENG, BIN YAO, JIANPING WENG, Guangzhou, China, Hefei, China

1013-P Effect of Upper Gastrointestinal Disease on the Pharmacokinetics of Oral Semaglutide in Subjects with Type 2 Diabetes
JURIS J. MEIER, CHARLOTTE GRANHALL, ULRICH HÖVELMANN, ANDREA NAVARRIA, SR., LEONA PLUM-MOERSCHEL, CHERTHANA RAMESH, ANDREA TANAPPEL, CHRISTOPH KAPITZA, Bochum, Germany, Søborg, Denmark, Neuss, Germany, Copenhagen, Denmark, Mainz, Germany, Bangalore, India

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1015-P Effects of the Oral, Small Molecule GLP-1R Agonist TTP273 on Patients with Stage 2 Hypertension: Results from a Post Hoc Analysis of the Phase 2 Logra Study
CARMEN VALCARCE, IMOGENE DUNN, JENNIFER L.R. FREEMAN, High Point, NC

1016-P A Novel GLP-1 and FGF-21 Dual Agonist Drug Protects Mice from Obesity and Hyperglycemia
CASLIN A. GILROY, MEGAN CAPOZZI, JONATHAN C. SU, JENNY TONG, DAVID A. D’ALESSIO, JONATHAN CAMPBELL, ASHUTOSH CHILKOTI, Durham, NC

1017-P Continuous Glucose Monitoring Reveals Comprehensive Glucose Control with MEDI0382, an Oxyntomodulin-Like Peptide with Targeted GLP-1/Glucagon Receptor Activity
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1018-P Comparison of Short- and Long-Acting Glucagon-Like Peptide-1 Receptor Agonist Effects on Post-prandial Glucose and Lipid Excursion via Gastric Emptying
HITOSHI KUWATA, DAISUKE YABE, YOSHIYUKI HAMAMOTO, TAKESHI KUROSE, YUTAKA SEINO, Osaka, Japan, Gifu, Japan

1019-P Glucagon-Like Peptide-1 Receptor Agonists Predominantly Reduce Body Fat Mass in Patients with Type 2 Diabetes
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1020-P Semaglutide-Induced Weight Loss Is Associated with Improved Health-Related Quality of Life and Treatment Satisfaction
KARI T. UUSINARKAUS, HELENA W. RODBARD, LUC VAN GAAL, JOHN P. WILDING, THOMAS HANSEN, ANNA SANDBERG, SAYEH TADAYON, MELANIE J. DAVIES, COLORADO SPRINGS, CO, ROCKVILLE, MD, ANTWERP, BELGIUM, LIVERPOOL, UNITED KINGDOM, SØBORG, DENMARK, LEICESTER, UNITED KINGDOM

1021-P Liraglutide Improves Periodontitis by the Anti-inflammatory Activities of GLP-1
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1022-P Quantitative and Qualitative Effect of Dulaglutide in Type 2 Diabetes Patients Under Treatment with Liraglutide
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1023-P Do Baseline Characteristics Impact Efficacy of Efpeglenatide QW in Uncontrolled Type 2 Diabetes?
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1024-P Effect of Tirzepatide, a Dual GIP and GLP-1 Receptor Agonist, on Glycemic Control and Body Weight in Japanese Patients with T2DM
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1027-P A Phase 1, Open-Label, Single-Dose Study to Evaluate Pharmacokinetics of MEDI0382 in Patients with Renal Impairment
GERNOT K. KLEIN, MARCELLA PETRONE, YE YANG, THUONG HOANG, SHEILA DICOSTANZA, LARS HANSEN, ARMANDO FLOR, MUNICH, GERMANY, CAMBRIDGE, UNITED KINGDOM, GAITHERSBURG, MD
1028-P Is Once-Weekly GLP-1 Receptor Agonist a Reasonable Option for Glucocorticoid-Induced Hyperglycemia? Twelve-Week Efficacy and Safety of Dulaglutide vs. Sitagliptin in Patients with Diabetes on Routine Glucocorticoid Treatment
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1029-P Teneligliptin Significantly Reduces Liver Fat Content (LFC) and Delays Progression of NASH in Type 2 Diabetes Mellitus Patients
VISHAL KUMAR GUPTA, Kanpur, India

1030-P Effect of MEDI0382 on the Pharmacodynamics and Pharmacokinetics of Warfarin or Esmolol in Healthy Volunteers
HUGH A. COLEMAN, MARCELLA PETRONE, THERESA M. PETROHOY, YE YANG, LINDSAY J. SANFORD, LARS HANSEN, ARMANDO FLOR, Daytona Beach, FL, Cambridge, United Kingdom, Gaithersburg, MD

1031-P Impact of the Cardioprotective Effects of GLP-1 Agonists in the Management of Diabetes
SHAYAN S. MAHAPATRA, CRISTIAN MILLA-MATUTE, CARMEN V. VILLABONA, LUIS CARABALLO, Weston, FL, Fort Lauderdale, FL, Santo Domingo, Dominican Republic

1032-P Efficacy and Safety of the Insulin Glargine/Lixisenatide Fixed-Ratio Combination vs. Insulin Glargine in Japanese Patients with T2DM
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1033-P Effects of Benaglutide on Weight Loss, Metabolic Changes, and Sexual Hormones in PCOS
JINGYAN CHEN, QIN SUN, MIN ZHANG, HAOMING TIAN, SHU CHEN, Chengdu, China

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HUSAM GHANIM, KELLY GREEN, PARSEH DANDONA, Buffalo, NY

1035-P VN-B101 in Combination with Metformin/Sitagliptin or Metformin/Ertugliflozin Synergistically Improves Glycemic Control in db/db Mice
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1036-P & Closed-Loop Glucose Control System for In-Hospital Use: Extended Control Trials
NASSEH HASHEMI, TIMOTHY VALK, KIM HOULIND, NIELS EJSKJAER, Aalborg, Denmark, Boston, MA, Kolding, Denmark

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1038-P & Results of Interim Analysis of a Randomized Crossover Study in Type 1 Diabetes (T1D) of a Dual-Hormone Closed-Loop System with Xerisol™ Glucagon vs. Insulin-Only Closed-Loop System vs. a Predictive Low Glucose Suspend System
LEAH M. WILSON, PETER G. JACOBS, NAVID RESALAT, RAVI REDDY, JOSEPH EL YOUSSEF, DEBORAH BRANIGAN, JOSEPH A. LEITSCHUH, BRIAN SENF, VIRGINIA GABO, JESSICA R. CASTLE, Portland, OR

1039-P & Hybrid Closed-Loop in Adults with Type 1 Diabetes: Impact of Baseline A1c on Glucose Outcomes and Insulin Delivery
LALANTHA LEELARTHNA, HOOD THABIT, MALGORZATA E. WILINSKA, LIA BALLY, JULIA K. MADER, SABINE ARNOLDS, THOMAS R. PIEBER, VIRAL N. SHAH, ANDERS CARLSON, RICHARD M. BERGENSTAL, MARK EVANS, ROMAN HOVORKA, ON BEHALF OF AP@HOME AND APCAM11 CONSORTIA, Manchester, United Kingdom, Cambridge, United Kingdom, Bern, Switzerland, Graz, Austria, Neuss, Germany, Aurora, CO, Minneapolis, MN
1040-P Evaluation of a Medtronic Enhanced Hybrid Closed-Loop (e-HCL) System during Unannounced Meals of Medium Size
ANIRBAN ROY, BENYAMIN GROSMAN, NEHA PARikh, DI WU, LOUIS J. LINTEREUR, NATALIE KURTZ, FRANCINE R. KAUFMAN, Northridge, CA

1041-P Feasibility Study of a Hybrid Closed-Loop System with Automated Correction Boluses
REVITAL NIMRI, BENYAMIN GROSMAN, NATALIE KURTZ, ANIRBAN ROY, JUDITH NIR, NETA LOEWENTHAL, FRANCINE R. KAUFMAN, MOSHE PHILLIP, Petah Tikva, Israel, Northridge, CA, Agoura Hills, CA, Beersheba, Israel

1042-P Real-World Treatment Patterns and Glycemic Profiles of 1,217 Adults with Type 2 Diabetes Using the Omnipod® Insulin Management System with Cloud-Based Data Management
JENNIFER E. LAYNE, JAY JANTZ, JIALUN HE, YIBIN ZHENG, ERIC BENJAMIN, TRANG T. LY, Acton, MA

1043-P Glycemic Profiles and Treatment Patterns: Real-World Data from 8,020 Adults with Type 1 Diabetes Using the Omnipod® Insulin Management System with Cloud-Based Data Management
JENNIFER E. LAYNE, JIALUN HE, JAY JANTZ, YIBIN ZHENG, ERIC BENJAMIN, TRANG T. LY, Acton, MA

1044-P Insulin Intensification with a 24-Hour Wearable Insulin Delivery Device in Patients Inadequately Controlled with Basal Insulin Therapy
TRISHA ZEIDAN, CARLA C. NIKKEL, ELIZABETH A. DZIEGELIEWSKI, Dayton, OH, Bridgewater, NJ

1045-P Efficacy and Safety of a 24-Hour Wearable Insulin Delivery Device for Basal-Bolus Therapy in Older Adults
TRISHA ZEIDAN, CARLA C. NIKKEL, ELIZABETH A. DZIEGELIEWSKI, Dayton, OH, Bridgewater, NJ

1046-P Day-to-Day Variability of Insulin Requirements in Inpatients on General Wards
CHARLOTTE K. BOUGHTON, LIA BALLY, HOOD THABIT, SARA HARTNELL, DAVID HERZIG, ANDREAS VOgt, EVELINE ANDEREGGEN, YUE RUAN, MALGORZATA E. WILINSKA, MARK EVANS, MARIA M. WERTLI, ANTHONY P. COLL, CHRISTOPH STETTLER, ROMAN HOVORKA, Cambridge, United Kingdom, Bern, Switzerland, Manchester, United Kingdom, Oxford, United Kingdom

1047-P Can Closed-Loop Overcome High Day-to-Day Variability of Insulin Needs in Inpatients on General Wards?
CHARLOTTE K. BOUGHTON, LIA BALLY, HOOD THABIT, SARA HARTNELL, DAVID HERZIG, ANDREAS VOgt, EVELINE ANDEREGGEN, YUE RUAN, MALGORZATA E. WILINSKA, MARK EVANS, MARIA M. WERTLI, ANTHONY P. COLL, CHRISTOPH STETTLER, ROMAN HOVORKA, Cambridge, United Kingdom, Bern, Switzerland, Manchester, United Kingdom, Oxford, United Kingdom

1048-P Insulin Pump Catheters Can Be Worn Much More Than the Recommended Three Days
JEAN-LUC ARDILOUZE, FERNAND GOBEIL, JR., JULIE MENARD, DANIJELA BOVAN, VIRGINIE MESSIER, MARTIN SAVARD, JEAN-PATRICE BAIIARAGEON, RÉMI RABASA-LHORET, Sherbrooke, QC, Canada, Montreal, QC, Canada

1049-P Towards Prolongation of Insulin Pump Catheter Wearing Time Using a Mixture of Insulin and a Nonsteroidal Anti-inflammatory Drug
JEAN-LUC ARDILOUZE, FERNAND GOBEIL, JR., JULIE MENARD, DANIJELA BOVAN, VIRGINIE MESSIER, MARTIN SAVARD, JEAN-PATRICE BAIIARAGEON, RÉMI RABASA-LHORET, Sherbrooke, QC, Canada, Montreal, QC, Canada

1050-P Development and Validation of the Continuous Subcutaneous Insulin Infusion-Related Quality of Life (CSII-QoL) Scale
MASAO TOYODA, ATSUSHI TONE, KEN KATO, MORITSUGU KIMURA, SATOSHI KAWASHIMA, HIDEAKI SAWAKI, YUSHI HIROTA, AKIRA OKADA, AKIO KURODA, MUNEHIKE SATOMI, TOMOKAZU WATANABE, AKIKO SUGANUMA, TAKASHI MURATA, NAOKI SAKANE, Isehara, Japan, Okayama, Japan, Osaka, Japan, Takatsuki, Japan, Kobe, Japan, Fukuoka, Japan, Tokyo, Japan

1051-P Improving Glycemic Outcomes in T1D Using an Automated Decision Support Recommender System: Evaluation In Silico and Compared with Physician Recommendations
NICHOLE S. TYLER, CLARA M. MOSQUERA-LOPEZ, LEAH M. WILSON, NAVID RESALAT, ROBERT DODIER, DEBORAH BRANIGAN, VIRGINIA GABO, JOSEPH STONE, JESSICA R. CASTLE, PETER G. JACOBS, Portland, OR
1052-P Time-in-Target Glucose Range and the Glucose Management Indicator during Real-World MiniMed™ 670G System Use
SHWETA GOPALAKRISHNAN, TONI L. CORDERO, MAHTA SADEGHZADEH, MICHAEL STONE, PRATIK AGRAWAL, Northridge, CA, Los Angeles, CA

1053-P Automated Adaptation of the Bionic Pancreas while Transitioning from Multiple Daily Injection Insulin Regimens
JORDAN SHERWOOD, COURTNEY A. BALLIRO, FIRAS EL-KHATIB, LAYA EKHLASPOUR, LIANA HSU, BRUCE A. BUCKINGHAM, EDWARD DAMIANO, STEVEN J. RUSSELL, Boston, MA, Stanford, CA, Palo Alto, CA

1054-P Insulin Sensitivity from Sensor and Pump Data in Youths with Type 1 Diabetes: Hybrid Closed-Loop Validation
MICHELE SCHIAVON, ALFONSO GALDERISI, KRISTEN A. KRAEMER, CLAUDIO COBELL, CHIARA DALLA MAN, EDA CENGIZ, Padova, Italy, New Haven, CT

1055-P Glucose Management Indicator Results from Real-World Data of 1,838 Patients with Type 1 Diabetes Using the Omnipod® Insulin Management System with Continuous Glucose Monitoring and Cloud-Based Data Management
JENNIFER E. LAYNE, JAY JANTZ, YIBIN ZHENG, JIALUN HE, ERIC BENJAMIN, TRANG T. LY, Acton, MA

1056-P Characterization of Multi-timescale Biological Rhythms in Individuals with Type 1 Diabetes
DANA M. LEWIS, AZURE D. GRANT, Seattle, WA, Berkeley, CA

1057-P Performance Enhancement of Fully Closed-Loop Insulin Delivery in Type 2 Diabetes by Automatized Bolusing
CLEMENS ORNETZEDER, FLORIAN REITERER, MERETE B. CHRISTENSEN, KIRSTEN NØRGAARD, LUIGI DEL RE, Linz, Austria, Hvidovre, Denmark, Gentofte, Denmark

1058-P The Use of Metabolic Digital Twins to Personalize Mealtime Insulin Dosing in Type 1 Diabetes Clinical Management
TENELE A. SMITH, MARIA M. SERON, GRAHAM C. GOODWIN, ADRIAN M. MEDIOLI, BRUCE R. KING, CARMEL E. SMART, MARK HARRIS, DAVID N. ONEAL, JORDAN RAFFERTY, PETER HOWLEY, Newcastle, Australia, Callaghan, Australia, Sydney, Australia, Brisbane, Australia, Fitzroy, Australia

1059-P Glycemic Outcomes from the MiniMed™ 670G System Pivotal Trials in Patients 2-75 Years of Age

1060-P Effect of Dulaglutide and Long-Acting Insulin Combination Therapy in Patients with Type 2 Diabetes
KOHEI ITO, SHINOBU SATOH, YOSHINOBU KONDO, YASU TERAUCHI, Chigasaki, Japan, Yokohama, Japan

1061-P Effect of the Omnipod® Insulin Management System on Glycemic Control in Adults with Type 1 Diabetes Previously Treated with MDI or CSII
SANJEEV N. MEHTA, DAVIDA F. KRUGER, BRUCE W. BODE, JENNIFER E. LAYNE, BONNIE DUMAIS, JACK R. GALLAGHER, TRANG T. LY, Boston, MA, Detroit, MI, Atlanta, GA, Acton, MA, Spartanburg, SC

1062-P Insulin Requirement Profiles of Short-Term Continuous Subcutaneous Insulin Infusion Therapy in Chinese Patients with Type 2 Diabetic Nephropathy
SHUO LIN, KUIXING ZHANG, PING LI, KE FANG, LONGYI ZENG, Guangzhou, China, Ganzhou, China

1063-P First Test of the iLet, a Purpose-Built Bionic Pancreas Platform, in Children and Adolescents with Type 1 Diabetes
LAYA EKHLASPOUR, GREGORY P. FORLENZA, CARI BERGET, KEISHA R. BIRD, KIMBERLY A. ENGLERT, LIANA HSU, COURTNEY A. BALLIRO, NELLY MURAS, R. PAUL WADWA, BRUCE A. BUCKINGHAM, FIRAS EL-KHATIB, EDWARD DAMIANO, STEVEN J. RUSSELL, Palo Alto, CA, Aurora, CO, Jacksonville, FL, Boston, MA

1064-P Use of Temporary Target during the MiniMed™ 670G System Pivotal Trials
JOHN SHIN, XIAOXIAO CHEN, TONI L. CORDERO, SCOTT W. LEE, FRANCINE R. KAUFMAN, Northridge, CA

1065-P The Effect of a Closed-Loop Insulin Delivery System on Glycemic Control in Type 1 Diabetes
ANASTASIOS KOUTSOVLASIL, ALEXIOS SOTIROPOULOS, ANASTASIA ANTONIOU, VASILIOS KORDINAS, DESPINA PAPADAKI, THEODOROS PEPPAS, Athens, Greece
1066-P Improvement in Time-in-Range (TIR) with Real-Life Use of Hybrid Closed-Loop System in Patients with Type 1 Diabetes (T1D)
HALIS K. AKTURK, DOMINIQUE A. GIORDANO, HAL JOSEPH, SATISH K. GARG, JANET K. SNELL-BERGEON, Aurora, CO, Las Cruces, NM, Denver, CO

1067-P Open Source Artificial Pancreas System (APS) vs. Combination Insulin Pump with Flash Glucose Monitoring in Adults with Type 1 Diabetes: An Observational Study
EMMA G. WILMOT, LINN LANGELOD, ALASDAIR MCLAY, NICOLA TAYLOR, ISKANDAR RAUF IDRIS, Derby, United Kingdom

1068-P A Prospective, Multicenter, Randomized, Open-Label, Parallel-Group Clinical Trial Comparing the Safety Profile of a Needle-Free Insulin Injector with Conventional Insulin Pen Injections in Chinese Patients with Type 2 Diabetes Mellitus
LIMING CHEN, LINONG JI, YANGANG WANG, ZHONGSHU MA, XINGWU RAN, ZILIN SUN, XIANJIN XU, GUIXIA WANG, LIXIN GUO, ZHONGYAN SHAN, Tianjin, China, Beijing, China, Qingdao, China, Chengdu, China, Nanjing, China, Fuzhou, China, Changchun, China, Shenyang, China

1069-P Safety and Efficacy of a Novel Basal-Bolus Insulin Delivery Device (IDD) in Adults with T2D Using Rapid-Acting or Regular Human Insulin
RONNIE ARONSON, EDWARD T. MAHONEY, DRILON SALIU, LEYA BERGQUIST, LAURENCE HIRSCH, Toronto, ON, Canada, Franklin Lakes, NJ, Andover, MA

1070-P Assessment of Effectiveness and Satisfaction of Use of the Automatic Injection System GensuPen 2
KATARZYNA CYPRYK, SR., MONIKA ZURAWSKA-KLIS, Lodz, Poland

1071-P Uptake of Continuous Subcutaneous Insulin Infusion Therapy by Adults with Type 1 Diabetes
KATARZYNA ANNA GAJEWSKA, SEAMUS SREENAN, REGIEN BIESMA, KATHLEEN BENNETT, Dublin, Ireland, Groningen, Netherlands

1072-P Comparison of the Efficacy between a Needle-Free Insulin Injector and Conventional Insulin Pen in Glycemic Control in Insulin-treated Type 2 Diabetic Patients in China
LEILI GAO, LINONG JI, LIXIN GUO, YANGANG WANG, XINGWU RAN, XIANJIN XU, ZILIN SUN, ZHONGSHU MA, ZHONGYAN SHAN, Beijing, China, Qingdao, China, Tianjin, China, Changchun, China, Chengdu, China, Fuzhou, China, Nanjing, China, Shenyang, China

1073-P A Study of Flat and Circadian Insulin infusion Rates in Continuous Subcutaneous Insulin Infusion (CSI) in Adults with Type 1 Diabetes (FIRST1D)
SIAN K. RILSTONE, MONIKA REDDY, NICK OLIVER, London, United Kingdom

1074-P Performance of an Artificial Pancreas System in Swine during Severe Hypo- and Hyperglycemic Provocations
JEREMY DEJOURNETT, LEON DEJOURNETT, Asheville, NC

1075-P Safety and Efficacy of Medtronic MiniMed 670G Hybrid Closed-Loop System in the Diabetes Camp Setting: Comparison of Auto Mode (AM) vs. Manual Mode (MM)
SOPHIA H. CHAN, ERICA W. CHANG, JONATHAN K. TANG, LOWELL SCHMELTZ, Rochester, MI, Farmington Hills, MI

1076-P Increased Time-in-Range (TIR) Observed after Introduction of a Connected Insulin Pen
PETER ADOLFSSON, NIELS V. HARTVIG, ANNE KAAS, NIKOLINE NYGÅRD KNUDSEN, ANN-CHARLOTTE MÅRDBY, JARL HELLMAN, Gothenburg, Sweden, Saborg, Denmark, Malmö, Sweden, Uppsala, Sweden

1077-P Treatment of Post-pancreatectomy Diabetes in Individuals with Congenital Hyperinsulinism Using a Bihormonal Bionic Pancreas
ARPANA RAYANNAVAR, LAUREN M. MITTER, KATHERINE LORD, COLIN PATRICK HAWKES, COURTNEY A. BALLIRO, Firas EL-KHATIB, EDWARD DAMIANO, STEVEN J. RUSSELL, DIVA DE LEON, Philadelphia, PA, Boston, MA

1078-P WITHDRAWN

1079-P Glycemic Control and Change in Insulin Dose with Real-Life Use of Hybrid Closed-Loop System
DOMINIQUE A. GIORDANO, JANET K. SNELL-BERGEON, HAL JOSEPH, SATISH K. GARG, HALIS K. AKTURK, Las Cruces, NM, Aurora, CO, Denver, CO
1080-P A Prospective, Multicenter, Randomized, Open-Label, Parallel-Group Clinical Trial Comparing Patient Satisfaction and Compliance with a Needle-Free Insulin Injector vs. Conventional Insulin Pen Injections in Chinese Patients with Type 2 Diabetes Mellitus
YANGANG WANG, LINONG JI, LIXIN GUO, XINGWU RAN, LIMING CHEN, ZHONGSHU MA, ZILIN SUN, ZHONGYAN SHAN, XIANGJIN XU, GUIXIA WANG, Qingdao, China, Beijing, China, Chengdu, China, Tianjin, China, Nanjing, China, Shenyang, China, Fuzhou, China, Changchun, China

1081-P Incidence of Hypoglycemia within 24 Hours of Hospital Admission in Patients Using Insulin Pumps
AMANDA HALSTROM, IRAM MOLEDINA, VIRGINIA PERAGALLO-DITTKO, KARENA ANCONA, SHAHIDUL ISLAM, GARY ROTHERBERGER, STANISLAW P. KLEK, Mineola, NY

1082-P Pediatric Basal Rate Assessment of CSII System Using a Newly Developed Kalman-Filter Based Measurement Method
SYLVAIN GIRARDOT, FLAVIEN MOUSIN, SÉBASTIEN HARDY, JR., JEAN-PIERRE RIVELINE, Gentilly, France, Paris, France

GUILLERMO E. UMPIERREZ, JORDAN MESSLER, Atlanta, GA, Greenville, SC

CLINICAL THERAPEUTICS/NEW TECHNOLOGY—INSULINS

1084-P ☀ Divergent Hypoglycemic Effects of Hepatic Directed Prandial Insulin: A 6-Month Study in Type 1 Diabetes Mellitus (T1DM)
DAVID C. KLONOFF, BRUCE W. BODE, NATHAN J. COHEN, WALTER GEHO, DOUGLAS B. MUCHMORE, San Mateo, CA, Atlanta, GA, Tampa, FL, Cleveland, OH, La Jolla, CA

1085-P ☀ Dance 501 Inhaled Human Insulin (INH): Linear Dose Response, Earlier Onset of Action, and Higher Early Effect than s.c. Insulin Lispro (LIS)
ERIC ZIJLSTRA, LEONA PLUM-MOERSHEL, MARCEL ERMER, OLIVER KLEIN, LISA PORTER, BLAINE BUECHE, MEI-CHANG KUO, TRUC LE, BENJAMIN J. STEDMAN, JOHN S. PATTON, Neuss, Germany, Mainz, Germany, San Francisco, CA

1086-P ☀ Preclinical Development of an Ultralong-Acting Insulin for Once-Weekly Dosing
VICTOR G. HOWARD, CHRISTOPHER D. CHURCH, STEPHANIE OLDHAM, DAVID C. HORNIGOLD, JAMES TREVASKIS, DAVID BAKER, CHRISTOPHER J. RHODES, ALESSANDRA ROSSI, JACQUELINE NAYLOR, JATINDER DHILLON, ANDREW BUCHANAN, LIHUAN LIANG, Gaithersburg, MD, Cambridge, United Kingdom

1087-P ☀ A Randomized Pragmatic Real-World Clinical Trial Comparing Insulin Glargine 300 U/mL (Gla-300) with Standard of Care First-Generation Basal Insulins (SoC-BIs) in Insulin-Naïve Patients with Type 2 Diabetes: Twelve-Month Analysis of the ACHIEVE Control Study
LUIGI MENEGHINI, JASVINDER GILL, ARNAUD DAUCHY, ANDRIUS BACEVICIUS, JODI STRONG, TIMOTHY S. BAILEY, Dallas, TX, Bridgewater, NJ, Paris, France, Stevens Point, WI, Escondido, CA

1088-P ☀ A PK/PD and Metabolic Head-to-Head Comparison of Clinical Doses of Insulin Glargine U300 and Degludec in Type 1 Diabetes
PAOLA LUCIDI, FRANCESCA PORCELLATI, PAOLA CANDELOORO, PATRIZIA CIOLI, CHIARA PASCUCCHI, GEREMIA B. BOLLI, CARMINE FANELLI, Perugia, Italy

1089-P ☀ Ultra Rapid Lispro (URLi) Improves Postprandial Glucose (PPG) Control and Time in Range (TIR) in T1D Compared with Humalog (Lispro): PRÖNTO-T1D Continuous Glucose Monitoring (CGM) Substudy
BRUCE W. BODE, DACHUANG CAO, RONG LIU, THOMAS HARDY, JULIANA M. BUE-VALLESKEY, Atlanta, GA, Charlotte, NC, Indianapolis, IN

1090-P Reaching ADA Glycemic Targets without Hypoglycemia during Titration with Gla-300 and IDeg in T2DM: Exploratory Analyses from BRIGHT
RONAN ROUSSEL, JUAN P. FRIAS, JUKKA WESTERBACKA, ZSOLT BOSNYAK, LYDIE MELAS-MELT, LORI BERARD, ALICE Y. CHENG, Paris, France, Los Angeles, CA, Levallois-Perret, France, Winnipeg, MB, Canada, Mississauga, ON, Canada

MODERATED POSTERS

Clinical Diabetes/Therapeutics
1091-P Association between Mild and Severe Hypoglycemia in People with T1 and T2 Diabetes Enrolled in Randomized Controlled Trials for Assessing Insulin Therapy
RONAN ROUSSEL, ABDUL MOUTAIROU, JEAN-PIERRE RIVELINE, JEAN-FRANCOIS GAUTIER, LOUIS POTIER, Paris, France

1092-P Effect of Inappropriate Resuspension of Insulin Pen on Amount of Dispensed Insulin
BOTHAMAI DECHATES, SARAWUT JUNNU, TANAWAN KONGMALAI, CHATCHAWAN SRIHOLONG, APIRADDEE SRIWUTKAMOL, Bangkok, Thailand

1093-P The Prevalence and Clinical Characteristics of Insulin Antibody Formation in Patients with Type 2 Diabetes Treated with Insulin
LINGLAI ZHOU, YINGYING LUO, XIAOLING CAI, XUEYAO HAN, SR., LINONG JI, Beijing, China

1094-P A Major Source of Hypoglycemia in Patients with Type 2 Diabetes Using Insulin
STANLEY G. BISGAIER, DEANNA J. ISAMAN, ERAN BASHAN, ISRAEL HODISH, Livonia, MI, Ann Arbor, MI

1095-P Early Hypoglycemia after Initiation of Second-Generation Basal Insulin (BI) Analogs: Patient Characteristics and Clinical Outcomes
STEWART B. HARRIS, LORI BERARD, JUKKA WESTERBACKA, ZSOLT BOSNYAK, LYDIE MELAS-MELT, FELIPE LAUAND, SR., TIMOTHY S. BAILEY, KAMLESH KHUNTI, London, ON, Canada, Winnipeg, MB, Canada, Paris, France, Levallois-Perret, France, Escondido, CA, Leicester, United Kingdom

1096-P Determining the Optimal Fasting Glucose Target for Patients with Type 2 Diabetes: Results of the FPG Goal Trial
WENYING YANG, JIANHUA MA, GUOYUE YUAN, LING LI, MIN ZHANG, YIBING LU, XINHUA YE, WEIHONG SONG, MING LIU, JUN WU, RIQIU CHEN, NAN CUI, YUNGUANG LI, XIA ZHANG, JIN-KUI YANG, Beijing, China, Nanjing, China, Zhenjiang, China, Shenyang, China, Shanghai, China, Changzhou, China, Chengzhou, China, Tianjin, China, Wuhan, China, Lishui, China

1097-P Glycemic Control and Safety Profile of Insulin Glargine 300 U/mL in Older Adults—REALI Pooled Data Analysis
RICCARDO C. BONADONNA, DIDAC MAURICIO, DIRK MÜLLER-WIELAND, NICK FREEMANTLE, GREGORY BIGOT, CELINE MAUQUOI, ALICE CIOCCA, MIREILLE BONNEMAIRE, PIERRE GOURDY, Parma, Italy, Barcelona, Spain, Aachen, Germany, London, United Kingdom, Levallois-Perret, France, Ottignies-Louvain-la-Neuve, Belgium, Paris, France, Toulouse, France

1098-P Sliding Scale Insulin Use in Noncritical Care Settings: Who Can Slide?
ALEXANDRA MIGDAL, FRANCISCO J. PASQUEL, RODOLFO J. GALINDO, MAYA FAYFMAN, SAUMETH CARDONA, GEORGIA DAVIS, HEQIONG WANG, GUILLERMO E. UMPIERREZ, Atlanta, GA, Decatur, GA

1100-P Ultra Rapid Lispro (URLi) Accelerates Insulin Lispro Absorption and Insulin Action vs. Humalog (Lispro) in Patients with T2D
JENNIFER LEOHRI, MARY A. DELLVA, DAVID E. COUTANT, ELIZABETH S. LABELL, SHOBHA REDDY, TIM HEISE, GRIT ANDERSEN, ERIC ZULSTRA, LIDIA HERMANNSKI, LESZEK NOSEK, HELLE LINNENBERG, Indianapolis, IN, Neuss, Germany

1101-P The Effect of Smoke on Short-Term Insulin Intensive Therapy for Male Patients with New Diagnosis Type 2 Diabetes
XUESI WAN, ZHIMIN HUANG, LIEHUA LIU, YANBING LI, Guangzhou, China

1102-P High vs. Standard Starting Dose of Insulin Glargine 100 U/ml in Patients with Overweight/Obesity and Type 2 Diabetes Uncontrolled with Oral Antidiabetic Drugs in China: A Multicenter, Open-Label Randomized Controlled Trial
LINONG JI, HAILONG WANG, BINGHONG WEN, XUEYING WANG, JUNFEN WANG, RONGWEN BIAN, WUYAN PANG, WEI FENG, XIA ZHANG, NAN CUI, Beijing, China, Panjin, China, Shenyang, China, Jinzhou, China, Shijiazhuang, China, Nanjing, China, Kaileng, China, Shanghai, China
1103-P Glucose-Responsive Insulin: An Unprecedented Cleavable Linker Concept
KARIN MANNEKES, EBBE ENGHLOM, NARENDRA KUMAR MISHRA, MORTEN LUNDH, NINA BUCH-MÅN-SON, LISBETH N. FINK, SØREN LJUNGBERG PEDERSEN, PHILIP J. PEDERSEN, PRISKA LE-HUU, JOHNATHAN LAI, KNUD J. JENSEN, KELD FOSGERAU, Harsholm, Denmark, Copenhagen, Denmark

1104-P Management of Corticosteroid-Related Hospital Hyperglycemia in the ”Real-World”
BHARGAVI PATHAM, AISHA VADHARIYA, MICHAEL L. JOHNSON, SOHAM D. YANDE, ARCHANA R. SADHU, Houston, TX

1105-P Impact of Switching from Twice-Daily Basal Insulin (BI) to Once-Daily Insulin Glargine 300 U/mL (Gla-300) in Patients with Type 1 Diabetes (T1DM): Phase 4 Optimize Study
CHANTAL MATHIEU, PETER STELLA, JACQUES BRUHWYLER, KATHY C. ALEXANDRE, Leuven, Belgium, Budapest, Hungary, Gembloux, Belgium, Diegem, Belgium

1106-P Predictive Modeling Suggests Subgroup Effects for Severe Hypoglycemia in T2DM Patients Treated with Gla-300 vs. IDeg: The LIGHTNING Study
IRENE HRAMIAK, MARTIN HALUZIK, JUKKA WESTERBACKA, ZSOLT BOSNYAK, BJORN ELIASSON, LAWRENCE BLONDE, TIMOTHY S. BAILEY, London, ON, Canada, Prague, Czech Republic, Paris, France, Gothenburg, Sweden, New Orleans, LA, Escondido, CA

1107-P Ultra Rapid Lispro (URLi) Accelerates Insulin Lispro Absorption and Insulin Action vs. Humalog (Lispro) in Patients with T1D
HELLE LINNÉBEJRG, QIANYI ZHANG, ELIZABETH S. LABELL, SHOBHA REDDY, DAVID E. COUTANT, ULRIKE HOEVELMANN, LEONA PLUM-MOERSCHEL, THERESA HERBRAND, JENNIFER LEOHR, Indianapolis, IN, Neuss, Germany, Mainz, Germany

1108-P The Total Basal Dose (TBD) Is about 35% of Total Daily Dose (TDD) and TBD/Weight Is about 0.23U/kg: 144 Subjects Titrated by Continuous Glucose Monitoring (CGM) while under Dietary Control
ALLEN B. KING, Salinas, CA

1109-P Type 2 Diabetes Treatment in Patients with Chronic Kidney Disease: Efficacy and Safety of Initiating Insulin Glargine 300 U/mL—REALI Pooled Data Analysis
DIDAC MAUQUIO, ALICE CIOCCA, MIREILLE BONNEMAIRE, DIRK MÜLLER-WIELAND, BARCELONA, Spain, Toulouse, France, Parma, Italy, London, United Kingdom, Levallois-Perret, France, Ottignies-Louvain-la-Neuve, Belgium, Paris, France, Aachen, Germany

1110-P Use of IDegLira Is Associated with High Persistency Rates Up to 12 Months (M) and Improved A1C after 6M in Swedish Clinical Practice
BJORN ELIASSON, JAN EKELUND, ANN-MARIE SVENSSON, MERVETE MIftaraj, ANN-CARLotte MÄRDBy, JOAO DIOGO DA ROCHA FERNANDES, Gothenburg, Sweden, Malmö, Sweden, Copenhagen, Denmark

1111-P The Qualitative and Quantitative Effect of IDegLira Compared with the Nonfixed Administration of Degludec and Liraglutide
ANASTASIOS KOUTSOVASILIS, ALEXIOS SOTIropoulos, ANASTASIA ANtoniou, MARIA PAPPa, Stavros BOUSBOULAS, THEODOROS PEPPAS, Athens, Greece

1112-P Ultra Rapid Lispro (URLi) Lowers Postprandial Glucose (PPG) and More Closely Matches Normal Physiological Glucose Response Compared with Other Rapid Insulin Analogs
TIM HEISE, HELLE LINNÉBEJRG, DACHUANG CAO, DAVID E. COUTANT, ELIZABETH S. LABELL, SHOBHA REDDY, ERIC ZIJLSTRA, CHRISTOPH KAPITZA, JULIANA M. BUE-VALLESKEY, QIANYI ZHANG, JENNIFER LEOHR, Neuss, Germany, Charlotte, NC, Indianapolis, IN

1113-P Six Months Comparative Evaluation of Efficacy and Safety of Wockhardt’s Biosimilar Insulin Glargine (Glaritus®) with Reference Insulin Glargine (Lantus®) in Type 2 Diabetes Mellitus in India
SURENDRA SHARMA, AJAY KUMAR AJMANI, POOJA KHOSLA, PRADIP MUKHOPADHYAY, GIRISH BHATIA, PRAKASH KG, GAURAV CHHAYA, PRAVIN SUPE, VINODKUMAR PAVITRAN, HRISHIKESH BORA, AGAM SHAH, SHAHU ASHOK INGOLE, RISHI JAIN, Bangalore, New Delhi, India, Kolkata, India, Pune, India, Bangalore, India, Ahmedabad, India, Nashik, India, Kerala, India, Guwahati, India, Mumbai, India

1114-P Feasibility Study of a Novel Way to Initiate Insulin Treatment in Persons with Type 2 Diabetes
TINNA ARADÖTTIR, HENRIK BENGTSSON, SR., MORTEN L. JENSEN, NIELS KJØLSTAD POULSEN, DIMITRI BOIRoux, SIGNE SCHMIDT, KIRSTEN NØRGAARD, Kongens Lyngby, Denmark, Hillerød, Denmark, Seborg, Denmark, Gentofte, Denmark
Clinical Diabetes/Therapeutics

1115-P WITHDRAWN

CLINICAL THERAPEUTICS/NEW TECHNOLOGY—OTHER THERAPEUTIC AGENTS

POSTERS

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: Moderated Poster Discussion/ePoster Theater Session Poster

1116-P Glycemic Outcomes and Persistence with Basal Insulin and Glucagon-Like Peptide-1 Receptor Agonists among Patients with T2D: Simultaneous vs. Sequential Initiation

XUEJUN V. PENG, RAJEEV AYYAGARI, ROBERT LUBWAMA, MELVIN J. VAN VLEET, LIZHENG SHI, EBOHNI G. PRICE-HAYWOOD, PRISCILLA HOLLANDER, VIVIAN FONSECA, Bridgewater, NJ, Boston, MA, New Orleans, LA, Dallas, TX

1117-P Metformin Increases Blood Lactic Acid in Elderly Diabetic Veterans with Stage 3 CKD

AIDAR R. GOSMANOV, ELVIRA GOSMANOVA, Albany, NY

1118-P Effect of Pioglitazone in Ataxia-Telangiectasia

LAURA J. MCCREIGHT, ANDREA MARI, EWAN PEARSON, Dundee, United Kingdom, Padova, Italy

1119-P Efficacy and Safety of Sitagliptin (SITA) Compared with Dapagliflozin (DAPA) in People ≥65 Years Old with T2D

ANNASWAMY RAJI, ZHI JIN XU, RAYMOND L. LAM, KEITH D. KAUFMAN, SAMUEL S. ENGEL, Kenilworth, NJ, Rahway, NJ

1120-P Emotion-Focused CBT Reduces HbA1c Levels in Patients with T2D

EMIL F. COCCARO, ANDREA K. BUSBY, TIFFANY M. POTTS, LOUIS H. PHILIPSON, TINA DROSSOS, Chicago, IL

1121-P Metformin Intolerance, Proton Pump Inhibitors, and OCT1 Variation: A Recruit-by-Genotype, Randomised Controlled Trial (ImpOCT)

LAURA J. MCCREIGHT, SIMONA M. HAPCA, EWAN PEARSON, Dundee, United Kingdom

1122-P Physiological Effects of Pioglitazone in Ataxia-Telangiectasia

LAURA J. MCCREIGHT, ANDREA MARI, EWAN PEARSON, Dundee, United Kingdom, Padova, Italy

1123-P Reduction of Mortality and Major Adverse Cardiovascular Events (MACE) in Men with Hypogonadism and Type 2 Diabetes (T2DM) Receiving Long-Term Treatment with Injectable Testosterone Undecanoate (TU): Ten-Year Data from a Urological Registry Study

KARIM S. HAIDER, AHMAD HAIDER, FARID SAAD, Bremerhaven, Germany, Berlin, Germany

1124-P Beneficial Changes in Glycemic Control in Patients with Hypogonadism and Type 2 Diabetes (T2DM) Receiving Long-Term Treatment with Injectable Testosterone Undecanoate (TU): Ten-Year Data from a Registry

FARID SAAD, KARIM S. HAIDER, AHMAD HAIDER, Berlin, Germany, Bremerhaven, Germany

1125-P Effect of High Dose vs. Conventional Dose Angiotensin Receptor Blockers in 175 T2DM with Microalbuminuria on CV (NT-ProBNP) and Renal Biomarkers

VISHAL GUPTA, VAISHALI TELI, Mumbai, India

1126-P Comparison of Telmisartan vs. Valsartan on Cardiovascular and Renal Biomarkers in 84 Patients with T2DM with Microalbuminuria

VISHAL GUPTA, VAISHALI TELI, Mumbai, India

1127-P SGLT2 Inhibition (SGLT2i) Mediated Urinary Glucose Excretion (UGE) Associations with Metabolic and Renal Hemodynamic Parameters

YULIYA LYTVYN, ANDRIY LYTVYN, ELZA O. MUSCELLI, BRUCE A. PERKINS, DAVID CHERNEY, ELE FERRANNINI, Toronto, ON, Canada, Auckland, ON, Canada, Campinas, Brazil, Pisa, Italy

1128-P SGLT2 Inhibition Increases Serum Copeptin in Adults with Type 1 Diabetes (T1D)

YULIYA LYTVYN, PETTER BJORNSTAD, ALEXANDRA KATZ, SUNIKA K. SINGH, LUCAS C. GODDY, LINH T. CHUNG, CARISSA L. VINOVSKIS, BRUCE A. PERKINS, DAVID CHERNEY, Toronto, ON, Canada, Aurora, CO, Denver, CO

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ePoster Theater Session: The World Around Diabetes [Posters: 1116-P to 1121-P], see page 107.
1129-P Association between the Intensity of Diabetes Therapy, Achieved HbA1c, and Persistence
TAMARA K. YOUNG, CARINNA HOCKHAM, LOUISA SUKKAR, AMY KANG, MIN JUN, JANNAH BAKER, KRIS ROGERS, ALAN CASS, CAROL A. POLLOCK, DAVID SULLIVAN, GERMAINE WONG, MEG J. JARDINE, EXTEND45 STUDY STEERING COMMITTEE, Newtown, Australia, Sydney, Australia, Darwin, Australia, Camperdown, Australia

1130-P Temporal Trends in Pharmacotherapy for Diabetes
TAMARA K. YOUNG, CARINNA HOCKHAM, LOUISA SUKKAR, AMY KANG, MIN JUN, JANNAH BAKER, KRIS ROGERS, ALAN CASS, CAROL A. POLLOCK, DAVID SULLIVAN, GERMAINE WONG, MEG J. JARDINE, EXTEND45 STUDY STEERING COMMITTEE, Newtown, Australia, Sydney, Australia, Darwin, Australia, Camperdown, Australia

1131-P Endoscopic Duodenal Submucosal Laser Ablation for the Treatment of Type 2 Diabetes Mellitus: Results of First-in-Human Pilot Study
MILOS MRAZ, IDAN MARCOVITCH, IVANA LANKOVA, HELENA KRATOVILLOVA, ANNA CINKAJZLOVA, MAREK BENES, JUDITH KORNER, ZUZANA VLASAKOVA, JULIUS SPICAK, TEREZIE PELIKANOVA, MARTIN HALUZIK, Prague, Czech Republic, Petah Tikva, Israel, New York, NY

1132-P Real-World Clinical Use of iGlarLixi in a Large U.S. Electronic Medical Records Database
JUAN P. FRIAS, ANDERS H. BOSS, ROBERT LUBWAMA, ALKA SHAUNIK, Los Angeles, CA, Princeton, NJ, Bridgewater, NJ

1133-P Four Days of Hyperoxia Exposure Confers Sustained Improvement in Glucose Homeostasis
SHALINI JAIN, ALEXANDRIA V. HARRISON, FELIPE LORENZO, DON MCCLAIN, Winston-Salem, NC

1134-P Efficacy of iGlarLixi in Adults with Type 2 Diabetes Inadequately Controlled on Two or More Oral Antidiabetic Agents
NEIL SKOLNIK, ELISABETH NIEMOELLER, ELISABETH SOUHAMI, LUIGI MENEGHINI, Jenkintown, PA, Frankfurt, Germany, Paris, France, Dallas, TX

1135-P Real-World Effectiveness of a Blood Sugar Monitor and Companion Digital Therapeutic Combination in Improving Blood Glucose Levels among People with Diabetes in India
RAJEEV CHAWLA, ARJUN KRISHNAKUMAR, VARSHA KHATRY, ABHISHEK SHAH, SHILPA JOSHI, SHEHLA SAJID SHAikh, TEJAL LATHIA, HEMANT THACKER, KIRTI SAMUDRA, VINOD MATTOO, New Delhi, India, Mumbai, India

1136-P Chemical Pancreatectomy as a Revolutionary Therapy for Chronic Pancreatitis and Prevention of Type 3C Diabetes
MOHAMED SALEH, RANJEET S. KALSI, GEORGE GITTERS, Pittsburgh, PA

1137-P Remission of Type 2 Diabetes (T2DM) in 33.6% (51 of 152) Hypogonadal Men Receiving Long-Term Testosterone Therapy for Up to 12 Years in a Real-Life Registry Study
KARIM S. HAIDER, AHMAD HAIDER, FARID SAAD, Bremerhaven, Germany, Berlin, Germany

1138-P Dipeptidyl Peptidase-4 Inhibitors Attenuate Thyroid-Stimulating Hormone Levels
YOKO SHIMODA, JUNICHI OKADA, EUIRO YAMADA, TSUGUMICHI SAITO, SHUICHII OKADA, MASANOBU YAMADA, Maebashi, Japan

1139-P Influence of Screening HbA1c Levels on Glucose Control Achieved when Switching to iGlarLixi in T2D Inadequately Controlled on GLP-1RA and OAD(s)
STEPHANO DEL PRATO, LAWRENCE BLONDE, ROBERT R. HENRY, VANITA R. ARODA, NAIM SHEHADEH, ELISABETH NIEMOELLER, ELISABETH SOUHAMI, JUNLONG WU, XIANGLING WANG, CHEN JI, JULIO ROSENSTOCK, Pisa, Italy, New Orleans, LA, San Diego, CA, Boston, MA, Haifa, Israel, Frankfurt, Germany, Paris, France, Beijing, China, Dallas, TX

1140-P Efficacy and Safety of Evogliptin in Patients with Type 2 Diabetes: A Multicenter, Active-Controlled, Randomized Study with Open Label Extension (EVERGREEN Study)
SOO LIM, GYURI KIM, HYUK-SANG KWON, IE BYUNG PARK, KWY JUNG AHN, CHEOL-YOUNG PARK, SU KYUNG KWON, HYE SOON KIM, SEOK WON PARK, SIN GON KIM, MIN KYONG MOON, EUNSOOK KIM, CHOON H. CHUNG, KYU CHANG WOON, KANG SEO PARK, MIKYUNG KIM, DONG JIN CHUNG, CHANG BOM LEE, TAE HO KIM, MOON-KYU LEE, Seoul, Republic of Korea, Daegu, Republic of Korea, Seongnam, Republic of Korea, Ulsan, Republic of Korea, Wonsu, Republic of Korea, Daejeon, Republic of Korea, Gwangju, Republic of Korea, Guri, Republic of Korea
1141-P Detailed Phenotype of Randomized Participants by Age in the Glycemia Reduction Approaches in Diabetes: A Comparative Effectiveness Study (GRADE)
VANITA R. ARODA, HEIDI KRAUSE-STEINRAUF, JOHN B. BUSE, BARBARA I. GULANSKI, HERMES FLOREZ, ANDREW J. AHMANN, AMY LOVELAND, ALEXANDER KUHN, JACQUELINE LONIER, KIEREN J. MATHER, DEBORAH J. WEXLER, GRADE RESEARCH GROUP. Boston, MA, Rockville, MD, Chapel Hill, NC, West Haven, CT, Miami, FL, Portland, OR, Hyattsville, MD, New York, NY, Indianapolis, IN, Washington, DC

1142-P Efficacy and Safety of Antiadipocytokine Treatment in Adjunct to Insulin in Type 1 Diabetes
XIAOLING CAI, WENJIA YANG, SIMIN ZHANG, LINONG JI. Beijing, China

1143-P Secondary Metformin Monotherapy Failure in Type 2 Diabetes Mellitus Patients
TRACEY WEISS, KRISTY IGLAY, PRIYA VERMA, SWAPNIL RAJPATHAK, LINGFENG YANG, LAWRENCE BLONDE, Kenilworth, NJ, Rahway, NJ, Gurgaon, India, North Wales, PA, PA, Upper Gwynedd, PA, New Orleans, LA

1144-P Distribution of Prescribed Dose During the First Year of Metformin Monotherapy in the U.S.
KRISTY IGLAY, BANANIE SAWHNEY, SWAPNIL RAJPATHAK, MICHAEL CRUTCHLOW, GAIL FERNANDES, KAMLESH KHUNTI, Kenilworth, NJ, North Wales, PA, Leicester, United Kingdom

1145-P Acarbose-Induced Glucagon-Like Peptide-1 Secretion Contributes to the Glucose-Lowering Effect of Acarbose
NIELS B. DALSGAARD, LÆRKE S. GASBIERG, LAURA S. HANSEN, NINA L. HANSEN, SIGNE STENSEN, BOLETTE HARTMANN, JENS J. HOLST, TINA VILSBØLL, FILIP K. KNOP, Copenhagen, Denmark, Hellerup, Denmark

1146-P Switching to iGlarLixi vs. Continued Treatment of GLP-1RAs in the LixiLan-G Trial
JULIO ROSENSTOCK, LAWRENCE BLONDE, STEFANO DEL PRATO, ROBERT R. HENRY,NAIM SHEHADEH, ELISABETH NIEMOELLER, ELISABETH SOUHAMI, DENTWORTH WU, XIANGLING WANG, CHEN JI, VANITA R. ARODA, Dallas, TX, New Orleans, LA, Pisa, Italy, San Diego, CA, Haifa, Israel, Frankfurt, Germany, Paris, France, Beijing, China, Boston, MA

1147-P Effect of Short-Term Ciclosporin A Treatment on Insulin Secretion in Patients with Adult-Onset Autoimmune Diabetes: An Open-Label, Single-Arm, Pilot Study in China
LEI ZHANG, JUN WANG, NA WANG, YUXIU YANG, XIAOYAN YIN, YANHU DONG. Qingdao, China

1148-P Cenicriviroc Safety in over 1,200 Subjects
MANAL F. ABDELMALEK, RALPH W. CHARLTON III, EDUARDO B. MARTINS, BILL TAN, ANDREA D. COVIELLO, NAIR ALKHOURI, Durham, NC, South San Francisco, CA, San Antonio, TX

1149-P A1C Goal Attainment after Metformin (MET) Uptitration With and Without Sitagliptin (SITA): Impact of Baseline and Target A1C
MICHAEL CRUTCHLOW, JIANXIN LIN, RAYMOND L. LAM, EDWARD A. O’NEILL, KEITH D. KAUFMAN, SAMUEL S. ENGEL, Upper Gwynedd, PA, Kenilworth, NJ, Rahway, NJ

1150-P Impact of Angiotensin-Converting Enzyme Inhibitors or Angiotensin Receptor Blockers on Renal Outcomes in Patients with Type 2 Diabetes and Proteinuria
CRAIG I. COLEMAN, ERIN R. WEEDA, AKSHAY A. KHARAT, BRAHIM BOOKHART, WILLIAM L. BAKER, Storrs, CT, Mount Pleasant, SC, Titusville, NJ

1151-P Dorzagliatin Differentiates from Early Generation of Glucokinase Activators: An Enzyme Kinetics Study
LI CHEN, YONGQIANG SHAN, XIAOWEI JIN, XIAOBING LV, Shanghai, China

1152-P Erbium-Yttrium Aluminum Garnet (YAG) Laser Accelerates Healing in Indolent Diabetic Foot Ulcers
MATTHEW J. JOHNSON, LAWRENCE A. LAVERY, Dallas, TX

1153-P Changes Observed during the Screening Period in Patients Enrolled in the Sitagliptin Clinical Study MK-0431-P803
CARMEN A. ROSARIO, MUHAMMAD Y. JALALUDIN, RAYMUNDO GARCIA, RON S. NEWFIELD, YULIA SAMOLOVA, NAIM SHEHADEH, ANNPEY PONG, MARTINA ZILLI, CHANDAN K. SAHA, SAMUEL S. ENGEL, PHILIP ZEITLER, KEITH D. KAUFMAN, R. RAVI SHANKAR, Santo Domingo, Dominican Republic, Kuala Lumpur, Malaysia, Nuevo Leon, Mexico, San Diego, CA, Tomsk, Russian Federation, Haifa, Israel, Rahway, NJ, Buenos Aires, Argentina, Indianapolis, IN, Kenilworth, NJ, Aurora, CO
1154-P Genetic and Pharmacological Suppression of Cathepsin K Promotes Wound Healing in Diabetic Mice  
RUI GUO, LIPING ZHANG, AMIT THAKAR, TRAVIS E. BROWN, JUN REN, CARLOS ZGHEIB, JUNWANG XU,  
KENNETH W. LIECHTY, SREEJAYAN NAIR, Laramie, WY, Aurora, CO

1155-P Effect of Endoscopic Duodenal-Jejunal Bypass Liner on Parameters of Insulin Sensitivity and Secretion in Subjects with Type 2 Diabetes Mellitus and Obesity  
MICHAELA KUDLACKOVA, MILOS MRAZ, MARTIN HALUZIK, TEREZIE PELIKANOVA, MAREK BENES, DANUSE LAPESOVA, DANA KOBROVA, ZUZANA VLASAKOVA, OLGA BRIZOVA, ZDENKA LACINOVA, Prague, Czech Republic

1156-P Duodenal Mucosal Resurfacing (DMR) Combined with GLP-1 RA May Eliminate Insulin Therapy and Improve Metabolic Health in Type 2 Diabetes  
PAUL SMEELE, ANNIEKE C. VAN BAAR, TESSA M. VRIEND, FRITS HOLLEMAN, MAARTEN SOETERS, MAX NIEUWDORP, JAN TIJSSEN, JACQUES J. BERGMAN, Amsterdam, Netherlands

1157-P Two-Year Results of Multicenter, Prospective Study of Metabolic Surgery in Obese Type 2 Diabetes Mellitus Subjects in China  
YUQIAN BAO, HUI LIANG, PIN ZHANG, CUNCHUANG WANG, TAO JIANG, NENGWEI ZHANG, JIANGFAN ZHU,  
HAOYONG YU, SR., JUNFENG HAN, SHIBO LIN, JINGYE YANG, WAH YANG, SHU CHEN, DEXIAO DU, YINGZHANG MA, ELLIOTT J. FEGELMAN, MICHAEL SCHWIERS, JASON WAGGONER, TENGFEI YANG, RONGRONG ZHANG, WEIPING JIA, Shanghai, China, Nanjing, China, Guangzhou, China, Changchun, China, Beijing, China, Cincinnati, OH

1158-P Type 2 Diabetes Patients Subtype Analysis: Unbiased Machine Learning for Future Personalized T2D Care  
LI CHEN, LINGGE FENG, CUI TANG, YI ZHANG, Shanghai, China

1159-P Metformin Monotherapy Changes Gut Microbiota in Newly Diagnosed Type 2 Diabetes  
WEI CHUN HUNG, WEI-WEN HUNG, Kaohsiung, Taiwan

1160-P The Risk Factors of Bullous Pemphigoid and Associated Risk between Bullous Pemphigoid and Dipeptidyl Peptidase-IV Inhibitors in Patients with Type 2 Diabetes Mellitus: A Retrospective Cohort Study  
JIA-YIN GUO, HSIN HUNG CHEN, YU-CIH YANG, CHING-CHU CHEN, Taichung, Taiwan, Nantou, Taiwan

1161-P SCO-267, a GPR40 Full Agonist, Improves Glycemic and Body Weight Control More Than That by Fasiglifam in Rat Models of Diabetes and Obesity  
YUSUKE MORITOH, HIKARU UENO, RYO ITO, SHIN-ICHI ABE, HIROHISA MIYASHITA, HITOMI OGINO, MITSUGI OOKAWARA, YOSHIKAZU ISHIHARA, YOSHIYUKI TSUJIHATA, KOJI TAKEUCHI, NOBUHIRO NISHIYAMA, YUKIO YAMADA, MASANORI WATANABE, Fujisawa, Japan

1162-P DA-1241, a Novel GPR119 Agonist, Improves Hyperglycaemia by Inhibiting Hepatic Gluconeogenesis and Enhancing Insulin Secretion via Stimulation of GLP-1 Secretion  
JIN HEE KIM, YOJIN KIM, RYEONG-HYEON KIM, MI-KYUNG KIM, HYUNKI PARK, MINYOUNG LEE, YONGIN CHO, JAEYUNE BAE, SANG BAE LEE, INKUK LEE, HYANGYUK LEE, CHUL HOON KIM, EUN SEOK KANG, Seoul, Republic of Korea, Yongin, Republic of Korea

1163-P Comparison of Glycemic Variability between Gemigliptin and Dapagliflozin in Patients with Type 2 Diabetes Mellitus: A Randomized, Active-Controlled, Multicenter, 12-Week Clinical Trial (STABLE II Study)  
YOU CHEOL HWANG, JAE HYEON KWAK, SOO HEON KWAK, SANGYONG KIM, JONG CHUL WON, JI CHEOL BAE, HYUN JIN KIM, SUNGHWAN SUH, EUN YOUNG LEE, SANG HYEON LIM, CHUL HOON KIM, EUN SEOK KANG, Seoul, Republic of Korea, Yongin, Republic of Korea

1164-P Effects of Cerivirioc in Adults with NASH on Inflammatory Cytokines and Metabolic Parameters  
ANDREA D. COVIELLO, RALPH W. CHARLTON III, EDUARDO B. MARTINS, JIACHENG YUAN, NAIM ALKHOURI, MANAL F. ABDELMALEK, Durham, NC, South San Francisco, CA, Irvine, CA, San Antonio, TX

1165-P In Vitro Actions of a Novel Biguanide (BIG), NTI195, That Support Its Use in T2D  
JAMES N. LIVINGSTON, JEFFEY E. COBB, KATHLEEN K. BROWN, KYLIE KAVANAGH, KENNETH W. BATE-ELOR, Chapel Hill, NC, Research Triangle Park, NC, Wake Forest, NC, Winston-Salem, NC
1166-P Bromocriptine-QR (BOR) Therapy Reduces Elevated Sympathetic Nervous System Activity (SNSA) and Oxidative Stress (OS) in Type 2 Diabetes (T2D) Subjects whose Dysglycemia Is Poorly Controlled on GLP-1 Receptor Agonist (GLP-1RA)
BINDU CHAMARTHI, EUGENIO CERSOSIMO, JOHN M. ADAMS II, MARIAM ALATRACH, CHRISTINA AGYIN, CURTIS L. TRIPLITT, MICHAEL EZROKHI, SHUQIN LUO, EMILIE DUVALLET, ANTHONY H. CINCOTTA, RALPH A. DEFRONZO, Tiverton, RI, San Antonio, TX

1167-P Safety and Efficacy of 52 Weeks’ Therapy with Hydroxychloroquine (HCQ)—First Anti-inflammatory Drug Approved in India for T2D
ANIL PAREEK, RAVI TEJRAJ MEHTA, SHRUTI DHARMADHIKARI, KUMAR BHASKAR NAIDU, Mumbai, India

1168-P The Effects of Long-Term Testosterone Therapy on A1c in Men with Co-occurring T2DM
CRAIG JENKINS, JOSHUA M. TATE, JANA L. WARDIAN, ALEX RITTEL, IRENE FOLARON, San Antonio, TX

1169-P The Insulin Dosage Advisor Diassist Can Help Optimize Glucose Control
HANNA SVENSSON, RAGNAR HANAS, Malmö, Sweden, Gothenburg, Sweden

1170-P Alleviation Effects of a Traditional Chinese Medicine on Diabetes in Rats Linked to Modulation of the Gut Microbiome
JIAXING TIAN, MIN LI, XIAOLIN TONG, Beijing, China

1171-P Effect of Genetic Testing for Weight Loss on Adult Patients
KATHY S. JAMES, San Diego, CA

1172-P GLUT4-Overexpressing Engineered Muscle Tissue Implants as a Potential Novel Therapy for Type 2 Diabetes: Lessons from Diabetic Mice
MARGARITA BECKERMAN, EDDY KARNIELI, CHAVA HAREL, AMIRA KLIP, PHILIP J. BILAN, EMILY GALLAGHER, DEREK LEROITH, SHULAMIT LEVENBERG, Haifa, Israel, Toronto, ON, Canada, New York, NY

1173-P Therapeutic Response to Metformin Monotherapy in Type 2 Diabetes Is Associated with Butyrate-Producing Gut Microbiota
WEI-WEN HUNG, WEI CHUN HUNG, Kaohsiung, Taiwan

1174-P Improvements of Insulin and Leptin Sensitivity for Type 2 Diabetes and Obesity by Cyclo-(His-Pro) plus Zinc Treatment
MOON K. SONG, Northridge, CA

1175-P Circulating CD4+/CD8+ PD-1+ T Cells Are Increased during the Partial Remission Phase in Patients with Type 1 Diabetes
TING ZHONG, XIA LI, ZHIGUANG ZHOU, Changsha, China

1176-P Synthetic Immunomodulatory Peptoids to Control Autoimmunity in Type 1 Diabetes
PARAMESWARAN RAMAKRISHNAN, JON POKORSKI, TRISTAN J. DE JESUS, JOSHUA CENTORE, Cleveland, OH, La Jolla, CA

1177-P Discovery of New Therapeutic Antibodies to Two Metabolically Relevant Targets—GPCR CB1 and Transporter GLUT4—Using Virus-Like Particles
DAVID TUCKER, TOM CHARPENTIER, NICHOLAS MOLINO, ERIN ROSENBERG, BRAD SCRENCI, LEWIS J. STAFFORD, CHIDANANDA SULLI, ROSS CHAMBERS, BENJAMIN J. DORANZ, JOSEPH B. RUCKER, Philadelphia, PA

1178-P MSDC-0602 Directly Inhibits Mitochondrial Pyruvate Transport
ADAM J. RAUCKHORST, LALITA OONTHONPAN, ERIC B. TAYLOR, Iowa City, IA

1179-P Pharmacokinetics, Pharmacodynamics, and Safety of HD-6277, a Selective Agonist of G-Protein-Coupled Receptor 40, in Healthy Subjects as a First-in-Human Study
KI-HWAN KIM, PAN-KYUNG KIM, HYE-JUNG YANG, Seoul, Republic of Korea

1180-P Development of “Smart mRNAs” that Synthesize Corrective Proteins during Abnormal Metabolic States
SAMIE JAFFREY, New York, NY

1181-P Effect and Feasibility of High Dose Eplerenone in Type 2 Diabetes: A Mirad Substudy
NIELS HBEG BRANDT-JACOBS, JON BJARKE RASMUSSEN, MARIE-LOUISE JOHANSEN, PATRICK ROSSIGNOL, JENS FABER, MORTEN SCHOU, CAROLINE MICHAELA KISTORP, Copenhagen, Denmark, Nancy, France
1182-P  A Selective Nonpeptide Somatostatin Receptor 5 (sst5) Agonist Effectively Decreases Insulin Secretion in the KATPHI Mouse Model
CHRISTINE JULIANA, JINGHUA CHAI, ELIZABETH F. RICO-BAUTISTA, STEPHEN F. BETZ, DIVA D. DE LEON, Philadelphia, PA, San Diego, CA

1183-P  A Crossover Randomized Controlled Trial Using Diabetics: Smartphone-Based Self-Management System for Lifestyle-Related Disease Management
KANA MIYAKE, KAYO WAKI, KAZUHIKO OHE, Tokyo, Japan

1184-P  Efficacy of Hydroxychloroquine (HCQ) 400mg in Patients with Poorly Controlled Insulin-Treated Type 2 Diabetes Mellitus
RISHAD AHMED, AMIT BHUSHAN SHARMA, A. NATARAJAN, DINESH AGARWAL, A. SHANKAR NARAYANAN, Kolkata, India, Jaipur, India, Chennai, India, Guwahati, India, Mumbai, India

1185-P  Predictive Model for Hyperglycemic Events after High Dose Corticosteroid Administration
MORGAN G. SIMONS, JOSEPH D. FUTOMA, MICHAEL GAO, KRISTIN COREY, MARK SENDAK, KRISTA B. WHALEN, FINALE DOSHI-VELEZ, ANN S. MCGEE, TRACY SETJI, Durham, NC, Cambridge, MA

1186-P  Lean Women with Polycystic Ovary Syndrome and Insulin Resistance Have Normal Incretin Effect, which Is Unaffected by Metformin Therapy
LOUISE VEDTOFTE, SIGNE FOGHSGAARD, LOUISE ZIERAU, TINA VILSBØLL, FILIP K. KNOP, Copenhagen, Denmark

1187-P  The Novel Biguanide NT1195 Is an Oral Antidiabetes Drug for Patients with Kidney Disease
KENNETH W. BATCHelor, JAMES N. LIVINGston, KATHLEEN K. BROWN, KYLIE KAVANAGH, JEFFERY E. COBB, Research Triangle Park, NC, Chapel Hill, NC, Wake Forest, NC, Winston-Salem, NC

1188-P  Glycemic Efficacy of Sitagliptin in East Asian Populations: A Pooled Analysis
JOAO M. CONCEICAO, CLAUDIO D. GONZALEZ, SAMUEL S. ENGEL, JONGHO AHN, SHIGERU TOKITA, YE ZHANG, RUYA ZHANG, RAYMOND L. LAM, ANNPEY PONG, Singapore, Singapore, Kenilworth, NJ, Seoul, Republic of Korea, Chiyoda, Japan, Beijing, China, Rahway, NJ

1189-P  IFN-Alpha Kinoid: A Promising Vaccine against Type 1 Diabetes Targeting IFN-alpha in NOD Mice
NOÉMIE CAILLOT, FABIEN COLAONE, ROMAIN BONNEFOY, AGNES LEHUEN, BOITARD F. BOITARD, GÉRALDINE GROUARD-VOGEL, Paris, France

CLINICAL THERAPEUTICS/NEW TECHNOLOGY—SGLT INHIBITORS

ePoster Theater Session: The Latest on SGLT Inhibition (Posters: 1191-P to 1196-P), see page 105.

1191-P  ▼  Sotagliflozin Reduces Glucose Variability and Risk for Hyperglycemia in Adults with Type 1 Diabetes
BORIS KOVATCHEV, STELLA WANG, JULIANA H. OLIVEIRA, JOHN A. STEWART, PABLO LAPUERTA, RITA CASTRO, Charlottesville, VA, Bridgewater, NJ, Laval, QC, Canada, The Woodlands, TX

1192-P  ▼  Dapagliflozin Reduces Intrahepatic Triglyceride Content in Japanese Patients with Type 2 Diabetes Treated with Oral Antidiabetic Agents: A Randomized, Clinical Trial
KATSUTARO MORINO, KEIKO KONDO, ARUNACHALAM PANNEERSELVAM, SR., MONOJIT K. MUKHOPADHYAY, SHARAD KUMAR, SR., SUJIT ARUN CHANDRATREYA, Mumbai, India, Chennai, India, Kolkata, India, Lucknow, India, Nasik, India

1193-P  ▼  Health-Care Costs and Medication Burden in Routine Care Initiators of Empagliflozin: A First Analysis from the Empagliflozin Comparative Effectiveness and Safety (EMPRIZE) Study
AJINKYA PAWAR, ELISABETTA PATORNO, ANOUK DERUAZ-LUYET, KIMBERLY BRODOVICZ, ANASTASIA V. USTYUGOVA, NILESA GAUTAM, LILY G. BESSETTE, SEBASTIAN SCHNEEWEISS, MEHDI NAJAFZADEH, Boston, MA, Ingelheim, Germany, Ridgefield, CT
1194-P  NT-proBNP, Subclinical Diastolic Dysfunction in Patients with DM Type 1 Treated with iSGLT2
SVITLANA CHERVIAKOVA, LIUBOV K. SOKOLOVA, IILIA BELCHINA, IILIA KORZUN, MYKOLA D. TRONKO, Kyiv, Ukraine

1195-P  Effect of Dapagliflozin on Obstructive Sleep Apnea in Patients with Type 2 Diabetes: A Randomized Controlled Trial
QIN SUN, YI TANG, MIN ZHANG, Chengdu, China

1196-P  The Impact of Sotagliflozin on Renal Function, Albuminuria, and Blood Pressure in Adults with Type 1 Diabetes (T1D)
DANIEL H. VAN RAALTE, PETTER BJORNSTAD, FREDERIK PERSSON, RITA CASTRO, STELLA WANG, DAVID R. POWELL, HIDDO L. HEERSPIK, DAVID CHERNEY, Amsterdam, Netherlands, Aurora, CO, Gentofte, Denmark, Bridgewater, NJ, The Woodlands, TX, Groningen, Netherlands, Toronto, ON, Canada

1197-P  Two-Year Effects of Ertugliflozin on Renal Function
DAVID CHERNEY, HIDDO L. HEERSPIK, ROBERT FREDERICH, MARIO MALDONADO, ANNPEY PONG, ZHI JIN XU, JIE LIU, JAMES P. MANCUSO, IRA GANTZ, STEVEN G. TERRA, Toronto, ON, Canada, Groningen, Netherlands, Collegeville, PA, London, United Kingdom, Rahway, NJ, Kenilworth, NJ, Groton, CT, Andover, MA

1198-P  The M-EASE Studies: A Modeling and Simulation Approach to Further Characterize the Efficacy of Low-Dose Empagliflozin as Adjunctive to Insulin Therapy in Type 1 Diabetes (T1DM)
BRUCE A. PERKINS, NIMA SOLEYMANLOU, JULIO ROSENSTOCK, JAY S. SKYLER, LORI M. LAFFEL, KARL-HEINZ LIESENFELD, DIETMAR NEUBACHER, MATTHEW RIGGS, CURTIS K. JOHNSTON, RENA J. EUDY-BYRNE, AHMED ELMOKADEM, JYOTHS GEORGE, JAN MARQUARD, VALERIE C. NOCK, Toronto, ON, Canada, Burlington, ON, Canada, Dallas, TX, Miami, FL, Boston, MA, Biberach, Germany, Tariffville, CT, West Hartford, CT, Ingelheim, Germany

1199-P  Analysis of Patient Preferences for Adjunct Therapy to Insulin in T1D
BRUCE A. PERKINS, JULIO ROSENSTOCK, JAY S. SKYLER, LORI M. LAFFEL, DAVID CHERNEY, CHANTAL MATHIEU, CHRISTIANNE PANG, RICHARD WOOD, ONA KINDURYTE, JYOTHS GEORGE, JAN MARQUARD, NIMA SOLEYMANLOU, Toronto, ON, Canada, Dallas, TX, Miami, FL, Boston, MA, Leuven, Belgium, San Francisco, CA, Ingelheim, Germany, Burlington, ON, Canada

1200-P  Predictors of Glycaemic and Weight Response to Empagliflozin Treatment: The ABCD Nationwide Empagliflozin Audit
KEN THONG, JONATHAN CHUNG-WAH-CHEONG, MAHENDER YADAGIRI, MELISSA L. CULL, ALEX BICKERTON, SUZANNE M. PHILLIPS, ALISON EVANS, DEVEK S. SENK, ANURITA ROHILLA, HAZEL REID, DAVID S. MORRIS, MARC ATKIN, ANTHONY M. ROBINSON, DAVID M. WILLIAMS, JEFFREY W. STEPHENS, JAN W. GALLEN, KAREN ADAMSON, ROBERT E. RYDER, Perth, Australia, Birmingham, United Kingdom, Yeovil, United Kingdom, Gloucester, United Kingdom, Cheltenham, United Kingdom, Harlow, United Kingdom, Essex, United Kingdom, Livingston, United Kingdom, Shrewsbury, United Kingdom, Bath, United Kingdom, Swansea, United Kingdom, Reading, United Kingdom

1201-P  Characteristics and Treatment Outcomes of Patients Treated with Empagliflozin in the ABCD Nationwide Empagliflozin Audit
KEN THONG, JONATHAN CHUNG-WAH-CHEONG, MAHENDER YADAGIRI, MELISSA L. CULL, ALEX BICKERTON, SUZANNE M. PHILLIPS, ALISON EVANS, DEVEK S. SENK, ANURITA ROHILLA, HAZEL REID, DAVID S. MORRIS, MARC ATKIN, ANTHONY M. ROBINSON, DAVID M. WILLIAMS, JEFFREY W. STEPHENS, KAREN ADAMSON, JAN W. GALLEN, ROBERT E. RYDER, Perth, Australia, Birmingham, United Kingdom, Yeovil, United Kingdom, Gloucester, United Kingdom, Cheltenham, United Kingdom, Harlow, United Kingdom, Essex, United Kingdom, Livingston, United Kingdom, Shrewsbury, United Kingdom, Bath, United Kingdom, Swansea, United Kingdom, Reading, United Kingdom

1202-P  Glucose Lowering with an SGLT2I Improves Trabecular Bone but Does Not Correct Bone Brittleness in TallyHo Model of T2D
KATHRIN M. THRALKILL, R. CLAY BUNN, SASIDHAR UPPUGANTI, PHILIP D. RAY, IULIANA POPESCU, EVANGELIA KALAITZOGLOU, JOHN FOWLKES, JEFFREY S. NYMAN, Lexington, KY, Nashville, TN

1203-P  Cause of Hospitalizations in Patients with Type 2 Diabetes Mellitus (T2DM) in the CANVAS Program
KENNETH W. MAHAFFEY, JULIANA IANUS, C.V. DAMARAJU, BRUCE NEAL, DICK DE ZEEUW, GREG FULCHER, MICHAEL PFEIFER, DAVID R. MATTHEWS, Stanford, CA, Titusville, NJ, Sydney, Australia, Groningen, Netherlands, Oxford, United Kingdom
1204-P The Effects of Insulin Treatment on Circulating Ketone Levels in Patients with Type 2 Diabetes on Sodium-Glucose Cotransporter 2 Inhibitors
CHI HO LEE, JOANNE K. LAM, ALAN C. LEE, DAVID T.W. LUI, HO YI CAROL FONG, YU CHO WOO, KAREN S. LAM, KATHRYN C. TAN, Hong Kong, China

1205-P Baseline Lactate Level Is a Useful Predictor for Weight Loss after Long-Term SGLT2 Inhibitor Treatment
TOSHIKI NOJIMA, YASUHIRO MATSUBAYASHI, AKIHIRO YOSHIDA, HIDEKI SUGANAMI, KOHEI KAKU, HIROHITO SONE, Tokyo, Japan, Niigata, Japan, Kurashiki, Japan

1206-P Effects of Canagliflozin (CANA) on Initiation of Insulin in CANVAS Program
DAVID R. MATTHEWS, CAROL H. WYSHAM, MELANIE J. DAVIES, APRIL SLEE, MARIA ALBA, MARY LEE, GEORGE CAPUANO, VLADO PERKOVIC, KENNETH W. MAHAFEEY, BRUCE NEAL, Oxford, United Kingdom, Spokane, WA, Leicester, United Kingdom, Seattle, WA, Raritan, NJ, Sydney, Australia, Stanford, CA

1207-P Early vs. Late Initiation of SGLT2 and GLP-1RA for Cardiometabolic Risk Factor Control: A Real-World Study
SANJOY KETAN PAUL, DIGSU KOYE, KAMLESH KHUNTI, OLGA MONTVIDA, Melbourne, Australia, Leicester, United Kingdom

1208-P Empagliflozin and HbA1c Reduction in a National Cohort
PO-YIN CHANG, KENT HEBERER, JENNIFER LEE, Stanford, CA, Palo Alto, CA

1209-P Relationship between Canagliflozin Treatment Response and Duration of Diabetes: The Association of British Clinical Diabetologists (ABCD) Nationwide Canagliflozin Audit
ROBERT E.J. RYDER, SUZANNE M. PHILLIPS, ALISON EVANS, DEVESH K. SENNIK, ANURITA ROHILLA, ALEX BICKERONE, KEN THONG, MAHENDER YADAGIRI, MELISSA L. CULL, MELANIE C. WYRES, PETER WINOCOUR, KEN H. DARZY, ANNA STRZELECKA, SHAILESH G. GOHIL, ALISON GALLAGHER, IAN W. GALLOW, Birmingham, United Kingdom, Gloucester, United Kingdom, Cheltenham, United Kingdom, Harlow, United Kingdom, Essex, United Kingdom, Yeovil, United Kingdom, Perth, Australia, Stevenage, United Kingdom, Antrim, United Kingdom, Leicester, United Kingdom, Reading, United Kingdom

1210-P Pooled Analysis of the Safety and Efficacy of Ertugliflozin in the Elderly
RICHARD E. PRATLEY, SAMUEL DAGGGO-JACK, BERNARD CHARBONNEL, SHIRITA M. PATEL, MARY A. HICKMAN, JIE LIU, LISA TARASENKO, MISOO C. ELLISON, IRA GANTZ, STEVEN G. TERRA, Orlando, FL, Memphis, TN, Nantes, France, Kenilworth, NJ, Groton, CT, New York, NY, Andover, MA

1211-P No Significant Change of Glucagon Level by Empagliflozin in Diabetic Mice
HIROMI SHIMODA, YUSUKE SEINO, TATSUHITO HIMENO, RIEKO INOUE, MIKIO MOTEKI, TOMOHIDE HAYAMI, EMI ASANO, SAEO ASANO, MAKOTO KATO, YUICHIRO YAMADA, EMIRI MIURA-YURA, MASAKI KONO, SHIN TSUNEKAWA, YOSHIRO KATO, KOICHI KATO, YOSHIHISA HAYASHI, JIRO NAKAMURA, HIDEKI KAMIYA, Nagakute, Japan, Toyoake, Japan, Nagoa, Japan

1212-P Sotagliflozin Reduces Markers of Arterial Stiffness in T1D: Pooled Analysis from inTandem 1 and inTandem 2 Clinical Trials
HELENA W. RODBARD, ANDREA GIACCARI, MICHAEL J. DAVIES, SANGEEA SAWHNEY, STELLA WANG, SATISH K. GARG, BERTRAND CARIOU, Stanford, CA, CA, Stanford, CA, Palo Alto, CA

1213-P Assessing the Performance of Cardiovascular Risk Equations in the DECLARE-TIMI 58 Population
PHILIP MCEWAN, VOLKER FOOS, SR., HAYLEY BENNETT, BERNT KARTMAN, CHRISTOPHER EDMONDS, INGRID ANNA GAUSE-NILSSON, Cardiff, United Kingdom, Dürren, Germany, Mölndal, Sweden, Cambridge, United Kingdom

1214-P Effect of Short-Term Improvements in Glycemic Control with SGLT2 Inhibitor Therapy on Insulin and Glucagon Secretion: How Does It Differ With or Without Concurrent DPP-4 Inhibitor Therapy
MAKIKO MATSUI, HIROSHI TAKAHASHI, SHOUKO SAWANO, YUTAKA MORI, KAZUNORI UTSUNOMIYA, Tokyo, Japan

1215-P Adipose Tissue Insulin Resistance Predicts Ketosis via an SGLT2 Inhibitor
YASUHIRO MATSUBAYASHI, AKIHIRO YOSHIDA, TOSHIKAI NOJIMA, HIDEKI SUGANAMI, KAZUYA FUJIHARA, KOHEI KAKU, HIROHITO SONE, Niigata, Japan, Tokyo, Japan, Kurashiki, Japan
1216-P The Effects of Canagliflozin on Uric Acid and Gout in Patients with Type 2 Diabetes in the CANVAS Program
JINGWEI LI, SUNIL V. BADVE, ZIEN ZHOU, RICHARD OH, MARY LEE, VLADO PERKOVIC, DICK DE ZEEUW, KENNETH W. MAHAFFEY, GREG FULCHER, DAVID R. MATTHEWS, BRUCE NEAL, Sydney, Australia, Raritan, NJ, Groningen, Netherlands, Stanford, CA, Oxford, United Kingdom

1217-P The Kidney Effects of the SGLT2 Inhibitors on the Japanese Type 2 Diabetes Mellitus Patients with Chronic Kidney Disease
KAZUO KOBAYASHI, MASAO TOYODA, NOBUO HATORI, HIROYUKI SAKAI, TAKAYUKI FURUKI, KOUICHI TAMURA, MASAAKI MIYAKAWA, Yokohama, Japan, Isehara, Japan

1218-P Amlodipine-Related Pedal Edema Resolved by Adding Sodium-Glucose Cotransporter 2 Inhibitor: A Technical Co-prescription for Type 2 Diabetes Mellitus with Hypertension
ASHISH GAUTAM, PRABHAT K. AGRAWAL, NIKHIL PURSNANI, APOORVA JAIN, Agra, India

1219-P Enhanced Response in Serum Ketone Level in Men Compared with Women by Administration of SGLT2 Inhibitor
AKIHIRO YOSHIDA, YASUHIRO MATSUBAYASHI, TOSHIKI NOJIMA, HIDEKI SUGANAMI, KOHEI KAKU, HIROHITO SONE, Tokyo, Japan, Niigata, Japan, Kurashiki, Japan

1220-P Sotagliflozin Leads to Lower Rates of Clinically Relevant Hypoglycemic Events at Any HbA1c Level at 52 Weeks in Adults with T1D
THOMAS DANNE, JEREMY PETTUS, ANDREA GIACCARI, BERTRAND CARIOU, HELENA W. RODBARD, STUART A. WEINZIMER, MIREILLE BONNEMAIRE, SANGEETA SAWHNEY, STELLA WANG, RITA CASTRO, SATISH K. GARG, Hannover, Germany, San Diego, CA, Rome, Italy, Nantes, France, Potomac, MD, New Haven, CT, Paris, France, The Woodlands, TX, Bridgewater, NJ, Aurora, CO

1221-P WITHDRAWN

1222-P Comparative Efficacy of Ertugliflozin (ERTU) vs. Other Sodium-Glucose Cotransporter 2 Inhibitors (SGLT2i): Model-Based Meta-analysis (MBMA) of HbA1c Lowering
DARYL FEDIUK, JAAP MANDEMA, KEVIN SWEENEY, STEVEN G. TERRA, VAISHALI SAHASRABUDHE, Groton, CT, Menlo Park, CA, Andover, MA

1223-P Empagliflozin vs. Dapagliflozin in Patients with Type 2 Diabetes Inadequately Controlled with Metformin, Glimepiride, and Dipeptidyl Peptide-4 Inhibitors: A 52-Week Prospective Observational Study
EU JEONG KU, DONG HWA LEE, HYUN JEONG JEON, TAEKEUN OH, Cheongju, Republic of Korea

1224-P Improving Compliance with SGLT2 Inhibitors by Reducing the Risk of Genital Mycotic Infections: The Outcomes of Personal Hygiene Advice
SCOTT M. WILLIAMS, SYED HARISSAHMED, Chester, United Kingdom

1225-P The Association between Long-Term Glucose Variability (GV), Cardiovascular (CV) Death, and Heart Failure (HF) Outcomes in the EMPA-REG OUTCOME Trial
ANTONIO CERIELLO, ANNE PERNILLE OFSTAD, ISABELLA ZWIENER, STEFAN KASPERS, JYOTHSI GEORGE, ANTONIO NICOLUCCI, Milan, Italy, Asker, Norway, Ingelheim, Germany, Pescara, Italy

1226-P Antifibrotic Effect of Combination Dapagliflozin and Metformin Therapy in Patients with Type 2 Diabetes Mellitus and Nonalcoholic Fatty Liver Disease
OLGA LAVRYNENKO, NONNA KRAVCHUN, OLHA ZEMLIANITSYNYA, INNA DUNAEVA, RALPH A. DEFRONZO, EUGENIO CERSOSIMO, IURIY KARACHENTSEV, San Antonio, TX, Kharkiv, Ukraine

1227-P GlycoMark 1,5-Anhydrocluitol Values in Patients Taking SGLT2 Inhibitors
SAM S. FEREIDONI, THOMAS P. SHOWS, CHANTELLE LESSARD-CHAUDOIN, KIM BRABENTZ, ROBERTO E. TENOPALA, JEFFREY R. DAHLEN, Scottsdale, AZ, Peoria, AZ, New York, NY

1228-P Sodium-Glucose Cotransporter 2 Inhibitors and Risk of Genital Mycotic and Urinary Tract Infections: A Population-Based Study of Older Women and Men with Diabetes
ILIÁNA C. LEGA, SUSAN BRONSKILL, MICHAEL A. CAMPITELLI, JUN GUAN, NATHAN M. STALL, KENNETH LAM, LISA M. MCCARTHY, ANDREA GRUNEIR, PAULA A. ROCHON, Toronto, ON, Canada, Edmonton, AB, Canada
1229-P  Dapagliflozin Improves Liver Dysfunction in Parallel with a Decrease in Serum Soluble DPP-4/CD26 Level in Type 2 Diabetic Patients with Nonalcoholic Fatty Liver Disease
Kanako Kato, Yoshimasa Aso, Teruo Jojima, Toshie Iijima, IsaO Usui, Sayama, Japan, Mibu, Japan, Kitakobayashi, Japan

1230-P  Addition of Canagliflozin to Insulin Improves Glycemic Control and Reduces Insulin Dose in Patients with Type 2 Diabetes Mellitus: A Study Based on Continuous Glucose Monitoring
Keiichi Torimoto, YoshiKe Okada, YasuNori Sato, Yoshiya Tanaka, Kitakyushu, Japan, Tokyo, Japan

1231-P  Dapagliflozin (DAPA) in Type 1 Diabetes (T1D): Pooled Outcomes from DEPICT-1 and -2
Parsh Dandona, Chantal Mathieu, Moshe Phillip, Lars Hansen, Fredrik A. Thoren, Markus F. Scheeren, John Xu, Anna Maria Langkilde, Buffalo, NY, Leuven, Belgium, Petah Tikva, Israel, Gaithersburg, MD, Malmö, Sweden, Wedel, Germany, Gothenburg, Sweden

1232-P  Predictors of β-Cell Function Changes: Pooled Analysis from Phase 3 Ertugliflozin Studies

1233-P  Systematic Literature Review (SLR) and Network Meta-analysis (NMA) of SGLT-1/2 Inhibitors vs. Metformin (MET) as Add-On to Insulin in T1DM
Bryony E. Langford, Marc Evans, Tao Haskins-Coulter, Mary-ElEnn O’Connor, Harriet E. Cant, Lucy A. Eddowes, Christopher Edmonds, Amarjeet Tank, Cambridge, United Kingdom, Cardiff, United Kingdom

HEALTH CARE DELIVERY—ECONOMICS/QUALITY IMPROVEMENT

Moderated Poster Discussion: Unique Challenges in Health Care Delivery (Posters: 1234-P to 1239-P), see page 104.

1234-P  Cost-Coping Behaviors Differ between Patients With and Without Diabetes Mellitus
Laura Hollar, Sarah Humble, Cynthia J. Herrick, Aimee S. James, St. Louis, MO

1235-P  Effects of Medicaid Expansion on Uninsured Rates: Diabetes Belt vs. Non-Belt Counties
Jennifer M. Lobo, SoYoung Kim, Gabrielle M. Ocker, HyouJung Kang, Timothy L. McMurry, Min-Woong Sohn, Charlottesville, VA

1236-P  Hospitalizations Rates among Homeless Children with Diabetes Mellitus in New York
Rie Sakai-Bizmark, Jennifer K. Yee, Torrance, CA

1237-P  Factors Associated with Health-Care Avoidance among Medicare Beneficiaries Aged 65 Years and Over with Reported Type 2 Diabetes
Boon Peng Ng, Brian C. Peach, ChanHyun Park, Samuel D. Towne, Jr., Jacqueline B. Lamanna, Orlando, FL, Boston, MA

1238-P  Utilization of Comprehensive Pharmacy Services in Diabetes Care Coordination for Hospitalized Patients
Andrew A. Welch, Timmi Anne Boesken, Brittany Woolf, Kimberly Berger, Adele Corbin, Nichole E. Bachman, Daniel Schauer, Mercedes Falciglia, Cincinnati, OH

Hui Shao, Michael Laxy, Stephen R. Benoit, Yiling J. Cheng, Edward Gregg, Ping Zhang, Atlanta, GA, Munich, Germany
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1240-P Differences in Initial Care and Outcomes Comparing Adults with Early vs. Usual Onset Type 2 Diabetes
MARUTA A. BLATCHINS, PRANITA MISHRA, RICHARD W. GRANT, ANJALI GOPALAN, Oakland, CA

1241-P Understanding Patients through Their Own Lens: The Lives of Individuals with Complex Diabetes as Revealed through Photo-Elicitation Interviews
MARGARET M. PAUL, ANDREA DAVILA SAAD, M. BARBARA TAGLIAFERO, JOHN BILLINGS, SAUL BLECKER, CAROLYN BERRY, New York, NY

1242-P The Impact of Telehealth on the Management of Diabetes in Rural/Remote North Queensland, Australia: A Retrospective Cohort Study
NISHA NANGRANI, USMAN MALABU, VENKAT VANGAVETI, Townsville, Australia, Douglas, Australia

1243-P Novel Use of Natural Language Processing to Identify Reasons for Insulin Discontinuation in Patients with T2DM: A Real-World Evidence Study
JIANMIN WU, FRITHA J. MORRISON, ZHENXIANG ZHAO, XUANYAO HE, MARIA SHUBINA, SHERVIN MALSAMI, WENDONG GE, XIAOMEI PENG, ALEXANDER TURCHIN, Indianapolis, IN, Boston, MA

1244-P Diabetes Screening to Appropriate Follow-Up: Are Patients Getting Timely Diagnoses and Treatment?
NIKITA STEMPNIEWSICZ, ELIZABETH L. CIEMINS, JOHN K. CUDDEBACK, Alexandria, VA

1245-P The Association of Glucose Variability during the Last Day of Hospitalization and 30-Day Readmission in Adults with Diabetes
ELIAS SPANAKIS, LAKSHMI G. SINGH, TARIQ SIDDIQUI, JOHN D. SORKIN, GEORGE NOTAS, MICHELLE F. MAGEE, JEFFREY C. FINK, MIN ZHAN, GUILLERMO E. UMPRIERREZ, Baltimore, MD, Heraklion, Greece, Washington, DC, Atlanta, GA

1246-P Reducing Hypoglycemia in the Noncritical Care Setting Using CGM Devices: The Glucose Telemetry System
ELIAS SPANAKIS, MEDHA SATYARENGGA, LAKSHMI G. SINGH, LILLIAN PINAULT, JOHN D. SORKIN, MIN ZHAN, GUILLERMO E. UMPRIERREZ, Baltimore, MD, Atlanta, GA

1247-P Anticipating the Impact of 2019 Guidelines: Use of SGLT2i and GLP-1RA in Patients with Diabetes and Cardiovascular Disease
CORI R. RATTelman, ELIZABETH L. CIEMINS, JOHN K. CUDDEBACK, Alexandria, VA

1248-P Estimating Diabetes Duration from Electronic Medical Records (EMRs) with an Intrinsic Diabetes Risk Prediction Model: From Clinical Trial to Real-World Clinical Practice
HUI SHAO, SHUANG YANG, CHARLES STOECKER, VIVIAN FONSECA, XIANG CHENG, LIZHENG SHI, New Orleans, LA, Sunnyvale, CA

1249-P Development and Validation of a Measure for Appropriateness of Glucose-Lowering Therapy
ROZALINA G. MCCOY, KASIA J. LIPSKA, HOLLY VAN HOUTEN, NILAY SHAH, Rochester, MN, New Haven, CT

1250-P Developing an “Appropriateness of Glucose-Lowering Therapy” Measure: Qualitative Analysis of Delphi Panel Deliberations
CHRISTINA M. LAVECCHIA, VICTOR M. MONTORI, NILAY SHAH, ROZALINA G. MCCOY, Rochester, MN

1251-P The Diabetes Transition of Hospital Care (DiaTOHC) Pilot Study: A Randomized Controlled Trial of an Intervention Designed to Reduce Readmission Risk of Patients with Diabetes
DANIEL J. RUBIN, SHERITA GOLDEN, GARY FOSTER, SUSAN FISHER, CHERIE LISA VAZ, HUAQING ZHAO, SAMUEL TANNER, DOMINIC RECCO, MADELINE TIVON, FELICIA R. DILLARD, SAMANTHA WATTS, KATHERINE E. JOYCE, ABHIJANA KARUNAKARAN, TANYA REZNICK, AMY IWAMAYE, ELI MILLER, CHRISTINE MATHAI, BONNIE S. ALBURY, Philadelphia, PA, Baltimore, MD, New York, NY, Voorhees, NJ, Buffalo, NY, Atlanta, GA

1252-P Readmission Risk and Risk Factors of Hospitalizations with a Primary Diagnosis of Diabetes Differ from Discharges with a Secondary Diagnosis of Diabetes
DANIEL J. RUBIN, HUAQING ZHAO, ELI MILLER, Philadelphia, PA
1253-P High Health-Care Utilization (HCU) and Costs Associated with Diabetes Mellitus (DM) and Nonalcoholic Fatty Liver Disease/Nonalcoholic Steatohepatitis (NAFLD/NASH) in Medicare Patients
STUART GORDON, JEREMY FRAYSSE, SUYING LI, A. BURAK OZBAY, ROBERT WONG, Detroit, MI, San Francisco, CA, Minneapolis, MN, Foster City, CA, Oakland, CA

1254-P Increased Health-Care Resource Utilization (HRU) and Costs among Nonalcoholic Fatty Liver Disease/Nonalcoholic Steatohepatitis (NAFLD/NASH) Patients with Advanced Fibrosis (AF) having Diabetes Mellitus (DM)
STUART GORDON, NANDITA KACHRU, A. BURAK OZBAY, ROBERT WONG, Detroit, MI, Foster City, CA, Oakland, CA

1255-P Overcoming Obstacles for Insulin-Treated Commercial Drivers: A Multidisciplinary Approach
DANIEL LORBER, KATIE HATHAWAY, Flushing, NY, Arlington, VA

1256-P Assessing Truck Drivers with Diabetes: The Clinician’s Role
DANIEL LORBER, KATIE HATHAWAY, Flushing, NY, Arlington, VA

1257-P Quality Improvement Project to Increase Insulin Pump Use in Pediatric Type 1 Diabetes
SARAH LYONS, NICKI L. CANADA, KEVIN HERNANDEZ, JAMIE E. SEGOVIA, SARA K. BARTZ, DANIEL J. DESALVO, SIRIPOOM MCKAY, RONA SONABEND, Houston, TX

1258-P Physician Survey on Discontinuing Dipeptidyl Peptidase-4 Inhibitors (DPP-4is) following Insulin Initiation in Patients with Type 2 Diabetes (T2D) in the U.S.
GAIL FERNANDES, DENA H. JAFFE, GRACE DIBONAVENTURA BEYER, JOANA E. MATOS, KRISTY IGLAY, IRA GANTZ, SWAPNIL RAJPATHAK, North Wales, PA, New York, NY, Rahway, NJ

1259-P Adherence and Persistence for Dulaglutide (DU) vs. Basal Insulin (BI) in Injection-Naïve Patients with Type 2 Diabetes (T2D): The DISPEL Study
REEMA MODY, QING HUANG, MARIA YU, LIYA WANG, XIAN ZHANG, MICHAEL GRABNER, HIREN PATEL, Indianapolis, IN, Wilmington, DE, Toronto, ON, Canada

1260-P A Clinical Care Improvement Pilot Program: Individualized Health Coaching and Use of Incentives for Youth with Type 1 Diabetes and Their Caregivers
LAUREN CLARY, ANDREW DAUBER, SUE-ANN ARBOINE, MEREDITH S. DILLON, BEAKAL (BK) ESHETE, SHAINA HATCHELL, SHARI JONES, PRIYA VAIDYANATHAN, FRAN R. CDGEN, Washington, DC

1261-P Assessing Data Availability and Benchmarking Performance of Quality Measures for the T1D Exchange Quality Improvement Collaborative
ALYSSA B. CABRERA, GUY T. ALONSO, SARAH CORATHERS, JOYCE M. LEE, PRIYA PRAHALAD, NICOLE RIOLES, Boston, MA, Denver, CO, Cincinnati, OH, Ann Arbor, MI, Stamford, CA

1262-P Physicians’ Perceptions and Attitudes towards Digitalization and New Technologies in Diabetes Care
BERNHARD KULZER, TIMM ROOS, NORBERT HERMANNS, DOMINIC EHRMANN, LUTZ HEINEMANN, Bad Mergentheim, Germany, Düsseldorf, Germany

1263-P Diabetes Care Network: A Paradigm Shift in Diabetes Care Delivery Utilizing Collaborative Care Pathway
ARCHANA BANDI, MEG J. LARSON, STACEY J. LUTZ-MCCAIN, ASHLEY M. SUMMERVILLE, BRANDI K. LUMLEY, MONIQUE Y. BOUDREAUX-KELLY, Pittsburgh, PA, Edinboro, PA, Seneca, PA, Butler, PA

1264-P Predictors of Success in Usual and Intensive Specialty Diabetes Programs
KAYLA L. DEL VALLE, ANA MARIA GRIZALES, MARINA DONAHUE, ALEXANDER TURCHIN, MARIE E. MCDONNELL, Boston, MA

1265-P The Paradox of Care Delivery for Type 1 Diabetes in Primary Care Settings: A Call for Interventions to Reduce Health Disparities
ASHBY F. WALKER, NICOLAS CUTTRISS, MICHAEL J. HALLER, KATARINA YABUT, CLAUDIA ANEZ-ZABALA, RAYHAN LAL, ELENI SHEHAN, MARINA BASINA, KOREY K. HOOD, ANGELINA BERNIER, LINDA G. BAER, STEPHANIE L. FILIPP, C. JASON WANG, MARISSA TOWN, MATTHEW J. GURKA, DAVID M. MAHAWS, Gainesville, FL, Stanford, CA, Palo Alto, CA

1266-P Diabetes INSIDE: Improving Population HbA1c Testing and Targets in Primary Care with QI
ROY E. FURMAN, TIMOTHY S. HARLAN, LESLEY LEBLANC, ELISE FURMAN, VIVIAN FONSECA, Bala Cynwyd, PA, New Orleans, LA
1280-P Effect of Professional CGM (pCGM) on Glucose Management in Type 2 Diabetes Patients in Primary Care
THOMAS W. MARTENS, RICHARD M. BERGENSTAL, MARY L. JOHNSON, JANET L. DAVIDSON, GREGG SIMONSON, Minneapolis, MN

1281-P Proactive Chronic Care Management for Patients with Poorly Controlled Diabetes in an Academic Health-Care System: The Emory Diabetes Management Program
ANDIRAN AYANAMBAKKAM NAMBI, ZIRKA T. SMITH, MARGARET S. PRESSWOOD, SOL JACOBS, ALISA F. MCALEER, PENNY A. CASTELLANO, MARJAN KHOSRAVANIPOUR, RODOLFO J. GALINDO, FREDERICK E. TURTON, JOSEPH DEE, CHRISTOPHER M. MAS, GREGORY J. ESPER, GUILLERMO E. UMPIERREZ, Atlanta, GA

1282-P Patient-Related Factors Affecting Utilization of Diabetes Care
RAJESH GARG, WILLIAM H. CADE, ERNESTO BERNAL-MIZRACHI, Coral Gables, FL, Miami, FL

1283-P PTS Diagnostics A1CNow+: A Valuable Tool in a Value-Based World
CARRIE J. SZABLICKI, KADDY DAVIS, JAMES H. ANDERSON, JR., Indianapolis, IN

1284-P Mobile Patient Portal Access and Diabetes Outcomes
ILANA GRAETZ, JIE HUANG, BRUCE FIREMAN, JOHN HSU, MARY REED, Atlanta, GA, Oakland, CA, Orinda, CA, Boston, MA

1285-P Impact of Adding a GLP-1 Receptor Agonist to the Medication Regimen
MICHELLE JACOBS, TAYLA ROSE, DEBRA J. REID, CARLA BOUWMEESTER, MICHAEL CONLEY, BORNA FATEHI, THOMAS M. MATTA, JUDITH BARR, Boston, MA

1286-P U.S. Air Force Project ECHO Diabetes: Our Seven-Year Experience
DARRICK BECKMAN, MARK W. TRUE, CONNIE C. MORROW, NINA WATSON, JANA L. WARDIAN, JOSHUA M. TATE, TOM J. SAUERWEIN, San Antonio, TX

1287-P Demographics, Socioeconomic Characteristics, and Quality of Life Accompaniments of Pain in Diabetic Polyneuropathy
BRITTANY LAPIN, SHANNON MORRISON, ANDREW SCHUSTER, KRISTEN JOHNSON, FERNANDA BOULOS, NIMISH J. THAKORE, ALEX MILINOVICH, Cleveland, OH, East Hanover, NJ

1288-P The Association between COSS Use and Diabetes Management
GANISHER DAVLYATOV, NAVNEET KAUR BAIDWAN, TAPAN MEHTA, Birmingham, AL

1289-P The Impact of Medication Interventions in a Clinical Pharmacy Specialist Medication Management Clinic on A1C Reduction and Glycemic Goals
LAUREN DESKO, Savannah, GA

1290-P Achieving and Sustaining Inpatient Glycemic Goals by Employing Targeted Strategies that Include Daily Surveillance and Real-Time Communication
ELAINA L. THOMPSON, BRIDGET EVERHART, Aurora, CO

1291-P Type 1 Diabetes Patients Can Achieve Stable Glycemic Control with Routine Clinical Visits: Results of a Novel Integrated Outpatient Diabetes Management System
YUTING XIE, XIA LI, FANG LIU, ZHIGUANG ZHOU, Changsha, China

1292-P Projected Long-Term Clinical Benefit and Cost-Effectiveness of Empagliflozin Compared with Glimepiride in Patients with Type 2 Diabetes in China
MARK LAMOTTE, AHMED SALEM, SAM R. METTAM, ANASTASIA V. USTYUGOVA, EDMUND ZHANG, MAFALDA RAMOS, Zaventem, Belgium, Ingelheim, Germany, Beijing, China

1293-P Health Center Services and Glycemic Control in Latinos with Diabetes
JOSHUA KATZ, WEN WAN, ERIN M. STAAB, NEDA LAITEERAPONG, ARSHIYA A. BAIG, Chicago, IL

1294-P Detection and Intervention of Prediabetes in a Large Urban Health System: Systematic Failure or Looming Opportunity?
EMILY NEWBOLD, SUSAN E. CARLSON, DEBRA K. SULLIVAN, DAVID C. ROBBINS, ALVIN BELTRAMO, MAREN LOWRANCE, LEMUEL R. WAITMAN, Kansas City, KS

1295-P Economic Evaluation of Drug Combination Strategy for Type 2 Diabetes in China
SHUYAN GU, YI SHEN, LIZHENG SHI, HENGJIN DONG, Hangzhou, China, New Orleans, LA
1296-P Self-Reported Symptoms and Frequency of Hypoglycemia in Primary Care Patients with Type 2 Diabetes Mellitus: A Cross-Sectional, Multicenter Study  
YINGQI XU, JOYCE Y. LEE, Singapore, Singapore

1297-P Mortality and Glycemic Control among Patients with Endometrial Cancer and Diabetes Mellitus: A Case-Control Study  
NINA KARLIN, PATRICIA M. VERONA, MATTHEW R. BURAS, HEIDI E. KOSIOREK, CURTISS COOK, Phoenix, AZ, Scottsdale, AZ

1298-P Unique Patterns of Racial/Ethnic Disparities among Vulnerable Young Adults with Type 1 Diabetes  
SHIVANI AGARWAL, LAUREN KANAPKA, JENNIFER RAYMOND, ASHBY F. WALKER, ANDREA GERARD GONZA-LEZ, DAVIDA F. KRUGER, MARIA, JOSE REDONDO, MICHAEL R. RICKELS, VIRAL N. SHAH, ASHLEY BUTLER, VICTORIA MILLER, ROBIN L. GAL, STEVEN M. WILLI, JUDITH A. LONG, Bronx, NY, Tampa, FL, Los Angeles, CA, Gainesville, FL, Aurora, CO, Detroit, MI, Houston, TX, Philadelphia, PA

1299-P The Paediatric Diabetes Service in England and Wales—An Improvement Journey  
MEGAN FENGMEI PENG, JUSTIN WARNER, HOLLY ROBINSON, KASIA MUSZYNSKA, SUE EARDLEY, Fiona M. CAMPBELL, London, United Kingdom, Cardiff, United Kingdom, Leeds, United Kingdom

1300-P Hyperglycemia Is Associated with Worse Outcomes in Neurosurgery Only in Patients without Diabetes  
GIAMPAOLO GRECO, ALAN J. MOSKOWITZ, DAVID W. LAM, New York, NY

1301-P An Analysis of Correlative Factors of HbA1c Achieving Rate in Follow-Up Cohort of Internet plus Diabetes Shared Care Clinic  
ANG LI, XIAOYONG YUAN, LI LIN, DIFEI LU, DONGHUI ZHANG, YALAN SUN, JUN LI, LULU JING, YANNI WANG, XIAOHUI GUO, JUNQING ZHANG, Beijing, China

1302-P Availability and Affordability of WHO Essential Medicines for Diabetes in Low- and Middle-Income Countries—Assessing the Gap and Needs from a Systematic Review  
ALPHA MAMADOU DIALLO, MOHAMMED K. ALI, K.M. VENKAT NARAYAN, Atlanta, GA

1303-P Improving Rate of Glucose Recheck after Hypoglycemia through the PDSA Model  
LIU YUNXIA, LI YI, CHUNRUJU LI, YANG ZHENGGUO, KA HEI KAREN LAU, DAVID M. POBER, LINDA (YAN) ZHANG, ROBERT A. GABBAY, WILLIAM C. HSU, Weifang, China, Boston, MA

1304-P “They Were All Together...Discussing the Best Options For Me”: Integrating Specialist Diabetes Care within Primary Care  
DENIZ O. KUZULUGIL, MELISSA L. HARRIS, JULIE E. BYLES, MARTHA E. PARSONS, ANNALISE N. PHILCOX, SHAMASUNDER H. ACHARYA, Newcastle, Australia, New Lambton Heights, Australia

1305-P Detection of Diabetes Status and Type in Youth Using EMRs  

1306-P Cost Effectiveness of Point-of-Care HbA1c in Primary Care Setting in Brazil  
DANIELLE S. MEDEIROS, LORENA S. ROSA, SOSTENES MISTRO, CLAUDIA N. KOCHERGIN, DANIELA A. SOARES, KELLE O. SILVA, JOSÉ A. LOUZADO, MATHEUS L. CORTEZ, VANESSA M. BEZERRA, WELMA W. AMORIM, MÁRCIO G. OLIVEIRA, Vitória da Conquista, Brazil, Salvador, Brazil

1307-P Real-World Health-Care Costs Impacted by Diabetes Mellitus (DM) among Nonalcoholic Fatty Liver Disease/Nonalcoholic Steatohepatitis (NAFLD/NASH) Patients with Advanced Liver Diseases (AdvLD)  
ROBERT WONG, NANDITA KACHRU, DIANE MARTINEZ, MEGHAN MOYNIHAN, A. BURAK OZBAY, STUART GORDON, Oakland, CA, Foster City, CA, Arlington, VA, Ann Arbor, MI, Detroit, MI

1308-P Improved Transition in Young Adults with Diabetes: A Pragmatic Clinical Trial  
SONIA BUTALIA, ASHLEE MCGUIRE, SUSAN CRAWFORD, DAVE DYJUR, JULIA MERCER, DANIELLE PACAUD, Calgary, AB, Canada
1309-P Utilizing a Clinical Decision Support System for Hypoglycemia Management
JACQUELYN R. GIBBS, KIMBERLY BERGER, MERCEDES FALCIGLIA, Cincinnati, OH

1310-P Outcomes Before and After Implementation of a Comprehensive Multidisciplinary Cardiovascular Diabetes Program among Patients with Diabetes Undergoing Coronary Artery Bypass Grafting (CABG)
ELIAS S. SIRAJ, AARON NELSON, JOHN E. BRUSH, JR., JAGDEESH ULLAL, RAJAN LAMICHHANE, BRYNN E. SHEEHAN, Norfolk, VA, Pittsburgh, PA

1311-P Machine Learning (ML) to Predict Patient Risk of Nonadherence in Type 2 Diabetes Management Using U.S. Claims Databases
XIN CHEN, GAIL FERNANDES, JIE CHEN, ZHIWEN LIU, RICHARD BAUMGARTNER, Boston, MA, North Wales, PA, Kenilworth, NJ

1312-P Admission Plasma Glucose and HbA1c in Emergency Hospital Admissions by Ethnicity
SUSAN E. MANLEY, RADIKA SUSARLA, RACHEL A. ROUND, PETER NIGHTINGALE, JOHN A. WILLIAMS, IRENE M. STRATTON, JONATHAN WEBBER, GEORGIOS GKOUTOS, WASIM HANIF, GRAHAM ROBERTS, SANDIP GHOSH, Birmingham, United Kingdom, Cheltenham, United Kingdom, Waterford, Ireland

1313-P Comparison of Diabetes Health-Care Quality between Endo ECHO and the Academic Medical Center Center
MARGARET M. PAUL, ANDREA DAVILA SAAD, JOHN BILLINGS, SAUL BLECKER, MATTHEW F. BOUCHONVILLE, BRANT HAGER, SANJEEV ARORA, CAROLYN BERRY, New York, NY, Albuquerque, NM

1314-P Co-creating Gestational Diabetes Education: Using Web Analytics to Assess Learning Interests
JAMIE BOISVENUE, SARAH A. GHNAIM, PADMA KAUL, EDMOND A. RYAN, ROSEANNE O. YEUNG, Edmonton, AB, Canada

PEDIATRICS—OBESITY AND TYPE 2 DIABETES
Moderated Poster Discussion: Type 2 Diabetes in Youth—From Risk Factors to Early Complications (Posters: 1316-P to 1321-P), see page 104.

1316-P Adiponectin-Related Genetic Variation and Dietary Pattern Associations with Metabolic Health in Children across Weight Status: From a Large Cohort Study
SHAN GAO, GE LI, STEVEN M. WILLI, BCAMS STUDY GROUP, MING LI, Beijing, China, Philadelphia, PA

1317-P Static, but Nondynamic, β-Cell Responsiveness to Glucose Is Affected by the Risk Variant rs7903146 of TCF7L2 and Associated with a Delayed Time-to-Glucose-Peak in Obese Youths
ALFONSO GALDERISI, DOMENICO TRICO, CHIARA DALLA MAN, STEPHAN SIEBEL, NICOLA SANTORO, BRIDGET PIERPONT, CLAUDIO COBELLI, SONIA CAPRIO, New Haven, CT, Padova, Italy

1318-P Fructose Consumption Contributes to Hyperinsulinemia in Obese Adolescents through a GLP-1-Mediated Mechanism
ALFONSO GALDERISI, MICHELLE A. VAN NAME, COSIMO GIANNINI, MARY SAVOYE, SONIA CAPRIO, New Haven, CT, Chieti, Italy

1319-P The Ratio of Unmethylated to Methylated Insulin DNA Is Negatively Correlated to Age in Adolescents with Type 2 Diabetes
DANIEL S. HSIA, SHELLY MERCER, JASON COLLIER, WILLIAM D. JOHNSON, KEN MCCORMICK, Baton Rouge, LA, Tulsa, OK, Birmingham, AL

1320-P Baseline Predictors of Change in Glycemia in the Restoring Insulin Secretion (RISE) Pediatric Medication Study
KRISTEN J. NADEAU, SHARON EDELSTEIN, SILVA A. ARSLANIAN, SONIA CAPRIO, PHILIP ZEITLER, THOMAS A. BUCHANAN, DAVID A. EHRRMAN, KIEREN J. MATHER, ELLEN LESCHER, MARK TRIPPUTI, STEVEN E. KAHN, TAMARA S. HANNON, RISE CONSORTIUM, Denver, CO, Rockville, MD, Pittsburgh, PA, New Haven, CT, Aurora, CO, Los Angeles, CA, Chicago, IL, Indianapolis, IN, Bethesda, MD, Seattle, WA
1321-P Reduced Heart Rate Variability (HRV) in Young Adults with Youth-Onset Type 2 Diabetes (T2D) Is Related to Glycemic Control: The TODAY Study
AMY SANGHAVI SHAH, LAURE EL GHORMLI, FIDA BACHA, RYAN M. FARRELL, SAMUEL GIDDING, E. E. KATZ, JEANIE B. TRYGGESTAD, MARY ELLEN VAJRAVELU, NEIL H. WHITE, ELAINE M. URBINA, Cincinnati, OH, Rockville, MD, Houston, TX, Cleveland, OH, Pasadena, CA, Philadelphia, PA, Oklahoma City, OK, St. Louis, MO

1322-P Early Environment and Genetic Predisposition to Metabolically Obese Normal-Weight Phenotype in Children: Findings from a Cohort Study
MING LI, GE LI, SHAN GAO, STEVEN M. WILLI, BCAMS STUDY GROUP, Beijing, China, Philadelphia, PA

1323-P Offspring Diet Quality Modifies the Effect of Gestational Diabetes Exposure on Adiposity Outcomes: The EPOCH Study
KATHERINE A. SAUDER, TRACI A. BEKELMAN, KYLIE K. HARRALL, DEBORAH H. GLUECK, DANA DABELEA, Aurora, CO

1324-P Glucose Metabolism among Obese and Nonobese Children of Mothers with Gestational Diabetes
JUN LU, YUYING GU, LEISHEN WANG, WEIQIN LI, SHUANG ZHANG, HUIKUN LIU, JING HONG, JIN LIU, SHUO WANG, LIFANG HOU, ANDREA BACCARELLI, GANG HU, Baton Rouge, LA, Tianjin, China, Chicago, IL, New York, NY

1325-P Effectiveness of Comprehensive Gene Panel-Based Next-Generation Sequencing with Phenotype-Driven Bioinformatics Analysis for Diagnosis of Atypical Diabetes
JUN HOSOE, HIROKO KADOWAKI, FUYUKI MIYA, MINAKA TAKAKURA, HIRONORI WAKI, TAKASHI KADOWAKI, Tokyo, Japan

1326-P Metformin Increases GLP-1 Concentrations and Improves Glycemia in Youth with Type 2 Diabetes
CELESTE K. CRAVALHO, ABBY G. MEYERS, LILIAN MABUNDO, AMBER B. COURVILLE, SHANNA BERNSTEIN, YUHAI DAI, MARY WALTER, SHAJI CHACKO, MOREY W. HAYMOND, STEPHANIE T. CHUNG, Bethesda, MD, Houston, TX, Eden, UT

1327-P Baseline Characteristics of Latino Youth with Prediabetes: The Preventing Diabetes in Latino Youth Cohort
MICAH OLSON, YOLANDA P. KONOPKEN, FELIPE G. CASTRO, HOCHUN H. HU, COLLEEN KELLER, DONALD L. PATRICK, ALLISON WILLIAMS, STEPHANIE AYERS, WILLIAM C. KNOWLER, JANIEL PIMENTEL, ARMANDO PENA, ERICA G. SOLTERO, GABRIEL O. SHAIIBI, Phoenix, AZ, Columbus, OH, Seattle, WA

1328-P Racial Differences in Comorbidities in Youth with T2D in the Pediatric Diabetes Consortium (PDC)
FIDA BACHA, PEIYAO CHENG, ROBIN L. GAL, LINDSEY C. BEAULIEU, CRAIG KOLLMAN, ANNE ADOLPH, ISHITA JINDAL, ASHLEY H. SHOEMAKER, RISA M. WOLF, GEORGEANNA J. KLINKENSCHMIT, WILLIAM V. TAMBOURLANE, Houston, TX, Pittsburgh, PA, Baltimore, MD, Aurora, CO, New Haven, CT

1329-P National Differences and Similarities in Youth-Onset Type 2 Diabetes
JANE L. LYNCH, MARGARITA BARRIERTOS-PÉREZ, MONA HAFEZ, MUHAMMAD YAZID JALALUDIN, MARGARITA KOVARENKO, VISHNUPRIYA RAD PATURI, DANIEL WEGHUBER, NOVO NORDISK PAEDIATRIC T2D GLOBAL EXPERT PANEL, San Antonio, TX, Puebla City, Mexico, Cairo, Egypt, Kuala Lumpur, Malaysia, Novosibirsk, Russian Federation, Hyderabad, India, Salzburg, Austria

1330-P Ethnic Differences in Insulin Clearance: Relationship with Admixture Scores, Diet, and Physical Activity
FRANCESCA PICCININI, BARBARA GOWER, JOSE R. FERNANDEZ, RICHARD N. BERGMAN, Los Angeles, CA, Birmingham, AL

1331-P OGTT Glucose-Response-Curve (GRC) in Islet Cell Antibody-Positive (Ab+) vs. -Negative (Ab-) Obese Youth Clinically Diagnosed with Type 2 Diabetes (CDX-T2D)
JOON YOUNG KIM, NOUR GEBARA, HALA TFAYLI, FIDA BACHA, SILVA A. ARSLANIAN, Pittsburgh, PA, Beirut, Lebanon, Houston, TX

1332-P Complement C3 and C4 Levels Predict Cardiometabolic Risk in Healthy Adolescents
ROBERT P. HOFFMAN, CHACK-YUNG YU, Columbus, OH

1333-P Increased Spare Respiratory Capacity in Circulating Cells and Decreased Serum Antioxidant Defense Mechanisms in Obese Children
EUGENIA CARVALHO, SHANNON ROSE, MATTHEW COTTER, SIRISH C. BENNURI, LEANNA M. DELHEY, GRACE A. GOODE, ALEXANDRIA BEEBE, ELISABET BØRSHEIM, Little Rock, AR
1334-P Structural Brain Differences between Adolescents with Type 2 Diabetes and Obese Controls
JACOB M. REDEL, MARK W. DIFRANCESCO, GREGORY R. LEE, LAWRENCE M. DOLAN, AMY SANGHAVI SHAH, Cincinnati, OH

1335-P Weight Status and Cardiometabolic Risk Factors among Adolescents in Japan
SAKIKO Y. MORIKAWA, KAZUYA FUJIHARA, DAI ISHII, RINA NEDACHI, MASAIRO ISHIZAWA, HAJIME ISHI-GURO, YASUHIRO MATSUBAYASHI, TAKAHO YAMADA, SATORU KODAMA, HIROHITO SONE, Tokushima, Japan, Niigata, Japan

1336-P Health-Care Utilization in T2D Youth in the Pediatric Diabetes Consortium (PDC)
GEORGEANNA J. KLINGENSMITH, PEIYAO CHENG, ROBIN L. GAL, LINDSEY C. BEAULIEU, CRAIG KOLLMAN, RAMON L. ADAMS, TAMARA S. HANNON, LISA M. LOOPER, WILLIAM V. TAMBORLANE, Aurora, CO, Tampa, FL, Cleveland, OH, Indianapolis, IN, Greenville, SC, New Haven, CT

1337-P Prediction of Insulin Sensitivity Using Serum Carotenoid Concentrations and Pediatric Metabolic Index in Mexican-American Children
SRINIVAS MUMMIDI, JOSELIN HERNANDEZ-RUIZ, VIDYA S. FAROOK, LAVANYA REDDIVARI, ALVARO DIAZ-BADILLO, SHARON P. FOWLIER, ROY G. RESENDEZ, FEROZ AKHTAR, DONNA LEHMAN, CHRIS JENKINSON, RECTOR ARYA, JANE L. LYNCH, RALPH A. DEFRONZO, DANIEL E. HALE, JOHN BLANGERO, JUAN C. LOPEZ-ALVARENGA, RAVINDRANATH DUGGIRALA, JAIRAM K. VANAMALA, Edinburg, TX, San Antonio, TX, West Lafayette, IN, Brownsville, TX, McAllen, TX, Hershey, PA, University Park, PA

1338-P Lipoprotein Insulin Resistance Scores Decrease after a Lifestyle Intervention among Obese Adolescents with Prediabetes
ANA M. RENTERIA-MEXIA, MICAH OLSON, MARGERY A. CONNELLY, SONIA VEGA-LÓPEZ, ALLISON WILLIAMS, GABRIEL Q. SHAIBI, Ciudad Obregón, Mexico, Phoenix, AZ, Morrisville, NC

1339-P Ratio of Visceral-to-Subcutaneous Fat Area Is Different between Simple Obesity and Type 2 Diabetes in Adolescents
YURIKO ABE, TATSUHIKO URAKAMI, KEI YOSHIDA, MASAKO AOKI, MITSUHIKO HARA, ICHIRO MORIOKA, Tokyo, Japan

1340-P Higher Morning Serum Cortisol (MSC) Associates with Prediabetes and Other Metabolic Syndrome (MetSyn) Components in Predominantly Latino Adolescents
CLAUDIA M. TOLEDO-CORRAL, CHRISTIANNE J. LANE, MARC WEGIENBORG, Northridge, CA, Los Angeles, CA

1341-P Association of NAFLD with Diabetes and the Impact of Waist Circumference and BMI Changes in Subjects with Prediabetes
JIWOO LEE, YU MI KANG, JOONG-YEOL PARK, WOO JE LEE, Seoul, Republic of Korea

1342-P Development of Type 2 Diabetes (T2D) in Obese Adolescent Girls with Polycystic Ovary Syndrome (PCOS)
JULIA HUDNUT-BEUMLER, JILL KAAR, LAURA PYLE, MEGAN M. KELSEY, KRISTEN J. NADEAU, PHILIP ZEITLER, MELANIE CREE-GREEN, Denver, CO, Aurora, CO

PEDIATRICS—TYPE 1 DIABETES

Moderated Poster Discussion: Type 1 Diabetes in Youth—From Risk to Management (Posters: 1343-P to 1348-P), see page 106.

1343-P A Comparison of C-Peptide and Glucose Responses between Children and Adolescents Who Progress to Type 1 Diabetes (T1D)
HEBA M. ISMAIL, BRANDON M. NATHAN, JERRY P. PALMER, LINDA DIMEGLIO, JAY M. SOSENKO, Indianapolis, IN, Minneapolis, MN, Des Moines, WA, Miami, FL

1344-P Persistent β-Cell Responsiveness in Children at High Risk for Type 1 Diabetes (T1D) Is Associated with Decreased Progression to T1D in the Diabetes Prevention Trial-Type 1 (DPT-1)
EMILY K. SIMS, HEBA M. ISMAIL, BRANDON M. NATHAN, JAY M. SOSENKO, Indianapolis, IN, Minneapolis, MN, Miami, FL
1345-P  ⚙  Presymptomatic and Clinical T1D in The U.S., Sweden, and Finland: Joint Analysis of Four Birth Cohort Studies
VIBHA ANAND, BIN LIU, MOHAMED GHALWASH, EILEEN KOSKI, KENNEY NG, JESSICA L. DUNNE, WILLIAM HAGOPIAN, MARKUS LUNDGREN, ÅKE LERNMARK, JORMA IOLONEN, RIITTA VEIJOLA, MARIAN REWERS, FOR T1D STUDY GROUP, Cambridge, MA, Yorktown Heights, NY, New York, NY, Seattle, WA, Lund, Sweden, Malmö, Sweden, Turku, Finland, Oulu, Finland, Denver, CO

1346-P  ⚙  Longitudinal Evaluation of Cognitive Functioning in Young Children with Type 1 Diabetes: Persistent Effects on IQ and Vocabulary
STUART A. WEINZIMER, JODIE M. AMBROSINO, ALLISON CATO, BOOIL JO, KIMBERLY A. ENGLERT, NEIL H. WHITE, ANA MARIA ARBELAEZ, TAMARA HERSHEY, LARRY A. FOX, EVA TSALIKIAN, MICHAEL TANSEY, BRUCE A. BUCKINGHAM, TANDY AYE, DARRELL M. WILSON, WILLIAM V. TAMBORLANE, ALLAN L. REISS, NELLY MAURAS, DIABETES RESEARCH IN CHILDREN NETWORK, New Haven, CT, Jacksonville, FL, Stanford, CA, St. Louis, MO, Iowa City, IA, Palo Alto, CA

1347-P  ⚙  Improvement in Peripheral Insulin Sensitivity (IS) with Metformin (MET) in Adolescents with Type 1 Diabetes (T1D) Is Not Mediated by Muscle Mitochondrial Change
KALIE L. TOMMERDAHL, MELANIE CREE-GREEN, PETTER BJORNSTAD, ANNE-MARIE CARREAU, YESENIA GARCIA REYES, AMY D. BAUMGARTNER, MARK S. BROWN, BRADLEY NEWCOMER, JANE E.B. REUSCH, KRISTEN J. NADEAU, Aurora, CO, Denver, CO, Harrisonburg, VA

1348-P  ⚙  Celiac Disease in Children with T1D Varies among the World: An International, Cross-Sectional Study of 39,425 Patients from the SWEET Registry
ANNA TACZANOWSKA, ANKE SCHWANDT, SHAZHAN AMED, JANNET SVENSSON, AGNIESZKA SZYPOWSKA, CHRISTINA KANAKA-GANTENBEIN, PETER TOTH-HEYN, SARIK KREPEL VOLSKY, Warsaw, Poland, Ulm, Germany, Vancouver, BC, Canada, Herlev, Denmark, Athens, Greece, Budapest, Hungary, Petah Tikva, Israel

1349-P  ⚙  Sociodemographic and Clinical Factors Associate with Parental Fear of Hypoglycemia: Italian Nationwide Cross-Sectional Survey
VALENTINO CHERUBINI, DORINA PJETRAJ, RICCARDO BONFANTI, MONICA MARINO, ANTONIO IANNILLI, ISPED, FLAVIA CARLE, ROSARIA GESUITA, Ancona, Italy, Milan, Italy

1350-P  ⚙  Safety and Pharmacokinetics of Technosphere Insulin in Pediatric Patients
MARSHALL L. GRANT, JOHN A. KRUEGER, MARK FINEMAN, GAURAV SHARMA, FRANK POMPILIO, DAVID M. KENDALL, Westlake Village, CA, San Diego, CA

1351-P  WITHDRAWN

1352-P  ⚙  Ancestry Affects Biomarkers of Pediatric Type 1 Diabetes
NANCY KELLER, KEELY E. FULLER, BETTY J. SHUM, JANELLE NOBLE, Alameda, CA, Stanford, CA, Oakland, CA

1353-P  ⚙  Baseline Assessment of Transition Preparedness in Youth with Type 1 Diabetes
KANTHI BANGALORE KRISHNA, MACY REALL, Hershey, PA

1354-P  ⚙  Novel Telehealth Support Intervention for Young Children Using HCL
LAUREL H. MESSER, SARAH HANES, IDEEN TABATAIBAI, LINDA DIMEGLIO, TAMARA S. HANNON, GREGORY P. FORLENZA, STEPHANIE WOERNER, SAMANTHA LANGE, KIMBERLY A. DRISCOLL, KOREY K. HOOD, HENRY RODRIGUEZ, BRUCE A. BUCKINGHAM, Aurora, CO, Stanford, CA, Palo Alto, CA, Indianapolis, IN, Tampa, FL

1355-P  ⚙  HbA1c Trajectories from Time of Diagnosis in Youth with T1D

1356-P  ⚙  Comparison of Serum Adipokines and Anthropometric Measures in Children with Type 1 Diabetes (T1D) and Obesity
MARIA JOSE REDONDO, XIAOJUN GU, STEPHANIE SISLEY, MUSTAFA TOSUR, ALEJANDRO F. SILLER, MELISSA BONDY, SRIDEVI DEVARAJ, Houston, TX
1357-P  Real-World Glycemic Profiles and Insulin Use Patterns of 9,914 Pediatric and Adolescent Patients with Type 1 Diabetes Using the Omnipod® Insulin Management System with Cloud-Based Data Management
JENNIFER E. LAYNE, YIBIN ZHENG, JIALUN HE, JAY JANTZ, ERIC BENJAMIN, TRANG T. LY, Acton, MA

1358-P  Early CGM Initiation in New-Onset Type 1 Diabetes Patients
PRIYA PRAHALAD, DAVID SCHEINKER, KOREY K. HOOD, BRUCE A. BUCKINGHAM, DARRELL M. WILSON, ANNETTE CHMIELEWSKI, BARRY P. CONRAD, ELENA GEELS, JEANNINE LEVERENZ, KRISTINE PETERSON, DAVID M. MAAHS, Stanford, CA, Palo Alto, CA, San Jose, CA

1359-P  Improving Transition Readiness in Teens with Type 1 Diabetes (T1D): Feasibility Results of a Pilot RCT
KATHARINE GARVEY, TAYLOR DEAN, SINEAD CHRISTENSEN, KRISTEN RICE, VIRGINIA B. RICH, SHANNON TERRIO, LORI M. LAFFEL, Boston, MA

1360-P  Increase in Diabetic Ketoacidosis at Diagnosis of T1D in Colorado Children, 2010-2017
GUY T. ALONSO, ALEXANDER COAKLEY, LAURA PYLE, KATHERINE MANSEAU, SARAH THOMAS, MARIAN REWERS, ARLETA REWERS, Denver, CO, Aurora, CO, Las Cruces, NM

1361-P  Features to Increase Glycemic Benefits in an Ideal Artificial Pancreas (AP): Perspectives of Young Persons with Type 1 Diabetes (T1D)
PERSIS V. COMMISSARIAT, LINDSAY ROETHKE, JENNIFER L. FINNEGAN, LISA K. VOLKENING, DAYNA E. MCGILL, EYAL DASSAU, STUART A. WEINZIMMER, LORI M. LAFFEL, Boston, MA, New Haven, CT, Cambridge, MA

1362-P  Puberty Changes Everything: Longitudinal Multitrajectory Modeling of Metabolic Control, Body Mass Index, and Insulin Dose among 9,239 Children with T1D from the DPV Registry
ANKE SCHWANDT, OLIVER KUSS, DESIREE P. DUNSTHEIMER, BEATE KARGES, THOMAS M. KAPELLEN, THOMAS MEISSNER, SR., MICHAEL WITSCH, MONIKA FLURY, STEFANIE STRAUBINGER, REINHARD W. HOLL, DPV INITIATIVE, Ulm, Germany, Düsseldorf, Germany, Augsburg, Germany, Aachen, Germany, Leipzig, Germany, Luxembourg City, Luxembourg, Dresden, Germany, Vienna, Austria

1363-P  Cyber School: A Marker of High-Risk Youth with Diabetes?
CHRISTINE MARCH, LINDA M. SIMINERIO, ELIZABETH MILLER, INGRID LIBMAN, Pittsburgh, PA

1364-P  Parent and Physician Preferences for Screening in Type 1 Diabetes (T1D)
JESSICA L. DUNNE, JESSIE SUTHPHIN, JESSE S. BUSHMAN, BARBARA FONTANALS-CIRERA, JOSHUA R. COULTER, CAMPBELL T. HUTTON, ANNE KORALOVA, CLAIRE M. ERVIN, CAROL MANSFIELD, New York, NY, Research Triangle Park, NC, Washington, DC, Durham, NC

1365-P  Metabolic Control Three Years after Diagnosis in Children with T1D: Is DKA at Onset or HbA1c at Onset Closer Associated with Third Year HbA1c? Data from the International Pediatric Diabetes Registry SWEET
BARBARA PICCINI, ANKE SCHWANDT, ILKNUR ARSLANOGLU, ROQUE CARDONA-HERNANDEZ, REGIS COUTANT, CRAIG A. JEFFERIES, JAE HYUN KIM, OLGA KORDONOURI, CATARINA LIMBERT, ROMUALDAS TINIAUSKAS, AUSTE PUNDZIUTE-JASSE, BIRGIT RAMI-MERHAR, ERICK RICHMOND, SR., RADKA SAVOVA, SLADJANA TODOROVIĆ, HENDRIK J. VEEZE, SONIA TONI, FOR THE SWEET REGISTRY, Florence, Italy, Ulm, Germany, Duzce, Turkey, Barcelona, Spain, Angers, France, Auckland, New Zealand, Seongnam, Republic of Korea, Hannover, Germany, Lisbon, Portugal, Kaunas, Lithuania, Gothenburg, Sweden, Vienna, Austria, San Jose, Costa Rica, Sofia, Bulgaria, Belgrade, Serbia, Rotterdam, Netherlands

1366-P  Effect of Substance Use on Type 1 Diabetes (T1D) Pancreas Histopathology
BRITANY S. BRUGGEMAN, MARTHA CAMPBELL-THOMPSON, AMANDA L. POSGAI, MARK A. ATKINSON, DESMOND SCHATZ, LORI M. JACOBS, Gainesville, FL

1367-P  Effect of Nationwide Reimbursement of Sensor-Augmented Pump (SAP) Therapy in a Paediatric Type 1 Diabetes (T1D) Population on HbA1c, Hypoglycaemia, and Quality of Life (QoL) According to Age Groups in the RESCUE-Paediatrics Study
FRANCESCA DE RIDDER, SEPPE JACOBS, SARA CHARLEER, PIETER GILLARD, KRISTINA CASTEELS, SARA VAN AKEN, INGE GIES, GUY MASSA, PHILIPPE A. LYSY, KARL LOGGHE, MARIE-CHRISTINE LEBRETHON, SYLVIA DEPOORTER, KRISTIEN J. LEDEGANCK, CHRISTOPHE DE BLOCK, MARIEKE DEN BRINKER, ON BEHALF OF THE RESCUE TRIALISTS, Antwerp, Belgium, Leuven, Belgium, Ghent, Belgium, Brussels, Belgium, Hasselt, Belgium, Roeselare, Belgium, Liège, Belgium, Brugge, Belgium, Edegem, Belgium
1368-P WITHDRAWN

1369-P Continuous Glucose Monitoring Interventions in Toddlers with Type 1 Diabetes (T1D)
MONICA S. LANNING, LINDA DIMEGLIO, SAMANTHA Lange, KIMBERLY A. DRISCOLL, TAMARA S. HANNON, ANN M. LAGGES, STEPHANIE WOERNER, BRUCE A. BUCKINGHAM, KOREY K. HOOD, Stanford, CA, Indianapolis, IN, Aurora, CO

1370-P Pediatric to Adult Transition Interventions and Outcomes in Type 1 Diabetes: A Scoping Review
ERIKA L. LUNDGRIN, JULIA E. BLANCHETTE, ANDREA MUCCI, Cleveland, OH

1371-P Continuing Improvement of Diabetes Control after the Establishment of the Population-Based Childhood Diabetes Register CENDA
ZDENEK SUMNIK, MARKÉTA PAVLÍKOVÁ, Ondrej CINEK, ČENDA STUDY GROUP, Prague, Czech Republic

1372-P Impact of Distance to Pediatric Diabetes Center on Outcomes in Youth with Type 1 Diabetes
SARA WATSON, KAHIR S. JAWAD, MANUEL A. RODRIGUEZ LUNA, KUPPER A. WINTERGERST, Louisville, KY

1373-P Variables in Depression Screening Using PHQ-9 and PROMIS in Adolescents with T1DM
SILPA NADELLA, SOBHA P. FRITZ, ANDREW B. MUIR, Atlanta, GA

1374-P Parent Preferences for Delaying Insulin Dependence in Children at Risk of Stage III Type 1 Diabetes (T1D)
JOSEPH HEDRICK, JESSIE SUTPHIN, RACHAEL L. DISANTOSTEFANO, KATHLEEN GALLAHER, CAROL MANSFIELD, Raritan, NJ, Research Triangle Park, NC, Titusville, NJ

1375-P Acquisition of Self-Care in Youth with Type 1 Diabetes (T1D) Varies by Age and Task
REBECCA O. LA BANCA, LISA K. VOLKENING, LORI M. LAFTEL, Boston, MA

1376-P Glucose-Independent Racial Disparity in HbA1c Is Present at Onset of Type 1 Diabetes (T1D)
AQEEL ALAQEEL, STEUART CHALEW, New Orleans, LA

1377-P Driving Behaviors in Adolescents with Type 1 Diabetes
ALISSA J. ROBERTS, ASHLEY MOSS, JOYCE YI-FRAZIER, Seattle, WA

1378-P Gluten-Free Diet in Children with Recent-Onset Type 1 Diabetes without Coeliac Disease: A 12-Month Intervention Trial
VÍT NEUMAN, STEPANKA PRUHOVA, MICHAL KULICH, STANISLAVA KOLOUŠKOVÁ, JAN VOSAHOLO, MARTINA ROMANOVA, LENKA PETRUZELKOVA, BARBORA OBERMANNova, Ondrej CINEK, ZDENEK SUMNIK, Prague, Czech Republic

1379-P Type 1 Diabetes Mellitus and Periodontal Disease—Relationship with Pubertal Stage and Glycemic Control
PAMITTA CHAKRABORTY, SUJOY GHOSH, Kolkata, India

1380-P Multiplex Detection of T1D-Associated Autoantibodies by High-Quantum-Efficiency FRET
ANGELINA A. METZ, ANDREW M. ARSHAM, DANIEL J. LASER, AMY D. DROITCOUR, San Francisco, CA

1381-P Psychological Characteristics of Caregivers Choosing Continuous Glucose Monitoring (CGM) for Their Children with Type 1 Diabetes (T1D)
LINA ALKHALED, MARY ANN O’RIORDAN, SARAH A. MACLEISH, REBECCA A. HAZEN, JAMIE R. WOOD, Cleveland, OH

1382-P Impaired Default Mode Network Suppression and Compensatory Hyperactivation in Children with Type 1 Diabetes
LÁRA C. FOLAND-ROSS, BRUCE A. BUCKINGHAM, NELLY MAURAS, ANA MARIA ARBELAEZ, NEIL H. WHITE, TANDY AYE, DARRELL M. WILSON, WILLIAM V. TAMBORLANE, STUART A. WEINZIMER, EVA TSALIKIAN, MICHAEL TANSEY, ALLISON CATO, TAMARA HERSHEY, LARRY A. FOX, GABBY TONG, KIMBERLY A. ENGLERT, PAUL MAZAika, ALLAN L. REISS, DIABETES RESEARCH IN CHILDREN NETWORK (DIRECNET), Stanford, CA, Palo Alto, CA, Jacksonville, FL, St. Louis, MO, New Haven, CT, Iowa City, IA

1383-P Longitudinal Changes in Transition Readiness (TR) in Teens with Type 1 Diabetes (T1D) Are Unrelated to Glycemic Control
EVELINE R. GOETHALS, LISA K. VOLKENING, PERSIS V. COMMISSARIAT, DEBORAH A. BUTLER, DAYNA E. MCGILL, LORI M. LAFTEL, Boston, MA
1384-P The Guided Transition of Care
RAYHAN LAL, DAVID M. MAAHS, CHRYSOULA DOSIOU, TANDY AYE, MARINA BASINA, Stanford, CA

PREGNANCY—BASIC SCIENCE/TRANSLATIONAL

Moderated Poster Discussion: Pregnancy and Diabetes—Basic and Translational Research
(Posters: 1385-P to 1390-P) see page 104.

1385-P Associations between Maternal Metabolomic and Lipidomic Profiles across Gestation with Neonatal Birthweight in Type 1 Diabetes Pregnancy
ZOE A. STEWART, JENNIFER M. YAMAMOTO, CLAIRE L. MEEK, J. JOHANNA SANCHEZ, DENICE FEIG, HELEN R. MURPHY, Leicester, United Kingdom, Calgary, AB, Canada, Cambridge, United Kingdom, Toronto, ON, Canada, Norwich, United Kingdom

1386-P A Comparison of Ectopic Fat Stores and Insulin Sensitivity among Women With and Without Gestational Diabetes
KIMBERLY VESCO, MICHAEL C. LEO, MELANIE FRANCISCO, NICOLE E. MARSHALL, WILLIAM ROONEY, ERIC BAETSCHER, AMY M. VALENT, JONATHAN Q. PURNELL, Portland, OR

1387-P Genotyping Cell-Free Fetal DNA to Decide whether to Treat Hyperglycemia during Pregnancy in Women with GCK Monogenic Diabetes—A Case Study
SOO HEON KWAK, SE SONG JANG, SUNYOUNG KANG, HAK CHUL JANG, SEUNG MI LE, JONG HEE CHAE, KYONG SOO PARK, Seoul, Republic of Korea, Seongnam, Republic of Korea

1388-P Umbilical Cord Blood-Derived Exosomal LRG1 and ECM1 Induce Abnormal Placental Angiogenesis in Women with Gestational Diabetes Mellitus
JULEI YAO, TAO DUAN, KAI WANG, Shanghai, China

1389-P Nontargeted Metabolomics Reveal Novel Metabolites in Small- and Large-for-Gestational-Age Infants and Their Mothers Associated with Glucose and Lipid Metabolism
JIEYING LIU, XIAO ZHAI, XINHUA XIAO, MIAO YU, NAN ZHAO, ZHENGYAO LI, JUNLING FU, MINGQUN DENG, LIYUAN ZHOU, Beijing, China

1390-P Maternal Plasma Ceramides Predict Preeclampsia in Women with Type 1 Diabetes
CLARE B. KELLY, SAMAR M. HAMMAD, RICHARD L. KLEIN, MARIA F. LOPES-VIRELLA, MISTI J. LEYVA, JEREMY YU, ALICIA J. JENKINS, ALISON J. NANKERVIS, KRISTIAN F. HANSSEN, SATISH K. GARG, JAMES A. SCARDO, CHRISTOPHER E. ASTON, TIMOTHY LYONS, Charleston, SC, Sydney, Australia, Parkville, Australia, Oslo, Norway, Aurora, CO, Spartanburg, SC, Oklahoma City, OK

1391-P Longitudinal Changes of Plasma Sphingomyelins during Gestation in Women With and Without Type 1 Diabetes and Preeclampsia
CLARE B. KELLY, SAMAR M. HAMMAD, RICHARD L. KLEIN, MARIA F. LOPES-VIRELLA, MISTI J. LEYVA, JEREMY YU, ALICIA J. JENKINS, ALISON J. NANKERVIS, KRISTIAN F. HANSSEN, SATISH K. GARG, JAMES A. SCARDO, CHRISTOPHER E. ASTON, TIMOTHY LYONS, Charleston, SC, Sydney, Australia, Parkville, Australia, Oslo, Norway, Aurora, CO, Spartanburg, SC, Oklahoma City, OK

1392-P The Potential Role of Placental α2-Adrenergic Receptors in the High Risk of Preeclampsia in Diabetes
REBECCA P. CHOW, JIAWU ZHAO, TIM CURTIS, TIMOTHY LYONS, JEREMY YU, Charleston, SC, Belfast, United Kingdom

1393-P Alterations in the Placental Proteome in Gestational Diabetes
EMMA ASSI, FRANCESCA D’ADDIO, MOUFIDA BEN NASR, CRISTIANI LORETTELLI, ANNA MAESTRONI, VERA USUELLI, CHIARA MANDO, FRANCESCA ROCCHIO, DOMENICO CORRADI, FRANCO FOLLI, GIANNIVINCENZO ZUCCOTTI, IRENE BETIN, PAOLO FIORINA, Milan, Italy, Boston, MA, Parma, Italy

1394-P The Role of the Unfolded Protein Response in High Glucose-Induced mESC Pluripotency and Impaired Differentiation
WINNY SUN, PENGHUA YANG, FEI YE, PEIXIN YANG, Baltimore, MD

1395-P Maternal Exercise during Pregnancy Affects Offspring Adiposity through One Carbon Metabolism Cycle
NICHA BOONPATTRAWONG, ARYA MEHRAN, ISMAIL LAHER, ANGELA M. DEVLIN, Vancouver, BC, Canada
1396-P Lessons Learned from Implementing a Dietician-Led Low Risk Model of Care  
NINA J.L. MELONCELLI, ADRIAN G. BARNETT, SUSAN J. DE JERSEY, Brisbane, Australia

PREGNANCY—CLINICAL/EPIDEMIOLOGY

ePoster Theater Session: Pregnancy and Diabetes—Clinical and Epidemiology (Posters: 1397-P to 1402-P), see page 107.

1397-P ☑ A Pregnancy Lifestyle Intervention Improves Metabolic Profile of Women and Infants by Reducing Gestational Weight Gain (GWG): The GLOW Randomized Controlled Trial  
ASSIAMIRA FERRARA, MONIQUE M. HEDDERSON, SUSAN D. BROWN, AI-LIN TSAI, JUANRAN FENG, YEYI ZHU, MAREN N.R. GALARCE, SANTICA M. MARCOVINA, CHARLES QUESENBERRY, Oakland, CA, Seattle, WA

1398-P ☑ Augmented Insulin Secretory Response in Early Pregnancy Is Independent of Gestational Insulin Resistance  
CAMILLE E. POWE, LARRAINE PRESLEY, JOSEPH J. LOCASCIO, PATRICK CATALANO, Boston, MA, Cleveland, OH

1399-P ☑ The Accumulative Impact of Insulin Sensitivity throughout Pregnancy on Neonatal Fatness  
RODRIGO ANTUNES LIMA, SR., MIREILLE VAN POPPEL, DAVID SIMMONS, GERNOT DESOYE, DALI CORE INVESTIGATOR GROUP, Graz, Austria, Campbelltown, Australia

1400-P ☑ Adverse Perinatal and Long-Term Outcomes Differ among Physiologic Subtypes of Gestational Glucose Intolerance  
PAULA EDELSON, KATIE CORELLI, KAITLYN JAMES, MARIE-FRANCE HIVERT, R. THADHANI, JEFFREY L. ECKER, CAMILLE E. POWE, Boston, MA, Los Angeles, CA

1401-P ☑ Universal vs. Selective Screening for Hyperglycemia First Diagnosed during Pregnancy, Including Early Hyperglycemia: Diagnostic and Prognostic Value in 4,518 Women  
EMMANUEL COSSON, ERIC VICAUT, DORIAN SANDRE BANON, CAMILLE CUSSAC-PILLEGAND, CAMILLE BAUDRY, PAUL VALENSI, LIONEL CARBILLON, Bondy, France, Paris, France, Bobigny, France

1402-P ☑ Functional Data Analysis Reveals Differences in Temporal Glucose Profiles Hidden by Standard Continuous Glucose Monitoring Analysis: A Secondary Analysis of the CONCEPTT Trial  
ELEANOR M. SCOTT, HELEN R. MURPHY, DENICE FEIG, GRAHAM LAW, Leeds, United Kingdom, Norwich, United Kingdom, Toronto, ON, Canada, Lincoln, United Kingdom

1403-P Functional Data Analysis Reveals Differences in Temporal Glucose Profiles Associated with Large for Gestational Age: A Secondary Analysis of the CONCEPTT Study  
ELEANOR M. SCOTT, HELEN R. MURPHY, DENICE FEIG, GRAHAM LAW, Leeds, United Kingdom, Norwich, United Kingdom, Toronto, ON, Canada, Lincoln, United Kingdom

1404-P ☑ Fasting Hyperglycemia during Pregnancy: Outcomes According to Delay of Care—An Observational Study Including 471 Women  
EMMANUEL COSSON, ERIC VICAUT, DORIAN SANDRE BANON, CAMILLE BAUDRY, CAMILLE CUSSAC-PILLEGAND, PAUL VALENSI, LIONEL CARBILLON, Bondy, France, Paris, France, Bobigny, France

1405-P ☑ Glycemic Variability among Pregnant Women with Type 1 Diabetes (T1D) Based on Use of CGM Share Technology  
SARIT POLSKY, JANET K. SNELL-BERGEON, PRAKRITI JOSHEE, JAMIE K. DEMMITT, RACHEL GARCETTI, TIM B. VIGERS, LAURA PYLE, Aurora, CO

1406-P Associations between Indices of Glycemic Variability (GV) and Gestational Outcomes among Pregnant Women with Type 1 Diabetes (T1D)  
SARIT POLSKY, LAURA PYLE, RACHEL GARCETTI, PRAKRITI JOSHEE, JAMIE K. DEMMITT, TIM B. VIGERS, JANET K. SNELL-BERGEON, Aurora, CO

1407-P ☑ Laboratory Glycemic Markers vs. Continuous Glucose Monitoring (CGM) for Prediction of Neonatal Outcomes in Type 1 Diabetes Pregnancy—An Ancillary Study of the CONCEPTT Trial  
CLAIRE L. MEEK, DIANA TUNDIDOR, HELEN R. MURPHY, JENNIFER M. YAMAMOTO, ELEANOR M. SCOTT, DONGDONG MA, JOSE HALPERIN, DENICE FEIG, ROSA CORCoy, Cambridge, United Kingdom, Barcelona, Spain, Norwich, United Kingdom, Calgary, AB, Canada, Leeds, United Kingdom, Boston, MA, Toronto, ON, Canada
1408-P Seasonal Variations in Incidence and Neonatal Outcomes of Gestational Diabetes: A Retrospective Cohort Study
CLAIRE L. MEEK, BENJAMIN O. DEVOY, DAVID SIMMONS, CHARLOTTE PATIENT, HELEN R. MURPHY, CATHERINE AIKEN, Cambridge, United Kingdom, Campbelltown, Australia, Norwich, United Kingdom

1409-P Using Fasting Venous Plasma Glucose (FVPG) to Stratify Risk in Women with Gestational Diabetes (GDM)
DAVID MCINTYRE, KRISTEN S. GIBBONS, LENE R. MADSEN, RONALD C. MA, DAVID A. SACKS, WING H. TAM, PATRICK CATALANO, South Brisbane, Australia, Brisbane, Australia, Aarhus, Denmark, Hong Kong, China, Pasadena, CA, Boston, MA

1410-P High Prevalence of Gestational Diabetes among Women in Rural District of North-Eastern Tanzania
LOUISE GRUNNET, LINE HJORT, BIRGITTE B. NIENEL, DANIEL T. MINJA, OMARI ABDUL MSEMOC, JOHN P. LUSINGU, RASHMI B. PRASAD, LEIF GROOP, THOR G. THEANDER, CHRISTENZE SCHMIEGELOW, IB C. BYGBJERG, SR., DIRK L. CHRISTENSEN, Copenhagen, Denmark, Korogwe, United Republic of Tanzania, Tanga, United Republic of Tanzania, Malmö, Sweden, Helsinki, Finland

1411-P Glycated Hemoglobin A1c Levels during Pregnancy and Risk of Autism in Offspring
ANNY XIANG, TING CHOW, MAYRA P. MARTINEZ, DARIOGETAHAUN, KATHLEEN A. PAGE, THOMAS A. BUCHANAN, R. KLARA FELDMAN, Pasadena, CA, Los Angeles, CA

1412-P Racial Differences of Incident Diabetes Postpartum in Women with a History of Gestational Diabetes
YUN SHEN, LIFANG HOU, HUIKUN LIU, LEISHEN WANG, JUNHONG LENG, WEIQIN LI, GANG HU, Baton Rouge, LA, Chicago, IL, Tianjin, China

1413-P Nutrient and Fuel-Mediated Teratogenesis in Fetal Growth and Body Composition
MADHURA K. DESHMUKH, ABOLI A. BHALERAO, DEEPA A. RAUT, NILAM S. MEMANE, RAJASHEREE KAMAT, DATTATRAY BHAT, HEMANT DAMLE, SONALI S. WAGLE, CHITTARANJAN S. YAJNIK, Pune, India

1414-P Prolactin as a Potential Modulator for the Adaption to Insulin Resistance in Pregnancy
LOUISE FRITSCH, MARTIN HENI, HANS-ULRICH HAERING, ANDREAS FRITSCH, ROBERT WAGNER, Tübingen, Germany

1415-P Gestational Diabetes Mellitus after Delivery: The Need for Continued Vigilance
PADMA KAUL, ANAMARIA SAVI, LINN E. MOORE, ROSEANNE O. YEUNG, EDMOND A. RYAN, Edmonton, AB, Canada

1416-P Impact of Birth Weight Category on Early Childhood Growth in the Offspring of Women with Diabetes
MAISA N. FEGHALI, STEVE CARITIS, CHRISTINA M. SCIFRES, Pittsburgh, PA, Indianapolis, IN

1417-P Glycemic Control and Insulin Dosing in Pregnancies Complicated by Type 2 Diabetes Mellitus
HUGH C. NADEAU, MARTA E. MAXTED, DEVIKA MADHAVAN, STEPHANIE PIERCE, MAISA N. FEGHALI, CHRISTINA M. SCIFRES, Oklahoma City, OK, Pittsburgh, PA, Indianapolis, IN

1418-P WITHDRAWN

1419-P Pregravid Metabolic Syndrome and Risk of Adverse Outcomes in Pregnancy: A Preconception Cohort Study
RAVI RETNAKARAN, SHI WU WEN, HONGZHUAN TAN, SR., CHANG YE, MINXUE SHEN, GRAEME N. SMITH, MARK C. WALKER, Toronto, ON, Canada, Ottawa, ON, Canada, Changsha, China, Kingston, ON, Canada

1420-P Improvements in Contraception Uptake and Reduced Pregnancy Rates in Women with Type 1 Diabetes after Changes to the Running of a Tertiary Centre Diabetes Transition Clinic
DAVID SIMMONS, UCHECHUKWU L. OSUAGWU, AKHIL GUPTA, MANJULA RATNAWEERA, Campbelltown, Australia, Sydney, Australia, Hamilton, New Zealand

1421-P Associations of Sleep Disturbances Before and During Early Pregnancy with Increased Risk of Gestational Diabetes
SYLVIA E. BADON, FEI XU, ASSIAMIRA FERRARA, MONIQUE M. HEDDERSSON, Oakland, CA

1422-P Human Milk Composition in Type 2 Diabetes Impacts Higher Insulin Exposure
1423-P  Diagnostic Performance of Fasting Glucose, Insulin, and HOMA-IR in the First and Second Trimesters in Predicting Gestational Diabetes  
YEYI ZHU, MONIQUE M. HEDDERSON, JUANRAN FENG, CHARLES QUESENBERRY, ASSIAMIRA FERRARA, Oakland, CA

1424-P  Changes in Device Uptake and Glycemic Control among Pregnant Women with Type 1 Diabetes: Data from the T1D Exchange  
CAROL J. LEVY, NICOLE C. FOSTER, STEPHANIE DUBOSE, SHIVANI AGARWAL, SARAH LYONS, ANNE L. PETERS, GABRIEL I. UWAIFO, LINDA DIMEGLIO, JENNIFER SHERR, SARIT POLSKY, New York, NY, Tampa, FL, Bronx, NY, Houston, TX, Los Angeles, CA, Sidell, LA, Indianapolis, IN, New Haven, CT, Aurora, CO

1425-P  A Translational Diabetes Prevention Program (DPP)-based Lifestyle Intervention in Women with GDM Improves Postpartum Lifestyle Behaviors  
MONIQUE M. HEDDERSON, SUSAN D. BROWN, JUANRAN FENG, CHARLES QUESENBERRY, ASSIAMIRA FERRARA, Oakland, CA

1426-P  Type 1 Diabetes Pregnancies Complicated by Hypertensive Disorders  
JANET K. SNELL-BERGEON, LAURA PYLE, RACHEL M. SIPPL, SARIT POLSKY, Aurora, CO

1427-P  Plasma Phospholipid MUFA Biomarkers and Gestational Diabetes Mellitus: A Longitudinal Study in a Multiracial Cohort  
KIT YING TSOI, YEYI ZHU, JING WU, QI SUN, MENGYING LI, STEFANIE HINKLE, APARNA AJJARAPU, RONALD C. MA, CUILIN ZHANG, Hong Kong, China, Oakland, CA, Bethesda, MD, Boston, MA

1428-P  Longitudinal Changes in Glucose during Pregnancy in Women with Gestational Diabetes Risk Factors  
MILANA A. BOCHKUR DRATVER, KAITLYN JAMES, JULIANA ARENAS, MELODY CAYFORD, MICHAEL J. CALLAHAN, JESSICA S. TANGREN, SARAH N. BERNSTEIN, MARIE-FRANCE HIVERT, CAMILLE E. POWE, Boston, MA

1429-P  A Review of Prepregnancy Care and Pregnancy Outcomes in Pregestational Diabetes—Are Prior Improvements in Pregnancy Preparation and Outcomes Maintained for Women with Pregestational Diabetes?  
CHRISTINE NEWMAN, LOUISE CARMODY, AOIFE M. EGAN, LISA A. OWENS, FIDELMA DUNNE, Galway, Ireland, Rochester, MN

SARIT HELMAN, TAMARRA JAMES-TODD, ANDREA BELLAVIA, THOMAS MCELRAITH, FLORENCE M. BROWN, Boston, MA, Cambridge, MA

1431-P  Intuitive Eating in Pregnancy Is Associated with BMI, Fasting Glucose, and A1c at One-Year Postpartum in Women with GDM: A Cohort Study  
DAN YEDU QUANSAH, JUSTINE GROSS, LEAH GILBERT, ANTJE HORSCH, JARDENA J. PUDER, Lausanne, Switzerland

1432-P  Local Glucose Source for Gestational Diabetes Screening in Resource-Limited Settings  
LEANNE RONCIERE, BIDJINIE-STEFFY CORIOLAN, RODNEY DESTINE, CLEMENT BELANGER-BISHINGA, ISABELLE MALHAME, JULIA E. VON OETTINGEN, DYAMAN STUDY GROUP, Montreal, QC, Canada, Petion Ville, Haiti

1433-P  Does Physician Counseling Regarding Lifestyle Choices Impact Postpartum Visit Attendance among Pregnant Women with Diabetes?  
EMILY MANIN, CYNTHIA J. HERRICK, HILLARY E. DUCKHAM, CANDICE L. WOOLFOLK, EBONY B. CARTER, St. Louis, MO

1434-P  Definition of Hypertriglyceridemia during Pregnancy: A Search on the Cutoffs  
SAIGE CHEN, HUNG-YUAN LI, Taipei, Taiwan

1435-P  Impaired Early-Phase Suppression of Glucagon Secretion after Glucose Load Associated with Insulin Need during Pregnancy in Gestational Diabetes  
ICHIRO HORIE, AI HARAGUCHI, NORIO ABIRU, ATSUSHI KAWAKAMI, Nagasaki, Japan

1436-P  Gestational Diabetes Pregnancy by Pregnancy  
CHIARA GIULIANI, OLIMPIA BITTERMAN, FRANCESCA ROMANA AMOROSI, CAMILLA FESTA, ANGELA NAPOLI, Rome, Italy
1437-P How Has Changing the Diagnostic Criteria Impacted Perinatal Outcomes for Those NOT Diagnosed with GDM?
NINA J.L. MELONCELLI, ADRIAN G. BARNETT, SUSAN J. DE JERSEY, Brisbane, Australia

EPIDEMIOLOGY—AGING

1438-P Antidiabetic Medication and Risk of Dementia in Patients with Type 2 Diabetes
IDA WIUM-ANDERSEN, MERETE OSLER, MARTIN BALSLEV JØRGENSEN, JØRGEN RUNGBY, MARIE WIUM-ANDERSEN, Copenhagen, Denmark, Frederiksberg, Denmark

1439-P Risk of Dementia and Cognitive Dysfunction in Individuals with Diabetes or Elevated Blood Glucose in Four Large Cohorts
IDA WIUM-ANDERSEN, JØRGEN RUNGBY, MARTIN BALSLEV JØRGENSEN, MERETE OSLER, MARIE WIUM-ANDERSEN, Copenhagen, Denmark, Frederiksberg, Denmark

1440-P Does HbA1c Impact Survival in the Newly Diagnosed Elderly Aged 75 Years and Over?
MARGARET McGILL, LYNDA M. MOLYNEAUX, SR., MARIA I. CONSTANTINO, STEPHEN M. TWIGG, TIMOTHY MIDDLETON, TED WU, JENCIA WONG, Camperdown, Australia, Sydney, Australia

1441-P Correlation of Serum Osteocalcin Levels and Relative Skeletal Muscle Index and Hyperglycaemia in a Cohort of Middle-Aged and Elderly Individuals
YITING XU, XIAOJING MA, YUN SHEN, CHENGCHENG GU, JUNLING TANG, YUQIAN BAO, Shanghai, China

1442-P Incidence and Risk Factors for Type 2 Diabetes among the Offspring of Long-Lived Individuals: The Long Life Family Study
IVA MILJKOVIC, RYAN CVEJKUS, PING AN, BHARAT THYAGARAJAN, ROBERT BOUDREAU, JOSEPH M. ZMUDA, Pittsburgh, PA, St. Louis, MO, Minneapolis, MN

1443-P The Association between Hepatic Steatosis and Skeletal Muscle Mass Index in Korean Patients with Type 2 Diabetes
DA HEA SEO, MIHYE JUNG, SEONG HEE AHN, SEONGBIN HONG, MOON-SUK NAM, YONG-HO LEE, YOUNGJU CHOI, BYOUNG WOOK HUH, KAP BUM HUH, SO HUN KIM, Incheon, Republic of Korea, Seoul, Republic of Korea

1444-P WITHDRAWN

1445-P Physical Activity and Insulin Resistance in Midlife Women: 17-Year Longitudinal Associations in SWAN
SYLVIA E. BADON, KELLEY PETTEE GABRIEL, CARRIE A. KARVONEN-GUTIERREZ, BARBARA STERNFELD, JENNIFER LEE, ELLEN GOLD, ELAINE WAETJEN, MONIQUE HEDDERSON, Oakland, CA, Austin, TX, Ann Arbor, MI, Stanford, CA, Davis, CA, Sacramento, CA

1446-P Fall Risk in Individuals with Type 2 Diabetes: The Look AHEAD Study
PEARL G. LEE, KESHAV P. POKHREL, WILLIAM H. HERMAN, Ann Arbor, MI, Dearborn, MI

1447-P Epistatic Interactions of Known Gene Variants for Glycated Hemoglobin: Evidence from the Long Life Family Study
PING AN, BHARAT THYAGARAJAN, JOSEPH H. LEE, NICOLE SCHUPF, JOSEPH M. ZMUDA, MICHAEL PROVINCE, St. Louis, MO, Minneapolis, MN, New York, NY, Pittsburgh, PA

1448-P Potential Overtreatment of Older Patients with T2D: The Global DISCOVER Study
BRENDA BONGAERTS, SUZANNE V. ARNOLD, BERNARD CHARBONNEL, HUNGA NG CHEN, JAVIER CID-RUZAF, PETER FENICI, MARILIA B. GOMES, LINONG JI, KAMLESH KHUNTI, MIKHAIL N. KOSIBOROD, GABRIELA LUPORINI SARAIVA, JESUS MEDINA, ANTONIO NICOLUCCI, STUART POCOCK, SHAUKAT M. SADIKOT, MARINA V. SHESTAKOVA, IICHIRO SHIMOMURA, FILIP SURMONT, FENGMING TANG, HIROTAKA WATADA, WOLFGANG RATHMANN, Düsseldorf, Germany, Kansas City, MO, Nantes, France, Gaithersburg, MD, Barcelona, Spain, Cambridge, United Kingdom, Rio de Janeiro, Brazil, Beijing, China, Leicester, United Kingdom, Madrid, Spain, Pescara, Italy, London, United Kingdom, Mumbai, India, Moscow, Russian Federation, Suita, Japan, Luton, United Kingdom, Tokyo, Japan
1449-P Longitudinal Changes in Sex Hormone Binding Globulin (SHBG) and Risk of Diabetes: The Study of Women’s Health Across the Nation (SWAN)
MONIQUE M. HEDDERSON, CATHERINE LEE, ANGELA CAPRA, JENNIFER LEE, PO-YIN CHANG, ELLEN GOLD, ELIN WAETJEN, LAUREL A. HABEL, SAMAR R. EL KHOUDARY, Oakland, CA; Stanford, CA; Davis, CA; Sacramento, CA; Pittsburgh, PA

1450-P High Risk of Mortality and Disease Progression Associated with Diabetes Mellitus (DM) and Nonalcoholic Fatty Liver Disease/Nonalcoholic Steatohepatitis (NAFLD/NASH) in Medicare Patients
ROHIT LOOMBA, JEREMY FRAYSSE, SUYING LI, A. BURAK OZBAY, STEPHEN A. HARRISON, San Diego, CA; Foster City, CA; Minneapolis, MN; Live Oak, TX

1451-P The Association of Metformin with Mortality in Frail Older Veterans with Diabetes
RANEEM MILYANI, RAQUEL APARICIO-UGARRIZA, JULIANA FERRI GUERRA, DOUGLAS SALGUERO, YAQUB NADEEM MOHAMMED, WILLY VALENCIA, HERMES FLOREZ, JORGE G. RUIZ, Miami, FL

1452-P Association between Aging and Insulin Resistance and Secretion in a General Nondiabetic Population
TOMOYUKI FUJITA, MAKOTO DAIMON, HIROSHI MURAKAMI, SATORU MIZUSHIRI, YUKI MISHASHI, SHO OSONO, MASAYA MURABAYASHI, KAZUHISA TAKAHASHI, YUKI NISHIYA, HIROSHI, Japan

1453-P Glycemic Profiles and Insulin Use in 2,313 Medicare-Eligible Older Adults with Diabetes Using the Omnipod Insulin Management System with Cloud-Based Data Management
JENNIFER E. LAYNE, JIALUN HE, JAY JANTZ, YIBIN ZHENG, ERIC BENJAMIN, TRAN T. LY, Acton, MA

1454-P Cerebral Glutathione Is Associated with Insulin Resistance in Older Individuals
JOLANTA J. PACH, DEREK GROSKREUTZ, JESSICA LEVENTHAL, MARI-LYNET KNIGHT, KANIKA JAIN, JOHN HWA, LIHONG JIANG, ROBIN DE GRAAF, JANICE HWANG, New Haven, CT

1455-P Evaluating Opportunities for Deprescribing in the Elderly and Extreme Elderly with Diabetes
SABRINA A. SHARP, JANE OVERLAND, MARGARET MCGILL, LYNDAL M. MOLYNEAUX, SR., TEO WU, STEPHEN M. TWIGG, JENCIA WONG, Sydney, Australia; Camperdown, Australia

EPIDEMIOLOGY—CARDIOVASCULAR DISEASE

Moderated Poster Discussion: Cardiovascular Outcomes (Posters: 1456-P to 1461-P), see page 140.

1456-P Cardiovascular Outcomes in Subjects with Acute Myocardial Infarction (AMI) and Newly Discovered Abnormal Glucose Tolerance (AGT): A Meta-analysis
NITCHAKARN LAICHUTHAI, RALPH A. DEFRONZO, San Antonio, TX

1457-P Residential Segregation, Hemoglobin A1c, and Risk of Cardiovascular (CVD) Events: The Reasons for Geographic and Racial Differences in Stroke (REGARDS) Study
DOYLE M. CUMMINGS, SHIVAJIRAO P. PATIL, D. LEANN LONG, APRIL P. CARSON, ANDREA CHERRINGTON, MONIKA SAFFORD, SUZANNE JUDD, VIRGINIA J. HOWARD, GEORGE HOWARD, Greenville, NC; Birmingham, AL

1458-P Dietary Patterns and Genetic Factors in Relation to Metabolic Syndrome Risk in Whites and African Americans: A Longitudinal Arc Study
DALE S. HARDY, CVD PRIDE GROUP, Atlanta, GA

1459-P Comparative Cardiovascular Safety and Effectiveness of Linaglaptin in Routine Care: Final Results from a 5-Year Post-Marketing Monitoring Program
ELISABETTA PATORNO, CHANDRASEKAR GOPALAKRISHNAN, MUFADDAL MAHESRI, KIMBERLY G. BRODOVICZ, DOROTHEE BARTELS, ANDREA MEYERS, JULIE BARBERIO, JUN LIU, SEBASTIAN SCHNEEWEISS, Boston, MA; Ridgefield, CT; Ingelheim, Germany

1460-P Predicting Atherosclerotic Cardiovascular Disease (ASCVD) Risk in Veterans with Diabetes
SRIDHARAN RAGHAVAN, YUK-LAM HO, DANIEL POSNER, JASON L. VASSY, DAVID R. GAGNON, LAWRENCE S. PHILLIPS, PETER W. WILSON, Aurora, CO; Boston, MA; Decatur, GA; Atlanta, GA

1461-P Cardiac Troponin T and Troponin I and Incident Diabetes in the General Population: Generation Scotland Scottish Family Health Study
PAUL WELSH, DAVID PREISS, ARCHIE CAMPBELL, DAVID J. PORTEOUS, NICHOLAS L. MILLS, NAVEED SATTAR, Glasgow, United Kingdom; Oxford, United Kingdom; Edinburgh, United Kingdom
1462-P Diabetes-Associated Residual Risk in Statin-Treated Patients with Atherosclerotic Cardiovascular Disease
NATHAN D. WONG, YANGLU ZHAO, PIN XIANG, J. ANTONIO G. LOPEZ, Irvine, CA, Los Angeles, CA, Thousand Oaks, CA

1463-P LEADER Eligibility and Preventable Cardiovascular Events in the U.S. Population: An Analysis of the National Health and Nutrition Examination Survey
NATHAN D. WONG, WENJUN FAN, COREY A. TONG, Irvine, CA

1464-P Optimal Blood Pressure Goals for Cardiovascular Health in Individuals with Type 1 Diabetes
JINGCHUAN GUO, RACHEL G. MILLER, TINA COSTACOU, TREVOR J. ORCHARD, Pittsburgh, PA

1465-P Cardiovascular Risk Factors among Young Adults with Diabetes in the U.S.
SHARON SAYDAH, CARILA MERCADO, KAREN R. SIEGEL, EDWARD W. GREGG, GIUSEPPINA IMPERATORE, Hyattsville, MD, Atlanta, GA

1466-P Estimating Cardiovascular Risk in People with Type 2 Diabetes and Cardiovascular Disease: UKPDS Outcomes Model
RUTH L. COLEMAN, ALASTAIR M. GRAY, DARREN K. MCGUIRE, RURY R. HOLMAN, Oxford, United Kingdom, Dallas, TX

1467-P National Trends in the Use of Lipid-Lowering Drugs among Type 2 Diabetes Patients in Denmark from 1997 to 2017
PERNILLE F. RØNN, BENDIX CARSTENSEN, JAKOB S. KNUDSEN, FREDERIK PERSSON, MARIT E. JØRGENSEN, Gentofte, Denmark, Aarhus, Denmark

1468-P Cause-Specific Mortality over 30 Years among Chinese with Newly Diagnosed Diabetes: The Da Qing IGT and Diabetes Study
YALI AN, PING ZHANG, JINPING WANG, QIUHONG GONG, BO ZHANG, YANYAN CHEN, EDWARD GREGG, PETER H. BENNETT, GUANGWEI LI, Beijing, China, Atlanta, GA, Daqing, China, Phoenix, AZ

1469-P Associations between Heart Rate, Glycemia, and A1c Levels
SARAH CASAGRANDE, CATHERINE C. COWIE, JAY M. SOSENKO, KARA R. MIZOKAMI-STOUT, ANDREW J. BOULTON, RODICA POP-BUSUI, Silver Spring, MD, Bethesda, MD, Miami, FL, Ann Arbor, MI, Manchester, United Kingdom

1470-P Visceral and Subcutaneous Adipose Tissue Attenuation Differs by Type 1 and Type 2 Diabetes Status
AMENA KESHAWARZ, AMY C. ALMAN, CECILIA C. LOW WANG, STACEY MITCHELL, IRENE E. SCHAUER, JANE E.B. REUSCH, JUDITH G. REGENSTEINER, JANET K. SNELL-BERGEON, Aurora, CO, Tampa, FL, Englewood, CO, Denver, CO

1471-P Changes in SGLT2i and GLP-1RA Real-World Initiator Profiles following Cardiovascular Outcome Trials in Type 2 Diabetes and Established CVD: An Analysis of the BARi2D Trial
NEHA PAGIDIPATI, ANN MARIE NAVAR, HILLARY MULDER, DANIEL M. WOJODYLA, SEPHY PHILIP, CRAIG B. GRANOWITZ, Durham, NC, Bedminster, NJ

1472-P Circulating Epoxyeicosatrienoic Acids, Diabetes, and Cardiovascular Disease
ROZENN N. LEMAITRE, PAUL N. JENSEN, MAXWELL B. ZEIGLER, AMANDA M. FRETTS, COLLEEN SITLANI, IRENA B. KING, NONA SOTOODEHNIA, BARBARA MCKNIGHT, RHEEM A. TOTAH, Seattle, WA, Placitas, NM

1473-P Changes in SGLT2i and GLP-1RA Real-World Initiator Profiles following Cardiovascular Outcome Trials—A Danish Nationwide Population-Based Study
JAKOB S. KNUDSEN, LISBETH MUNKSGÅRD BAGGESEN, MARIA LAJER, LARISA NURKANOVIC, ANASTASIA V. USTYUGOVA, HENRIK T. SØRENSEN, REIMAR W. THOMSEN, Aarhus, Denmark, Copenhagen, Denmark, Amsterdam, Netherlands, Ingelheim, Germany
1475-P Aortic Valve Sclerosis and Diabetes Mellitus Are Independent Predictors of All-Cause Mortality in a Large Surgical Myocardial Revascularization Cohort
VERONIKA ALEXANDROVNA MYASOEDOVA, STEFANO GENOVESE, LAURA CAVALLOTTI, ALICE BONOMI, PAOLA GRIPARI, JENESS CAMPodonico, VINCENTA VALERIO, MAUrizio RondinELLI, PAOLA SONGIA, MAURO PEPi, FRANCESCO ALAMANNI, PAOLO POGGIO, Milan, Italy

1476-P Comparison of Cardiovascular Risk Factors between Type 1 and Type 2 Diabetes
MITRA MOSSLEMI, HANNAH L. PARK, CHRISTINE E. MCLAREN, NATHAN D. WONG, Irvine, CA

1477-P Insights from Type 2 Diabetes Patients Suggest Need for Cardiovascular Health Education
KEATON C. STONER, EMILY N. FITTS, DIVYA GOPISetty, ANN CARRacher, CATERINA S. FLORrISSI, MARTIN J. KURIAN, JEEMIN KWON, PAYAL MARATHE, PETER RENTZEpIS, JONATHAN B. ROST, KELLY L. CLOSE, IRL B. HIRSCH, MIKHAIL N. KOSIBOROD, RICHARD WOOD, San Francisco, CA, New York, NY, Seattle, WA, Kansas City, MO

1478-P Impact of Prior Cerebrovascular Disease (CVD) and Glucose Tolerance Status on Incident CVD in Japanese
DAICHI YANAGISAWA, KAZUYA FUJIHARA, TAEKO OSAWA, MASARU KITAZAWA, MASAHIKO YAMAMOTO, YASUHIRO MATSUBAYASHI, NAUTA YAMANAKA, SATORU KODAMA, HIROHITO SONE, Niigata, Japan, Tokyo, Japan

1479-P Predictors of Incident Hospitalization for Heart Failure in the ACE Trial Population
CHARLES A.B. SCOTT, JOHN J. MCMURRAY, LARS RYDÉN, YIHONG SUN, MICHAL TENDERA, RUTH L. COLEMAN, RURY R. HOLMAN, Oxford, United Kingdom, Glasgow, United Kingdom, Stockholm, Sweden, Beijing, China, Katowice, Poland

1480-P WITHDRAWN

1481-P Relationship among BMI, WC, and Cardiovascular Disease Risk Factors: Findings from the Korea National Health Insurance System (KNHIS) Health Checkup Data
JANG WON SON, SEONG-SU LEE, HYUK-SANG KWON, SOON JIB YOO, Bucheon, Republic of Korea, Seoul, Republic of Korea

1482-P Low-Density Lipoprotein Cholesterol (LDL-C) Management in Patients with Atherosclerotic Cardiovascular Diseases (ASCVD) and Preexisting Diabetes in Alberta, Canada
GUÀNMIN CHEN, MEGAN S. FARRIS, TARA COWLING, MING-HUI TAI, LIONEL PINTO, STEPHEN COLGAN, RAINA ROGOZA, TODD J. ANDERSON, Calgary, AB, Canada, Thousand Oaks, CA, Newbury Park, CA, Mississauga, ON, Canada

1483-P WITHDRAWN

1484-P Association between Bariatric Surgery and Cardiovascular Events, Mortality, and Glycemic Control among Diabetes Patients: Evidence from a Large EMR Network
SETH KURANZ, Cambridge, MA

1485-P Defining a Hierarchy of Mortality Risk in Metabolic Syndrome
AAyUsh VIASIrá, LOUIS F. AMOROSA, Newark, NJ, New Brunswick, NJ

1486-P Longitudinal Interrelationships of Adiposity-Associated Biomarkers in Women
MEGU BADEN, FRANK HU, TIANYI HUANG, Boston, MA

1487-P Comparison of the Framingham Risk Score, SCORE, and UKPDS Risk Engine for Predicting Cardiovascular Disease Complications in People with Diabetes
JOYCE C. HÔ, LISA R. STAI MEZ, K.M. VENkât NARAYAN, ROY L. SIMPSôn, VICKI S. HERTZBERG, Atlanta, GA

EPIDEMIOLOGY—CLINICAL—DIAGNOSIS AND SCREENING

Moderated Poster Discussion: Prediction of Diabetes (Posters: 1488-P to 1493-P), see page 140.

1488-P HbA1c and Potential Misclassification of Diabetes and Prediabetes Diagnoses in the U.S.
LISA R. STAIMEZ, LAUREN KIPLING, CHRISTOPHER N. FORD, J. NINA HAM, MARY K. RHEE, LAWRENCE S. PHILLIPS, Atlanta, GA, Decatur, GA
1489-P Ten-Year Follow-Up of Diabetes Incidence in the DE-PLAN (Diabetes in Europe—Prevention Using Lifestyle, Physical Activity, and Nutritional Intervention) Project in Catalonia
FRANCISCO BARRIO, BERNARDO COSTA, FRANCESC XAVIER COS, JOAN-JOSEP CABRE, ANNA MARTINEZ, SANTIAGO MESTRE, CONXA CASTELL, JAANA LINDBRIGM, THE CATALAN DIABETES PREVENTION RESEARCH GROUP, Reus, Spain, Barcelona, Spain, Helsinki, Finland

1490-P Using Longitudinal Modeling to Find One-Hour Glucose Alternatives to Two-Hour Glucose for Prediction and Diagnosis of Glucose Tolerance
JOON HA, STEPHANIE T. CHUNG, ANNE E. SUMNER, MICHAEL BERGMAN, CLIFTON BOGARDUS III, ARTHUR SHERMAN, Bethesda, MD, New York, NY, Phoenix, AZ

1491-P Increase in HbA1c at Time of Diagnosis Upon Change to New Diagnostic Criteria in Denmark
BENDIX CARSTENSEN, PERNILLE F. RØNN, MARIT E. JØRGENSEN, Gentofte, Denmark

1492-P Patients with Diabetes: Perspectives on Obesity Management
SABRINA HUQ, SUPRIYA TODKAR, SHARON LAHIRI, Detroit, MI

1493-P Sickle Cell Trait, Hemoglobin C Trait, and Glucose-6-Phosphate Dehydrogenase Deficiency Contribute to Decreased Detection of Hyperglycemia by A1C
SARA M. BRIKER, MARGRETHE F. HORLYCK-ROMANOVSKY, JESSICA Y. ADUWO, REGINE MUGENI, CHRISTOPHER DUBOSE, LILIAN MABUNDO, STEPHANIE T. CHUNG, JOON HA, ARTHUR SHERMAN, ANNE E. SUMNER, Bethesda, MD

1494-P Glycated Albumin May Be an Effective Alternative to A1C in the Presence of Hemoglobin C Trait
SARA M. BRIKER, MARGRETHE F. HORLYCK-ROMANOVSKY, REGINE MUGENI, JESSICA Y. ADUWO, CHRISTOPHER DUBOSE, ANNE E. SUMNER, Bethesda, MD

1495-P Distance to Glycemic Target of Patients (Pts) with Type 2 Diabetes (T2D) and Established Cardiovascular Disease (eCVD) and/or Chronic Kidney Disease (CKD) Failing Metformin Monotherapy in the U.S.
GAIL FERNANDES, BAANIE SAWHNEY, HAKIMA HANNACHI, TONGTONG WANG, ANN MARIE MCNEILL, KRISTY IGLAY, SWAPNIL RAJPATHAK, North Wales, PA, Kenilworth, NJ, Chapel Hill, NC, Rahway, NJ

1496-P Clinical Inertia in Relation to Sociodemographic Factors among Patients with Type 2 Diabetes (T2D) in the United States
GAIL FERNANDES, BAANIE SAWHNEY, HAKIMA HANNACHI, TONGTONG WANG, ANN MARIE MCNEILL, KRISTY IGLAY, SWAPNIL RAJPATHAK, North Wales, PA, Kenilworth, NJ, Chapel Hill, NC, Rahway, NJ

1497-P Proinsulin as a Potential Marker of Early Pancreatic Beta-Cell Dysfunction
AKINOBU NAKAMURA, HIDEAKI MIYOSHI, SHIGEKAZU UKAWA, KOSHI NAKAMURA, TAKAFUMI NAKAGAWA, YASUO TERAUCHI, AKIKO TAMAKOSHI, TATSUYA ATSUMI, Sapporo, Japan, Yokohama, Japan

1498-P Multilevel Variation in Diabetes Screening within an Integrated Health System
UDOKA C. OBINWA, ILDIKO LINGVAY, LUIGI MENEGHINI, ETHAN HALLM, MICHAEL E. BOWEN, Austin, TX, Dallas, TX

1499-P Apolipoprotein C-III as a Novel Predictor for T2D Incidence in Amerindians
WEN-CHI HSUEH, MARY WALTER, ROBERT NELSON, WILLIAM C. KNOWLER, ROBERT L. HANSON, Phoenix, AZ, Bethesda, MD

1500-P Continuous Glucose Monitoring and Beta-Cell Function in Youth with Cystic Fibrosis
CHRISTINE L. CHAN, TIM B. VIGERS, LAURA PYLE, PHILIP ZEITLER, KRISTEN J. NADEAU, Aurora, CO, Denver, CO

1501-P Reproducibility of Glycemic Measures among Youth and Adults with Impaired Glucose Tolerance (IGT) or Recently Diagnosed Type 2 Diabetes (T2D) in the Restoring Insulin Secretion (RISE) Study
ASHLEY H. TJADEN, SHARON EDELSTEIN, SILVA A. ARSLANIAN, ELENA BARENGOLTS, SONIA CAPRIO, MELANIE CREE-GREEN, AMALE A. LITEF, KIEREN J. MATHER, MARY SAVOYE, ANNY XIANG, STEVEN E. KAHN, RISE CONSORTIUM, Rockville, MD, Pittsburgh, PA, Chicago, IL, New Haven, CT, Aurora, CO, Indianapolis, IN, Pasadena, CA, Seattle, WA
1502-P Novel Subgroups of Type 2 Diabetes at Diagnosis in a Southern European Cohort
RICCARDO C. BONADONNA, MADDALENA TROMBETTA, CHIARA ZUSI, MARCO DAURIZ, MARIA LINDA BOSELLI, ENZO BONORA, Parma, Italy, Verona, Italy

1503-P Seasonal Changes in the Achievement of Guideline Goals for HbA1c, Blood Pressure, and Cholesterol in Patients with Type 2 Diabetes Mellitus: A Nationwide Population-Based Study (ABC Study)
DAISUKE MATSUTANI, MASAAYA SAKAMOTO, SOICHIRO MINATO, YUKI TSUJIMOTO, YOSUKE KAYAMA, KAZUORI UTSUNOYI, MASAKO NISHIKAWA, Tokyo, Japan

1504-P Low Normal Free Thyroxine Levels Are Associated with Prediabetes in Euthyroid Subjects
SUNG-WOO KIM, EONJU JEON, JI-HYUN LEE, HO-SANG SHON, KEUN-GYU PARK, Daegu, Republic of Korea

1505-P Plasma Glucose Level at 1h Post 75g OGTT Is the Best Predictor of the Development of Glucose Intolerance in Subjects with Normal Glucose Tolerance—The Toon Health Study
MISAKI TAKAKADO, YASUNORI TAKATA, TOSHIMI HADATE, YUMI MATSUISHITA, RYOICHI KAWAMURA, KOUTATSU MARUYAMA, ISAO SAITO, HARUHIKO OSAWA, Toon, Japan, Matsuyama, Japan, Oita, Japan

1506-P Breast Cancer as a Risk Factor for New Diabetes
REEMA SHAH, HERTZEL GERSTEIN, SZIMONETTA KOMJATHIN SZÉPLIGETI, HENRIK T. SÖRENSEN, REIMAR W. THOMSEN, Hamilton, ON, Canada, Aarhus, Denmark

1507-P Baseline Metabolite Profiles of Incident Type 2 Diabetes and Heterogeneity of Treatment Effect in the Diabetes Prevention Program (DPP)

1508-P Trends in Treatment Initiation and Management of Type 2 Diabetes Mellitus: Analysis of 20 Years of Real-World Data
CHELI MELZER COHEN, VARDA SHALEV, GABRIEL CHODICK, Tel Aviv, Israel

1509-P Development of Self-Assessable Diabetes Risk Score: A 10-Year Prospective Cohort Study
TAE JUNG OH, JAE Hoon MOON, SUNGhee CHOI, S00 LIM, YOUNG MIN CHO, KYONG S0O PARK, NAM H. CHO, HAK CHUJ JANG, Seongnam, Republic of Korea, Seoul, Republic of Korea, Suwon, Republic of Korea

1510-P A1C-Modified Atherosclerosis Risk in Communities Prediction Equation for Diabetes Can Be Replaced in Africans by Fasting Glucose
MARGRETHE F. HORLYCK-ROMANOVSKY, REGINE MUGENI, JESSICA Y. ADUWO, SARA M. BRIKER, CHRISTOPHER DUBOSE, LILIAN MABUNDO, STEPHANIE T. CHUNG, JODN HA, ARTHUR SHERMAN, ANNE E. SUMNER, Bethesda, MD

1511-P Trend in the Prevalence of Diabetes between 2002-2009 in Populations in Qingdao, China
LEI ZHANG, WEIguo GAO, NA WANG, JUN WANG, XIAXYAN YIN, YAMEI ZHU, YANHU DONG, Qingdao, China

1512-P Incidence of Type 1 and Type 2 Diabetes in Hong Kong: Analysis of the Hong Kong Diabetes Surveillance Database
ANDREA LUK, CALVIN KE, ERIC S. LAU, RONALD C. MA, ELAINE CHOW, ALICE P. KONG, JUlianA C. CHAN, WING YEE SO, Hong Kong, China, Toronto, ON, Canada

1513-P The Severe Insulin-Resistant Diabetes Cluster Features Higher Liver Fat Content, but Also an Accelerated Risk of Liver Fibrosis over Five Years after Diagnosis
DANA P. ZAHARIA, KLAUS STRASSBURGER, YULIYA KUPRIYANOVA, YANISLAVA KARUSHEVA, SOFIA ANTONIOU, KALMAN BODIS, OLOF ASPLUND, VOLKER BURKART, KARSTEN MUessIG, JONG-HEE HWANG, OLIVER KUSS, LEIF GROEP, EMMA AHLQVIST, JULIA SzenDROEDi, MICHAEL RODEN, Dusseldorf, Germany, Malmö, Sweden, Helsinki, Finlad

1514-P Serum Amylase (AMY) Level and Its Chronological Change as a Predictor of Incident Type 2 Diabetes Mellitus (T2DM)
DAI ISHIKII, KAZUYA FUJIIHARA, RINA NEDACHI, MAYUKO HARADA, YASUHIRO MATSUBAYASHI, KAZUMI SAITO, SATORU KODAMA, RITSUKO YAMAMOTO-HONDA, YASUSHI ARASE, HIROHITO SONE, Niigata, Japan, Inashiki, Japan, Tokyo, Japan
1515-P  Thai Diabetes Risk Score Performed Less Well in Predicting Incident Diabetes in a General Populati-
on: External Validation in the HCUR Cohort
PARINYA CHAMNAN, PISSAMAI WARASOOK, ORATHAI SRIAWANG, NUMFON PHROMMACHART,
BENJAWEN WETTANA, HCUR INVESTIGATORS, Ubonratchathani, Thailand

1516-P  A Comparison of the Contributions of Impaired Insulin Secretion and Insulin Resistance to the
Development of Type 2 Diabetes in a Japanese Community: The Hisayama Study
MASAHITO YOSHINARI, YOICHIRO HIRAKAWA, JUN HATA, MAYU HIGASHIOKA, TAKANORI HONDA, DAIGO
YOSHIDA, NAOKO MUKAI, UDAI NAKAMURA, TAKANARI KITAZONO, TOSHIHARU NINOMIYA, Fukuoka, Japan

1517-P  A Longitudinal Study of a Panel of Adipokines and Gestational Diabetes Risk
ELLEN C. FRANCIS, MENGYING LI, STEFANIE HINKLE, JINBO CHEN, LIWEI CHEN, CUILIN ZHANG, Bethesda,
MD, Philadelphia, PA, Los Angeles, CA

1518-P  Serum Dihomo-γ-Linolenic Acid Levels Predict Glycemic Control Deterioration in Type 2 Diabetes
Patients after Discharge from Admission
TAKASHI SUNOUCHI, YUYA TSURUTANI, TOMOKO TAKIGUCHI, JUN SAITO, TETSUO NISHIKAWA, Yokohama,
Japan

1519-P  A Study on Epidemiological Barriers in Usage of Insulin among Rural South Indians
PATALI MANDAVA, HARIHARAN R.S. MUNGANDA II, VAMSI KRISHNA UNDAVALLI III, PONNAGANTI
SATYANARAYANA CHOWDARY IV, DNYANESH AMLE, Vijayawada, India

1520-P  All-Cause Mortality in Chinese Adults with Diabetes in Association with New Indicator Generated
by the 2-h Plasma Glucose Level Subtract Fasting Plasma Glucose Level
ZHENPING ZHAO, MEI ZHANG, JINLEI QI, XIAO ZHANG, YUNNING LIU, LIJUN WANG, MAIGENG ZHOU, LIMIN
WANG, CCDRF WORKING GROUP, Beijing, China

1521-P  An Efficacy Evaluation on Prediabetes Management Using a Machine Learning-Based Risk Stratifi-
cation Approach
XIANTONG ZOU, ZHANXING ZHU, YINGYING LUO, YUFENG LI, XIANGHAI ZHOU, LINONG JI, Beijing, China

1522-P  Serum Mac-2 Binding Protein Glycosylation Isomer Level and the Risk of Type 2 Diabetes in a
Japanese Community: The Hisayama Study
MAYU HIGASHIOKA, YOICHIRO HIRAKAWA, MASAHITO YOSHINARI, TAKANORI HONDA, SATOKO SAKATA,
MAO SHIBATA, DAIGO YOSHIDA, JUN HATA, TAKANARI KITAZONO, HARUHIKO OSAWA, TOSHIHARU
NINOMIYA, Fukuoka, Japan, Toon, Japan

1523-P  Variation in Diabetes Prevalence by Sex and Weight in Middle-Aged Chinese and Filipino Adults
KRISTINE GU, NANCY P. GORDON, MALINI CHANDRA, GENE LAU, JOEL R. GONZALEZ, JOAN C. LO, Oakland,
CA, San Francisco, CA

1524-P  Discordance between A1C and Glucose for the Diagnosis of Prediabetes in a Filipino-American
Population
MARIA ELIZABETH P. MERCADO, SARAH KIM, EVA MARIA C. CUTIONGO DE LA PAZ, MARK SEIELSTAD, ELIZ-
ABETH PAZ-PACHECO, ELIZABETH MURPHY, San Francisco, CA, Manila, Philippines

1525-P  Increasing Trend in Dyslipidaemia among the Urban and Rural Populations in Tamil Nadu, Southern
India, the STRiDE-I Study
ARUN NANDITHA, ARUN RAGHAVAN, PRISCILLA SUSAIRAJ, KRISHNAMOORTHY SATHEESH, MARY SIMON,
RAMACHANDRAN VINITHA, CHAMUKUTTAN SNEHALATHA, AMBADHY RAMACHANDRAN, Chennai, India

1526-P  Delayed Heart Rate Recovery after Exercise as a Risk Factor of Incident Metabolic Syndrome: A
Retrospective Cohort Study
TAE YANG YU, SANG-MAN JIN, KYU YEON HUR, JI CHEOL BAE, JAEHWAN JEE, JAE HYEON KIM, MOON-KYU
LEE, ]ksan, Republic of Korea, Seoul, Republic of Korea, Changwon, Republic of Korea

1527-P  Race/Ethnic-Specific Association between BMI and Incident Type 2 Diabetes (T2DM): Evidence
from the Multiethnic Study of Atherosclerosis
LUIS A. RODRIGUEZ, PATRICK T. BRADSHAW, STEPHEN SHIBOSKI, ALICIA FERNANDEZ, ERIC VITTINGHOFF,
DAVID M. HERRINGTON, JINGZHONG DING, ALKA M. KANAYA, San Francisco, CA, Berkeley, CA, Winston-
Salem, NC
1528-P The Utility of MODY Probability Calculator in Polish Patients with Diabetes
JERZY HOHENDORFF, BARBARA ZAPALA, IWONA SOLECKA, DAMIAN UCIEKLAK, AGNIESZKA LUDWIG-SŁOM-CZYNSKA, BARTIOMIEJ MATEJKO, SANDRA MROZINSKA, MACIEJ MALECKI, MAGDALENA SZOPA, Kraków, Poland

1529-P Higher Rates of Disease Progression among Nonalcoholic Fatty Liver Disease/Nonalcoholic Steatohepatitis (NAFLD/NASH) Patients with Advanced Fibrosis (AF) and Diabetes Mellitus (DM)
ZOBAIN YOUNOSSI, NANDITA KACHRU, SANATAN SHREAY, ROHIT LOOMBA, Falls Church, VA, Foster City, CA, San Diego, CA

1530-P WITHDRAWN

1531-P Spontaneous Ketonuria Is Associated with Reduced Incidence of Diabetes
SUNG J. CHO, INKUK LEE, SANG BAE LEE, EUN SEOK KANG, ELE FERRANNINI, YONG-HO LEE, KYURI KIM, BONG-SOO CHA, Seoul, Republic of Korea, Pisa, Italy

1532-P Greater Type 2 Diabetes Risk among College Students in Egypt Is Alarming
ELSAYED MOHAMED EID, SR., SHAHEEN TOMAH, AHMED H. EL DIB, MEGAHED MOH ABOU ELMAGD, SR., ELMAN M. FAHMY, AYMAN MOHAMED ELDAWARY, HOSSAM ARAFA GHAZI, SR., OSAMA HAMDY, Mansoura, Egypt, Boston, MA, Cairo, Egypt, Banha, Egypt

1533-P WITHDRAWN

1534-P Relationship between Metabolic Syndrome Score and Insulin Resistance
FAHIM ABBASI, PETER REAVEN, JOSH KNOWLES, Stanford, CA, Phoenix, AZ

EPIDEMIOLOGY—DIABETES COMPLICATIONS

Moderated Poster Discussion: Diabetes Complications (Posters: 1535-P to 1539-P), see page 140.

1535-P An Insulin Resistance Genetic Risk Score (IR_GRS) Is Associated with Mortality in Type 1 Diabetes (T1D)
RACHEL G. MILLER, TINA COSTACOU, SUNA ONENGUT-GUMUSCU, WEI-MIN CHEN, STEPHEN S. RICH, TREVOR J. ORCHARD, Pittsburgh, PA, Charlottesville, VA

1536-P Parametric Survival Analysis of Complications from Type 1 Diabetes
CAROLINA BARBOSA, NICOLE MACK, GEORGIY BOBASHEV, GRANT A. KING, YIYAN LIU, RAINER HILSCHER, SIMON NEUWAHL, THOMAS J. HOERGER, Chicago, IL, Durham, NC, Waltham, MA, Research Triangle Park, NC, Atlanta, GA

1537-P Impact of Obesity on Outcomes of Diabetic Ketoacidosis: A Nationwide Analysis
MAYURI MUDGAL, AKSHAY GOEL, Fargo, ND, Little Rock, AR

1538-P Quality of Life Decrement for Complications of Type 2 Diabetes
SIMON NEUWAHL, THOMAS J. HOERGER, Atlanta, GA, Research Triangle Park, NC

1539-P Assessing the Risk of Amputation with Canagliflozin in Middle-Aged Adults and Adults over 65 Years of Age: An Observational Study Using Three Nationwide Databases
MICHAEL FRALICK, SEOYOUNG C. KIM, SEBASTIAN SCHNEEWEISS, BRENDAN M. EVERETT, ROBERT J. GLYNN, ELISABETTA PATORNO, Boston, MA

1540-P Plasma Advanced Glycation End Products (AGEs) at Three Time Points during the DCCT/EDIC Are Associated with Subsequent Risk of Microvascular Complications in Type 1 Diabetes
VINCENT M. MONNIER, DAVID SELL, JOHN LACHIN, IONUT BEBU, THE DCCT/EDIC RESEARCH GROUP, Cleveland, OH, Rockville, MD

1541-P Association between Urine Free Advanced Glycation End Products (AGEs) at Three Time Points during the DCCT/EDIC and Subsequent Risk of Microvascular Complications in Type 1 Diabetes
DAVID SELL, JOHN LACHIN, IONUT BEBU, VINCENT M. MONNIER, THE DCCT/EDIC RESEARCH GROUP, Cleveland, OH, Rockville, MD, Washington, DC
1542-P Diabetes Care Goal Achievement over 1999-2016 Was Similar in Rural and Urban America
CARLA MERCADO, KAI M. BULLARD, MOHAMMED K. ALI, GIUSEPPINA IMPERATORE, SHARON SAYDAH, EDWARD GREGG, Atlanta, GA, Hyattsville, MD

CARLA MERCADO, KAI M. BULLARD, MOHAMMED K. ALI, GIUSEPPINA IMPERATORE, SHARON SAYDAH, EDWARD GREGG, Atlanta, GA, Hyattsville, MD

1544-P High Risk of Adverse Drug Reaction (ADR) in Older Adults with Type 1 Diabetes (T1D)
ELENA TOSCHI, CHRISTINE SLYNE, ASTRID ATAKOV-CASTILLO, KAYLA SIFRE, ALYSSA B. DUFOUR, SAM CARL, JORDAN GREENBERG, MEDHA MUNSHI, Boston, MA

1545-P The Association between Type 2 Diabetes and Pain Severity in People with Localized Osteoarthritis: A Retrospective Study
AQEEL M. ALENAZI, SAKHER M. OBAIDAT, MOHAMMED ALSHEHRI, COREY M. GRAY, SHAIMA ALOTHMAN, JASON L. RUCKER, LEMUEL R. WAITMAN, PATRICIA KLUDING, Kansas City, KS, Mission, KS

1546-P Acute Pancreatitis (AP) with Canagliflozin (CANA) vs. Other Antihyperglycemic Agents (AHAs): An Observational Study
ZHONG YUAN, FRANK DEFalCO, LU WANG, LAURA L. HESTER, JOEL N. SVERDEL, AMY FREEDMAN, PATRICK RYAN, MARTIJN SCHUEMIE, ROSE QIU, JACQUELINE YEE, GARY MEININGER, JESSE A. BERLIN, NORM ROSENTHAL, Titusville, NJ, Raritan, NJ

1547-P Early Intensive Glycemic Control Is Responsible for Long-Term Durable Glycemic Control and Lower Rate of Diabetic Complications in Newly Diagnosed Type 2 Diabetes Patients: A Six-Year Observational Study
NAM HOON KIM, SIN GON JANG, KYOUNG JIN KIM, HYE SUK KIM, Seoul, Republic of Korea, Anyang, Republic of Korea

1548-P High Prevalence of Glaucoma and Cataract with Uncommon Diabetic Retinopathy in Haitian Youth with Diabetes
EDDY JEAN BAPTISTE, PHILIPPE LARCO, MARIE-NANCY CHARLES LARCO, JULIA E. OGETTINGEN, FRANCOISE ROCOURT, BRIGITTE HUDICOURT, KEDDY MOISE, RODOLPHE PAUL, RENE CHARLES, Port-au-Prince, Haiti, Montreal, QC, Canada

1549-P Factors Associated with Osteoporosis among Hospitalized Patients With and Without Diabetes
KENNETH IZUORA, GAYLE ALLENBACK, CIVON L. GEWELBER, MICHAEL F. NEUBAUER, Las Vegas, NV

JESSICA L. HARDING, LINDA J. ANDES, YILING J. CHENG, KAI M. BULLARD, EDWARD GREGG, HANNAH K. WEIR, NILKA RIOS BURROWS, GIUSEPPINA IMPERATORE, Atlanta, GA

1551-P Baseline Characteristics of Patients in the First Pan-India, Prospective, Longitudinal Study to Assess Management and Outcomes of T2D in Real-World Settings—LANDMARC
ROMIK GHOSH, ASHOK KUMAR DAS, AMBIKA GOPALAKRISHNAN UNNIKRISHNAN, SANJAY KALRA, HEMANT THACKER, LANDMARC STUDY GROUP, Mumbai, India, Pondicherry, India, Pune, Karnataka, India

1552-P Relationship between Diabetes Status and Chronic Kidney Disease in New York City Chinese and Non-Chinese Populations
TA-MIN CHANG, GEORGE LIU, JOHN D. GEORGE, JAMES W. SHARP, ANTHONY HU, New York, NY, Elmwood Park, NJ

STEPHEN R. BENOIT, ISRAEL A. HORA, YAN ZHANG, EDWARD GREGG, Atlanta, GA

1554-P Real-World Use of Insulin and Oral Antidiabetes Drugs in the Hospital
FRANCISCO J. PASQUEL, MICHELLE F. MAGEE, IRIT HOCHBERG, ROBERT B. HAWTHORNE, LIMIN PENG, GUILLERMO E. UMPIERREZ, Atlanta, GA, Washington, DC, Haifa, Israel

1555-P Differences in Oral Microbiota as Risk Factors for Periodontal Disease in Diabetic Subjects
SATORU MIZUSHIRI, MAKOTO DAIMON, HIROSHI MURAKAMI, MASAYA MURABAYASHI, YUKI MATSUHASHI, AYA KAMBA, Hirosaki, Japan, Aomori, Japan
1556-P Gender Differences in Glycemic Control, Microvascular and Macrovascular Complications in Hospitalized Patients with Diabetes
NEETI PATEL, DIANA PINKHASOVA, AMY DONIHI, ESRA KARSILOGLU FRENCH, LINDA M. SIMINERIO, KRISTIN DELISI, DEBORAH S. HLASNIK, MARY T. KORYTKOWSKI, Pittsburgh, PA

1557-P Nonalcoholic Fatty Liver Disease Is an Independent Risk Factor for Macrovascular and Microvascular Complications in Patients with Type 2 Diabetes
LEI ZHANG, NA WANG, JUN WANG, XIAOYAN YIN, YUXIU YANG, WEIGUO GAO, YANHU DONG, Qingdao, China

1558-P BMI and Long-Term Mortality in a Population with Young and Older-Onset Diabetes
BAQIYYAH CONWAY, WILLIAM J. BLOT, Tyler, TX, Nashville, TN

1559-P Δ Differential Effects of Type 1 (T1D) and Type 2 Diabetes (T2D) on the Growth Hormone (GH)-Insulin-Like Growth Factor (IGF) Axis in Youth
JANET K. SNELL-BERGEON, JANE E.B. REUSCH, AMY D. BAUMGARTNER, MELANIE CREE-GREEN, KRISTEN J. NADEAU, Chicago, IL, Denver, CO, Indianapolis, IN, Aurora, CO

1560-P A History of CHF Predicts Adverse Outcomes of Hospitalizations for Hyperglycemic Crises—Data from National and Local Cohorts
MANYOO AGARWAL, NIDHI JAIN, SUDHA KODE, PRADEEP S. PODILA, RAMI N. KHOUZAM, UZOMA N. IBEBUOGU, GUY REED, SAMUEL DAGOGO-JACK, Memphis, TN, Phoenix, AZ

1561-P Associations between β-Cell Function and Cognitive Measures Differ in Youth vs. Adults with Impaired Glucose Tolerance (IGT) or Early Type 2 Diabetes (T2D)
SUZANNE CRAFT, AMY CLAXTON, MARK TRIPPUTI, SHARON EDELSTEIN, SILVA A. ARSLANIAN, KRILA A. TEMPLE, KRISTEN J. NADEAU, ASHLEY SANDERLIN, MARK ESPELAND, BABAK MOKHLESI, KIEREN J. MATHER, PHILIP ZEITLER, RISE CONSORTIUM, Winston-Salem, NC, Bellevue, WA, Rockville, MD, Pittsburgh, PA, Chicago, IL, Denver, CO, Indianapolis, IN, Aurora, CO

1562-P Diabetes as Leading Cause of Occupational Disability due to Ocular Diseases in the Mexican Institute of Social Security
IVAN DE JESUS ASCENCIO-MONTEL, EDGAR JESÚS ZITLE-GARCÍA, CARLOS ALBERTO REYES-MARTÍNEZ, MONICA ALTAGRACIA GARCÍA-LOPEZ, Mexico City, Mexico

1563-P Multimorbidity and Its Associations with All-Cause Mortality in People with Type 2 Diabetes: A Prospective Analysis of the UK Biobank
JASON I. CHIANG, PETER HANLON, BHAUTESH D. JANI, JO-ANNE E. MANSKI-NANKERVIS, JOHN FURLER, BARBARA I. NICOLL, FRANCES S. MAIR, Melbourne, Australia, Glasgow, United Kingdom

1564-P Prevalence of Sarcopenia in Community Dwelling Korean Older Adults with Diabetes
SUNYOUNG KANG, TAE JUNG OH, SUNGHEE CHOI, KYONG SOO PARK, HAK CHUL JANG, Seoul, Republic of Korea, Seongnam, Republic of Korea

1565-P Gender Differences in Clinical Predictors of Nonalcoholic Steatohepatitis in Type 2 Diabetes
SHASHI PANICKER, JEFFREY W. STEPHENS, Cardiff, United Kingdom, Swansea, United Kingdom

1566-P Clinical Characteristics, Antihyperglycaemic Treatment Patterns, and Blood Glucose Control in Older Type 2 Diabetes Mellitus (T2DM) Patients in China: A Nationwide Cross-Sectional Study
JIE SHEN, MENG LIU, BING YE, QIANG LI, DOUGLAS CLARK, LINONG JI, Shangahai, China, Beijing, China, Ingelheim, Germany

1567-P Diabetes Subtypes and Risk for Complications
MICHAEL BANCKS, MERCEDES R. CARNETHON, HAIYING CHEN, MARY FRANCES COTCH, BARBARA E.K. KLEIN, RONALD KLEIN, MOYSES SZKLO, ALAIN BERTONI, Winchester, NC, Chicago, IL, Bethesda, MD, Madison, WI, Baltimore, MD

1568-P Discontinuation of Metformin among Patients with Reduced Renal Function
PATRICIA CHU, MARIE R. GRIFFIN, JAE YOUNG MIN, AMBER J. HACKSTADT, JONATHAN J. CHIPMAN, ROBERT A. GREEVY, JR., ADRIANA M. HUNG, CARLOS G. GRIJALVA, CHRISTIANNE ROUMIE, Nashville, TN

1569-P Δ Cholesterol Efflux Capacity (CEC) and HDL Subspecies Associate with Estimated Insulin Sensitivity (eIS) in Type 1 Diabetes (T1D)
TERESA BUCKNER, KARIN BORNFELDT, JAY HEINECKE, TOMAS VAISAR, JANET K. SNELL-BERGEON, Denver, CO, Seattle, WA, Aurora, CO
1570-P The Haptoglobin 2 Allele Is Associated with Cardiac Autonomic Neuropathy in Both Type 1 Diabetes and Controls: The Retro HDLc Study
JINGHUI JU, ERIN L. TOMASZEWSKI, TREVOR J. ORCHARD, TINA COSTACOU, Pittsburgh, PA

EPIDEMIOLOGY—NUTRITION

Moderated Poster Discussion: Nutritional Epidemiology of Diabetes (Posters: 1571-P to 1576-P), see page 140.

1571-P Dietary Quality, Weight Loss, and Diabetes Incidence in the Diabetes Prevention Program (DPP)
BENJAMIN ALLAIRE, ASHLEY H. TJADEN, JOHN W. APOLZAN, SR., DANA DABELEA, LINDA M. DELAHANTY, SHARON EDELSTEIN, MARY A. HOSKIN, LINDSAY M. JAACKS, KARLA A. TEMPLE, ELIZABETH M. VENDITTI, JUDITH WYLSIE-ROSETT, DPP RESEARCH GROUP, Research Triangle Park, NC, Rockville, MD, Baton Rouge, LA, Aurora, CO, Boston, MA, Phoenix, AZ, Chicago, IL, Pittsburgh, PA, Bronx, NY

1572-P Association of Genetic Variants Related to Hyperinsulinemia with Dietary Intake
JORDI MERINO, JOANNE B. COLE, ELISE LIM, KAYLA YATES, CHING-TI LIU, JOSE C. FLOREZ, Boston, MA

1573-P Branched-Chain Amino Acids, Dietary Protein, and Improvement in Hepatic Fat and Abdominal Fat Distribution in Weight-Loss Diet Intervention: The POUNDS Lost Trial
XIANG LI, DIANJIANYI SUN, TAO ZHOU, GEORGE BRAY, FRANK SACKS, LU QI, New Orleans, LA, Baton Rouge, LA, Boston, MA

1574-P Plasma Glycolysis/Glucosemetabolism and TCA-Related Metabolites, Mediterranean Dietary Pattern, and Risk of Type 2 Diabetes
MARTA GAUSCH, JOSE L. SANTOS, MIGUEL A. MARTINEZ-GONZALEZ, CLARY B. CLISH, CRISTINA RAZQUIN, DONG WANG, LINING LIANG, JUN LI, COURTNEY DENNIS, DOLORES CORELLA, RAMON ESTRUCH, ANGEL M. ALONSO-GOMEZ, LUIS SERRA-MAJEM, EMILIO ROS, MONTSE RODRIGUEZ, J. ALFREDO MARTINEZ, JORDI SALAS-SALVADÓ, SR., ESTEFANIA TOLEDO, FRANK HU, MIGUEL RUIZ-CANELA, Boston, MA, Santiago, Chile, Pamplona, Spain, Cambridge, MA, Valencia, Spain, Barcelona, Spain, Vitoria Gasteiz, Spain, Las Palmas, Spain, Reus, Spain

1575-P Influence of Adolescent and Maternal Coffee Consumption on Risk of Obesity and Type 2 Diabetes Mellitus in Middle-Aged Women and Their Offspring: Results from Two Prospective Cohort Studies in the United States
DERRICK ALPERET, KLODIAN DHANA, JORGE E. CHAVARRO, QI SUN, Boston, MA, Chicago, IL

1576-P Metabolomic Profiling of the Dietary Approaches to Stop Hypertension (DASH) Diet: Novel Insights for the Nutritional Epidemiology of Type 2 Diabetes Mellitus (T2DM)
SHAHEN YASHPAL, ANGELA D. LIESE, LYNNE E. WAGENKNECHT, STEVEN M. HAFFNER, LUKE W. JOHNSTON, BEATRICE BOUCHER, RICHARD P. BAZINET, MARIAN REWERS, JEROME I. ROTTER, STEVE M. WATKINS, ANTHONY HANLEY, Toronto, ON, Canada, Columbia, SC, Winston-Salem, NC, Shavano Park, TX, Aarhus, Denmark, Denver, CO, Torrance, CA, San Francisco, CA

1577-P Dietary Intake Trends Associated with Breakfast Skipping in U.S. Adults by Diabetes Status
OWEN KELLY, STEPHANIE M. FANELLI, JESSICA L. KROK-SCHOEN, CHRISTOPHER A. TAYLOR, Columbus, OH

1578-P Meal Consumption Patterns and Contributions of Meals and Snacks to Total Nutrient Intakes by Diabetes Status
OWEN KELLY, STEPHANIE M. FANELLI, JESSICA L. KROK-SCHOEN, CHRISTOPHER A. TAYLOR, Columbus, OH

1579-P Higher Calcium Intake Is Associated with Lower Incidence of Diabetic Nephropathy in Japanese Patients with Type 2 Diabetes
CHIKA HORIKAWA, REI AIDA, SHIRO TANAKA, SACHIKO TANAKA, CHIEMI KAMADA, YUKIO YOSHIMURA, ATSUSHI ARAKI, TATSUMI MORIYA, SHIGEHIRO KATAYAMA, YASUO AKANUMA, HIROHITO SONE, NAGATA, Japan, KYOTO, Japan, Shiga, Japan, Tokushima, Japan, Tokyo, Japan, Sagamihara, Japan, Kawagoe, Japan

1580-P Dietary Index of Insulin Resistance and Insulin Secretion Predicts Diabetes Risk in Asian Indians
CHRISTOPHER N. FORD, LISA R. STAIMEZ, NIDA I. SHAHAK, NIKhil TANDON, DORAI RAJ PRABHAKAR, K.M. VENKAT NARAYAN, VANDANA GARG, Atlanta, GA, New Delhi, India, Gurugram, India

1581-P Increase of Diabetes and Obesity among Descendants of First-Generation Filipino Immigrants to Italy
SILVIA PIERALICE, ROSSELLA DEL TORO, YEGANEH MANON KHAZRAI, ERNESTO MADDAILONI, ANNA RITA MAURI, SILVIA MANFRINI, PAOLO POZZILLI, Rome, Italy
1582-P Exploring the Heterogeneity of Inner-City African-American Patients with Diabetes and Food Insecurity Using Cluster Analysis
GEORGIA DAVIS, KRISTEN L. FLINT, LIMIN PENG, GUILLERMO E. UMPIERREZ, Atlanta, GA

1583-P Intake of Fish and Related Nutrients in Association with Obesity in Japanese Patients with Type 2 Diabetes (T2D)
MARIKO HATTA, KAZUYA FUJIIHARA, YASUHIRO MATSUBAYASHI, YASUNAGA TAKEDA, RINA NEDACHI, DAI ISHII, CHIKA HORKAWA, NORIKO KATO, HIROSHI MAEGAWA, HIROHIRO SONE, JDDM STUDY GROUP, Niigata, Japan, Katsushika, Japan, Otsu, Japan

1584-P ▲ Associations of Dietary Patterns with Atherosclerosis in the Coronary Artery Calcification in Type 1 Diabetes (CACTI) Study
ARPITA BASU, AMY C. ALMAN, JANET K. SNELL-BERGEON, Las Vegas, NV, Tampa, FL, Aurora, CO

1585-P WITHDRAWN

1586-P Impact of Hurricane Matthew on Diabetes Self-Management and Outcomes
KEVIN TRAVIA, ANNA R. KAHKOSKA, KATHERINE J. SOURIS, CHERRY M. BEASLEY, ELIZABETH MAYER-DAVIS, Chapel Hill, NC, Pembroke, NC

1587-P Prevalence and Impact of Food Insecurity on Clinical Outcomes in Inner-City African-American Patients with Diabetes
KRISTEN L. FLINT, GEORGIA DAVIS, LIMIN PENG, SARAH H. CAMPBELL, GUILLERMO E. UMPIERREZ, Atlanta, GA, Lebanon, NH

EPIDEMIOLOGY—OTHER

Moderated Poster Discussion: Prediction and Incidence of Diabetes (Posters: 1588-P to 1593-P), see page 140.

1588-P ▲ Regression to Normal Glucose Regulation in American Indians and Alaska Natives of a Diabetes Prevention Program
KATHERINE A. PRATTE, ANN JOHNSON, JANETTE BEALS, ANN BULLOCK, SPERO M. MANSON, LUOHUA JIANG, Denver, CO, Aurora, CO, Rockville, MD, Irvine, CA

GHAZAL FAZLI, RAHIM MOINEDDIN, BAIJU R. SHAH, CAIXIA FANGYUN WU, GILLIAN BOOTH, Toronto, ON, Canada

1590-P ▲ Parental and Sibling Age at Diabetes Diagnosis and the Risk of Diabetes in Denmark
JOSE OMAR SILVERMAN RETANA, ADAM HULMAN, JANNIE NIELSEN, BENDIX CARSTENSEN, REBECCA K. SIMMONS, LASSE BJERG, LUKE JOHNSTON, DANIEL R. WITTE, Aarhus, Denmark, Atlanta, GA, Gentofte, Denmark, Cambridge, United Kingdom

1591-P ▲ The Primordial Prevention Project: Motivating Family Behavior Change through Disclosure of Child’s Diabetes Genetic Risk
JENNIFER WESSEL, MITCHELL SMITH, Indianapolis, IN

1592-P ▲ Prediction Method for Infection Risk in Perioperative Patients with Diabetes
MASAYA KOSHIZAKA, RYOICHI ISHIBASHI, YUKARI MAEDA, TAKAHIRO ISHIKAWA, YOSHIRO MAEZAWA, MINORU TAKEMOTO, KOUTARO YOKOTE, Chiba, Japan, Narita, Japan

1593-P ▲ Time Trends in Diabetes Incidence and Obesity Prevalence in Six Countries
THOMAS R. HIRD, LEI CHEN, RAKIBUL M. ISLAM, MEDA E. PAVKOVA, EDWARD GREGG, MARYAM TABASH, DIGSU KOYE, ELIZABETH L. BARR, JONATHAN E. SHAW, DIANNA J. MAGLIANO, GLOBODIAB WRITING GROUP, Melbourne, Australia, Atlanta, GA

1594-P ▲ The Impact of Diabetes on Productivity in China
THOMAS R. HIRD, ELLA ZÖMER, ALICE J. OWEN, LEI CHEN, ZANFINA ADEMI, DIANNA J. MAGLIANO, DANNY LIEW, Melbourne, Australia

1595-P Triglyceride and Glucose (TyG) Index as a Predictor of Mortalities
KYUNG-SEO KIM, YOU CHEOL HWANG, HONG-YUP AHN, SUNG-WOO PARK, CHEOL-YOUNG PARK, Seongnam, Republic of Korea, Seoul, Republic of Korea

▲ ADA-Supported Research
1596-P Triglyceride and Glucose (TyG) Index Is an Effective Predictor of Nonalcoholic Fatty Liver Disease/Nonalcoholic Steatohepatitis
KYUNG-SOO KIM, YOU CHEOL HWANG, HONG-YUP AHN, SUNG-WOO PARK, CHEOL-YOUNG PARK, Seongnam, Republic of Korea, Seoul, Republic of Korea

1597-P Incidence of Diabetes in Young Adult South Asians Compared with Pima Indians
K.M. VENKAT NARAYAN, DIMPLE KONDAL, SAYUKO KOBES, MOHAN DEEPA, NATALIE R. DAYA, SHIVANI A. PATEL, RANJIT MOHAN ANJANA, LISA R. STAIMEZ, MOHAMMED K. ALI, UNJALI GUJRAL, DORAIRAJ PRABHAKARAN, ROOPA SHIVASHANKAR, MASOOD KADIR, ELIZABETH SELVIN, VISWANATHAN MOHAN, ROBERT L. HANSON, NIKHIL TANDON, Atlanta, GA, New Delhi, India, Phoenix, AZ, Chennai, India, Baltimore, MD, Gurugram, India, Karachi, Pakistan

1598-P Incidence of Diabetes in South Asian Adults in Urban India/Pakistan Compared with Blacks and Whites in U.S.
K.M. VENKAT NARAYAN, DIMPLE KONDAL, NATALIE R. DAYA, SHIVANI A. PATEL, MOHAN DEEPA, RANJIT MOHAN ANJANA, LISA R. STAIMEZ, UNJALI GUJRAL, SAYUKO KOBES, ROOPA SHIVASHANKAR, MOHAMMED K. ALI, MASOOD KADIR, DORAIRAJ PRABHAKARAN, ROBERT L. HANSON, VISWANATHAN MOHAN, ELIZABETH SELVIN, NIKHIL TANDON, Atlanta, GA, New Delhi, India, Baltimore, MD, Chennai, India, Phoenix, AZ, Karachi, Pakistan, Gurugram, India

1599-P Glycated Albumin Identifies Dysglycemia Not Detected by A1C: The Case for Combining Glycated Albumin and A1C in Africans
REGINE MUGENI, JESSICA Y. ADUWO, SARA M. BRIKER, MARGRETHE F. HORLYCK-ROMANOFSKY, LILIAN MABUNDO, CHRISTOPHER DUBOSE, ANNE E. SUMNER, Bethesda, MD

1600-P Duplicate Oral Glucose Tolerance Tests Reveal Excellent Reproducibility for Detection of Diabetes but Inconsistent Results for Prediabetes: A Study of Africans
SARA M. BRIKER, MARGRETHE F. HORLYCK-ROMANOFSKY, JESSICA Y. ADUWO, REGINE MUGENI, CHRISTOPHER DUBOSE, LILIAN MABUNDO, STEPHANIE T. CHUNG, JOON HA, ARTHUR SHERMAN, ANNE E. SUMNER, Bethesda, MD

1601-P Sarcopenic Obesity and Its Association with Reduced Cognitive Performance in Type 2 Diabetes in Singapore
KIAT MUN SERENA LOW, SU CHI LIM, KEVEN ANG, SUBRAMANIAM TAVINTHARAN, CHEE FANG SUM, Singapore, Singapore

1602-P WITHDRAWN

1603-P Fasting Metabolomic Profiles Are Altered by Three Days of Standardized Diet and Restricted Physical Activity
LAURA PYLE, ANNE-MARIE CARREAU, HASEEB RAHAT, YESENIA GARCIA REYES, KRISTEN J. NADEAU, MELANIE CREE-GREEN, Aurora, CO, Denver, CO

1604-P Diabetes, Glycemic Control, and Risk of Infection Morbidity and Mortality: A Cohort Study
CHIA-HSUIN CHANG, JIUN-LING WANG, LI-CHIU WU, LEE-MING CHUANG, HSIEN-HO LIN, Taipei, Taiwan, Tainan, Taiwan

1605-P Profiling Risk among Sepsis Survivors with Diabetes in Home Care
CHRISTINA R. WHITEHOUSE, LIZEYKA JORDAN, KATHRYN BOWLES, CHRISTOPHER M. MURTAUGH, Villanova, PA, New York, NY, Philadelphia, PA

1606-P Lifetime Risk of Developing Diabetes and Years of Life Lost Due to Diabetes in Brazil: Estimates for the Year 2016
PAULA BRACCO, MARIA I. SCHMIDT, PAULO A. LOTUFO, SANDHI MARIA BARRETO, BRUCE B. DUNCAN, Porto Alegre, Brazil, São Paulo, Brazil, Belo Horizonte, Brazil

1607-P Prevalence and Correlates of Potential Glycemic Overtreatment and Undertreatment among U.S. Adults with Diabetes
ROZALINA G. MCCOY, KASIA J. LIPSKA, HOLLY VAN HOUTEN, NILAY SHAH, Rochester, MN, New Haven, CT
1608-P Suboptimal Management of Diabetes in India: Findings from a Large Community-Based Study
SAILESH MOHAN, NIKHIL SRINIVASAPURA VENKATESHMURTHY, PRASHANT JARHYAN, GANESH KUMAR SHARNGADHARAN, Gurgaon, India, Visakhapatnam, India

1609-P High Adiponectin Levels at Baseline and Increasing Adiponectin Levels over 2.4 Years Follow-Up Lower Risk of Metabolic Syndrome in Men
JI HYE HUH, WONJIN KIM, MIN KYUNG KIM, Wonju, Republic of Korea, Seoul, Republic of Korea

1610-P On the Combined Effect of C-Reactive Protein (CRP) and Serum Amyloid Component P (SAP) on Mortality Risk in Type 2 Diabetes
MARIA GIOVANNA SCARALE, MASSIMILIANO COPETTI, MONIA GAROFOLO, LUCIA SALVEMINI, SALVATORE DE CSOMO, OLGA LAMACCHIA, GIUSEPPE PENNO, VINCENZO TRISCHITTA, CLAUDIA MENZAGHI, San Giovanni Rotondo, Italy, Pisa, Italy, Foggia, Italy, Rome, Italy

1611-P Diabetes by Air, Land, and Sea: Effects of Military Deployment on A1c and BMI
IRENE FOLARON, MARK W. TRUE, JANA L. WARDIAN, WILLIAM H. KAZANIS, JOSHUA M. TATE, TOM J. SAUERWEIN, SKY GRAYBILL, PHILIP G. CLERC, CRAIG JENKINS, San Antonio, TX, Fort Sam Houston, TX

1612-P Insulinogenic Index and HOMA-β Are Independent Risk Factors for Future Type 2 Diabetes
KYOKO K. SATO, TOMOSHIKE HAYASHI, SHINICHIRO UEHARA, YUKIKO ONISHI, DONNA L. LEONETTI, STEVEN E. KAHN, WILFRED Y. FUJIMOTO, EDWARD J. BOYKO, Osaka, Japan, Tokyo, Japan, Seattle, WA

1613-P Increased Risks of Temporary and Permanent Work Disability among People with Type 1 and Type 2 Diabetes Mellitus: A Danish Register-Based Longitudinal Study with Up to 17 Years Follow-Up
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1614-P Relationship between Out-of-Pocket Costs, Life-Course Socioeconomic Status, and Acculturation in Immigrants with Diabetes
APRILL Z. DAWSON, REBEKAH J. WALKER, LEONARD E. EGEDE, Milwaukee, WI

1615-P A Multicountry Trend Analysis of Diabetes Incidence
DIANNA J. MAGLIAÑO, RAKIBUL M. ISLAM, LEI CHEN, BENDIX CARSTENSEN, MEDA E. PAVKOV, EDWARD W. GREGG, MARYAM TABESH, DIGSU KOYE, JESSICA L. HARDING, JONATHAN E. SHAW, GLOBODIAB WRITING GROUP, Melbourne, Australia, Gentofte, Denmark, Gentofte, Denmark, Atlanta, GA

1616-P Mortality Rates due to Diabetes Mellitus in Costa Rica, 2007-2017
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1617-P Serum Fatty Acid Proportions Are Associated with Development of Abnormal Glucose Metabolism in Male Japanese: Tokushima Cohort Study
AKIKO HATA, NANAKO AKI, TAKAKO ICHIHARA, AYAKO TAMURA, TAKAKO MINAGAWA, YUMI KUWAMURA, MAKOTO FUNAKI, Tokushima, Japan, Takamatsu, Japan

1618-P Time Trends of Diabetes Prevalence and Incidence in France: A Nationwide Study
SONSOLES FUENTES, SANDRINE FOSSE-EDORH, PASCALE BERNILLON, CHRISTOPHE BONALDI, EMMANUEL COSSON, Paris, France, Saint Maurice, France, Bondy, France

1619-P Risk Factors for Sleep Apnea Syndrome in Nonobese Type 2 Diabetics
SATOSHI KAWASAKI, HARUO MISAWA, TETSURO MINAMIKAWA, YOSUO TERAUCHI, Fujisawa, Japan, Yokohama, Japan

1620-P Trends in Cannabis Use among Patients with Diabetes—The National Survey on Drug Use and Health, 2005-2017
OMAYMA ALSHAARAWY, East Lansing, MI

1621-P Nonlinear Relationship between Elevated Hemoglobin Level and the Risk of Glucose Intolerance in Tibet Residents
WANG SUYUAN, WU YUNHONG, ZHANG CHENGHUI, LI MINGXIA, Chengdu, China

1622-P HbA1c, Blood Pressure, and Cholesterol (ABC) Control in Patients with Type 2 Diabetes from Tibet in China
ZHANG CHENGHUI, LI MINGXIA, WANG SUYUAN, WU YUNHONG, Chengdu, China
1623-P Changes in Glycemic and Insulin Distributions among U.S. Adults without Diabetes by Socioeconomic Position, 1988-2016
YILING J. CHENG, GIUSEPPINA IMPERATORE, KAI M. BULLARD, CARLA MERCADO, EDWARD W. GREGG, Atlanta, GA

1624-P Changes in Childhood Adiposity and Adolescent Testosterone in the EPOCH (Exploring Perinatal Outcomes among Children) Study
CATHERINE KIM, KYLIE K. HARRALL, DEBORAH H. GLUECK, DANA DABELEA, Ann Arbor, MI, Aurora, CO

1625-P Characteristics of the Oral Glucocorticoid-Induced Diabetes Mellitus (GIDM) in Miners with Compromised Lung Function in a Limited Resource Setting
VIVEK REDKAR, SAGAR REDKAR, MANOHAR INAMDAR, ANIKET INAMDAR, SUPRIYA REDKAR, MOHAN JAGTAP, SHRADDHA RANE, SHIRAM V. KULKARNI, JAYSHREE DESHPANDE, U. WADHWA, Goa, India, Akuj, India, Malwan, India, Mumbai, India, Delhi, India

1626-P Alcohol Use and Clinical Outcomes in the T1D Exchange
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1627-P Glycemic Control From 2013 to 2016 among U.S. Adults with Type 2 Diabetes (T2D): A National Estimate Stratified by Age, eGFR Category, and Comorbidities
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1628-P Changes in HbA1c and Treatment in the Second Year following Initiation of Second-Line Therapy in People with T2D—The Global DISCOVER Study
BERNARD CHARBONNEL, HUNGTA CHEN, JAVIER CID-RUZAFA, PETER FENICI, MARILIA B. GOMES, GABRIELA LUPORINI SARAIVA, JESUS MEDINA, ANTONIO NICOLUCCI, STUART POCCOCK, MARINA V. SHESTAKOVA, IICHIRO SHIMOMURA, SHUKAT M. SADIKOT, FILIP SURMONT, FENGMING TANG, JITEN VORA, HIROTAKA WATADA, KAMLESH KHUNTI, Nantes, France, Gaithersburg, MD, Barcelona, Spain, Cambridge, United Kingdom, Rio de Janeiro, Brazil, Madrid, Spain, Pescara, Italy, London, United Kingdom, Moscow, Russia, Madrid, Spain, Cambridge, United Kingdom, Wellington, New Zealand, London, United Kingdom, Moscow, Russian Federation, Tokyo, Japan, Leicester, United Kingdom

1629-P Changes in the Prevalence of Diabetes, Its Management, and Complications over 15 Years in a Rural Australian Population
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1630-P Glycemic Burden and Treatment Effectiveness in Young-Onset Type 2 Diabetes
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1631-P Glycaemic Deterioration, a Clue to Occult Cancer
SHIZUKA KANEKO, YOUIHEI UEDA, YUMIKO TAHARA, Takatsuki, Japan

1632-P Trends in Obesity and Medical Expenditure among Women with Diabetes, 2008-2016: Differences by Race/Ethnicity
JONI S. WILLIAMS, SNEHA NAGAVALLY, LEONARD E. EGEDE, Milwaukee, WI

1633-P State-Specific Incidence of Type 2 Diabetes Treated with Medication in the Privately Insured, United States, 2001-2017
MARY A.M. ROGERS, GIUSEPPINA IMPERATORE, TANIMA BASU, CATHERINE KIM, STEPHEN R. BENOIT, DEBORAH B. ROLKA, SHARON SAYDAH, Ann Arbor, MI, Atlanta, GA, Hyattssville, MD

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1635-P Risk of Pancreatitis among Patients with Type 2 Diabetes Receiving DPP-4 Inhibitors: Nationwide Case-Control Study
MINYOUNG LEE, JIYU SUN, MINKYUNG HAN, JIN HEE KIM, YOUJIN KIM, INKUK LEE, SANG BAE LEE, JAEBYUN BAE, YONGIN CHO, JI-YEON LEE, CHUL HOON KIM, CHUNG MO NAM, EUN SEOK KANG, Seoul, Republic of Korea
1636-P Incidence and Predictors of Diabetes and Prediabetes among South Asians in the United States: The MASALA Study
UNJALI GUJRAL, K.M. VENKAT NARAYAN, NAMRATHA R. KANDULA, KIANG LIU, ALKA M. KANAYA, Atlanta, GA, Chicago, IL, San Francisco, CA

1637-P Role of Initial Combination Therapy on Goal Attainment among Patients with Type 2 Diabetes with High HbA1c
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1638-P Urinary Polycyclic Aromatic Hydrocarbon Concentrations and Risk of Diabetes Mellitus in Korean Adults
YON JU NAM, SHIN-HYE KIM, Seoul, Republic of Korea

1639-P Effect of Educational Status on Fasting Glucose and HbA1c Concentrations Independent of Income and Population Differences in Indian Populations
TEENA KOSHY, RECTOR ARYA, JUAN C. LOPEZ-ALVARENGA, VETTRISELV VENKATESAN, UMARANI RAVI-CHANDRAN, SURENDRA SHARMA, SAILESH LODHA, AMARESH REDDY PONNALA, KRISHNA KUMAR SHARMA, SR., MAHABOOB VALI SHAIKH, ROY G. RESENDEZ, DEEPIKA RAMU, PRIYANKA VENUGOPAL, PARTHASARATHY R., NOELTA S., JULIET A. EZEILO, CYNTHIA A. BEJAR, SRINIVAS MUMMIDI, CHIDAMBARAM NATESAN, JOHN BLANGERO, KRISHNA M. MEDICHERLA, SADAGOPAN THANIKACHALAM, SR., THYAGARAJAN SADRAS PANCHATCHARAM, DILEEP KUMAR K., RAJEEV GUPTA, RAVINDRANATH DUGGIRALA, DHARAMBIR K. SANGHERA, SOLOMON FRANKLIN PAUL, Chennai, India, Edinburg, TX, Chidambaram, India, Jaipur, India, Nellore, India, San Antonio, TX, Oklahoma City, OK, Brownsville, TX

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1641-P Development and Validation of a Clinical Predictive Score for Insulin Requirement during Glucocorticoid Treatment
MIKAKO KAWASHIMA, YOSHIHIO KITADA, KAZUO KAJITA, ICHIRO MORI, TATSUO ISHIZUKA, DAISUKE MURAKAMI, HIDEYUKI OKADA, HIROYUKI MORITA, Gifu, Japan, Hashima, Japan

1642-P Glucose Control among Diabetes Cases Selected from a Representative National Survey in Brazil
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1643-P Prevalence of Diabetes Medication Regimens in PCORnet, the National Patient-Centered Clinical Research Network
KATHERINE N. BACHMANN, CHRISTIANNE ROUMIE, ANDREW D. WIESE, CARLOS G. GRIJALVA, JOHN B. BUSE, ROBERT BRADFORD, EMILY O. ZALIMENI, PATRICIA KNOEPP, HEATHER L. MORRIS, WILLIAM T. DONAHOO, ADA FAMOUS, VIVIAN FONSECA, BONNIE KATALINICH, MEGAN M. COOK, RUSSELL L. ROTHMAN, ROSETTE J. CHAKKALAKAL, Nashville, TN, Chapel Hill, NC, Gainesville, FL, New Orleans, LA

1644-P Novel Subgroups of Prediabetes and Their Clinical Outcomes: A Data-Driven Analysis
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1645-P Risk Factors for Household Food Insecurity among Adults with Dysglycemia: Evidence from the 2013-2017 National Health Interview Survey
LUCINE FRANCIS, RUTH-ALMA N. TURKSON-OCHRAN, ERIN SPAULDING, BINU KOIRALA, DIANA BAPTISTE, JUSTIN B. ECHOUFFO TCHEUGUI, YVONNE COMMODORE-MENSAH, Baltimore, MD

1646-P The Impact of a Diabetes Codiagnosis on Hospitalisation and Mortality in Patients with Malignancy
KATERINA V. KIBURG, GLENN WARD, KATHLEEN M. STYCLAN, ELIZABETH M. MULROONEY, MARGARET M. LOH, SUE-ANNE MCLACHLAN, VIJAYA SUNDARARAJAN, RICHARD MACISAAC, Melbourne, Australia, Fitzroy, Australia

1647-P High Serum YKL-40 Concentration Is Associated with One-Hour Post-Load Hyperglycemia
YUKIO IKEDA, NAOKO HISAKAWA, HIROSHI TAKATA, TAKASHI OHGURO, JUNKO NISHIUCHI, YOSHITACA KUMON, Kochi, Japan

1648-P The Association between Uric Acid Level and Mortality Risks in Diabetes Population in U.S.
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PRISCILLA M. LOPEZ, JUSTIN FELDMAN, PASQUALE E. RUMMO, BRIAN ELBEL, LORNA THORPE, New York, NY
1650-P Metabolically Healthy Obese Status and Incident Dementia Events among 5.7 Million Elderly People
JAEHYUN BAE, JI-YEON LEE, YONGIN CHO, MINYOUNG LEE, SANG BAE LEE, INKUK LEE, EUN SEOK KANG, SUNG J. CHO, KUHYONGDO HAN, BONG-SOO CHA, YONG-HO LEE, Seoul, Republic of Korea

1651-P Diabetes Incidence among Medicare Beneficiaries, 2001-2014
LINDA J. ANDRES, YANFENG LI, MEERA SRINIVASAN, DEBORAH B. ROLKA, EDWARD GREGG, Atlanta, GA, Chambly, GA

1652-P The Association between Long-Term HbA1c Variability, Blood Pressure, Cholesterol, and Body Weight in Type 2 Diabetes: Subanalysis of ABC Study
SOICHIRO MINATO, DAISUKE MATSUTANI, YUKI TSUJIMOTO, YOSUKE KAYAMA, MASAYA SAKAMOTO, MASAKO NISHIKAWA, KAZUNORI UTSUNOMIYA, Tokyo, Japan

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1654-P Decreasing Incidence of Pharmacologically Treated Type 2 Diabetes in Hungary from 2001-2016: A Nationwide Cohort Study
GYŐRGY JERMENDY, ZOLTÁN KISS, GYŐRGY ROKSZIN, ZSOLT ABONYI-TŐTH, ISTVÁN WITTMANN, PETER KEMPLER, Budapest, Hungary, Pécs, Hungary, Szolnok, Hungary

1655-P Primary Care Visits and Ambulatory Care Sensitive Diabetes Hospitalizations among Adult Alabama Medicaid Beneficiaries
JANET M. BRONSTEIN, LEI HUANG, APRIL A. AGNE, FAVEL L. MONDESIR, CAROLINE A. PRESLEY, KEVIN R. RIGGS, MARIA PISU, EMILY B. LEVITAN, ANDREA CHERRINGTON, Birmingham, AL

1656-P Skin Intrinsic Fluorescence (SIF) Scores and Mortality Risk in Type 1 Diabetes (T1D)
ERNI L. TOMASZEWSKI, TREVOR J. ORCHARD, MARQUIS S. HAWKINS, THOMAS SONGER, JOHN D. MAYNARD, TINA COSTACOU, Pittsburgh, PA, Albuquerque, NM

1657-P Performance of Insulin Sensitivity Indices vs. the Hyperinsulinemic Euglycemic Clamp in Chronic Kidney Disease
BARBARA C. MCMULLAN, ELISV A. AKWO, ADRIANA M. HUNG, Nashville, TN

1658-P Socioeconomic Position and All-Cause Mortality among Adults with Diagnosed Diabetes across Racial/Ethnic Groups—United States, 1997-2011
CARLA MERCADO, YILING J. CHENG, SHARON SAYDAH, GIUSEPPINA IMPERATORE, Atlanta, GA, Hyattsville, MD

1659-P A Systematic Review of Trends in All-Cause Mortality among People with Diabetes
LEI CHEN, RAKIBUL M. ISLAM, JOANNA WANG, THOMAS R. HIRD, MEDA E. PAVKOV, EDWARD W. GREGG, MARYAM TABESH, DICES K OYE, JESSICA L. HARDING, JULIAN W. SACRE, ELIZABETH L. BARR, DIANNA J. MAGLIANO, JONATHAN E. SHAW, Melbourne, Australia, Atlanta, GA

1660-P Rhinosinusitis, Diabetes Mellitus, and Risk of Atrial Fibrillation: A Nationwide Population-Based Cohort Study
HAN-WEN LIU, YU-ANN FANG, TING-I LEE, JU-CI LIU, Taipei, Taiwan, New Taipei City, Taiwan

1661-P Outcomes of a Church-Based Lifestyle Intervention among Australian Samoans Living in South Western Sydney (SWS)—A Pilot Study
DOROTHY NDWIGA, FREYA MACMILLAN, KATE MCBRIDE, OLATAGA ALOFIAE-DOORBINIA, JENNIFER REATH, PENEOPE A. ABBOTT, DAVID SIMMONS, Sydney, Australia, Campbelltown, Australia

1662-P Comparison of Anthropometric and Metabolic Parameters among Africans Living in America
ALI AHMED, ELIAS S. SIRAJI, CHRISTOPHER DUBOSE, REGINE MUGENI, MARGRETIE F. HORLYCK-ROMANOFSKY, JESSICA Y. ADUWO, KEVIN JON WILLIAMS, ANNE E. SUMNER, Norfolk, VA, Bethesda, MD, Philadelphia, PA

1663-P Monophasic Glucose Response Curve Reflective of Glucose Intolerance in Young Mexican Americans
JASMIN JENKINS, CESAR MEZA, MANUEL AMADOR, ANDREW J. MCAINCH, SUDIP BAJPEYI, El Paso, TX, Tallahassee, FL, Melbourne, Australia

1664-P Does “Healthy Diabetes” Exist? Long-Term Survival in Diabetes Heart Study Participants
DONALD W. BOWDEN, JIANZHAO XU, BARRY I. FREEDMAN, NICOLETTA PALMER, FANG-CHI HSU, Winston-Salem, NC
1665-P  Fracture Risk in Patients Using Sodium-Glucose Cotransporter 2 Inhibitors: A Real-World Study
DEVIN ABRAHAM, ANTONIOS D’OURE, HUI YIN, ORIANA HOI YUN YU, LAURENT AZOUNAY, Montreal, QC, Canada

1666-P  Metabolic Characteristic of Elevated One-Hour Plasma Glucose Levels during a 75g Oral Glucose Tolerance Test in the Nonobese Japanese Men
MOTONORI SATO, YOSHIFUMI TAMURA, HIDEYOSHI KAGA, YUKI SOMEYA, SAORI KAKEHI, NOZOMU YAMASAKI, DAIKU SUGIMOTO, SATOSHI KADOWAKI, RURISO SUZUKI, YASUIKO FURUKAWA, KAGEUMI TAKEN, TAKASHI FUNAYAMA, RYUZO KAWAMORI, HIROTAKA WATA, Tokyo, Japan

1667-P  Hemoglobin Glycation Index Is Associated with Nonalcoholic Fatty Liver Disease in Healthy Population
JEE HEE YOO, WOO JE LEE, JOONG-YEOL PARK, JIWOO LEE, YU MI KANG, CHANG HEE JUNG, YUN KYUNG CHO, CHEOL-YOUNG PARK, Seoul, Republic of Korea

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1668-P  The Impact of Ethnicity on Clinical Characteristics and Autoantibody Status at Clinical Onset of Type 1 Diabetes—From the ADDRESS-2 Study
HELEN C. WALKEY, AKAAL KAUR, IAN F. GODSLAND, ALISTAIR J. WILLIAMS, NICK OLIVER, DESMOND G. JOHNSTON, SHIVANI MISRA, London, United Kingdom, Bristol, United Kingdom

1669-P  Proinsulin: C-Peptide Ratios in Relatives of Persons with Type 1 Diabetes
TAYLOR M. TRILO, LAURA PYLE, SSONA SELIGA, LIING YU, KIMBER SIMMONS, PETER GOTTLEB, CARMELLA EVANS-MOLINA, ANDREA STECK, Aurora, CO, Denver, CO, Indianapolis, IN

1670-P  Demographic and Clinical Correlates of Diabetes Autoantibody Positivity among 20- to 45-Year-Olds with New-Onset Diabetes
JEAN M. LAWRENCE, JEFF SLEG, XIA LI, LIING YU, MARIAN REWERS, HARPREET S. TAKHAR, SNEHA B. SRIDHAR, Leticia I. VEGA-DAILY, JANET G. ALEXANDER, JENNA RITCHIE, SHARON SAYDAH, GIUSEPPINA IMPERATORE, ASSIAMIRA FERRARA, FOR THE DIABETES IN YOUNG ADULTS (DIYA) STUDY, Pasadena, CA, Aurora, CO, Denver, CO, Oakland, CA, Hyattsville, MD, Atlanta, GA

1671-P  Comorbid Autoimmune Disease in Participants at Risk for Type 1 Diabetes
KIMBER SIMMONS, SUSAN GEYER, DIANE K. WHERRETT, HEBA M. ISMAIL, MARKUS LUNDGREN, LAURA E. BOCCHINO, JAY M. SOSSENO, CARLA GREENBAUM, ANDREA STECK, Aurora, CO, Tampa, FL, Toronto, ON, Canada, Indianapolis, IN, Lund, Sweden, Miami, FL, Seattle, WA

1672-P  Identifying Type 1 Diabetes in Electronic Medical Records Data in Ontario: A Validation Study
ALANNA WEISM, JACQUELINE YOUNG, MATTHEW KUMAR, PETER AUSTIN, KAREN TU, LIISA JAACK-MAINEN, LORRAINE LIPSCOMBE, GILLIAN BOOTH, Toronto, ON, Canada

1673-P  The Neighborhood Deprivation Index and Provider Geocoding Identify Critical Catchment Areas for Diabetes Outreach Programs
ASHBY F. WALKER, HUI HU, NICOLAS CUTTRISS, MICHAEL J. HALLER, C. JASON WANG, CLAUDIA ANEZ-ZABALA, KATARINA YABUT, MATTHEW J. GURKA, DAVID M. MAAS, Gainesville, FL, Stanford, CA

1674-P  Age of Onset Is Associated with Insulin Resistance in Patients with Type 1 Diabetes Mellitus
DAIHZI YANG, XUEYING WEI, CHAOFAN WANG, XUEYING ZHENG, SIHUI LUO, QIONGYAN LIN, JINHUA YAN, JIANPENG WENG, Guangzhou, China, Guangdong, China

1675-P  Does Intensification of Insulin Therapy Lead to Increased Body Fat among Youth and Young Adults with Type 1 Diabetes (T1D)?
ELIZABETH MAYER-DAVIS, BETH A. BOUSSIN, CATHERINE PHOKER, ANNA R. KAHKOSKA, DANA DABILEA, LAWRENCE M. DOLAN, ELIZABETH T. JENSEN, DARIA IGUDJMAN, JEAN M. LAWRENCE, SHARON SAYDAH, R. PAUL WAQWA, FOR THE SEARCH FOR DIABETES IN YOUTH STUDY GROUP, Chapel Hill, NC, Winston-Salem, NC, Seattle, WA, Aurora, CO, Cincinnati, OH, Pasadena, CA, Hyattsville, MD

1676-P  Racial and Ethnic Disparities in Type 1 (T1D) and Type 2 (T2D) Diabetes Incidence in Young Adults: The Diabetes in Young Adults (DiYA) Study
ASSIAMIRA FERRARA, JANET G. ALEXANDER, SNEHA B. SRIDHAR, JENNA RITCHIE, JEFF SLEG, HARPREET S. TAKHAR, Leticia I. VEGA-DAILY, SHARON SAYDAH, GIUSEPPINA IMPERATORE, CHARLES QUESENBERRY, JEAN M. LAWRENCE, Oakland, CA, Pasadena, CA, Hyattsville, MD, Atlanta, GA
1677-P Ethnic Differences in the Peri-diagnostic Period of Type 1 Diabetes (T1D)
MUSTFA TOSUR, MARIO A. CLEVES, JAY SOSENKO, INGRID LIBMAN, DAVID BAIDAL, MARIA JOSE REDONDO, Houston, TX, Tampa, FL, Miami, FL, Pittsburgh, PA

1678-P Comparisons of Combined C-Peptide and Glucose Intermediate Endpoints for Identifying Individuals at Very High Risk for Type 1 Diabetes
LAURA M. JACOBSEN, MARK A. CLEMENTS, MARIA JOSE REDONDO, BRANDON M. NATHAN, DESMOND SCHATZ, JAY M. SOSENKO, Gainesville, FL, Kansas City, MO, Houston, TX, Minneapolis, MN, Miami, FL

1679-P Current State of Type 1 Diabetes in Adults: Data from the Canadian LMC Diabetes Registry
RONNIE ARONSON, RUTH E. BROWN, ALEXANDER ABITBOL, RONALD GOLDENBERG, OLUBUKOLA AJALA, JEAN FRANCOIS YALE, ZEINA YARED, Toronto, ON, Canada, Concord, ON, Canada, Calgary, AB, Canada, Montreal, QC, Canada, Saint-Laurent, QC, Canada

1680-P Impact of Diabetic Environment on Sclerostin Levels in Adult Patients with Type 1 Diabetes Mellitus
ELEFTHERIA BARMPA, ALEXANDRA BARGIOTA, Larissa, Greece

1681-P Polyendocrinopathy in Type 1 Diabetes: A Transatlantic Comparison
JULIA HERMANN, KELLEE MILLER, GABOR SZINNAI, NICOLE C. FOSTER, THOMAS M. KAPELLEN, LINDA DIMEGLIO, ELKE FRÖHLICH-REITERER, JANET B. MCGILL, REINHARD W. HOLI, DAVID M. MAAGH, FOR THE T1D EXCHANGE CLINIC NETWORK, FOR THE DPV INITIATIVE, FL, Germany, Tampa, Germany, Munich, Germany, Turku, Finland, Denver, CO, Augusta, GA, Gainesville, FL, Bethesda, MD

1682-P A Rule-Based Discovery of Gene-Environment Interactions on Risk of Islet Autoimmunity: TEDDY Study
KRISTIAN F. LYNCH, TIANSHU FENG, XIAONING QIAN, WILLIAM HAGOPIAN, ÅKE LERNMARK, ANETTE ZIEGLER, JORMA TOPPARI, MARIAN REWERS, JIN-XIONG SHE, DESMOND SCHATZ, JAY M. SOSENKO, Minneapolis, MN, Gainesville, FL, Kansas City, MO, Houston, TX, Minneapolis, MN, Miami, FL

1683-P Analysis of Type 1 Diabetes Genetic Risk Score Shows 1 in 8 People with Clinically Diagnosed Type 1 Diabetes Are Misdiagnosed, and Presenting Features at Diagnosis Do Not Identify Those Misdiagnosed
KASHYAP A. PATEL, NICHOLAS THOMAS, MICHAEL N. WEDDON, HELEN C. WALKEY, AKAAL KAUR, ALISTAIR J. WILLIAMS, SHIVANI MISRA, NICK OLIVER, DESMOND G. JOHNSTON, ESO., ANDREW T. HATTERSLEY, ADDRESS-2 CONSORTIUM, Exeter, United Kingdom, London, United Kingdom, Bristol, United Kingdom

1684-P Using Index60 to Detect Heterogeneity and Identify Subpopulations with Characteristic Type 1 Diabetes (T1D) Profiles among Individuals with Normal Two-Hour Glucose Levels
BRANDON M. NATHAN, SUSAN GEYER, LAURA E. BOCCHINO, JERRY P. PALMER, LAURA M. JACOBSEN, MARIA JOSE REDONDO, EMILY K. SIMS, JAY S. SKYLER, JAY M. SOSENKO, Minneapolis, MN, Tampa, FL, Des Moines, WA, Gainesville, FL, Houston, TX, Indianapolis, IN, Miami, FL

1685-P Type 1 Diabetes Mellitus and Incident Bladder Cancer: A Systematic Review and Meta-analysis
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1686-P Lifetime Exposure to Diabetic Ketoacidosis Is Associated with Impaired Executive Function among Older Adults with Type 1 Diabetes: The Study of Longevity in Diabetes
MARY E. LACY LEIGH, PAOLA GILSANZ, MICHAEL S. BEERI, ANDREW J. KARTER, CHARLES QUESENBERRY, RACHEL A. WHITMER, San Francisco, CA, Oakland, CA, New York, NY, Davis, CA

1687-P An Examination of Clinical Outcomes in People with T1D and Obesity
EMMA R. STEWART, ALLISON M. MONIE, LIANA K. BILLINGS, Evanston, IL

1688-P Component Causes of HbA1c Trajectories among Adolescents/Young Adults with Type 1 Diabetes
LAUREN E. WISK, Los Angeles, CA

1689-P Assessments of Alternative C-Peptide (C-P) Endpoints for New-Onset Type 1 Diabetes (T1D) Clinical Trials
HEBA M. ISMAIL, BRIAN N. BUNDY, MARK A. ATKINSON, WAYNE V. MOORE, MICHAEL J. HALLER, WILLIAM E. RUSSELL, STEPHEN E. GITELMAN, KEVAN C. HEROLD, MARIA JOSE REDONDO, JAY M. SOSENKO, Indianapolis, IN, Tampa, FL, Gainesville, FL, Kansas City, MO, Nashville, TN, San Francisco, CA, New Haven, CT, Houston, TX, Miami, FL
1690-P Predicting Onset of Type 1 Diabetes Using a Novel Interaction Model
BIN LIU, VBHA ANAND, MOHAMED GHALWASH, KENNEY NG, JESSICA L. DUNNE, RIITTA VEIJOLA, MARIAN REWERS, MARKUS LUNDGREN, T1DI STUDY GROUP, Yorktown Heights, NY, Cambridge, MA, New York, NY, Oulu, Finland, Denver, CO, Lund, Sweden

GENETICS—TYPE 1 DIABETES

Moderated Poster Discussion: Genes and Type 1 Diabetes Across Systems (Posters: 1691-P to 1695-P), see page 106.

1691-P ☐ A Variant in the Melanocortin-4 Receptor (MC4R) Locus Is Associated with Glycemic Control and Insulin Resistance (IR) in Type 1 Diabetes (T1D)
RACHEL G. MILLER, TINA COSTACOU, SUNA ONENGUT-GUMUSCU, WEI-MIN CHEN, STEPHEN S. RICH, TREVOR J. ORCHARD, Pittsburgh, PA, Charlottesville, VA

1692-P ☐ miR17 Overexpression or Deleting Its Target Gene Tnxin Ameliorates Neural Tube Defect Formation in Diabetic Embryopathy
PENGHUA YANG, PEIXIN YANG, Baltimore, MD

1693-P ☐ Rapamycin Reduces Maternal Diabetes-Induced Neural Tube Defects by Suppressing Premature Senescence
CHENG XU, PEIXIN YANG, Baltimore, MD

1694-P ☐ A New Developmental Model of Type 1 Diabetes—An Association between Autoimmunity, the Dynamics of Gut Amyloid-Producing E. Coli, and Their Phages
GEORGE TETZ, New York, NY

1695-P ☐ Genetic Determinants of Estimated Glomerular Filtration Rate (eGFR) in Type 1 Diabetes
STUART MCGURNAGHAN, ATHINA SPILOPOULO, HELEN M. COLHOUN, PAUL M. MCKEIGUE, Edinburgh, United Kingdom

1696-P ☐ PBMC of Recent-Onset Patients with Type 1 Diabetes Present a Differential Gene Expression Profile
ARITANIA SANTOS, CHRISTOPHE CHEVILLARD, NELSON GONFINETTI, FERNANDA BERTONHÁ, CARLOS MOREIRA-FILHO, JORGE KALIL, EDECIO CUNHA-NETO, MARIA ELIZABETH SILVA, São Paulo, Brazil, Marseille, France

1697-P ☐ Functional Impact of Type 1 Diabetes Risk Variants Identified in African- and European-Ancestry Populations
SUNA ONENGUT, HANZHI YANG, REBECCA R. PICKIN, STEPHEN S. RICH, Charlottesville, VA

1698-P ☐ Integrative Genomics Analysis Reveals Tissue-Specific Pathways and Gene Networks for Type 1 Diabetes
MONTGOMERY BLENCOWE, ZARA SALEEM, XIA YANG, Los Angeles, CA

GENETICS—TYPE 2 DIABETES

1699-P ☐ Identification of HNF1A Target Gene SNPs Associated with the Age of Onset of HNF1A MODY
AGNIESZKA LUDWIG-SLOMCZYNSKA, MICHAL SEWERYN, PRZEMYSIAW KAPUSTA, JAN SKUPIEN, BEATA M. KIEC-WILK, JULITA MACHŁOWSKA, JR., MACIEJ MALECKI, PAWEL P. WOLKOW, TOMASZ KLUPA, NEMO COLLABORATORS, Kraków, Poland

1700-P ☐ Association between Genetic Variation and Age of Onset of HNF1A MODY from the Expression Genetic Standpoint
MICHAŁ SEWERYN, AGNIESZKA LUDWIG-SLOMCZYNSKA, BEATA M. KIEC-WILK, PRZEMYSIAW KAPUSTA, JAN SKUPIEN, MACIEJ MALECKI, PAWEL P. WOLKOW, TOMASZ KLUPA, NEMO COLLABORATORS, Kraków, Poland

1701-P ☐ Genome-Wide Association Study Identifies Novel Potential Associations with Birth Weight in a Southwestern American Indian Population
LAUREN E. WDEKIND, WEN-CHI HSUEH, SAYUKO KOBES, MUIDEEN T. OLAIYA, WILLIAM C. KNOWLER, LESLIE J. BAIER, ROBERT L. HANSON, Phoenix, AZ
1702-P Fine-Scale Haplotype Mapping of PPM1K Gene Reveals New Genetic Markers for the Study of Insulin Resistance at Clinical Scale
SARA HAYDAR, CORINNE LAUTIER, FLORIN GRIGORESCU, Montpellier, France

1703-P Altered DNA-Methylation Modulates Adipose Tissue Gene Expression and Is Associated with Insulin Resistance in African Americans
NEERAJ K. SHARMA, MARY E. COMEAU, CARL D. LANGEFELD, SWAPAN K. DAS, Winston-Salem, NC

1704-P SIRT1 rs7896005 SNP and Incidence of Major Vascular Events in Type 2 Diabetes: A 13-Year, Single-Centre, Follow-Up Study
GIUSEPPE PENNO, MONIA GAROFOLI, ELISA GUALDANI, DANIELA LUCHESE, LAURA GIUSTI, VERONICA SANCHO-BORNEZ, ANGELA DARDANO, PAOLO FRANCESCONI, STEFANO DEL PRATO, Pisa, Italy, Florence, Italy

1705-P Genetic Risk Score of Type 2 Diabetes and Progression Risk from Gestational Diabetes to Type 2 Diabetes: Results from Two Independent Populations
MENGYING LI, MOHAMMAD L. RAHMAN, JING WU, MING DING, JORGE E. CHAVARRO, YUAN LIN, SYLVIA H. LEY, LOUISE GRUNNET, STEFANIE HINKLE, ANNE CATHRINE BAUN THUESEN, EDWINA YEUNG, ROBERT E. GORE-LANGTON, SETH J. SHERMAN, LINE HJORT, FREJA BACH KAMPMANN, PETER DAMM, FASIL TEKOLA-AYELE, AIYI LIU, JIM ALVIN, ALLAN A. VAAG, SJURDUR F. OLESEN, ESQ., FRANK HU, CUILIN ZHANG, Bethesda, MD, Boston, MA, Brookline, MA, Indianapolis, IN, Copenhagen, Denmark, Rockville, MD, Kongens Lyngby, Denmark, Gotenburg, Sweden

1706-P A Promoter Variant of TYK2, a Putative Virus-Induced Susceptibility Gene, Is Associated with Impaired Insulin Secretion and Nonobese Type 2 Diabetes
HITOE MORI, HIROKAZU TAKAHASHI, KEIICHIRO MINE, KANAKO INOUE, MOTOYASU KOJIMA, SHIGETAKA KUROKI, YASUHIRO ONO, SADATAKA INUZUKA, SEIHO NAGAFUCHI, KEIZO ANZAI, Saga, Japan, Fukuoka, Japan, Okawa, Japan

1707-P Maternal Smoking Around Birth, Offspring Genetic Susceptibility to Adiposity, and Risk of Type 2 Diabetes
DIANJIANYI SUN, TAO ZHOU, XIANG LI, YORIKO HEIANZA, LU QI, New Orleans, LA

1708-P Enteroneodocrine Lineage Enriched microRNAs Regulate Intestinal Progenitor Cell Dynamics
PRAVEEN SETHUPATHY, Ithaca, NY

1709-P Assessing the Role of 211 “Established” Type 2 Diabetes Variants in American Indians
ROBERT L. HANSON, LAUREN E. WEDEKIND, WEN-CHI HSUEH, SAYUKO KOBES, LESLIE J. BAIER, CLIFTON BOGARDUS III, WILLIAM C. KNOWLER, Phoenix, AZ

1710-P A Case with Monogenic Diabetes Caused by RFX6 Mutation in a 14-Year-Old-Girl
JEESUK YU, SOO HEON KWAK, Cheonan, Republic of Korea, Seoul, Republic of Korea

1711-P Identifying Potentially Functional Variants in Regulatory Regions in KCNQ1 that Associate with Type 2 Diabetes in American Indians
YUNHUA L. MULLER, SAMANTHA E. DAY, SAYUKO KOBES, WILLIAM C. KNOWLER, ROBERT L. HANSON, CLIFTON BOGARDUS III, LESLIE J. BAIER, Phoenix, AZ

1712-P MODY5 and Serous Ovarian Carcinoma in 17q12 Recurrent Deletion Syndrome
LAURA HOLLAR, MAAMOUN SALAM, PREMAL H. THAKER, JANET B. MCGILL, St. Louis, MO
1717-P Burden of Type 2 Diabetes and Its Genetic Determinants in Indian Populations: Findings from the INDIGENIUS Consortium

VETTIRISELI VENKATESAN, JUAN C. LOPEZ-ALVARENGA, RECTOR ARYA, TEENA KOSHY, UMARANI RAVICHANDRAN, SURENDRA SHARMA, SAILESH LODHA, AMARESH REDDY PONNALA, KRISHNA KUMAR SHARMA, SR., MAHABOOb VALI SHAIk, ROY G. RESENDEZ, DEEPIKA RAMU, PRIYANKA VENUGOPAL, PARATHASARATHY R., NOELTA S., JULIET A. EZELIo, CYNTHIA A. BEJAR, SRINIVAS MUMMIDI, CHIDAMBARAM NATESAN, JOHN BLANGERO, KRISHNA M. MEDIChERLA, SADAGOPAN THANIKACHALAM, SR., THYAGARajan SADRAS PANCHATCHARAM, DILEEP KUMAR K., RAJEEV GUPTA, DHARAMBIR K. SANGHERA, RAVIDRANATH DUGGIRALA, SOLOMON FRANKLIN PAUL, Chennai, India, Edinburgh, TX, Chidambaram, India, Jaipur, India, Nellore, India, San Antonio, TX, Oklahoma City, OK, Brownsville, TX

1718-P Type 2 Diabetes Is Associated with Higher Serum Levels of Circulating Adenylyl Cyclase 8: A Novel Biomarker of the Disease

ASHRAF AL MADHOUN, FAHD AL-MULLA, Dasman, Kuwait, Kuwait City, Kuwait

1719-P Plasma Glucose Response to Oral Dexamethasone Predicts Incident Prediabetes in Normoglycemic Offspring of Parents with Type 2 Diabetes

EBENEZER NYENWE, NKIRU A. UMEKWE, DEIRDRE J. JAMES, FOLABI ARIGANJOYE, JIM Y. WAN, SAMUEL DAGOGO-JACK, Memphis, TN

1720-P The rs10423928 GIP Receptor “A” Allele Contributes to an Improved β-Cell Response in Prediabetes Patients

RENATE LUZÍA BARBOSA-YAÑEZ, ULRIKE DAMBECK, CAROLINE HONSEK, STEFAN KABISCH, ANDREAS F. PFEIFFER, Potsdam, Germany, Berlin, Germany

1721-P Effect of the TCF7L2 Variant rs7903146 T Allele on the Incretin Effect in Individuals with Normal Glucose Tolerance or Type 2 Diabetes

DAVID S. MATHIESEN, ASGER B. LUND, KARINE BAGGE HANSEN, Anders JUNKER, THOMAS IDORN, MADS HORNUM, ANNA JONSSON, TORBEN HANSEN, TINA VILSBOLL, JONATAN I. BAGGER, FILIP K. KNØP, HeiLerup, Denmark, Gentofte, Denmark, Copenhagen, Denmark, Saborg, Denmark

1722-P Colocalization of TOPMed Whole Genome Sequencing Analysis and Tissue-Specific eQTL Signals Detects Target Genes for Type 2 Diabetes Risk

MINDY D. SZETO, HEATHER M. HIGHLAND, ALISA MANNING, TOPMED DIABETES WORKING GROUP, Aurora, CO, Chapel Hill, NC, Cambridge, MA

1723-P Genetic Risk Scores Predict Glycemic Traits and Response to Glipizide Treatment in the Study to Understand the Genetics of the Acute Response to Metformin and Glipizide in Humans (SUGAR-MGH)

JOSEPHINE H. Li, LUKASZ SZCZERBINSKI, VARINDERPAL KAUR, JENNIFER TODD, JOSE C. FLOREZ, Boston, MA, Białystok, Poland, Burlington, VT

1724-P Interaction between Genetic Variants and Hemoglobin A1c Level on the Risk of Sight-Threatening Diabetic Retinopathy in Patients with Type 2 Diabetes

KELVIN KA KI NG, CHI HO LEE, YU CHO WOO, HO YI FONG, RACHEL WONG, KAREN S. LAM, CHLOE YU YAN CHEUNG, Hong Kong, China

1725-P Hsa-circ-000094 in Peripheral Blood Can Be Used as a Biomarker for the Diagnosis of Type 2 Diabetes

CHAOYU ZHU, LI WEI, YUANYUAN XIAO, Shanghai, China

IMMUNOLOGY

Moderated Poster Discussion: Immunometabolism of Diabetes (Posters: 1726-P to 1731-P), see page 140.

1726-P MDA5, a Janus-Faced dsRNA Sensor in Coxsackievirus-Accelerated Autoimmune Diabetes

SAMUEL B. BLUM, YI-GUANG CHEN, HUBERT M. TSE, Birmingham, AL, Milwaukee, WI

1727-P A Novel Islet-Peripheral Blood Mononuclear Cell Coculture Model for Studying Type 1 Diabetes

BURCAK YESILDAG, NIKOLE PERDUE, JOAN MIR-COLL, ADELINN BIERNATH, APARNA NEELAKANDHAN, FELIX FORSCHLER, MATTHIAS G. VON HERRATH, JOHNNDA W. WESLEY, Schlieren, Switzerland, Seattle, WA, La Jolla, CA
1728-P Inhibition of PKC-Theta in Prediabetic NOD Mice Prevents Diabetes Onset and Increases Regulartory CD4 T Cells in a Subset of Animals
JAMES E. DILISIO, NOAH MISHKIN, BRENDAN PODELL, Fort Collins, CO

1729-P Circadian Patterns of Autoimmune Components in the Blood of Persons with Type 1 Diabetes: Implications for the Timing of Blood Sampling
ELENI BELI, LINDA DIMEGLIO, STEPHANIE WÖRNER, CARMELLA EVANS-MOLINA, KIERAN M. MCGRAIL, CLIVE WASSERFALL, MARK A. ATKINSON, CRAIG BEAM, Indianapolis, IN, Gainesville, FL, Kalamazoo, MI

1730-P WITHDRAWN

1731-P The Involvement of Glutaminolysis in β-Cell Differentiation and Its Clinical Application for Type 1 Diabetes
MAIKO HAJIME, SHIGERU IWATA, MINGZENG ZHANG, SHINGO NAKAYAMADA, YOSUKE OKADA, YOSHIYA TANAKA, Kitakyushu, Japan

1732-P ERK1 and ERK2 Are Required for Lipopolysaccharide-Induced Production of Cytokines and Chemokines by Macrophages
PHOEBE F. CHANG, SARA M. REYNA, Edinburg, TX

1733-P Cross Talk between Palmitate and LPS Leads to a Synergistic IL-6 Production in Human Monocytic Cells: Implications for Metabolic Inflammation
RASHEED AHMAD, MERIN SERA KOSHY, SHIHAB PUTHIYAVEETTIL KOCHUMON, REEBY SARA THOMAS, FAHD AL-MULLA, Kuwait City, Kuwait

1734-P A Considerable Mismatch of Measurements between Radioimmunoassay and Enzyme-Linked Immunosorbent Assay Tests for Anti-Glutamic Acid Decarboxylase Antibody
YOICHI OIKAWA, TAKUMA KONDO, AKIRA SHIMADA, YUTAKA SEINO, MASAFUMI KITAOKA, Saitama, Japan, Tokyo, Japan, Osaka, Japan

1735-P Oral Exposure to Air Pollutants Mediates Diabetes via Innate Immunity
ANGELA J.T. BOSCH, THERESA V. ROHM, SHEFAA ALASFOOR, ZORA BAUMANN, CLAUDIA CAVELTI-WEDER, Basel, Switzerland

1736-P Significance of Anti-insulin Immune Responses in Autoimmune Diabetes with HLA DR9
AKIRA SHIMADA, ATSUSHI SATOMURA, AKIFUMI HAISA, YOICHI OIKAWA, Saitama, Japan

1737-P Prevalence of Autoimmune Diseases in Longstanding Diabetes: Results from the Canadian Study of Longevity in Type 1 Diabetes
NANCY CARDINEZ, LEIF ERIK LOVBLOM, ANDREJ ORSZAG, DAVID CHERNEY, BRUCE A. PERKINS, Toronto, ON, Canada

1738-P Immune Checkpoint Inhibitor Therapy Precipitates the Rapid Development of Type 1 Diabetes
HALIS K. AKTURK, DOGA KAHRAMANGIL, ASHWIN SARWAL, M. HASSAN MURAD, AARON MICHELS, Aurora, CO, Parker, CO, Rochester, MN

1739-P Checking the Checkpoints: A Case of Type 1 Diabetes following PD-1 Inhibition in a Patient with HIV
MICHAEL S. HUGHES, SARA BEDROSE, MADHURI VASUDEVAN, MARCO MARCELLI, Houston, TX, Sugar Land, TX

1740-P Gene-Editing of FOXP3 in Antigen-Specific CD4+ T Cells for Restoration of Immune Tolerance in Type 1 Diabetes
YUFEI XIANG, KAREN SOMMER, YUCHI HONAKER, JESSICA SMITH, TROY R. TORGERSON, JANE BUCKNER, DAVID RAWLINGS, Seattle, WA

1741-P Overexpression of the Type 1 Diabetes-Associated IFIH1 A946T Single Nucleotide Polymorphism in Coxackievirus B Infection
JARED P. TAYLOR, HUBERT M. TSE, Birmingham, AL

1742-P Blockade and Reversal of Autoimmunity and Type 1 Diabetes through Gene-Therapeutic and Nutritional Intervention of Elevating ω-3 PUFAs
XINYUN BI, XIAOXI LI, ALLAN ZJJIAN ZHAO, Guangzhou, China, Nanjing, China

1743-P Engineering Erythrocytes with the SOZ Cell Therapy Platform to Enhance Immunotolerance
AMRITHA RAMAKRISHNAN, THOMAS LEE, LINDSAY J. MOORE, ALFONSO VICENTE SUAREZ, FINOLA MOORE, HOWARD BERNSTEIN, Watertown, MA
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<td>1744-P</td>
<td>DBI-500 Significantly Increases Adipose Tissue Expression of PPAR-gamma and Adiponectin in DIO Mice and Significantly Decreases Markers of Fibrosis in Two Murine NASH Models</td>
<td>Anton Leighton, Sheridan, WY</td>
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<td>1745-P</td>
<td>Inhibition of Soluble Epoxide Hydrolase 1 (sEH1) Improves Glucose Tolerance and Decreases Diabetes Incidence</td>
<td>Taylor White, Sasa Ramanadham, Bruce Hammock, Birmingham, AL</td>
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<td>1746-P</td>
<td>Differential Depletion and Expansion of Autoreactive CD8+ T Cell Subsets after Alefacept Treatment in Type 1 Diabetes (T1D)</td>
<td>Alice E. Wiedeman, Virginia S. Mui, Gerald T. Nepom, Peter Linsley, S. Alice Long, Seattle, WA</td>
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<td>1747-P</td>
<td>3D Imaging and Quantification of Pancreatic Immune Cell Infiltration during Emergence and Progression of Spontaneous Autoimmune Diabetes in Nonobese Diabetic (NOD) Mice</td>
<td>Brandon B. Boland, Alba Manresa-Arraut, Rikke V. Grönlund, Urmias Roostalu, Jacob Heckscher-Sørensen, Niels Vrang, Jacob Jelsing, Lisa Beth N. Fink, Hørsholm, Denmark</td>
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<td>Brucine Topical Administration Promotes Wound Healing through Downregulation of Proinflammatory Markers and Chemokine Expressions in Alloxan-Induced Diabetic Mice</td>
<td>Hassan Madkhali, Majid Ganaie, Mohd N. Ansari, Alkhair, Saudi Arabia</td>
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<td>1749-P</td>
<td>A Case Report of IgE-Mediated Insulin Allergy Successfully Managed with a Fixed Combination of Degludec and Liraglutide</td>
<td>Nadan Gregoric, Majra Ravnik Oblak, Peter Kopic, Ljubljana, Slovenia, Golnik, Slovenia</td>
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<td>Human Islet Response to Selected Type 1 Diabetes Associated Bacteria</td>
<td>Ahmed M. Abdelatif, Nora E. Sarvetnick, Omaha, NE</td>
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<td>1752-P</td>
<td>GDF11 Involved in Expressed MicroRNAs during GLP-1RA Inhibited Adipogenesis</td>
<td>Peng Xue, Na Wang, Ziyi Li, Shilun Li, Li Yukun, Shijiazhuang, China</td>
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<td>1754-P</td>
<td>Follistatin-Like Protein 1 (FSTL1) Plays an Important Role in Human Primary Adipocyte Metabolism</td>
<td>Chul WOO Ahn, Arim Choi, Jung Hye Kim, Kahu Park, Sang Bae Lee, Jungeun Nam, Su Jeong Park, Min Kyung Kim, Yu Sik Kim, Ji Sun Nam, Shinae Kang, Jong Suk Park, Seoul, Republic of Korea</td>
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<td>1755-P</td>
<td>Transferrin Role in Systemic Iron Influence on Insulin Sensitivity and Adipocyte Function</td>
<td>Felipe Lorenzo, Shalini Jain, Don Mcclain, Swapan K. Das, Winston-Salem, NC</td>
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<td>1756-P</td>
<td>β-Cell Glucose Sensitivity and Intrapancreatic Adipose Tissue as Predictors of Diabetes Onset</td>
<td>Francesca Cinti, Teresa Mezza, Chiara Maria Assunta Cefalo, Jr., Gian Pio Sorice, Simona Moffa, Ilenia Severi, Saiero Cinti, Andrea Giaccari, Rome, Italy, Ancona, Italy</td>
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<td>1757-P</td>
<td>Ginsenoside Rb2 Alleviates Obesity by Activation of Brown Fat and Induction of Browning of White Fat</td>
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<td>David Bradley, Alecia M. Blaszczak, Joey Z. Liu, Anahita D. Jalilvand, Valerie P. Wright, Sabrena Noria, Joshua Joseph, Willa Hsueh, Columbus, OH</td>
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<td>Effects of High-Fat Feeding on Adipose Tissue Matrisome Composition in Female Mice</td>
<td>Jennifer L. Bailey, Carrie M. Elks, Baton Rouge, LA</td>
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1760-P Tetrahydrobiopterin Regulates Developmental Differentiation of Brown Adipose Tissue
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1761-P Brain-Restricted CB1-Receptor Antagonists Increase Oxygen Consumption Rate and Promote Beiging in 3T3-L1 Adipocytes Similar to Rimonabant Suggesting that Central Effects Can Be Avoided
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1762-P Insulin Receptor Isoforms in Human Adipose Tissue and Adipose Stem Cells
VALENTINA ANNAMARIA GENCHI, ANGELO CIGNARELLI, SEBASTIO PERRINI, STEFANIA PORRO, CRISTINA CACCIOPPOLI, ANALISA NATALICCHIO, LUIGI LAVIOLA, FRANCESCO GIORGINO, Bari, Italy

1763-P The Secreton From Visceral Adipose Stem Cells of Obese Subjects Induces Apoptosis and Insulin Resistance in Cardiac Progenitor Cells
STEFANIA PORRO, SEBASTIO PERRINI, CRISTINA CACCIOPPOLI, ROSELLA DORIA, VALENTINA ANNAMARIA GENCHI, ANGELO CIGNARELLI, ANALISA NATALICCHIO, LUIGI LAVIOLA, FRANCESCO GIORGINO, Bari, Italy

1764-P Insulin Sensitive Induction of Adiopogenesis
THOMAS Ā. PEDERSEN, JULIA PEICS, GRITH SKYTTE OLSEN, Måløv, Denmark, Copenhagen, Denmark

1765-P Adipose Sirtuin 6 Drives Macrophage Polarization Toward M2 through IL-4 Production and Maintains Systemic Insulin Sensitivity in Mice and Human
MI-YOUNG SONG, Jeonju, Republic of Korea

1766-P WITHDRAWN

1767-P Inflammatory Triggers of Lipolysis Act through IRE1 in Adipocytes
KEVIN P. FOLEY, YONG CHEN, KIERAN KWOK, NICOLE G. BARRA, AKHILESH K. TAMRAKAR, YONG LIU, JONATHAN D. SCHERTZER, Hamilton, ON, Canada, Wuhan, China, Lucknow, India

1768-P Inflammation in Visceral and Subcutaneous Fat and Human Insulin Resistance
TRACEY MCLAUGHLIN, ELIZABETH J. ZANLEY, CHRISTINA I. PETLURA, LORNA L. TOLENTINO, OKMI CHOI, JESSICA CHUANG, YUE XU, JOHN MORTON, EDGAR ENGLEMAN, Stanford, CA, Palo Alto, CA

1769-P Development of Adipose Fibrosis and Dysfunction in Aged Rxfp1-/- Mice
ROBERT BENNETT, FREDDERICK HAMEL, RONDA L. SIMPSON, ALEXANDER I. AGOULNIK, Omaha, NE, Miami, FL

1770-P Further Evidence Supporting a Potential Role for ADH1B in Obesity
CHRIS JENKINSON, LIZA D. MORALES, DEVJIT TRIPATHY, SHIRLEY L. HU, JUAN C. LOPEZ-ALVARENGA, RAVINDRANATH DUGGIRALA, RALPH A. DEFRONZO, SRINIVAS MUMMIDI, RENTER ARAYA, LUKE NORTON, JOHN BLANGERO, ALVARO DIAZ-BADILLO, Edinburg, TX, San Antonio, TX, Brownsville, TX

1771-P Upregulation of RETN, TNFα, and CCL2 mRNAs in Adipocytes by Intermittent Hypoxia and Its MicroRNA-Mediated Mechanism
TOMOKO UCHIYAMA, ASAKO ITAYA-HIRONAKA, AKIYO YAMAUCHI, MAI MAKINO, SUMIYO SAKURAMOTO-TSUCHIDA, RYOGO SHOBATAKE, HIROYO OTA, MAIKO TAKEDA, CHIHO OHBAYASHI, SHIN TAKASAWA, Kashihara, Japan

INSULIN ACTION—CELLULAR AND MOLECULAR METABOLISM

1772-P Insulin Granule Biogenesis at the Golgi Requires a Metabolically-Regulated, Non-centrosomal Subpopulation of Microtubules
KATHRYN TROGDEN, CHRISTOPHER V. WRIGHT, GUOQIANG GU, IRINA KAVERINA, Nashville, TN

1773-P Beta-Catenin Is a Key Player in Insulin-Stimulated Skeletal Muscle Glucose Transport
STEWART W.C. MASSON, PETER R. SHEPHERD, TROY L. MERRY, Auckland, New Zealand

1774-P Maternal Apical Periodontitis Promotes Insulin Resistance in Adult Offspring
THAIS V. TSOSURA, FERNANDO Y. CHIBA, MARIA S. MATTERA, RENATO F. PEREIRA, CLÉA A. GARBIN, LUCIANO T. CINTRA, DORIS H. SUMIDA, Araçatuba, Brazil
1775-P Impact of Acetyl-CoA Carboxylase 2 Inhibition on Skeletal Muscle Diacylglycerol and Ceramide Levels and Its Potential Contribution to Improved Glucose Metabolism
HIROYUKI TAKAGI, TATSUYA IKEHARA, KUMI HASHIMOTO, ATSUYUKI SHIMAZAKI, YUTO KASHIWAGI, YUJI NISHIURA, MITSURU NOTOYA, HIDEKI YUKIOKA, Osaka, Japan, Toyonaka, Japan

1776-P Gut Microbiota Remodeling and Intestinal FXR Inhibition Mediate the Antimetabolic Syndrome Properties of Gynostemma Pentaphyllum
ZHIFU XIE, LIHONG HU, JINGYA LI, JIA LI, Shanghai, China, Nanjing, China

1777-P Acute Hyperbaric Oxygen (HBO) Treatment Increases Hepatic Insulin Sensitivity and Muscle Reactive Oxygen Species in Type 2 Diabetes
THERESIA SARABHAI, EVRIM ANADOL-SCHMITZ, HİSAYUKİ KATSUYAMA, DANIEL F. MARKGRAF, LUCAS BUSCH, RAINER GUTHOFF, JOHANNES SCHNEPPENDAHL, MICHAEL RODEN, Düsseldorf, Germany

1778-P Delivery of the Insulin Gene Using an Integrating Adeno-Associated Viral Vector (AAV) to Diabetic NOD Mice
QUE T. LA, BINHAI REN, GRANT J. LOGAN, NEETA KHANDEKAR, NAJAH T. NASSIF, BRONWYN A. O’BRIEN, IAN E. ALEXANDER, ANN M. SIMPSON, Sydney, Australia, Westmead, Australia

INSULIN ACTION—GLUCOSE TRANSPORT AND INSULIN RESISTANCE IN VITRO

1779-P Characterization of Insulin-Regulated CLASP2 Phosphorylation
NATALIE K. BARKER, JAMES L. KRANTZ, PAUL R. LANGLAIS, Tucson, AZ

1780-P In High-Fat Diet-Induced Mice Skeletal Muscles, Iron Overload Plays a Critical Role in Leading Insulin Resistance
SUNGE CHOI, NAMI LEE, HYUN UK MOON, HAE JIN KIM, JA YOUNG JEON, YUP KANG, TAE HO KIM, KWANWOO LEE, Suwon, Republic of Korea, Seoul, Republic of Korea

INSULIN ACTION—SIGNAL TRANSDUCTION, INSULIN, AND OTHER HORMONES

Moderated Poster Discussion: Insulin and Insulin Signaling (Posters: 1781-P to 1786-P), see page 175.

1781-P Adipocyte GI Signaling Regulates Whole-Body Glucose Homeostasis and Insulin Sensitivity
LEI WANG, SAI PRASAD PYDI, LU ZHU, SHANU JAIN, YINGHONG CUI, OKSANA GAVRILOVA, JÜRGEN WESS, Bethesda, MD

1782-P Mechanism of Lipid-Induced White Adipose Tissue Insulin Resistance
YE ZHANG, DONGYAN ZHANG, KUN LYU, JOONGYU D. SONG, XIRUO LI, RACHEL J. PERRY, VARMAN SAMUEL, GERALD I. SHULMAN, New Haven, CT, West Haven, CT

1783-P Translocon-Associated Protein Alpha (TRAPα) Is Required for Insulin Biosynthesis in β Cells
GUOXIAO WANG, WEIKANG CAI, THIAGO M. BATISTA, SAMIR SOFTIC, C. RONALD KAHN, Boston, MA

1784-P Mice with Muscle-Specific Insulin Receptor Overexpression Are Protected from Diet-Induced Obesity and Glucose Intolerance but Develop Post-Receptor Insulin Resistance
GUOXIAO WANG, WEIKANG CAI, THIAGO M. BATISTA, SIMAR SOFTIC, C. RONALD KAHN, Boston, MA

1785-P ACSL1 Contributes to Thermogenesis and Differentiation of Brown Adipose Tissue
GUANG REN, JEONGA KIM, Birmingham, AL

1786-P ACSL1 Contributes to Thermogenesis and Differentiation of Brown Adipose Tissue
GUANG REN, JEONGA KIM, Birmingham, AL

1787-P Protein Kinase C (PKC) Negatively Regulate Neuronal Insulin Signaling In Vitro
DEVANSHI MISHRA, CHINMOY S. DEY, New Delhi, India

1788-P The Natural Product ZYM01 Exerts Antidiabetic and Islet-Protective Effects in Diabetic Mice and Promotes Glucagon-Like Peptide-1 Secretion
YILI SUN, JINGYA LI, JIA LI, Shanghai, China
1790-P Akt2 Is Required for Glucose Uptake in Neuronal Insulin Signaling In Vitro
MEDHA SHARMA, CHINMOY S. DEY, New Delhi, India

1791-P A New Antidiabetic Monomers Composition against Insulin Resistance via Modulation of Bacteria-Cometabolism-Inflammation-Diabetes Axis
LIN HAN, LINHUA ZHAO, MINGLIANG ZHANG, SHA DI, ZEZHENG GAO, XINMIAO WANG, HAORAN WU, WEIPING JIA, XIAOLIN TONG, Beijing, China, Shanghai, China

INTEGRATED PHYSIOLOGY—CENTRAL NERVOUS SYSTEM REGULATION OF METABOLISM

1792-P Circumventing Gut Exposure to Bromocriptine (b) Administration Multiplies Its Antidiabetes Efficacy vs. Its Equimolar Plasma Level Derived from Oral Dosing
MICHAEL EZROKHI, SHUQIN LUO, ANTHONY H. CINCOTTA, Tiverton, RI

1793-P Dopamine D1 plus D2 Receptor Coactivation Ameliorates Metabolic Syndrome (MS) and Nonalcoholic Fatty Liver Disease (NAFLD) in Mice
MICHAEL EZROKHI, SHUQIN LUO, NICHOLAS COMINOS, BENJAMIN RAICHE, MELANIE GUSTAFSON, ANTHONY H. CINCOTTA, Tiverton, RI

1794-P Perineuronal Net Destabilization in Neural Network Dysfunction Common to Both T2D and Alzheimer’s Disease
KIMBERLY M. ALONGE, MAY J. REED, MARIE A. BENTSEN, C. DIRK KEENE, MIKLOS GUTTMAN, MICHAEL W. SCHWARTZ, Seattle, WA

1795-P Novel Techniques for the Analysis of Brain Chondroitin Sulfates in Rodents and Humans with Type 2 Diabetes
KIMBERLY M. ALONGE, ARIC LOGSDON, WILLIAM A. BANKS, C. DIRK KEENE, MICHAEL W. SCHWARTZ, MIKLOS GUTTMAN, Seattle, WA

1796-P A Ventral Medial Hypothalamus Estrogen Receptor a Neural Circuit Controlling Energy Expenditure
PINGWEN XU, YANLIN HE, CHUNMEI WANG, YONGJIE YANG, XING CAI, YONG XU, Chicago, IL, Houston, TX

1797-P β-arrestin-1 in AgRP Neurons Plays Crucial Role in Maintaining Whole Body Glucose Homeostasis
SAI PRASAD PYDI, ZHENZHONG CUI, LUIZ F. BARELLA, YINGHONG CUI, WEI CHEN, OKSANA GAVRILOVA, JÜRGEN WESS, Bethesda, MD, Durham, NC

1798-P Insulin Modulates Dopaminergic Tone in the Human Brain—A Combined PET/MRI Study
STEPHANIE KULLMANN, DOMINIK BLUM, BENJAMIN JAGHUTRIZ, BENJAMIN BENDER, HANS-ULRICH HAERING, CHRISTIAN LA FOUGÈRE, HUBERT PREISSL, MATTHIAS REIMOLD, MARTIN HENI, Tübingen, Germany

1799-P Lipotoxicity Impairs Central Regulation of Endogenous Glucose Production (EGP) in Type 2 Diabetes (T2D)
SANDRA ALEKSIC, KEHAO ZHANG, ERIC LONTCHI YIMAGOU, SHIKSHA SHARMA, NORICA TOMUTA, SYLVIA KEHLENBRINK, PREETI KISHORE, DANIEL T. STEIN, VANESSA H. ROUTH, MEREDITH HAWKINS, Bronx, NY, Boston, MA, Scarsdale, NY, Newark, NJ

1800-P Transcriptomic Evidence of a Role for Neuron-Glia Interactions in Diabetes Remission Induced by the Central Action of Fibroblast Growth Factor 1 (FGF-1)
MARIE A. BENTSEN, DYLAN RAUSCH, ZAMAN MIRZADEH, JARRAD SCARLETT, JENNY M. BROWN, KIMBERLY M. ALONGE, THOMAS H. MEEK, ANNA SECHER, RASMUS JØRGENSEN, TUNE PERS, MICHAEL W. SCHWARTZ, Seattle, WA, Copenhagen, Denmark, Phoenix, AZ, Måløv, Denmark, Gentofte, Denmark

1801-P Common Hepatic Artery Denervation Does Not Alter the Counterregulatory Response to Hypoglycemia in an Insulin Resistant Canine Model
GUILLAUME KRAFT, L. MERKLE MOORE, BEN FARMER, MELANIE F. SCOTT, DALE S. EDGERTON, PHILLIP E. WILLIAMS, BOBAK AZAMIAN, ALAN D. CHERRINGTON, Nashville, TN, Newport Beach, CA

1802-P Nr1d1/Nr1d2 in POMC Neurons Regulates Circadian Eating Behaviors and Energy Expenditure
WENJUN ZOU, TINGTING YANG, XIN LI, ZHENG SUN, BEIJING, China

1803-P Role of Medial Amygdala Neurons in Glucose Regulation
SARAH STANLEY, KAVYA DEVARAKONDA, ALEXANDRA ALVARSSON, MITCHELL BAYNE, New York, NY
1804-P  Characterizing Central Olfactory Circuits Modulating Energy Homeostasis
CELINE RIERA, Los Angeles, CA

1805-P  Insulin Regulates a Broad Network of Gene Expression in the Brain to Regulated Brain Metabolism and Neurotransmission
WEIKANG CAI, THIAGO M. BATISTA, RUBEN GARCIA MARTIN, ALFRED RAMIREZ, MASASHIRO KONISHI, BRIAN T. O’NEILL, JASON K. KIM, C. RONALD KAHN, Boston, MA, Tokyo, Japan, Iowa City, IA, Worcester, MA

1806-P  Improvement Brain Insulin Signaling in Antidiabetic Effect of Duodenal Jejunal Bypass Surgery
QINGTAO YAN, NA LI, RUIYAN PAN, HUAI-JIE WANG, BIN JIANG, WEI-YU WANG, ZHIQIN GAO, MEI-HUA QU, Weifang, China

1807-P  Central Leptin Administration Attenuates the Glucose Responsiveness to Epinephrine
YIJING QI, B. DOUGLAS WHITE, Auburn, AL

1808-P  Is There Evidence of Gliosis Outside the Medialbasal Hypothalamus in Obese Adults?
JENNIFER L. ROSENBAUM, SUSAN J. MELHORN, MARY ROSALYNN DE LEON, MARY WEBB, ELLEN SCHUR, Seattle, WA

1809-P  Comparing Male and Female Metabolic Phenotypes in Mouse Strains Deficient in Leptin Signaling
RICHARD D. FRENCH, KRYS TAL LEIGHTON, JASON SERRANO, ANDY SCHILE, Bar Harbor, ME, Sacramento, CA

1810-P  Effect of HM15211, a Novel Long-Acting GLP-1/GIP/Glucagon Triple Agonist in the Neurodegenerative Disease Models
KIM WONKI, JEONG A. KIM, SANG HYUN LEE, SUNGMIN BAE, IN YOUNG CHOI, YOUNG HOON KIM, Seoul, Republic of Korea, Dongtan, Republic of Korea

1811-P  Short Term Dopamine D1D2 Receptor Agonist Therapy Induces Long-Term Amelioration of Hyperglycemia in ob/ob Mice
SHUQIN LUO, MICHAEL EZROKHI, NICHOLAS COMINOS, BENJAMIN RACIHE, ANTHONY H. CINCOTTA, Tiverton, RI

1812-P  Multitissue Single-Cell Analysis Reveals Differential Tissue, Cellular, and Molecular Sensitivity between Fructose and High-Fat Diets
DOUGLAS ARNESON, SANA MAJID, IN SOOK AHN, ZEYNEB KURT, GRACIEL DIAMANTE, GUANGLIN ZHANG, FERNANDO GOMEZ-PINILLA, XIA YANG, Los Angeles, CA, Boston, MA, Istanbul, Turkey

1813-P  An Experimental Model to Combat the Increased Prevalence of Diabetes in Alzheimer’s Disease
DENIS BABICI, JIE ZHANG, MARKO OYDANICH, KOICHI NISHIMURA, DOROTHY E. VATNER, M. MARAL MOURADIAN, STEPHEN F. VATNER, Newark, NJ, Piscataway, NJ

1814-P  Type 2 Diabetes Increases Stroke Severity through Sustained Hyperperfusion of Cerebral Vasculature following Ischemic Stroke in Rats
CIARAN DAVID RAMSAY, DAVID W. HOWELLS, MICHELLE KESKE, BRAD SUTHERLAND, DINO PREMIOLOVAC, Hobart, Australia, Melbourne, Australia

1815-P  Insulin Sensitivity Predicts Cognitive Decline in Prediabetes
CAROLINE WILLMANN, KATHRIN BROCKMANN, ROBERT WAGNER, STEPHANIE KULLMANN, HUBERT PREISSL, WALTER MAETZLER, THOMAS GASSER, GERHARD W. ESCHWEILER, FLORIAN G. METZGER, ANDREAS J. FALLHGATTER, HANS-ULRICH HAERING, ANDREAS FRITSCH, MARTIN HENI, Tübingen, Germany, Kiel, Germany

1816-P  Sex-Specific Metabolic Imbalance and Hypothalamic Inflammation Triggered by Low-Grade Benzene Exposure
LUCAS K. DEBARBA, ADAM MULKA, ABEAR A. AWADA, OLESYA DIDYUK, ULRHE KLUH, MARIANNA SADAGURSKI, Detroit, MI

1817-P  Metabolic Surgery Affects Brain Glucose Metabolism, Cognitive Function, and Neuroplasticity in Humans
GIUSEPPE DANIELE, ANGELA DARDANO, DUCCIO VOLTERRANI, ANNAMARIA CICCARONE, LAURA GIUSTI, GAYANE AGHAKHANYAN, GIOVANNI CECCARINI, FERRUCCIO SANTINI, CARLO MORETTO, PAOLA BINDA, CLAUDIA LUNGHI, MARIA CONCETTA MORMONE, STEFANO DEL PRATO, Pisa, Italy

1818-P  Brainstem GABAergic Circuits Regulating Energy Balance
ALEXANDER R. NECTOW, Princeton, NJ

ADA-Supported Research
1819-P Growth Hormone Receptor (GHR) in AgRP Neurons Modulates Energy Balance and Metabolic Adaptation to Fasting via Sirtuin 1 (SIRT1)
LUCAS K. DEBARBA, IVEN T. AYYAR, MADELYNN C. KOCH, GILLIAN CADY, MARIANNA SADAGURSKI, Detroit, MI

1820-P Autonomic Tone Is Necessary for Bile Acid-Induced Hepatic Insulin Resistance
KRISTEN SYRING, NICHOLAS A. MIGNEMI, OWEN P. MCGUINNESS, Nashville, TN

1821-P A Possible Mechanism: Genistein Improves Metabolism and Induces White Fat Browning through Modulating Hypothalamic Expression of Ucn3, Depp, and Stc1
LIYUAN ZHOU, XINHUA XIAO, MINGQUN DENG, JIEYING LIU, MIAO YU, Beijing, China

1822-P Transient Insulin Deprivation Alters Cognition and Brain Energy Metabolism in People with Type 1 Diabetes
ANA CREO, TIFFANY M. CORTES, ANDREA R. HUEBNER, AIDA LTEIF, JOHN PORT, K. SREEKUMARAN NAIR, Rochester, MN

1823-P Evidence that Arcuate Nucleus Neurocircuit Remodeling Ameliorates Hyperglycemia in Type 2 Diabetes
ZAMAN MIRZADEH, ELAINE CABRALES, MICHAEL W. SCHWARTZ, Phoenix, AZ, Seattle, WA

1824-P Leptin Receptor Neurons in the Hypothalamic Ventromedial Nucleus Play a Physiological Role in Regulating Glucose Tolerance
CHELSEA L. FABER, TRISTA J. HARVEY, KEVIN R. VELASCO, VINCENT DAMIAN, MICHAEL W. SCHWARTZ, GREGORY J. MORTON, Seattle, WA

INTEGRATED PHYSIOLOGY—INSULIN SECRETION IN VIVO
Moderated Poster Discussion: Regulators of Insulin Secretion and Glycemia (Posters: 1825-P to 1830-P), see page 106.

1825-P Reduced Insulin Clearance Compensates for Impaired β-Cell Function to Maintain Normal Insulinemia in Normotolerant Women with History of Gestational Diabetes
GIOVANNI PACINI, ANDREA TURA, DANIELA VEJRAŽKOVÁ, PETRA LUKÁŠOVÁ, JOSEF VČELÁK, MARKÉTA VAŇKOVÁ, BELA BENDLOVA, Padova, Italy, Prague, Czech Republic

1826-P Comparison of OGTT-Model Measures with the Hyperglycemic Clamp in Youth and Adults with IGT or Early Type 2 Diabetes (DM)
KRISTINA UTZSCHNEIDER, ANDREA MARI, MARK TRIPPUTI, KIEREN J. MATHER, KRISTEN J. NADEAU, SHARON EDELSTEIN, TAMARA S. HANNON, SILVA A. ARSLANIAN, MELANIE CREE-GREEN, THOMAS A. BUCHANAN, SONIA CAPRIO, STEVEN E. KAHN, RISE CONSORTIUM, Seattle, WA, Padova, Italy, Rockville, MD, Indianapolis, IN, Denver, CO, Pittsburgh, PA, Aurora, CO, Los Angeles, CA, New Haven, CT

1827-P Higher Glucagon-Like Peptide-1 Response and Lower Beta-Cell Glucose Sensitivity Are Associated with Increased Glycemic Variability among Individuals with Prediabetes
ELAINE CHOW, ANDREA LUK, JAMES LING, ALICE P. KONG, RONALD C. MA, ELE FERRANNINI, JULIANA C. CHAN, Hong Kong, China, Pisa, Italy

1828-P WITHDRAWN

1829-P Acute Inhibition of Intestinal Neprilysin Enhances Glucose-Stimulated Insulin Secretion in Mice
NATHALIE ESSER, THOMAS O. MUNDINGER, BREANNE BARROW, STEVE M. MONGOVIN, SAKENEH ZRAIKA, Seattle, WA

1830-P Empagliflozin as Well as Anakinra Reduces Symptomatic Postprandial Hypoglycemia after Gastric Bypass
MATTHIAS HEPPRICH, BENJAMIN SCHELKER, SOPHIA J. WIEDEMANN, BECKY TRINH, MARIANNE BÖNI-SCHNETZLER, MARC Y. DONATH, Basel, Switzerland
1831-P Delayed Glucagon Suppression Contributes to Postprandial Hyperglycemia Independently of the Degree of Insulin Secretion  
J.D. ADAMS, MARCELLO C. LAURENTI, ROBERT A. RIZZA, AOIFE M. EGAN, CLAUDIO COBELLI, CHIARA DALLA MAN, ADRIAN VELLA, Rochester, MN, Padova, Italy

1832-P Impact of Habitual Daily Activity on Glucose Tolerance (GT) and β-Cell Function in Adults with Impaired GT (IGT) or Type 2 Diabetes (T2D)  
KARLA A. TEMPLE, ASHLEY H. TJADEN, KAREN M. ATKINSON, ELENA BARENGOLTS, TAMARA S. HANNON, KIEREN J. MATHER, KRISTINA UTSCHNEIDER, DAVID A. EHRMANN, BABAK MOOKHLESI, RISE CONSORTIUM, Chicago, IL, Rockville, MD, Seattle, WA, Indianapolis, IN

1833-P PERK Inhibitors Enhanced Glucose-Stimulated Insulin Secretion in a Mouse Model of Type 2 Diabetes  
YE SEUL YANG, MIN JOO KIM, MI NA KIM, JIWON KIM, KUN-HO YOON, KYONG SOO PARK, HYE SEUNG JUNG, Seoul, Republic of Korea

1834-P Pancreatic Fat Associates with Impaired Insulin Secretion in Genetically Predisposed Individuals  
BENJAMIN JAGHUTRIZ, MARTIN HENI, JÜRGEN MACHANN, FRITZ SCHICK, SUSANNE ULLRICH, HANS-ULRICH HAERING, ANDREAS FRITSCHE, ROBERT WAGNER, Tübingen, Germany

1835-P Deletion of Insulin Receptor Substrate 2 in AGRP Neurons Causes Beta-Cell Dysfunction  
RONGYA TAO, KYLE D. COPPS, MORRIS F. WHITE, OLIVER STOEHR, Boston, MA

1836-P Derivation of Glucagon Kinetics to Reconstruct Glucagon Secretion in Nondiabetic Humans  
MARCELLO C. LAURENTI, CHIARA DALLA MAN, J.D. ADAMS, AOIFE M. EGAN, CLAUDIO COBELLI, ADRIAN VELLA, Rochester, MN, Padova, Italy

1837-P Central IL-6 Receptor Deficiency Impairs Pancreatic Insulin Secretion  
ALISON D. MCNEILLY, JENNIFER GALLAGHER, RORY J. MCCRIMMON, Dundee, United Kingdom

1838-P Reduced Sampling for the Estimation of Hepatic and Extrahepatic Insulin Clearance in Children of Different Ethnicities  
FRANCESCA PICCININI, BARBARA GOWER, JOSE R. FERNANDEZ, RICHARD N. BERGMAN, Los Angeles, CA, Birmingham, AL

1839-P Enhanced TGF-β1 Signaling in the Ducts of Cystic Fibrosis Pancreas Increases Basal Insulin Secretion by Islets  
PAVANA GURURAJ ROTTI, IDIL APAK-EVANS, YUNXIA OMALLEY, ANDREW NORRIS, ALIYE UC, JOHN ENGELHARDT, Iowa City, IA

1840-P Reduced Sampling for the Estimation of Hepatic and Extrahepatic Insulin Clearance in Children of Different Ethnicities  
FRANCESCA PICCININI, BARBARA GOWER, JOSE R. FERNANDEZ, RICHARD N. BERGMAN, Los Angeles, CA, Birmingham, AL

1841-P Fasting Test Distinguished Organic from Functional Hypoglycemia  
JAN SKRHA, JR., MARTIN PRAZNY, JARMILA KRIZOVA, JAN SKRHA, Prague, Czech Republic

1842-P Enhanced TGF-β1 Signaling in the Ducts of Cystic Fibrosis Pancreas Increases Basal Insulin Secretion by Islets  
PAVANA GURURAJ ROTTI, IDIL APAK-EVANS, YUNXIA OMALLEY, ANDREW NORRIS, ALIYE UC, JOHN ENGELHARDT, Iowa City, IA

INTEGRATED PHYSIOLOGY—LIVER

Moderated Poster Discussion: Factors Regulating Hepatic Insulin Clearance, Liver Fat, and Glucose Production In Vivo (Posters: 1843-P to 1848-P), see page 175.

1843-P Reduced Sampling for the Estimation of Hepatic and Extrahepatic Insulin Clearance in Children of Different Ethnicities  
FRANCESCA PICCININI, BARBARA GOWER, JOSE R. FERNANDEZ, RICHARD N. BERGMAN, Los Angeles, CA, Birmingham, AL

1844-P Long-Term Remission of Type 2 Diabetes after Weight Loss Requires Effective Clearance of Hepatic VLDL-TG and Maintenance of Low Intrapancreatic Fat  
AHMAD AL-MRABEH, SVIATLANA V. ZHYHZHEUSKAYA, ALISON C. BARNES, KIEREN G. HOLLINGSWORTH, NAVEED SATTAR, MICHAEL E. LEAN, ROY TAYLOR, Newcastle upon Tyne, United Kingdom, Glasgow, United Kingdom
1845-P ▶ Divergent Effects on T2D of Alleles Associated with Increased Liver Fat Reflect Differential Impact on Hepatic Glucose and Lipid Output: An IMI DIRECT Study
ROBERT W. KOIVULA, IMI-DIRECT CONSORTIUM, PAUL W. FRANKS, TUE H. HANSEN, MARKKU LAAKSO, SR., EWAN PEARSON, FEMKE RUTTERS, FREDRIK KARPE, JEREMY W. TOMLINSON, ANUBHA MAHAJAN, MARK MccARThy, OXFORD, United Kingdom, Malmö, Sweden, Drager, Denmark, Kuopio, Finland, Dundee, United Kingdom, Amsterdam, Netherlands

1846-P ▶ The Insulin-Sensitizing Effects of Palmitic Acid Esters of Hydroxy Stearic Acids Involve Intertissue Communication
PENG ZHUO, ANNA SANTORO, ODILE D. PERONI, ANDREW T. NELSON, ALAN SAGHATELIAN, DIONICIO SIEGEL, BARBARA KAHN, BOSTON, MA, San Diego, CA, La Jolla, CA

1847-P ▶ SGLT2 Inhibition Reduces Paternal Intergenerational Transmission of Metabolic Disease in Mice with Dietary Obesity
SORAVIS OSATAPHAN, JEREMY CHIMENE-WIESS, CHIARA MACCHI, LEI SU, NICOLE LORANGER, CHAWAN KRITSANAVIPARKPORN, CHISAYO KOZUKA, MARY E. PATTI, BOSTON, MA, Milan, Italy

1848-P ▶ Effect of Brain Glucagon Action on Hepatic Glucose Production
DALE S. EDGERTON, GUILLAUME KRAFT, BEN FARMER, MARTA S. SMITH, ALAN D. CHERRINGTON, Nashville, TN

1849-P Importance of Insulin’s Direct and Indirect Effects on Postprandial Hepatic Glucose Uptake
DALE S. EDGERTON, GUILLAUME KRAFT, BEN FARMER, MARTA S. SMITH, PHILLIP E. WILLIAMS, ALAN D. CHERRINGTON, Nashville, TN

1850-P Bromocriptine (B) plus Curcumin (C) Synergize to Reduce Nonalcoholic Steatohepatitis (NASH) in Mice
TSUNG-HUANG TSAI, ANTHONY CINCOTTA, Tiverton, RI

1851-P Bromocriptine (B) plus Curcumin (C) Interact to Reduce Advanced Fibrosis in a Mouse Methionine-Choline Deficient (MCD) Diet Model of Nonalcoholic Steatohepatitis (NASH)
TSUNG-HUANG TSAI, ANTHONY CINCOTTA, Tiverton, RI

1852-P ▶ WITHDRAWN

1853-P ▶ Transforming Growth Factor Beta 1 Acts as a Hepatokine in Control of Glucose and Energy Metabolism
QUAN PAN, YUNMEI CHEN, DA MI KIM, ZHENG SHEN, WANBAO YANG, XIAOPENG LI, YUXIANG SUN, SHAO Dong GUO, College Station, TX

1854-P Reduced Liver Fat Is Associated with Improved Insulin Sensitivity and Reduced β-Cell Secretory Demand following Gastric Banding
ANNY XIANG, JUN WU, TING CHOW, MAYRA P. MARTINEZ, DARYL H. HWANG, ENRIQUE TRIGO, NAMIR KATKHOUDA, ELIZABETH BEALE, KRISHNA S. NAYAK, THOMAS A. BUCHANAN, THE RISE CONSORTIUM, Pasadena, CA, Los Angeles, CA, Montebello, CA

1855-P Effects of Dapagliflozin and/or Insulin Glargine on Hepatic Steatosis in db/db Mice
KAZUNO OMORI, Akinobu NAKAMURA, Hideaki MIYOSHI, Hiroshi NOMOTO, Hiraku KAMEDA, Kyuyong CHO, Yasuo TERAUCHI, Tatsuya ATSUMI, Sapporo, Japan, Yokohama, Japan

1856-P A High Sugar (Fructose) Diet Increases C-Reactive Protein (CRP) in Rhesus Macaques: Relationships with Changes of Apolipoproteins and Adiponectin
PETER J. HAVEL, JAMES L. GRAHAM, KIMBER L. STANHOPE, ANDREW BUTLER, Davis, CA, St. Louis, MO

1857-P Modified Mesenchymal Stromal Cells: A Novel and Safe Therapy for Treating Nonalcoholic Fatty Liver Disease (NAFLD) in Obesity and Diabetes
CLEYTON C. DOMINGUES, NABANITA KUNDU, YANA KROPOTOVA, SABYASACHI SEN, Washington, DC

1858-P Bidirectional Relationship between Chronic Kidney Disease and Nonalcoholic Fatty Liver Disease in Patients with Type 2 Diabetes Mellitus
Hui-Chun Hsu, Yu Hung Chang, LingWang An, Tao-Chun Lee, Pingtung, Taiwan, Beijing, China
1859-P ▲ Autophagy Promotes Gluconeogenesis in Hepatocytes through Forkhead/winged Helix Transcription Factor (FoxO1) Biosynthesis by Supporting Intracellular Amino Acids Turnover
ZHENG SHEN, QUAN PAN, WANBAO YANG, YUNMEI CHEN, XIAOPENG LI, WEIQI AI, SHAODONG GUO, SR., College Station, TX

1860-P Liver Fat and Visceral Fat Are Associated with Different Metabolic and Pathophysiologic Profiles but with Similar Relationships with Whole Body Insulin Resistance
IE BYUNG PARK, KIYOUNG LEE, DAEOH LEE, Incheon, Republic of Korea

1861-P Pioglitazone Modulates Hepatic Pyruvate Dehydrogenase and TCA Cycle Flux
CHRIS SHANNON, MUKUNDAN RAGAVAN, RALPH A. DFRONZO, MATTHEW MERRITT, LUKE NORTON, San Antonio, TX, Gainesville, FL

1862-P Insulin-Independent Glucose Utilization during Exercise Is Impaired in Type 1 Diabetes: A New Model Based Analysis
DAVIDE ROMERES, MICHELE SCHIAVON, ANANDA BASU, CLAUDIO COBELLI, RITA BASU, CHIARA DALLA MAN, Padova, Italy, Charlottesville, VA

1863-P The Hepatic Role of Heat Shock Protein 72 in the Pathogenesis of Type 2 Diabetes
TATSUYA KONDO, SAYAKA KITANO, NOBUKAZU MIYAKAWA, TAKURO WATANABE, RIEKO GOTO, KAORU ONO, MOITOYUKI IGATA, JUNJI KAWASHIMA, HIROYUKI MOTOISHIMA, TAKESHI MATSUMURA, EICHI ARAKI, Kumamoto, Japan

1864-P ▲ p38α MAPK Mediates Glucagon-Induced Hepatic Glucose Production through Phosphorylation of Foxo1 at Ser273
WANBAO YANG, WEIQI AI, XIAOPENG LI, QUAN PAN, ZHENG SHEN, YUNMEI CHEN, YUXIANG SUN, SHAODONG GUO, SR., College Station, TX

1865-P Dual Chemokine Receptor CCR2/CCR5 Antagonist Cenicriviroc Ameliorates Lipotoxicity-Induced Insulin Resistance and NASH in Mice
TSUGHITO OTA, GUANLIANG CHEN, MAYUMI NAGASHIMADA, Asahikawa, Japan, Kanazawa, Japan

1866-P Peripancreatic Adipose Tissue Protects against Ectopic Fat Accumulation in the Liver
BELÉN CHANCLÓN, PETER MICALLEF, ELIN BANKE NORDBECK, YANLING WU, BJÖRN WILDER, JULIA KANERVA, PATRIK RORSMAR, INGRID WERNSTEDT ASTERHOLM, Gothenburg, Sweden, Oxford, United Kingdom

1867-P The Role of Ketone Bodies in Diabetes Pathogenesis Using Untargeted Metabolomics
PATRYCJA PUCHALSKA, JUSTIN E. LENGFELD, DAVID B. STAGG, PETER A. CRAWFORD, Minneapolis, MN

1868-P Bromocriptine (BC) Improves Hepatic Steatosis, Inflammation, and ER Stress in a Mouse Obesogenic Dietary Model of Nonalcoholic Steatohepatitis (NASH)
TSUNG-HUANG TSAI, ANTHONY CINCOTTA, Tiverton, RI

1869-P Nonalcoholic Fatty Liver Disease and Insulin Resistance Are Associated via Xanthine Oxidoreductase Activity
SHINYA FUKUMOTO, MASAFUMI KURAJOH, TAKASHI NAKAMURA, TAKAYO MURASE, YOSHINRI KAKUTANI, YUKO YAMAZAKI, AKINBOU OCHI, KOJO MOTOYAMA, TOMOAKI MORIYOKA, TETSUO SHOJI, MASA-NORI EMOTO, MASAAKI INABA, Osaka, Japan, Inabe, Japan

1870-P Glucagon-Receptor Signaling Reverses Hepatic Steatosis Independent of Leptin Receptor Expression
SHELLY NASON, TEAYOUN KIM, JESSICA P. ANTIPENKO, BRIAN FINAN, RICHARD DIMARCHI, KIRK M. HABEGGER, Birmingham, AL, Indianapolis, IN, Bloomington, IN

1871-P Mir 103/107 Regulates Lipid Metabolism by Inhibiting Betatrophin/ANGPTL8
MOHAMED ABU-FARHA, PREETHI THOMAS CHERIAN, IRINA AL KHARI, FAHD AL-MULLA, JEHAD ABUBAKER, Kuwait City, Kuwait

1872-P Hepatic miR-582-5p Is Programmed by Maternal Diet-Induced Obesity in Male Mice and Contributes to Nonalcoholic Fatty Liver Disease
LUCAS PANTALEAO, DENISE FERNANDEZ-TWINN, ASHA CARPENTER, ELENA LOCHE, LAURA DEARDEN, DANIELLA DUQUE GUIMARAES, NAOMI C. PENFOLD, THOMAS J. ASHMORE, MARTIN BUSHHELL, SUSAN OZANNE, Cambridge, United Kingdom, Glasgow, United Kingdom
**1873-P** NAFLD and Insulin Resistance Is Associated with a Specific Signature in Membrane Phospholipid Metabolites in Adolescents with Polycystic Ovary Syndrome (PCOS)
ANNE-MARIE CARREAU, YESENA GARCIA REYES, BRADLEY NEWCOMER, DOUGLAS E. BEFROY, MARK S. BROWN, MELANIE CREE-GREEN, Aurora, CO, Harrisonburg, VA, Cranbrook, United Kingdom

**1874-P** A Novel Role for SerpinB1 in the Regulation of Insulin Signaling in Hepatocytes
KAZUKI ORIME, DARIO F. DE JESUS, ULUPI JHALA, ROHIT KULKARNI, Boston, MA, San Diego, CA

**1875-P** Liver-Specific p38 MAPK Stimulates Hepatic Fat Accumulation and Reduces Insulin Sensitivity In Vivo
SYDNEY L. RIVERS, HUIQI WANG, LORETTA LAM, ADRIA GIACCA, Toronto, ON, Canada

**1876-P** Impact of Diabetes on Liver Disease Progression in Patients with Advanced Fibrosis Due to Nonalcoholic Steatohepatitis (NASH)
ARUN J. SANYAL, MANAL F. ABDELMALEK, STEPHEN CALDWELL, MITCHELL L. SHIFFMAN, REEM GHALIB, ERIC LAWITZ, DEYUAN JIANG, RAUL E. AGUILAR SCHALL, BRYAN J. MCCOLGAN, ROB MYERS, STEPHEN DJEDJOS, ANDREW MUIR, VLAD RATZIU, NEZAM AFDHAL, ZACHARY GOODMAN, JAIME BOSCH, STEPHEN A. HARRISON, Richmond, VA, Durham, NC, Charlottesville, VA, Arlington, TX, San Antonio, TX, Foster City, CA, Redwood City, CA, Paris, France, Charlestown, MA, Falls Church, VA, Bern, Switzerland, Live Oak, TX

**1877-P** WITHDRAWN

**1878-P** Glucagon Is neither Necessary nor Sufficient for Ketosis in Mice
MEGAN CAPOZZI, REILLY COCH, JACOB B. WAIT, JEPCHUMBA J. KOECH, JONATHAN CAMPBELL, DAVID A. D’ALESSIO, Durham, NC, Ithaca, NY

**1879-P** The Liver Mitochondrial Oxidative Phosphorylation Increases in Diabetic Mice
MIRIAYI ALIMUJIANG, MUYU YU, JUN YIN, Shanghai, China

**1880-P** The Protein-Tyrosine Phosphatase Shp1 Interacts with PPAR Gamma and Regulates Its Transcriptional Activity through Dephosphorylation of Selected Tyrosine Sites
AMIT KUMAR, MARIE-HELENE LAVALLEE-BOURGET, MARIE-PIER FOREST, MICHAEL SCHWAB, KERSTIN BELL-MANN, VANESSA HOUDE, HALIM MAAROUFI, NICOLE BEAUCHEMIN, ANDRE MARETTE, Quebec City, QC, Canada, Rimouski, QC, Canada, Montreal, QC, Canada

**1881-P** The SGLT2 Inhibitor Dapagliflozin Improves Glucose Control and Enhances Liver Fatty Acid Oxidation and Ketone Body Formation in Insulin Resistant Obese Zucker Rats
TOBIAS KROON, THERESE HAGSTEDT, ANN KJELLSTEDT, ANNA LINDBLOM, LARS LÖFGREN, JEREMIE BOUCHAR, MARGUERITE SÖRHEDE WINZELL, DANIEL LINDEN, KRISTINA WALLENIUS, Gothenburg, Sweden

**1882-P** Liver-Specific Deletion of the Mitochondrial Quality Control E3 Ligase Parkin Is Associated with Increased Hepatic Steatosis and Markers of NAFLD in Diet-Induced Obese Mice
LIA R. EDMUNDS, AMANDA MILLS, MICHAEL J. JURCZAK, Pittsburgh, PA

**1883-P** Phosphoproteomics Reveals Mechanistic Insight into Glucagon-Mediated Inhibition of Hepatic Lipogenesis and How MEDI0382, an Oxyntomodulin-Like Peptide with Targeted GLP-1/Glucagon Receptor Activity, Reverses Steatosis
RHIANNA C. LAKER, MICHELLE BOLAND, ARKADIUSZ NAWROCKI, KARLY M. MATHER, LUTZ JERMUTUS, MARTIN R. LARSEN, JAMES TREVASKIS, CHRISTOPHER J. RHODES, Gaithersburg, MD, Hørsholm, Denmark, Odense, Denmark, Cambridge, United Kingdom

**1884-P** Serum ANGPTL2, ANGPTL3, and ANGPTL4 as Potential Biomarkers for Diagnosis of Nonalcoholic Fatty Liver Disease
YAN MA, YAN WANG, XIN WANG, LONGYAN YANG, JIANAN LANG, DONG ZHAO, Beijing, China

**1885-P** Caveolin1 Attenuates Palmitic Acid-Induced Hepatic Steatosis through Upregulating PGC1α-sirt3 Axis
CHUWEN LIN, WEN ZENG, SHUO LIN, KUNYING LIU, LONGYI ZENG, Guangzhou, China

**1886-P** Hepatic Type 2 Innate Lymphoid Cells Suppress Gluconeogenesis via the IL-33/GATA3/IL-13 Axis
MASANORI FUJIMOTO, KOUTARO YOKOTE, TOMOAKI TANAKA, Chiba, Japan
1887-P The GLP-1 Receptor Agonist Liraglutide Improves Hepatic Inflammation and Fibrosis in a Mouse Model of NASH
SOPHIE A. MONTANDON, EMMANUEL SOMM, CLAUDIO DE VITO, FRANÇOIS R. JORNAYVAZ, Geneva, Switzerland

1888-P Impaired Insulin Clearance Relates to Increased Liver Fat Content in Recent-Onset Type 2 Diabetes and to Impaired Glucose Control in Recent-Onset Type 1 Diabetes
SOFIA ANTONIÔU, QANA P. ZAHARIA, KLAUS STRASSBURGER, YANISLAVA KARUSHEVA, KALMAN BODIS, YULIYA KUPIYANOVA, VOLKER BURKART, KARSTEN MUESSIG, AMALIA GASTALDELLI, MICHAEL RODEN, JULIA SZENDROÉDI, Düsseldorf, Germany, San Antonio, TX

1889-P Inhibition of Acid Sphingomyelinase Attenuates Nonalcoholic Steatohepatitis and Atherosclerosis Induced by High-Fat Diet and LPS in LDL Receptor-Deficient Mice
ZHONGYANG LU, YANCHUN LI, MARIA F. LOPES-VIRELLA, YAN HUANG, Charlestown, SC

1890-P Lipocalin-Type Prostaglandin D2 Synthase Deficient Mice Develop Dyslipidemia Resulting in Nonalcoholic Fatty Liver Disease Independent of Obesity
ANKITA SRIVASTAVA, THOMAS PALAIA, CHRIS HALL, JENNY LEE, MATTHEW STEVENSON, LOUIS RAGOLIA, Mineola, NY

1891-P Histone Acetylation Was Involved in the Mechanism of Regulation of PNPLA3 Gene Expression
XIAO XU, HUA LIANG, YUNZHI CHEN, Guangzhou, China

1892-P Hepatic Agpat5 Regulates Plasma Insulin in Obesity
SAMANTHA L. ST. CLAIR, SABRINA L. BELISLE, FERNANDA B. LEYVA JAIMES, ZHONGGANG LI, BRIAN PARKS, Madison, WI

1893-P Impact of Lean Hepatic Volume on Hepatic Insulin Resistance in Human NAFLD
HIROYUKI IGARASHI, FUMIKA SHIGIYAMA, SHIGENORI HIRUMA, TAKAHISA HIROSE, NAOKI KUMASHIRO, Tokyo, Japan

1894-P HIF-2α Induced by Hypoxia Exacerbates Nonalcoholic Fatty Liver Disease Progression via Suppressing PPARα
JIANDI CHEN, JIANXU CHEN, HUJRONG FU, YUN LI, SHUNKUI LOU, LINGLING WANG, HONGYUN LU, Zhuhai, China

1895-P The Role of Endocannabinoid Receptor 1 (CB1R) in the Insulin Signaling Pathway
YOO KIM, JOSEPHINE M. EGAN, Baltimore, MD

1896-P Effect of PNPLA3 I148M Genotypes on Palmitate-Induced Hepatic Inflammation and Apoptosis
YUNZHI CHEN, HUA LIANG, XUE MEI YAN, XIAO XU, Guangzhou, China, Hangzhou, China

1897-P Vertical Sleeve Gastrectomy Corrects the Metabolic Dysregulation Induced by Hepatocyte-Specific Ablation of p53 in Mice
MARLENA M. HOLTER, DARLINE GARIBAY, ANNE K. MCGAVIGAN, LILY NGUYEN, ELIZABETH MOORE, ERIN DAUGHERITY, PAUL COHEN, KATHLEEN M. KELLY, ROBERT WEISS, BETHANY CUMMINGS, Ithaca, NY, Denver, CO, New York, NY

1898-P The Role of the Diabetes Gene and Wnt Pathway Effector TCF7L2 in Hepatic Metabolic Zonation
IRISCILLA I. AYALA, RALPH A. DEFRONZO, LUKE NORTON, San Antonio, TX

1899-P Glucagon-Like Peptide-1 Receptor Signaling Is Required for an Osteocalcin-Mediated Improvement of Glucose Tolerance
AKIKO MIZOKAMI, MASATO HIRATA, Fukuoka, Japan

1900-P Very Low-Density Lipoprotein Ceramides and Hepatic Lipid Accumulation
JUSTINE M. MUCINSKI, Columbia, MO

1901-P CK1 ε Inhibitor PF-05006739 Ameliorates Hepatic Steatosis and Hyperinsulinemia in Dio Mice
MATTHEW PELOQUIN, JOHN LITCHFIELD, BEI B. ZHANG, CHENG CHANG, RUSSELL A. MILLER, BARBARA BERNARDO, SUMAN LUTHRA, CHRISTIAN CORTES, XIANPING LI II, CHANG J. ZOU, Cambridge, MA, Groton, CT

1902-P Definition of Nonalcoholic Fatty Liver Disease (NAFLD) Stage by Independent Noninvasive Fibrosis Markers and Elastography
OLGA LAVRNYENKO, OLHA ZEMLIANITSYNA, NONNA KRAVCHUN, INNA DUNAEVA, IURIY KARACHENTSEV, VADYM SINAIOKO, RALPH A. DEFRONZO, EUGENIO CERSOSIMO, San Antonio, TX, Kharkiv, Ukraine
1903-P Protective Effects of Linagliptin on Hepatic Steatosis in Mice Treated with Dual Inhibitor for Insulin Receptor and IGF-1 Receptor
TOMOKO OKUYAMA, JUN SHIRAKAWA, YASUO TERAUCHI, Yokohama, Japan

1904-P The Hepatocyte Integrin β1 Subunit Links ECM-Integrin Signaling to Insulin Resistance in Obese Mice
ELIJAH TREFTS, DEBORAH A. ROBY, AMBRA POZZI, ROY ZENT, DAVID WASSERMAN, Nashville, TN

1905-P Artificial Decline in HbA1c Level during Treatment of Hepatitis C with Interferon-Free, Direct-Acting Antiviral Regimen Combined with Ribavirin
AKIO MORIYA, YOSHIKI IWASAKI, MASAHARU ANDO, Kanonji, Japan, Okayama, Japan

1906-P Effects of a Carbohydrate-Restricted Diet on Hepatic Lipid Content in Adolescents with Nonalcoholic Fatty Liver Disease
AMY M. GOSS, SHIMA DOWLA, AMBIKA P. ASHRAF, MARK BOLDING, SHANNON A. MORRISON, BARBARA GOWER, Birmingham, AL

1907-P GLP-1RA and iSGLT2 Combination Treatment Effects over Fatty Liver Index
JUANA CARRETERO GÓMEZ, JOSE CARLOS AREVALO LORIDO, RICARDO GÓMEZ-HUELGAS, JOSÉ MIGUEL SEGUI-RIPOLL, MANUEL SUAREZ TEMBRA, JR., JOSÉ MANUEL CASAS, JAVIER CARRASCO, OUP DIABETES, OBESITY AND NUTRITION SPANISH WORKING GROUP, Zafra, Spain, Málaga, Spain, Alicante, Spain, Perillo, Spain, Madrid, Spain, Huelva, Spain

1908-P Factors Related to Hepatic Fat and Fibrosis in American Indians
SHELLEY A. COLE, WALTER C. HENDERSON, TAQUEER ALI, CYNTHIA WEST, MICHAEL S. MIDDLETON, ALVIN SILVA, DANIELLE N. BATAKIS, ASHLEY L. LOUIE, BARBARA V. HOWARD, JUSTIN DANIEL DVORAK, RICHARD DEVEREUX, JASON G. UMANS, CLAUDE SIRILIN, YING ZHANG, San Antonio, TX, La Jolla, CA, Oklahoma City, OK, Phoenix, AZ, Hyattsville, MD, Bronxville, NY

1909-P The Platelet-Derived Growth Factor a—An Additional Pathophysiological Factor in Hepatic Steatosis and Fibrosis Development Both in Patients with Hepatitis C and Patients with Prediabetes
KRISTINA BLASLOV, VISNJA KOKIC MALES, SLAVEN KOKIC, IVAN KRULJAC, Zagreb, Croatia, Split, Croatia

INTEGRATED PHYSIOLOGY—MACRONUTRIENT METABOLISM AND FOOD INTAKE

1910-P SOCS3 Deficiency on a High-Fat Diet Accelerates Systemic Inflammation and Results in Lethal Myeloid Hematopoiesis without Obesity and Adiposity
KAORI CHO, TAKASHI USHIKI, HAJIME ISHIKURO, TAKAYUKI KATAGIRI, TATSUYA SUWABE, HIDEYOHIRAI, YOSHIHI NAKAGAWA, MASAYOSHI MASUKO, WARREN ALEXANDER, HITOSHI SHIMANO, HIROHITO SONE, Niigata, Japan, Kyoto, Japan, Tsukuba, Japan, Parkville, Australia

1911-P WITHDRAWN

1912-P Portal Vein Metabolomic Profiling Highlights One-Carbon Metabolism as a Key Pathway Affected by Roux-en-Y Gastric Bypass Surgery
MARGARET A. STEFATER, JULIAN AVILA, CLARY B. CLISH, NICHOLAS STYLOPOULOS, Boston, MA, Cambridge, MA

1913-P Differences in Glucose Absorption in African American (AA) Patients Presenting with DKA and Severe Hyperglycemia (SH)
DARKO STEFANOVSKI, GUILLERMO E. UMPIERREZ, RAYMOND C. BOSTON, PRIYATHAMA VELLANKI, Philadelphia, PA, Atlanta, GA

1914-P A Plant-Based Meal Increases Gastrointestinal Hormones and Satiety More Than an Energy- and Macronutrient-Matched Standard Meal in T2D, Obese, and Healthy Participants: A Three-Group Randomized Crossover Study
JIRI VELEBA, MARTA KLEMENTOVA, LENKA BELINOVA, MARTIN HALUZIK, RENATA PAVLOVICOVA, MARTIN HILL, TEREZIE PELIKANOVA, HANA KAHLEOVA, Prague, Czech Republic, Prague, Czech Republic, Washington, DC

1915-P Targeting Remission of Type 2 Diabetes Using a Digital Education and Behavior Change Program Improves Insulin Sensitivity and Liver Fat Content in Type 2 Diabetes
DOMINIK PESTA, OANA P. ZAHARIA, YULIYA KUPRIYANOVA, JONG-HEE HWANG, DANIEL F. MARKGRAF, MICHAEL TRENEW, JULIA SZENDROEDI, MICHAEL RODEN, Düsseldorf, Germany, Newcastle upon Tyne, United Kingdom
1916-P Effects of Dietary Iron and Hypoxia on Glucose Homeostasis in a Fast Food-Diet Mouse Model
ALEXANDRIA V. HARRISON, SHALINI JAIN, FELIPE LORENZO, DON MCCLAIN, Winston-Salem, NC

1917-P Primary Weight Loss Failure after Gastric Bypass Is Characterized by Impaired Gut-Hormone-Mediated Suppression of Food Intake
KIRSTINE N. BOJSEN-MOLLER, MARIA S. SVANE, CHRISTOFFER MARTINUSSEN, CARSTEN DIRKSEN, NILS B. JØRGENSEN, VIGGO Bjerregaard KRISTIANSEN, BOLETTE HARTMANN, JENS J. HOLST, STEN MADSBAD, Copenhagen, Denmark

1918-P Carbohydrate and Fat Oxidation Fasting and in Response to a Hyperinsulinemic Clamp is Similar in Obese Youth Regardless of PCOS Status
PATTARA WIROMRAT, COREY A. RYNDERS, KRISTEN J. NADEAU, MELANIE CREE-GREEN, Aurora, CO, Denver, CO

1919-P Regulation and Function of Bone Marrow Adipocytes in Osteogenesis and Hematopoiesis
ZENGGI ZHANG, ZAN HUANG, HAI-BIN RUAN, Minneapolis, MN

1920-P Congestion of Glucose and Fructose Has Synergistic Effects on Lipoprotein Risk Factors for Cardiovascular Disease in Healthy Young Adults
BETTINA HIERONIMUS, VALENTINA MEDICI, VIVIEN LEE, MARINELLE NUNEZ, PETER J. HAVEL, KIMBER L. STANOHOPE, Davis, CA, Sacramento, CA

1921-P The Role of BCAA Catabolism in Glucose Homeostasis
KIYOTO NISHI, LAUREN ABELL, TIMOTHY MCMILLEN, RONG TIAN, Seattle, WA

1922-P Branched-Chain Ketoacid Dehydrogenase Kinase Inhibition Acutely Improves Glycemia and Alters the Response to Feeding in Mice
ELIZA BOLLINGER, CHARLES PARKER SIDDALL, TIMOTHY GREIZER, JENNA L. LIBERA, GHAZAL HARIRI, EVANTHIA E. PASHOS, ARUN SHIPSTONE, ANGELA HADJIPANAYIS, ZHONGYUAN SUN, GANG XING, MICHELLE F. CLASQUIN, BEI B. ZHANG, RUSSELL A. MILLER, RACHEL ROTH FLACH, Cambridge, MA

1923-P Quantitative Measurement of Whole-Body Glycogen Metabolism and Gluconeogenic Flux
TARA TESLAA, Princeton, NJ

1924-P Praliciguat, a Clinical-Stage sGC Stimulator, Improves Insulin Sensitivity, Lipid Tolerance, and Energy Utilization in a Mouse Diet-Induced Obesity Model Housed at Thermoneutrality
CHAD SCHWARTZKOPF, JOHN HADCOCK, JULIEN ROUX, GUANG LIU, COURTNEY SHEA, MARK CURRIE, G. TODD MILNE, JAIME MASFERRE, JULI E. JONES, Cambridge, MA, La Penne sur Huveaune, France

1925-P Apparent Plateau in Diabetes Diagnosis Explained by Misuse of Updated Diagnosis Criteria in Simulation Modeling Study of Macronutrient Consumption Trends in U.S.
SMITA MOHANTY, COLLEEN M. CHELINI, PAUL D’ALESSANDRO, GAURAV DWIVEDI, Mumbai, India, Mountain View, CA, Chicago, IL, Boston, MA

1926-P Regulation of Soluble Epoxide Hydrolase by Gut Bacteria and Acetate
JANG YOUN, YOUNG-TAEK OH, Los Angeles, CA

1927-P Metabolomics of Normal Weight vs. Overweight Diabetics
LIDA FAROOQI, IMPACT STUDY, Palo Alto, CA

INTEGRATED PHYSIOLOGY—MUSCLE

Moderated Poster Discussion: Muscle Mashup in the Regulation of Metabolism and Insulin Action
(Posters: 1928-P to 1933-P, see page 175.)

1928-P GDF15 Protects against Insulin Resistance in Individuals with Type 2 Diabetes
HUI ZHANG, WAGNER DANTAS, WILLIAM T. KING, CHRISTOPHER L. AXELROD, SAULO GIL, IGOR MURAI, HAMILTON ROSCHEL, BRUNO GUALANO, JOHN F. KIRWAN, Cleveland, OH, São Paulo, Brazil, Baton Rouge, LA

1929-P Role of mir379 in Promoting Skeletal Muscle Atrophy in Type 1 Diabetes (T1D)
RAGADEEPTHI TUNDUGURU, MITSUO KATO, MARYAM ABDOLLAHI, LINDA L. LANTING, RAMA NATARAJAN, Duarte, CA
Heterogeneity of Skeletal Muscle (SM) Insulin Resistance (IR) in Type 1 Diabetes (T1D)
KATHERINE V. WILLIAMS, CHRISTINA M. SHAY, JULIE PRICE, TREVOR J. ORCHARD, DAVID KELLEY,
Pittsburgh, PA

Skeletal Muscle (SM) Insulin Resistance (IR) in Coronary Artery Disease (CAD) in Type 1 Diabetes (T1D)
KATHERINE V. WILLIAMS, CHRISTINA M. SHAY, JULIE PRICE, TREVOR J. ORCHARD, DAVID KELLEY,
Pittsburgh, PA

WITHDRAWN

Acute Hyperglycemia + Hyperinsulinemia Increases Carotid-Femoral Arterial Stiffness and Perfusion of Skeletal Muscle in Healthy Subjects
WILLIAM B. HORTON, LINDA JAHN, LEE HARTLINE, JAMES T. PATRIE, EUGENE BARRETT, Charlottesville, VA

Acute Hyperglycemia Increases Perfusion of Skeletal and Cardiac Muscle in Healthy Subjects
WILLIAM B. HORTON, LINDA JAHN, LEE HARTLINE, JAMES T. PATRIE, EUGENE BARRETT, Charlottesville, VA

Decoupling between ATP Utilization and Replenishment in Insulin Resistant Skeletal Muscle
JUAN A. VASQUEZ, JR., CAROLINA SOLIS-HERRERA, DEVJIT TRIPATHY, MUHAMMAD ABDUL-GHANI, RALPH A. DEFRONZO, GEOFFREY D. CLARKE, San Antonio, TX

Muscle Ischemia Impairs Insulin-Mediated Microvascular Recruitment
NASU WANG, ZHENQI LIU, Charlottesville, VA

miR-23b-3p Upregulates Glucose Uptake in C2C12 Myotube Cells by Regulating the Expression of PTEN
TAKURO OKAMURA, YOSITAKA HASHIMOTO, TAKAFUMI OSAKA, TAKAFUMI SENMARU, MASAHIDE HAMAGUCHI, MICHIAKI FUKUI, Kyoto, Japan, Ayabe, Japan

GLP-1 Receptor Agonist Ameliorates Intramyocellular Lipid Deposition without Weight Loss by Activating AMPK
FEN XU, HUANYI CAO, ZONGLAN CHEN, HUIMIN GU, WANRONG GUO, BEISI LIN, JIANPING WENG, Guangzhou, China

Intermuscular Adipose Tissue Has a Metabolically Adverse Secretome Compared with Visceral and Subcutaneous Depots
DARCY E. KAHN, EMILY MACIAS, SIMONA ZARINI, KATHLEEN A. HARRISON, MELANIE CREE-GREEN, BRYAN C. BERGMAN, Aurora, CO, Denver, CO

Disruption of the Exocyst Trafficking Complex Results in Impaired Glucose Uptake in Skeletal Muscle
BRENT FUJIMOTO, LAMAR T. CARTER, ADRIAN M. WONG, MATTHEW W. PITTS, ROSS K. VILLIGER, MADISON YOUNG, BEN FOGELGREN, NOEMI POLGAR, Honolulu, HI

The Relationship among Intramyocellular Lipid, Peak Oxygen Consumption, and Insulin Resistance in Nonobese Japanese Men
NOZOMU YAMASAKI, YOSHIHISA TAMURA, KAGEUMI TAKENO, SAORI KAKEHI, YUKI SOMEYA, TAKASHI FUNAYAMA, YASUHIKO FURUKAWA, HIDEYOSHI KAGA, RURUO SUZUKI, DAISUKE SUGIMOTO, SATOSHI KADOWAKI, MOTOORI SATO, RYUZO KAWAMORI, HIROTAKA WATADA, Tokyo, Japan

Intermittent Fasting in Mice Improves Exercise Endurance through Enhancement of Mitochondrial Activating Genes in the Muscle
KAZUTOSHI MIYASHITA, Tokyo, Japan

The Sodium–Glucose Cotransporter 2 Inhibitor Luseogliflozin Can Suppress Muscle Atrophy in Db/Db Mice by Suppressing the Expression of Foxo1
RYO BAMBA, TOMONORI KIMURA, TAKURO OKAMURA, YOSITAKA HASHIMOTO, TAKAFUMI OSAKA, TAKAFUMI SENMARU, MICHIAKI FUKUI, Kyoto, Japan, Ayabe, Japan

Muscle a-Parvin Is Not Necessary for Integrin-Linked Kinase Related Insulin Resistance in Diet-Induced Obese Mice
DAVID A. CAPPEL, AMBRA POZZI, ROY ZENT, DAVID WASSERMAN, Nashville, TN
1945-P  The Mitochondrial Protein DRP1 Is Required for Endogenous Fatty Acid Oxidation  
WILLIAM T. KING, CHRISTOPHER L. AXELRÖD, GANGARAO DAVULURI, ROBERT C. NOLAND, JOHN P. KIRWAN,  
Baton Rouge, LA

1946-P  Insulin-Like Growth Factor-1 Protects against the Detrimental Effects of Advanced Glycation End  
Products and High Glucose in Myoblastic C2C12 Cells  
IPPEI KANAZAWA, NAOKO ADACHI, KEN-ICHIRO TANAKA, AYUMU TAKENO, MASAKAZU NOTSU, SAYURI  
TANAKA, TOSHITSUGU SUGIMOTO, Izumo, Japan

1947-P  Comparative Effects of PCSK9 Inhibitor and High-Dose Atorvastatin on Mitochondria of Red Muscle  
Fibers in Obese Female Rats  
CHANISA THONUSIN, SIRIPONG PALEE, BUSARIN ARUNSAK, PATCHAREEYA AMPUT, WASANA PRATCHAYAS-  
AKUL, NIPON CHATTIPAKORN, CHIANG Mai, Thailand

INTEGRATED PHYSIOLOGY—OTHER HORMONES

Moderated Poster Discussion: It’s Not Only About Insulin, Other Hormones Matter (Posters: 1948-P to 1953-P),  
see page 104.

1948-P  The Secretion of the Short-Form Gastric Inhibitory Polypeptide in Nondiabetic and Diabetic Subjects  
YASUTAKA TAKEDA, YUKIHIRO FUJITA, TSUYOSHI YANAGIMACHI, NOBUHIRO MARUYAMA, RYOICHI  
BESSHO, HIDEMITSU SAKAGAMI, MASAKAZU HANEDA, TSUGUHITO OTA, Asahikawa, Japan, Gunma, Japan

1949-P  Elevated FGF-21 during Circadian Misalignment in Healthy Humans  
JOSIANE L. BROUSSARD, SARAH J. MORTON, KATHLEEN MARKAN, ANDREW W. MCHILL, JANINE HIGGINS,  
EDWARD MELANSON, KENNETH WRIGHT, JR., Fort Collins, CO, Iowa City, IA, Portland, OR, Aurora, CO,  
Boulder, CO

1950-P  Effects of Dietary Composition on Intestinal Glucocorticoid Receptor Signaling  
BERNHARD RADLINGER, SABRINA FOLIE, JOCHEN DOBNER, TIMON-ERIK ADOLPH, CLAUDIA RESS, FLORIAN  
HORNSTEINER, SARAH BOENTGES, KARIN SALZMANN, HERBERT TILG, SUSANNE KASER, Innsbruck, Austria,  
Düsseldorf, Germany

1951-P  Prolonged (12-Hour) Glucagon Infusion Leads to Transient Elevation of Plasma Glucose but  
Sustained Elevation of Hepatic Glucose Production  
XI CHEN, AURORA MEROCVI, EMINA CASE, RALPH A. DEFRONZO, DEVJIT TRIPATHY, San Antonio, TX

1952-P  Glucagon Receptor Antagonism Increases Plasma Amino Acids and Glucagon  
SOFIE HAEDERSDAL, NICOLAI JACOB WEVER ALBRECHTSSEN, ASGER B. LUND, KATRINE D. GALSGAARD,  
MARIE WINHER-SÖRESEN, JENS J. HOLST, FILIP K. KNØP, TINA VIBSØLL, Hellerup, Denmark, Copenhagen,  
Denmark

1953-P  PPARγ Agonism and FGF-21 Synergize to Robustly Induce Browning of White Fat  
TOBIAS KROON, MATTHEW J. HARMS, DANIEL NILSSON, ANNA LINDBLÖM, PETER GENNEMARK, GAVIN  
O’MAHONY, VICTORIA OSINSKI, COLEEN A. MCNAMARA, JEREMIE BOUCHER, Gothenburg, Sweden,  
Charlottesville, VA

1954-P  Combined Treatment with Exendin-4 and Metformin Attenuates Breast Cancer Growth  
YUKI FUJIMURA, TAKASHI NOMIYAMA, CHIKAYO IWAYA, TAKAKO KAWANAMI, YURIKO HAMAGUCHI,  
TOMOKO TANAKA, TOSHIHIKO YANASE, Fukuoka, Japan

1955-P  GLP-1R Activation Attenuates Prostate Cancer Growth via Inhibiting Cell Cycle Progression  
TORU SHIGEOKA, TAKASHI NOMIYAMA, TAKAKO KAWANAMI, YURIKO HAMAGUCHI, TOMOKO TANAKA,  
SHINICHIRO IRIE, KAZUKI NABESHIMA, MASATOSHI TANAKA, TOSHIHIKO YANASE, Fukuoka, Japan

1956-P  Increased Salt Intake Amplifies the Postprandial Glucagon-Like Peptide-1 Secretion  
ALI ASMAR, PER K. CRAMON, CHARLOTTE MEHLIN SØRENSEN, STEN MADSBAD, CEDRIC MORO, BOLETTE  
HARTMANN, JENS J. HOLST, BOYE L. JENSEN, MEENA ASMAR, Copenhagen, Denmark, Toulouse, France,  
Odense, Denmark
1957-P The Role of Glucose-Dependent Insulinotropic Polypeptide in Regulation of Splanchnic Blood Flow and Lipid Metabolism in Humans
ALI ASMAR, JENS J. HOLST, MEENA ASMAR, Copenhagen, Denmark

1958-P Role of leptin in Blood-Brain Barrier Dysfunction
THERESE S. SALAMEH, WILLIAM MORTELL, WILLIAM A. BANKS, Seattle, WA

1959-P Upregulation of PYY, GLP-1, and NTS by Intermittent Hypoxia in Enteroendocrine Cells
RYOGO SHOBATAKE, HIROYO OTA, ASAKO ITAYA-HIRONAKA, AKIYO YAMAUCHI, MAI MAKINO, SUMIYO SAKURAMOTO-TSUCHIDA, TOMOKO UCHIYAMA, NOBUYUKI TAKAHASHI, SATOSHI UENO, KAZUMA SUGIE, SHIN TAKASAWA, Nara, Japan, Kashiwara, Japan

1960-P Comparative Effects of TNFα and IL-6 Inhibitors on Glucose and Lipid Metabolism in Patients with Rheumatoid Arthritis (RA)
TATSUO ISHIZUKA, KEI FUJIOKA, ICHIRO MORI, TOMOFUMI TAKEDA, SAORI INUI, Gifu, Japan

1961-P Identification of a Novel Brown/Beige Fat-Derived Adipokine
CHAN HEE J. CHOI, AUDREY A. CRANE, PAUL COHEN, New York, NY

1962-P Comparison of the Effects of Three SGLT2 Inhibitors on Metabolic Parameters and Insulin Sensitivity in a Nondiabetic Rat Model of Metabolic Syndrome
JAROSLAVA TRNOVSKA, MARTINA HÜTTL, IRENA MARKOVÁ, OLENA OLIYARNYK, HANA MALINSKA, DENISA MIKLANKOVA, HELENA KRATOCHVÍLOVA, PETR SYOBODA, ANNA CINKAJZLOVA, IVANA LANKOVA, MILOS MRAZ, MARTIN HALUZIK, Prague, Czech Republic

1963-P Undercarboxylated Osteocalcin Is Correlated with Insulin Secretion in Japanese Individuals with Diabetes
SHOGO FUNAKOSHI, SATOKO OHMI, ERI AMANO, YOSHIO TERADA, SHIMPEI FUJIMOTO, Nankoku, Japan

1964-P Type 1 Diabetes: Sclerostin Resistance Improves Glucose Metabolism and Protects Bone Mass
GIULIA LEANZA, YAEL ALIPPE, SEUNG-YON LEE, ROCKY STROLLO, PAOLO POZZILLI, ROBERTO CIVITELLI, NICOLA NAPOLI, Rome, Italy, St. Louis, MO

1965-P Glucagon Receptor Agonism Stimulates Body Weight Loss in Antibiotic Treatment in Obese Mice
TEAYOUN KIM, JESSICA P. ANTIPENKO, SHELLY NASON, NATALIE PRESEDO, WILLIAM J. VAN DER POL, BRIAN FINAN, RICHARD DIMARCHI, CASEY D. MORROW, KIRK M. HABEGGER, Birmingham, AL, Indianapolis, IN, Bloomington, IN

1966-P Manipulating Postprandial Bile Acid Concentrations: Effect on GLP-1 Secretion after Roux-en-Y Gastric Bypass
MARIA S. SVANE, ISABELLA JONSSON, VIGGO BJERREGAARD KRISTIANSSEN, RUNE E. KUHRE, NICOLAI JACOB WEVER ALBRECHTSEN, JENS J. HOLST, STEN MADSBAD, KRISTINE N. BOJSEN-MOLLER, Hvidovre, Copenhagen, Denmark

1967-P Mild Physiologic Hyperglycemia Impairs Insulin-Mediated Suppression of Plasma Glucagon in Healthy Normal Glucose Tolerant Subjects
AURORA MEROVCI, XI CHEN, RALPH A. DEFRONZO, DEVJIT TRIPATHY, San Antonio, TX

1968-P Improved Glucose Tolerance via Somatostatin Receptor Antagonism Is an Effect Mediated by the Intestine
SARA L. JEPSEN, JENS J. HOLST, Copenhagen, Denmark

1969-P Time-Based Internalized Characterization of Exendin-4-Based Glucagon-Like Peptide-1 Receptor-Targeting Imaging Probe
TAKAAKI MURAKAMI, HIROYUKI FUJIMOTO, NAOTAKA FUJITA, KEITA HAMAMATSU, JUNJI FUJIKURA, NOBUYA INAGAKI, Kyoto, Japan

1970-P Epinephrine and Insulin Stimulates White Adipocyte Secretion of Diverse Adiponectin Forms
SALIHA MUSOVIC, ALI M. KOMAI, ELIN BANKE NORDBECK, UMUL-KHAIR A. NOOR, INGRID WERNSTEDTASTERHOLM, CHARLOTTE S. OLOFSSON, Gothenburg, Sweden
1971-P SGLT1-Mediated Glucose Absorption Is Important for Incretin Hormone Secretion after Gastric Bypass Surgery
CHRISTOFFER MARTINUSSEN, SIMON VEEDFALD, KIRSTINE N. BOJSEN-MOLLER, CARSTEN DIRKSEN, MARIA S. SVANE, VIGGO BJERREGAARD KRISTIANSSEN, JENS J. HOLST, STEN MADSBAD, Hvidovre, Copenhagen, Denmark

1972-P WITHDRAWN

1973-P Deficiency of Protein Deacetylase Sirt3 Enhances Acetylation of Histone H3 and H4 as to Affect Glucose Metabolism through Regulation of Dipeptidyl Peptidase-4 in Mice
ASUKA UTO, KAZUTOSHI MIYASHITA, Tokyo, Japan

1974-P Identification of a Dual-Action Small Molecule with Potent Antidiabetic Activity
YAO WANG, JING LUO, HANA A. ALKHALIDY, BIN XIU, DONGMIN LIU, Blacksburg, VA, Irbid, Jordan

1975-P Increased Pancreatic a Cell Ca2+ Oscillations Explain Hyperglycagonomia in High-Fat Diet-Fed Mice
JOELY KELLARD, LINFORD BRIANT, JAKOB G. KNUDSEN, PATRIK RORSMAN, Oxford, United Kingdom

1976-P Physiological Effects of GIP(1-30)NH2 in Healthy Subjects
LIVA S.L. KROGH, LÆRKE S. GASBJERG, SIGNE STENSEN, KIRSA SKOV-JEPSESEN, METTE MARIE ROSENKILDE, BOLETTE HARTMANN, TINA VILSBØLL, JENS J. HOLST, FILIP K. KNOP, Copenhagen, Denmark, Hellerup, Denmark

1977-P Methylglyoxal May Contribute to Bone Loss via Differential Effects on Osteoblast and Osteoclasts
KEVIN YUE, FIONA CHEUK YAN LEE, Hong Kong, China

1978-P Possible Regulation between Estrogen and Gas6 Gene in Adipogenesis
CHIEN-HSING LEE, Taipei, Taiwan

1979-P GLP-1 Recruits Skeletal Muscle Microvasculature without Impacting Glucose Uptake or Protein Metabolism in Older Men during Postabsorptive Insulin Clamps
HAITHAM ABDULLA, BETHAN E. PHILLIPS, MARIE C. LIMB, DANIEL J. WILKINSON, TEREZA JANDOVA, JESSICA CEGIELSKI, JOSEPH T. BASS, DEBBIE RANKIN, JONATHAN S. LEWIS, JOHN WILLIAMS, KEN SMITH, PHILIP J. ATHERTON, ISKANDAR RAUF IDRIS, Derby, United Kingdom, Nottingham, United Kingdom

1980-P A Characterization of Postprandial Glucose Metabolism and Incretin Hormone Responses in Patients with Bile Acid Malabsorption
MARTIN L. KÅRHUS, DAVID P. SONNE, MARTIN L. THOMASEN, JENS J. HOLST, TINA VILSBØLL, ANDREAS BRØNDEN, FILIP K. KNOP, Hellerup, Denmark, Copenhagen, Denmark

1981-P The Regulation of Incretin Secretion in Baby Rats in Response to a Lipid Meal
JIE QU, QING YANG, CHIH-WEI KO, MIN LIU, DENNIS D. BLACK, PATRICK TSO, Cincinnati, OH, Memphis, TN

1982-P Glucagon-Like Peptide-2 Inhibits Postprandial Gallbladder Emptying in Healthy Male Individuals—A Randomized, Double-Blinded, Placebo-Controlled Study
NINA L. HANSEN, CHRISTINA CHARLOTTE NEXØE-LARSEN, ANDREAS BRØNDEN, ALEXANDER S. CHRISTENSEN, DAVID P. SONNE, BOLETTE HARTMANN, TINA VILSBØLL, JENS J. HOLST, FILIP K. KNOP, Copenhagen, Denmark, Hellerup, Denmark

1983-P WNT Pathway and Bone Fragility in Postmenopausal Women with Type 2 Diabetes
ALESSANDRA PICCOLI, FRANCESCA CANNATA, FABRIZIO RUSSO, VALENTINA L. GRETO, CAMILLA ISGRÒ, GIULIA LEANZA, ROCKY STROLLO, CARLO MASSARONI, CLAUDIO PEDONE, SERGIO SILVESTRI, GIANLUCA VADALÀ, VINCENZO DENARO, TIZIANA BISOGNO, ROCCO PAPALIA, PAOLO POZZILLI, MAURO MACCARRONE, NICOLA NAPOLI, Rome, Italy

1984-P Optic Atrophy 1 Deletion in Brown Adipose Tissue Induces Browning of White Fat by Inducing FGF-21
RENATA PEREIRA ALAMBERT, SATYA MURTHY TADINADA, E. DALE ABEL, Iowa City, IA
Moderated Poster Discussion: Homeostatic Responses to Diet—Novel Mechanisms of Regulation (Posters: 1985-P to 1990-P), see page 104.

1985-P Inhibition of Adipocyte-Derived Serotonin Protects from High-Fat Diet-Induced Obesity by Increasing Energy Expenditure
KO EUN SHONG, WONGUN CHOI, HAIL KIM, Daejeon, Republic of Korea

1986-P Hippocampal Overexpression of Triggering Receptor Expressed on Myeloid Cell 2 (TREM2) Ameliorates High-Fat Diet-Induced Neurocognitive Impairment via Modulating Microglial M1/M2 Polarization
MIN WU, XIAOQIU XIAO, Chongqing, China

1987-P Nampt Deletion Changes Metabolism in Adipose Tissue and Prevents Diet-Induced Obesity
KEISUKE OKABE, ALLAH NAWAZ, SHIHO FUJISAKA, KUNIMASA YAGI, TOMONOBU KADO, ISAO USUI, TAKASHI NAKAGAWA, KAZUYUKI TOBE, Toyama, Japan, Kitakobayashi, Japan

1988-P WITHDRAWN

1989-P Ablation of Ghrelin Receptor in Myeloid Cells Attenuates Diet-Induced NAFLD in Mice
DA MI KIM, JONG HAN LEE, QUAN PAN, JI YEON NOH, HONGYING WANG, HYE WON HAN, CHIA-SHAN WU, SHAODONG GUO, YUXIANG SUN, College Station, TX, Incheon, Republic of Korea

1990-P STAT1 Knockdown in CD11c+ Cells Prevents Adipose Tissue Inflammation and Metabolic Dysfunction in Mice on High-Fat Diet
ANTU KALATHOOKUNNEL ANTONY, XIAOYUAN PERRARD, ZEQIN LIAN, JERRY PERRARD, CHRISTIE M. BALLANTYNE, HUAIZHU WU, Houston, TX

1991-P Mammary Tumors Increase Diet-Induced Obesity and Insulin Resistance in Female MMTV-PyMT Mice
HYE LIM NOH, HEE JOON KANG, JOSE MERCADO-MATOS, RANDALL H. FRIEDLINE, SUJIN SUK, XIAODI HU, DUY A. TRAN, LAUREN A. TAUER, MIN-JI KO, JUNGEUN CHOI, THAVANOTEY LUONG, YURAN TSUCHIDA, LESLIE M. SHAW, JASON K. KIM, Worcester, MA, Hwaseong, Republic of Korea

1992-P Early and Chronic Exposure to Penicillin Increases Obesity and Insulin Resistance in High-Fat Diet-Fed Mice
HYE LIM NOH, SUJIN SUK, RANDALL H. FRIEDLINE, XIAODI HU, DUY A. TRAN, LAUREN A. TAUER, JUNGEUN CHOI, MIN-JI KO, BRANDON KIM, TANUJ SURAPANENI, MARTIN J. BLASER, JASON K. KIM, Worcester, MA, New York, NY

1993-P Deconstruction of the Role of the Amylin and Calcitonin Receptors in the Regulation of Body Weight and Glucose Tolerance
ANNA T. LARSEN, NINA SONNE, KIM V. ANDREASSEN, MORTEN ASSER KARSDAL, KIM HENRIKSEN, Herlev, Denmark, Copenhagen, Denmark

1994-P WITHDRAWN

1995-P Optimization of DACRA Dosing Frequency—The Balance between Efficacy and Tolerability
ANNA T. LARSEN, KIM V. ANDREASSEN, NINA SONNE, MORTEN ASSER KARSDAL, KIM HENRIKSEN, Herlev, Denmark, Copenhagen, Denmark

1996-P Paternal Gastric Bypass Surgery Confers Protection from Metabolic Syndrome and Hepatic Steatosis in Offspring Mice
YIXING YUCHI, ZHENG HAO, TOKIYO TAKAGI, HANS-RUDOLF BERTHOUD, MARY E. PATTI, Boston, MA, Baton Rouge, LA

1997-P Cross Talk between EPO and Estrogen Signaling in Regulation of Fat Mass
JEEYOUNG LEE, HEATHER ROGERS, CONSTANCE T. NOGUCHI, Bethesda, MD
1998-P  Progressive Liver Dysfunction Resulted from a High-Fat, High-Fructose Diet in Fatzo Mice
XIAOLI WANG, WEIWEI YE, YANG CHEN, XIAOYU ZHANG, YIXIN WANG, YONG-FU XIAO, Taicang, China

1999-P  Cysteine-Rich Protein 2 (CRIP2) Is a Novel Transcriptional Regulator of Uncoupling Protein 1
JUSTIN DARCY, CHIH-HAO WANG, MORTEN LUNDH, FARNAZ SHAMS, MATTHEW LYNES, THOMAS D’APRIGNY, BRICE EMANUELLI, YU-HUA TSENG, Boston, MA, Harsholm, Denmark, Copenhagen, Denmark

2000-P  Intracellular Metabolism-Dependent PDGF-B Induction in Inflammatory Macrophages Contributes to Adipose Tissue Expansion with Obesity
TSUTOMU WADA, YASUHIRO ONOGI, AKIRA OKEKAWA, TAKATOSHI MATSUZAWA, ERI WATANABE, GO KOMATSU, HIROSHI TSUNEKI, TOSHIYASU SASAOKA, Toyama, Japan

2001-P  Thermoneutrality Dissociates Glucose Tolerance from Insulin Sensitivity in Rats
AMY C. KELLER, LESLIE KNAUB, SARA E. HULL, REBECCA L. SCALZO, LORI A. WALKER, JANE E.B. REUSCH, Aurora, CO, Denver, CO

2002-P  A Long-Acting GLP-1 and Y2-Receptor Dual Agonist Improves Body Weight and Glucose Control in Obese and Diabetic Rodent Models
STEPHANIE OLDHAM, VICTOR G. HOWARD, SARAH WILL, DAVID C. HORNGOLD, CHRISTOPHER J. RHODES, SHIMONA MADALLI, ISABELLE SERMADIRAS, JACQUELINE NAYLOR, CHRISITAN RIVERA, SR., Gaithersburg, MD, Cambridge, United Kingdom

2003-P  The Role of Re1-Silencing Transcription Factor (REST) in Adipocytes
MASAYUKI FUWA, KAZUO KAJITA, KOICHIRO TAGUCHI, YOSHIHIKO KITADA, TAKAHIDE IKEDA, TATSUO ISHIZUKA, HIROYUKI MORITA, Gifu, Japan

2004-P  Liraglutide Shows Better Weight Loss and Cardiometabolic Benefits than Lorcaserin and Pioglitazone in a Novel Diet-Induced Obese Rat Model
FRANÇOIS BRIAND, EMMANUEL BROUSSEAU, THIERRY SULPICE, Labege, France

2005-P  Transgenic Overexpression of Human Chimeric Intestinal Alkaline Phosphatase (IAP) Improves Plasma Lipid Profile and Attenuates Western Diet (WD)-Induced Atherosclerosis in LDLR-/- Mice
SIDDHARTHA S. GHOSH, JING WANG, PAUL J. YANNIE, YASHNOOR K. SANDHU, SHOBHA GHOSH, Richmond, VA

2006-P  The Role of Adipose Tissue-Resident Eosinophils in Adipocyte Metabolism and Whole-Body Energy Homeostasis
TING LI, WILLIAM LESUER, ABHILASHA SINGH, JAMES D. HERNANDEZ, XIAODONG ZHANG, DIANE JELINEK, JUN LU, ADRIAN VELLA, ELIZABETH A. JACOBSEN, ELEANNA DE Filippsis, Scottsdale, AZ, Baltimore, MD, Rochester, AZ, Rochester, MN

2007-P  Age-Dependent Metabolic Response to Erythropoietin in Mice
HEATHER ROGERS, CONSTANCE T. NOGUCHI, Bethesda, MD

2008-P  BioChaperone Glucagon Exenatide (BC Glu Exe), a Stable Combination of Glucagon (Glu) and Exenatide (Exe) Achieved Larger Body Weight (BW) Loss than Exe Alone in DIO Mice
MARTIN GAUDIER, SANA HAKIM, CLAIRE MEGRET, MARINE BEZAGU, MARC FRANCOIS-HEUDE, ANNE REGAIRAZ, GREGORY MEIFFREN, REMI SOULA, OLIVIER SOULA, Lyon, France

2009-P  Molecular Mechanisms of Obesity-Associated Vascular Vulnerability via Signals of Appetite Regulation
KENTARO MORI, KYOICHIRO TSUCHIYA, SUGURU NAKAMURA, KUMIKO SHIBA, YASUTAKA MIYACHI, YOSHIHIRO OGAWA, KENICHIRO KITAMURA, Kofu, Japan, Chuo, Japan, Tokyo, Japan, Fukuoka, Japan

2010-P  Increasing POMC Positive Neurons and Ameliorating the Brain Inflammation Played an Important Role in DJB Improving Glucose Homeostasis in Diabetic Rats
HUAI-JIE WANG, BIN JIANG, JIAN LI, WEI-YU WANG, NA LI, QINGTAO YAN, ZHIQIN GAO, MEI-HUA QU, Weifang, China

2011-P  Totum-63 Lowers Adipose Tissue Inflammation and Reverses Both Hepatic Steatosis and Insulin Resistance in High-Fat Diet-Induced Obese Mice
HENDRIK JOHANNES VAN DER ZANDE, ANNA ZAWISTOWSKA-DENIZIAK, FRANK OTTO, VIVIEN CHAVANELLE, SEBASTIEN PELTIER, PASCAL SIRVENT, BRUNO GUIGAS, Leiden, Netherlands, Riom, France, Perigny, France
2012-P The Mouse Thermoneutral Zone Is Actually a Thermoneutral Point
VOJTECH SKOR, JUEN GUO, NAILI LIU, CUIYING XIAO, KEVIN D. HALL, OKSANA GAVRILLOVA, MARC REITMAN, Bethesda, MD

2013-P ▲ Parkin Is Dispensable in Pancreatic Beta Cells and Adipocytes for Metabolic Homeostasis
GEMMA PEARSON, CALLIE CORSA, SCOTT SOLEMANPOUR, ORMOND A. MACDOUGALD, Ann Arbor, MI

2014-P The Effect of High-Fat Diet on Adipose Tissue Glycerol Metabolism Is Influenced by Sex and GLP-1 Agonist Treatment
FRANCESCO M. IENA, JENS BAY VEGGER, JESPER SKOVHUS THOMSEN, ANNEMARIE BRÜEL, JANNE LEBECK, Aarhus, Denmark

2015-P 14-3-3zeta Is Required for PKA-Dependent Lipolysis
ABEL OPPONG, YVES MUGABO, GARETH E. LIM, Montreal, QC, Canada

2016-P High Dose DACRA Treatment Improves Glucose Homeostasis, without Additional Weight Loss
NINA SONNE, ANNA T. LARSEN, KIM V. ANDREASSEN, MORTEN ASSER KARSDAL, KIM HENRIKSEN, Herlev, Denmark

2017-P Gut Microbes after Bariatric Surgery in Humans Improve Glucose Control in Mice without Fat Loss
FERNANDO FORATO ANHÉ, KEVIN P. FOLEY, NICOLE G. BARRA, BRITTANY M. DUGGAN, JOSEPH F. CAVALLARI, BRANDYN D. HENRIKSBØ, PATRICE D. CANI, LAURENT BERTHIO, ANDRE TCHERNOF, ANDRE MARETTE, JONATHAN D. SCHERTZER, Hamilton, ON, Canada, Dundas, ON, Canada, Brussels, Belgium, Quebec City, QC, Canada

2018-P Simultaneous Monitoring of Circulating Levels of Metabolic-Related Aging Biomarkers in Young and Elderly Mice
LING ZENG, St. Louis, MO

2019-P Deletion of Hepatic SIRT1 Enhances the Effect of Ketogenic Diets on Ameliorating Obesity and Metabolic Disorders
WANRONG GUO, FEN XIU, GUANGRONG LI, HUA LIANG, MENGYIN CAI, Guangzhou, China

2020-P Comparable Disease Progression in GAN and AMLN Diet-Induced Obese Mouse Models of Biopsy-Confirmed Nonalcoholic Steatohepatitis
BRANDON B. BOLAND, HENRIK H. HANSEN, MICHELLE BOLAND, DENISE ORÓ, KIRSTINE SLOTH TOŁBØL, SANNÉ VEIDAL, MICHAEL FEIGH, JACOB JELSING, NIELS VRANG, JAMES TREVASKIS, Hørsholm, Denmark, Foster City, CA

2021-P ▲ STAT1 Represses Metabolic Intermediates Necessary to Store Fat
AARON COX, PETER MASSCHELIN, NATALIE CHERNIS, SEAN M. HARTIG, Houston, TX

2022-P Neonatal IL-4 Administration Decreases Body Fat Content and Weight and Improves Glucose Tolerance in Adulthood
TAMMY YING, REBECCA A. SIMMONS, Philadelphia, PA

2023-P OXM-001, a Novel Oxyntomodulin Analog, Improves Glucose Tolerance and Reduces Body Weight in High-Fat Diet Mice
ASHREF KAYED, KIM V. ANDREASSEN, MORTEN ASSER KARSDAL, KIM HENRIKSEN, Herlev, Denmark

2024-P Protective Role of Lipocalin 2 in High-Fat Diet-Induced Gut Microbiota Dysbiosis
XIAOXUE (SHERYL) QIU, MARISSA MACCHIETTO, STEVE SHEN, XIAOLI CHEN, St. Paul, MN, Minneapolis, MN

2025-P Protective Effects of Orlistat against High-Fat Diet-Induced Metabolic Disorders in Mice
JING KE, YAXIN AN, BIN CAO, DONG ZHAO, Beijing, China

2026-P Myeloid Sirtuin 6 Is a Molecular Switch of White Adipose Tissue Browning
YOUNGYI LEE, Jeonju, Republic of Korea

2027-P Dietary Cholesterol and Neuropeptide Agouti Related Peptide Act in Concert to Regulate Locomotor Activity
ALYSSA HUANG, MATTHEW T. MAIER, ALLISON XU, San Francisco, CA

2028-P WITHDRAWN
2029-P  A Simple Proximal Intestinal Bypass Surgery Directly Improves Insulin Sensitivity and Insulin Secretion in Mice  
HYE-MIN JANG, NA-HEE HA, MUN-GYU SONG, HYE-JIN LEE, BO-YEONG JIN, DONG-HOON KIM, NAM HOON KIM, Seoul, Republic of Korea

2030-P  BS-016, a Novel Oleaneolic Acid Derivative, Exerts Antidiabetic and Anti-Obesity Effects in Preclinical Studies  
YONG DU, Shanghai, China

2031-P  Adipose-Specific Lack of Hexose-6-Phosphate Dehydrogenase Causes Inactivation of Adipose Glucocorticoids and Improves Metabolic Phenotype in Male Mice  
JIAN WANG, XINXUANG WANG, KABIRULLAH LUTFY, THEODORE FRIEDMAN, MEISHENG JIANG, YANJUN LIU, Changshun, China, Beijing, China, Pomona, CA, Los Angeles, CA

2032-P  The Effects of Liraglutide on Ameliorating Diabetic Kidney Disease Is via SIRT1/TXNIP Pathway  
RUIYING LIANG, MEIJUN WANG, CHANG FU, FEN XU, MENGYIN CAI, Guangzhou, China

2033-P  APX-115, a Pan-NADPH Oxidase (NOX) Inhibitor, Ameliorates Diabetic Nephropathy in NOX5 Transgenic Mice  
EUNSOO LEE, CHOON H. CHUNG, JI HYE HUH, SUN HEE LEE, Wonju, Republic of Korea

2034-P  The Role of 14-3-3zeta in the “Beiging” of White Adipose Tissue  
ANNA KATRI, MORTEN ASSER KARSDAL, KIM HENRIKSEN, Herlev, Denmark

2035-P  Treatment with a Dual Amylin and Calcitonin Receptor Agonist Improves Metabolic Health in a Rat Model of Elderly Menopausal Women  
ANGELA B. CHAFFIN, YANBIN FANG, KARLTON R. LARSON, JORAM MUL, KAREN K. RYAN, Davis, CA, Amsterdam, Netherlands

2036-P  Genetic Dissection of Leptin Signaling in AgRP Neurons  
JIE XU, CHENG-HAO CHEN, XINCHI YI, CHRISTOPHER BARTOLOME, DONG KONG, Boston, MA

2037-P  Characterization of Novel Unimolecular Amylin-Adrenomedullin Dual Agonists  
SABRINA GOHLKE, LUIS SARAIVA, TIM J. SCHULZ, Dresden, Germany, Potsdam, Germany, Doha, Qatar

2038-P  Rice Endosperm Protein Intake in Childhood Suppresses the Development of High-Fat Diet-Induced Metabolic Disorders and Kidney Disease during Adulthood in Mice  
YUKI HIGUCHI, MIYUKI HOSOKI, HIDEYUKI KABASAWA, SHOJI KUWAHARA, RYOHEI KASEDA, HITOSHI ARAO, TAKAHIRO TANAKA, ICHIEI NARITA, AKIHIKO SAITO, Niigata, Japan, Shiga, Japan

2039-P  Age-Related Dysfunction of Brown Adipose Progenitor Cells  
ANGELA B. CHAFFIN, YANBIN FANG, KARLTON R. LARSON, JORAM MUL, KAREN K. RYAN, Davis, CA, Amsterdam, Netherlands

2040-P  Histone Methyltransferase DOT1L Regulates Brown Adipocyte Differentiation and Thermogenesis  
TAKASHI YAMAMOTO, TAKANARI GOTOYA, Tokyo, Japan, Mitaka, Japan

2041-P  Histone Methyltransferase DOT1L Regulates Brown Adipocyte Differentiation and Thermogenesis  
TAKASHI YAMAMOTO, TAKANARI GOTOYA, Tokyo, Japan, Mitaka, Japan

2042-P  Genetic Dissection of Leptin Signaling in AgRP Neurons  
JIE XU, CHENG-HAO CHEN, XINCHI YI, CHRISTOPHER BARTOLOME, DONG KONG, Boston, MA

2043-P  The Biphasic Antiobesogenic Effects of Amlexanox  
ANDREW V. GOMEZ, SHANNON REILLY, MOHAMMAD ABU ODEH, ELYSE WALK, ALAN SALTIEL, San Francisco, CA, La Jolla, CA, San Diego, CA

2044-P  Histone Methyltransferase DOT1L Regulates Brown Adipocyte Differentiation and Thermogenesis  
LIV SHUAI, JIA LI, JINGYA LI, Shanghai, China

2045-P  Lipid-Induced Mitochondrial Dysfunction Interferes with Retinoic Acid Signaling in Hepatocytes  
ESHANI KARMARKAR, NABANITA DAS, SATINATH MUKHOPADHYAY, SIB SANKAR ROY, Kolkata, India, Lucknow, India, Calcutta, India
OBESITY—HUMAN

Moderated Poster Discussion: Innovations and Assessments of Obesity Treatment from Clinical Trials to Real-World Settings (Posters: 2046-P to 2051-P), see page 106.

2046-P  NS-0200 (Leucine-Metformin-Sildenafil) Reduces Weight in Obese Subjects: A 24-Week Randomized Trial
MICHAEL B. ZEMEL, ORVILLE G. KOLTERMAN, OMAR FLORES, GILBERT ALEXANDER FLEMING, FRANK L. GREENWAY, Knoxville, TN, La Jolla, CA, Nashville, TN, Harpers Ferry, WV, Baton Rouge, LA

2047-P  UK First National Health Service (NHS) Endobarrier (EB) Service: Maintenance of Improvement One Year after Device Removal
ROBERT E.J. RYDER, PIYA SEN GUPTA, MAHENDER YADAGIRI, SUSAN P. IRWIN, WYN BURBRIDGE, TAHIRA BASHIR, MELANIE C. WYRES, RACHAEL ALLDEN, JOHN BLEASDALE, EDWARD FOGDEN, MARK ANDERSON, Birmingham, United Kingdom, London, United Kingdom

2048-P  The Physiological Effects of VLCD in Overweight Nondiabetics
MUHAMMAD HARIZ ABDUL AZIZ, BETHAN E. PHILLIPS, IMRAN RAMZAN, JESSICA CEGIELSKI, KEN SMITH, ISKANDAR RAUF IDRIS, PHILIP J. ATHERTON, Derby, United Kingdom

2049-P  Real-World Assessment of Orlistat and Liraglutide in Patients with Obesity: The XENSOR Study
JUAN J. GORGOJO-MARTINEZ, BELEN BASAGOITI-CARREÑO, ALBERTO SANZ-VELASCO, CLARA SERRANO-MORENO, FRANCISCA ALMODOVAR-RIUIZ, Alcorcón, Spain

2050-P  A Multifactorial Telemedical Care Model for Long-Term Treatment of Obesity—A Randomized Controlled Trial
MARTIN RÖHLING, KATHARINA MARTIN, SABINE ELLINGER, STEPHAN MARTIN, KERSTIN KEMPF, Düsseldorf, Germany, Mönchengladbach, Germany

2051-P  Deep Transcranial Magnetic Stimulation Attenuates Depressive and Anxiety Symptoms Associated with Obesity
ANNA FERRULLI, CONCETTA MACRÌ, VALENTINA DANGELO, LIVIO LUZI, San Donato Milanese, Italy, Milan, Italy

2052-P  WITHDRAWN

2053-P  Low AMY1 Gene Copy Number Is Associated with Increased Childhood Obesity in Alabama
CHANDRA MOHAN KURAPATY VENKATAPU, PRISCILLA AYINE, EMILY P. PARRA, TAYLOR KOENIGS, MANINDER SANDEY, RAMESH B. JEGANATHAN, GEETHA THANGIAH, Auburn, AL

2054-P  Endothelial Dysfunction, Inflammation, and Oxidative Stress Urinary Biomarkers in Obese Children from Alabama
VAITHINATHAN SELVARAJU, PRISCILLA AYINE, EMILY P. PARRA, MICHAEL BROWN, RAMESH B. JEGANATHAN, GEETHA THANGIAH, Auburn, AL

2055-P  The Effect of Transcranial Direct Current Stimulation Associated with Hypocaloric Diet on Glucose Homeostasis in Overweight or Obese Adults
CARINA DE ARAUJO, RAQUEL C. FITZ, GABRIELLA RICHTER NATIVIDADE, AMANDA F. OSÓRIO, PAULA NUNES MERELLO, PEDRO SCHESTASKY, FERNANDO GERCHMAN, Porto Alegre, Brazil

2056-P  Psychiatric Profile and Quality of Life in Subjects with Excess Weight Treated with Transcranial Direct Current Stimulation Combined with Hypocaloric Diet
GABRIELLA RICHTER NATIVIDADE, CARINA DE ARAUJO, RAQUEL C. FITZ, AMANDA F. OSÓRIO, PAULA NUNES MERELLO, PEDRO SCHESTASKY, FERNANDO GERCHMAN, Porto Alegre, Brazil

2057-P  HDL-Cholesterol Concentration Independently Predicts Future Accumulation of Intra-abdominal Fat in Japanese Americans
SUN OK SONG, YOU CHEOL HWANG, STEVEN E. KAHN, DONNA L. LEONETTI, WILFRED Y. FUJIMOTO, EDWARD J. BOYKO, Seoul, Republic of Korea, Seattle, WA

2058-P  Leptin and Adiponectin Concentrations Independently Predict Future Accumulation of Visceral Adiposity in Nondiabetic Japanese Americans
SUN OK SONG, STEVEN E. KAHN, DONNA L. LEONETTI, WILFRED Y. FUJIMOTO, EDWARD J. BOYKO, Seoul, Republic of Korea, Seattle, WA
2059-P Higher Propensity to Store Energy in Thigh Subcutaneous Fat Associated with a Lower Risk of NDM and Better β-Cell Function
XUHONG HOU, PEIZHU CHEN, LI WEI, YUQIAN BAO, WEIPING JIA, Shanghai, China

2060-P Serum Wnt Inhibitor DKK1 Is Associated with Adiposity and Insulin Resistance in Nondiabetic North Americans
HIRA ALI, ELIZABETH OCZYPOK, IVA MILJKOVIC, RYAN CVEJKUS, JOSEPH T. BROZINICK, HAI BUI, KENNETH D. ROTH, LEIGH PERREAULT, BRYAN C. BERGMAN, Fort Collins, CO, Aurora, CO, Corvallis, OR, Indianapolis, IN

2061-P Inflammation Status Is Independent Risk Factor for the Development of Metabolic Syndrome in Both Metabolically Healthy Obese and Nonobese Adults
KYU YEON HUR, MIN SUN CHOI, SUNG WOON PARK, SEUNG-EUN LEE, JIYEON AHN, JUN PARK, HYUNJU PARK, KYEON KIM, MOON-KYU LEE, Seoul, Republic of Korea

2062-P Improvement in Sphingolipids after Combined Weight Loss and Exercise Training in Adults with Obesity and Prediabetes
JOSIANE L. BROUSSARD, DARCY E. KAHN, SEAN A. NEWSOM, JOSEPH T. BROZINICK, HAI BUI, KENNETH D. ROTH, LEIGH PERREAULT, BRYAN C. BERGMAN, Fort Collins, CO, Aurora, CO, Corvallis, OR, Indianapolis, IN

2063-P WITHDRAWN

2064-P Effectiveness of Computer or Phone Interventions on Increasing Exercise and Weight Loss in Obese and Overweight Adults: A Meta-analysis
YUELI PU, MAN GUO, XIU M. MA, QING CHEN, FANGYUAN TENG, TING ZHANG, CUIPING LIU, YONG XU, Luzhou, China

2065-P Effects of Obesity on Productivity in the Australian Population: A Life Table Modelling Study
KIRTHI ARAVIND MENON, ELLA ZOMER, BABORA DE COURTEN, Melbourne, Australia

2066-P Improvement of Hepatic Steatosis Index in Patients with Type 1 Diabetes and Obesity after Intensive Lifestyle Intervention: A One-Year Matched-Cohort Observational Study
SHAHEEN TOMAH, MHD WAEL TAZEBEHI, HIJAZI GHANI, TAREQ SALAH, HONGXIA ZHANG, SAHAR ASHRAFZADEH, OSAMA HAMDY, Boston, MA, Hebron, Palestinian Territory

2067-P Interrelationship between Serum Bone-Derived Factors and Obesity and Visceral Fat Accumulation in Chinese Middle-Aged Men and Women
YUQIAN BAO, YITING XU, XIQING MA, XIQIONG PAN, XINGXING HE, YUNFENG XIAO, Shanghai, China

2068-P Alpha Klotho Modulation with Remission of Prediabetes in Human Subjects
FRANKIE B. STENTZ, ANN AMMONS, Memphis, TN

2069-P Energy Expenditure during Sleep Is an Independent Marker of Prediabetes—A Cross-Sectional Study of Overweight/Obese Subjects
DARIO TUCCHINARDI, GIOVANNI ROSSINI, ERNESTO MADDAZZINI, DARIO MAGGI, LAVINIA MONTE, EVELINA FIORITI, SHADI KIYANVASH, PAOLO POZZILI, SILVIA MANFRINI, Rome, Italy

2070-P Role of Education Attainment in Obesity: A Two-Sample Mendelian Randomization Study
TAO ZHOU, DIANJIANI SUN, XIAN LI, YORIKO HEIANZA, LU QI, New Orleans, LA

2071-P Changes in Serum Uric Acid Correlated with Sex Hormones Variations for Chinese Obese Patients Undergoing Sleeve Gastrectomy
CUILING ZHU, JINGYANG GAO, FANGYUN MEI, XINGCHUN WANG, DONGLEI ZHOU, SHEN QU, Shanghai, China

2072-P Alterations in Fat Mass and Bone Mineral Density Are Associated with Decreased Lipocalin-2 after Laparoscopic Sleeve Gastrectomy in Obese Chinese Women
XIN WEN, FANGYUN MEI, DONGLEI ZHOU, LE BU, SHEN QU, Shanghai, China

2073-P Are Early Dumping and Postprandial Hypoglycemia after Roux-en-Y Gastric Bypass Related Events?
CAROLINE BHRSTROM, DORTE WORM, URD KIELGAST, JENS J. HOLST, DORTE L. HANSEN, Koge, Denmark, Copenhagen, Denmark, Gentofte, Denmark

2074-P Significant Reduction of Visceral Adiposity in Type 2 Diabetics with Doctor-Supervised Weight Loss Program
GERALD DEMBROWSKI, JESSICA BARNES, Cheyenne, WY
2075-P Insulin Resistance Improved at Six Months following Bariatric Surgery Despite Accelerated Lipolysis and Accumulation of Lipid-Derived Acylcarnitines
HONG CHANG TAN, JEAN W. HSU, JEAN-PAUL KOVALIK, CHIN MENG KHOO, SHAJI CHACKO, SONALI GANGULY, E. SHYONG TAI, OI FAH LAI, EUGENE LIM, FAROOK JAHOOR, Singapore, Singapore, Houston, TX

2076-P Time Restricted Eating (TRE) Promotes Weight Loss, Alters Body Composition, and Improves Metabolic Parameters in Overweight Humans
LISA S. CHOW, EMILY MANOOGIAN, ALISON C. ALVEAR, QI WANG, SATCHIDANANDA PANDA, DOUGLAS G. MASHEK, Minneapolis, MN, La Jolla, CA

2077-P Effect of Laparoscopic Sleeve Gastrectomy on Sex Hormone Level and Ovarian Volume in Female Obesity with PCOS
JINGYANG GAO, MANNA ZHANG, CUILING ZHU, XINGCHUN WANG, FANGYUN MEI, SHEN QU, Shanghai, China

2078-P Association of Dietary Intake of Phosphorus with Obesity in Japanese Patients with Type 2 Diabetes Mellitus (T2DM)
MARIKO HATTA, KAZUYA FUJIHARA, YASUHIRO MATSUBAYASHI, YASUNAGA TAKEDA, RINA NEDACHI, DAI ISHI, CHIKA HORIKAWA, MITSUTOSHI KATO, HIROSHI MAEGAWA, HIROHITO SONE, JDDM STUDY GROUP, Niigata, Japan, Tokyo, Otsu, Japan

2079-P Association of Serum FAM19A5 with Metabolic and Vascular Risk Factors in Human Subjects With or Without Type 2 Diabetes
YOU-BIN LEE, JUNG A. KIM, EUN ROH, SO-HYEON HONG, KYUNG MOOK CHOI, SEI HYUN BAIK, HYE JIN YOO, Seoul, Republic of Korea

2080-P Endobarrier (EB) in Diabetes/Prediabetes with Obstructive Sleep Apnea (OSA) Study—Maintenance of Improvement after EB Removal
MAHENDER YADAGIRI, FIONA Y. KINNEY, NATALIE ASHMAN, EMMA S. SHARRATT, CHERYL GREENWOOD, JESSICA ADAMS, MELANIE C. WYRES, MICHAEL H. LANG, JOHN BLEASDALE, EDWARD FOGDEN, MARK ANDERSON, CHRISTOPHER WALTON, MICHAEL A. GREENSTONE, ROBERT E. RYDER, Birmingham, United Kingdom, Hull, United Kingdom

2081-P Obesity and Bariatric Surgery Trends in Type 1 Diabetes
GABRIEL I. UWAIFO, Slidell, LA

2082-P Pharmacological Induction of Brown and Beige Adipose Tissue
BRIAN FINLIN, HASIYET MEMETIMIN, AMY L. CONFIDES, BEIBEI ZHU, ZACHARY R. JOHNSON, ESTHER E. DUPONT-VERSTEEGDEN, PHILIP A. KERN, Lexington, KY

2083-P Monogenic Obesity Mutations Lead to Less Weight Loss after Bariatric Surgery: A 6-Year Follow-Up Study
CHENG HU, Shanghai, China

2084-P Sustained Weight Loss in Men with Hypogonadism and Type 2 Diabetes (T2DM) Receiving Long-Term Treatment with Injectable Testosterone Undecanoate (TU): Ten-Year Data from a Urological Registry Study
AHMAD HAIDER, KARIM S. HAIDER, FARID SAAD, Bremerhaven, Germany, Berlin, Germany

2085-P WITHDRAWN

2086-P The Interaction of Fitness, Body Mass Index, and Mortality Risk in Type 2 Diabetes
ERIC NYLEN, PETER KOKKINOS, CHARLES FASELIS, PUNEET NARAYAN, PAMELA KARASIK, JONATHAN N. MYERS, Washington, DC, Burke, VA, Palo Alto, CA

2087-P Association between L-FABP with Lipid Metabolism and Alteration after Laparoscopic Sleeve Gastrectomy in Chinese Obese Subjects
HUI YOU, ZIWEI LIN, CUILING ZHU, XIN WEN, MANNA ZHANG, SHEN QU, Shanghai, China
2088-P Soluble EGFR and Adipsin Are Independent Serum Biomarkers for Insulin Resistance in Mouse and Human
MAYU KYOHARA, JUN SHIRAKAWA, YASUO TERAUCHI, Yokohama, Japan

2089-P Regional Renal Hemodynamics and Fatty Acid Uptake: Effects of Obesity and Weight Loss
ELENI REBELOS, PRINCE DADSON, VESA OIKONEN, HIDEHITO IIDA, JARNA C. HANNUKAINEN, ESQ., PATRICIA IOZZO, ELE FERRANNINI, PIRO NUUTILA, Turku, Finland, Pisa, Italy

2090-P Role of Thromboxane-Prostanoid Receptor in Obesity Related Insulin Resistance
THIYAGARAJAN THANGAVELU, SARASWATHI VISWANATHAN, CYRUS DESOUZA, Omaha, NE

2091-P Relationship between Prediabetes (Pre-DM) and the Frequency of Periodontal Disease (PD) in Patients with Severe Obesity—A Retrospective Cohort Study in an Academic Center in Paraguay
VIOLETA M. JIMÉNEZ DE PANE, ALDO BENÍTEZ, MAFAELDA PALACIOS, ELVIO DARÍO BUENO COLMAN, SR., JORGE T. JIMENEZ, Asunción, Paraguay, San Lorenzo, Paraguay

2092-P Impact of Insulin Resistance on Response to a Meal by Salience, Executive Control, and Default Mode Resting State Networks in Humans
LETICIA ESPOSITO SEWAYBRICKER, SUSAN J. MELHORN, MARY K. ASKREN, MARY WEBB, VIDHI TYAGI, MARY ROSALYNN DE LEON, THOMAS J. GRABOWSKI, ELLEN SCHUR, Seattle, WA

2093-P Acanthosis Nigricans as a Composite Marker of Cardiometabolic Risk and Its Complex Association with Obesity and Insulin Resistance in Mexican-American Children
JUAN C. LOPEZ-ALVARENGA, RECTOR ARYA, GEETHA CHITTOOR, SOLOMON FRANKLIN PAUL, SOBHA R. PUPPALA, VIDYA S. FAROOK, SHARON P. FOWLER, ROY G. RESENDEZ, ALVARO DIAZ-BADILLO, DONNA LEHMANN, SRINIVAS MUMMIDI, CHRIS JENKINSON, JANE L. LYNCH, RALPH A. DEFRONZO, JOHN BLANGERO, DANIEL E. HALE, RAVINDRANATH DUGGIRALA, Edinburg, TX, Danville, PA, Chennai, India, Winston-Salem, NC, San Antonio, TX, Brownsville, TX, McAllen, TX, Brownsville, TX, McAllen, TX, McAllen, TX, McAllen, TX, Hervey, PA

2094-P Decreased Human Adipose Tissue-Resident Eosinophils in Obese Subjects Is Associated with Increased Insulin Resistance
JAMES D. HERNANDEZ, TING LI, CASSANDRA RAU, MIA Y. MASUDA, JAMES A. MADURA II, ELIZABETH A. JACOBSEN, ELEANNA DEFLIPPIS, Scottsdale, AZ, Tempe, AZ

2095-P Association between Markers of Neuro and Systemic Inflammation and Cognitive Function in Obesity
ADAM KHAN, JAMES M. JOERS, MONICA LUCIANA, NATHAN RUBIN, YOUSUF SIDDQUI, SILVIA MANGIA, LYNN E. EBERLY, SAYEED IKRAMUDDIN, ELIZABETH R. SEAQUIST, GULIN OZ, AMIR MOHEET, Minneapolis, MN

2096-P Decreased Human Adipose Tissue-Resident Eosinophils in Obese Subjects Is Associated with Increased Insulin Resistance
JAMES D. HERNANDEZ, TING LI, CASSANDRA RAU, MIA Y. MASUDA, JAMES A. MADURA II, ELIZABETH A. JACOBSEN, ELEANNA DEFLIPPIS, Scottsdale, AZ, Tempe, AZ

2097-P Weight Loss Maintenance in Medically Managed Patients with Obesity
BEVERLY G. TCHANG, MOHINI ARAS, LINDSAY MANDEL, LEON I. IGEL, REKHA KUMAR, KATHERINE H. SAUNDERS, JONATHAN WAITMAN, LOUIS ARONNE, ALPANA SHUKLA, New York, NY

2098-P The Accuracy of Meal Test to Diagnose Hypoglycemia after Gastric Bypass
HENRI HONKA, RALPH A. DEFRONZO, MARY E. PATTI, MARZIEH SALEHI, San Antonio, TX, Boston, MA

2099-P The Association between Blood Glucose and Different Anthropometrics and Body Composition Measures in the Chinese Population: Results from the Pinggu Metabolic Disease Study
FANG ZHANG, YUFENG LI, YINGXI ZHAO, XIANGHAI ZHOU, LINONG JI, Beijing, China, Seattle, WA

2100-P Adipose Tissue Insulin Resistance in Overweight and Lean Patients with Impaired Glucose Tolerance or Type 2 Diabetes
AIKA MIYA, AGINOBU NAKAMURA, HIRAKU KAMEDA, KYUYONG CHO, HIDEAKI MIYOSHI, TATSUYA ATSUMI, Sapporo, Japan
2102-P Upregulation of Adipose Tissue APOE Expression by ω3PUFA Supplementation Associates with Decreased Plasma FFA Levels and Improves Insulin Sensitivity in Obese Subjects
CASSANDRA RAU, TING LI, JAMES D. HERNANDEZ, MIA Y. MASUDA, XIAODONG ZHANG, PANWEN WANG, DAWN K. COLETTA, ELEANNA DEFILIPPIS, Tempe, AZ, Scottsdale, AZ, Fountain Hills, AZ, Tucson, AZ

2103-P ▲ Sex Differences in Human Adipose Tissue: Comprehensive Transcriptome Profiling
GIREESH BOGU, MICHAEL SNYDER, TRACEY MCLAUGHLIN, Atherton, CA, Stanford, CA

2104-P Serum Phosphorus Levels Are Associated with the Metabolic Syndrome and Adiponectin Levels in Non-diabetic Women with Normal Kidney Function
YUKA NATSUKI, TOMOAKI MORIYOKA, YOSHINORI KAKUTANI, YUKO YAMAZAKI, MASAFUMI KURAIJOH, KATSUHITO MORI, SHINYA FUKUMOTO, ATSUSHI SHIOJI, TETSUO SHOJI, YASUO IMANISHI, MASANORI EMOTO, MASAAKI INABA, Osaka, Japan

2105-P Waist Circumference and All-Cause Mortality Independent of Body Mass Index in Korean Population from the National Health Insurance Health Checkup, 2009-2015
YANG-HYUN KIM, SOON JIB YOO, SEONG-SU LEE, Seoul, Republic of Korea, Bucheon, Republic of Korea

2106-P Subcutaneous Abdominal Fat Has a Stronger Association with Prediabetes than Visceral Fat in Young Indians
RUCHA H. WAGH, RUPALI U. BAWDEKAR, WAREED ALENAINI, ELIZABETH L. THOMAS, JIMMY DAVID BELL, CHITTARANJAN S. YAJKNIK, Pune, India, London, United Kingdom

2107-P The Association between Metabolic Syndrome, Obesity Phenotype, and the Risk of Thyroid Cancer
EUN SOOK KIM, KYUNGDO HAN, HYUK-SANG KWON, Incheon, Republic of Korea, Seoul, Republic of Korea

2108-P Model-Based Assessments of Glucose Metabolism in Morbid Obese (MO) Subjects Before and After Bariatric Surgery (BS)
JOHANNA BRIX, EVA-CHRISTINA KRZIZEK, ANDREA TURA, GIOVANNI PACINI, BERNHARD LUDVIK, Vienna, Austria, Padua, Italy, Padova, Italy

2109-P Symptomatic and Asymptomatic Hypoglycemia following Three Different Bariatric Procedures Is a Frequent and Severe Complication
HILLA KNOBLER, LI OR LAZAR, SHIMON SAPOJNIKOV, GUY PINES, ELI MAOR, SR., VIVIANA OSTROVSKY, TAL SCHILLER, TAIBA ZORNITZKI, Rehovot, Israel

2110-P Increased Proinflammatory Eosinophils in Adipose Tissue of Metabolic Syndrome
KARINE MOUSSA, PURNIMA GURUNG, SRIDEVI DEVARAJ, ISHWARLAL JIALAL, Elk Grove, CA, Houston, TX

2111-P Effect Modification of Vitamin D Intervention by Obesity-Related Metabolites
MINOO BAGHERI, STELLA ASLIBEKYAN, ABOLGHASSEM DJAZAYERY, FARSHAD FARZADFAR, Birmingham, AL, Tehran, Islamic Republic of Iran

2112-P Weight Trajectory from Young Adulthood to Midlife and Mortality in U.S. Adults
CHEN CHEN, XIONG-FEI PAN, AN PAN, Wuhan, China

2113-P Metabolic Effects of Bariatric Surgery in a Group of Patients Aged 65 Years Old or More Compared with a Group of Adults Younger Than 65 Years Old—A Prospective Cohort
CARLA MUSSO, FERNANDO AGUSTIN DI FERMO GOMEZ, JOHANNA ROSENFARB, LUCILA BOSIO, JIMENA SANTAMARIA, MARTIN HANSEN, SR., CRISTINA GIMENEZ, ANA G. ERRASTI II, DIEGO CARUSO, MARIA CRISTINA FAINGOLD, ESQ., Buenos Aires, Argentina

2114-P Use of Visceral Fat Area Measurement for Evaluating Obesity in Elderly Patients with Type 2 Diabetes
TAKUYA MINAMIZUKA, YUKARI MAEDA, MASAYA KOSHIZAKA, TAKAHIRO ISHIKAWA, YOSHIRO MAEZAWA, KOUTARO YOKOTE, Chiba, Japan

2115-P Impact of Body Weight Change on Glycemic Control and Lipid Profiles in Obese Japanese Patients with Type 2 Diabetes
RAN YOSHIMURA, YUKIKO HASEGAWA, TOMOKO NAKAGAMI, TETSUYA BABAZONO, Tokyo, Japan

2116-P A Pipeline to Explore Rare Variation Which Can Contribute to Extreme Obesity in American Indians
CIGDEM KOROGLU ALTOK, PAOLO PIAGGI, MICHAEL TRAURIG, ROBERT L. HANSON, WILLIAM C. KNOWLER, HYE IN KIM, NEHAL GOSALIA, CRISTOPHER V. VAN HOUT, BIN YE, REGENERON GENETICS CENTER, ALAN R. SHULDINER, CLIFTON BOGDARDUS III, LESLIE J. BAIER, Phoenix, AZ, Tarrytown, NY
2117-P Biomarkers Isolated from Extracellular Vesicles Prior to Bariatric Surgery May Be Associated with Postoperative Resolution of Type 2 Diabetes
REBECCA HILLYER, TRAVIS SULLIVAN, KIMBERLY CHRIST, AMEYA HODARKAR, MARY BETH HODGE, Burlington, MA, Providence, RI

2118-P Evidence of GIP-Induced Regulation of Fatty Acid Desaturase 2 (FADS2) Gene Expression in Subcutaneous Adipose Tissue
OLGA RAMICH, ANDREAS F. PFEIFFER, NATALIA N. RUDOVICH, Nuthetal, Germany, Berlin, Germany, Bülach, Switzerland

2119-P AKR1B10 Is Upregulated in Nonalcoholic Fatty Liver Disease and Is Regulated by Fatty Acid Loading in Hepatocytes and Hepatic Stellate Cells
BETHANY DAVIS, DANIELLE M. WILHELMSEN, AMANDA HANSON, JOHANNA DISTEFANO, Phoenix, AZ

ISLET BIOLOGY—APOPTOSIS

2120-P Knockdown of ETV5 Enhances Nitric Oxide (NO) Production and Caspase-Independent Cell Death in Pancreatic Beta Cells
FUPENG LIU, GÜNTER PÄTH, KATHARINA LAUBNER, JOCHEN SEUFERT, Freiburg, Germany

2121-P nAChR Signaling Protects β Cells from Apoptosis Induced by ER Stress and Specific Activation of IRE1α in INS1 Cells
TATSUYA ISHIBASHI, SHUHEI MORITA, ASAKO DOI, HIROSHI IWAKURA, HIROYUKI ARIYASU, MASAIRO NISHI, HIROTO FURUTA, TAKASHI AKAMIZU, Wakayama, Japan

2122-P System x(c)- Is a Key Molecule in Oxidative Stress-Induced β-Cell Damage
SOYEON YOO, JUYOUNG BAE, HYOUNJUNG CHIN, GWANPYO KOH, Jeju, Republic of Korea

2123-P Peroxiredoxin6 Is a Novel Promoter of Pancreatic Beta-Cell Survival
FRANCESCA PACIFICI, DAVID DELLA-MORTE, BARBARA CAPUANI, DONATELLA PASTORE, ROBERTO ARRIGA, ANDREA COPPOLA, GIULIA DONADEL, DAVIDE LAURO, Rome, Italy

2124-P The Tissue Plasminogen Activator (tPA)/Plasmin System Reduces Amyloid Formation by Cleaving Human Islet Amyloid Polypeptide (hIAPP)
NATHALIE ESSER, MEGHAN F. HOGAN, ALFRED APLIN, ANDREW T. TEMPLIN, SAM EL-OSTA, DANIEL RAILEGH, JOHN S. EDGAR, SAKENEH ZRAIKA, REBECCA L. HULL, STEVEN E. KAHN, Seattle, WA, Melbourne, Australia, Stony Brook, NY

2125-P Increased StAR (Steroidogenic Acute Regulatory Protein) Is Detrimental to β Cells and Promotes Mitochondrial Dysfunction
MEGHAN F. HOGAN, NATHALIE ESSER, ANDREW T. TEMPLIN, SAKENEH ZRAIKA, REBECCA L. HULL, SAM EL-OSTA, STEVEN E. KAHN, Seattle, WA, Melbourne, Australia

2126-P Physiological Concentrations of IL-1 β Promote Islet Amyloid Deposition by Increasing Beta-Cell Secretion of Human Islet Amyloid Polypeptide
ANDREW T. TEMPLIN, MAHNAZ MELLATI, DANIEL ZEMAN-MEIER, MEGHAN F. HOGAN, NATHALIE ESSER, SAKENEH ZRAIKA, REBECCA L. HULL, STEVEN E. KAHN, Seattle, WA, Basel, Switzerland

2127-P Reduced Islet Parasympathetic Nerve Density Correlates with Decrease in Beta-Cell Volume of Islet in Lean Type 2 Diabetic Goto-Kakizaki Rat
HIROKI MIZUKAMI, DANYANG GUO, KAZUHIKU KUDO, SHO TSUZUKI, KAZUHIRO KUDO, SOROKU YAGIHASHI, Hirokaki, Japan

2128-P Exploring the Role of Autophagy in Pancreatic Alpha Cells
MIWA HIMURO, TAKESHI MIYATSUKA, LUKA SUZUKI, MASAKI MIURA, TAKEHIRO KATAHIRA, HIROMASA GOTO, YUYA NISHIDA, SHUGO SASAKI, YOSHIO FUJITANI, HIROTAKE WATADA, Tokyo, Japan, Vancouver, BC, Canada, Maebashi, Japan

2129-P DAP-Related Apoptosis-Inducing Kinase-2 Negatively Regulate Islet Beta-Cell Function by Autophagy Repression
YUTING LU, JINGYA LI, JIA LI, Shanghai, China

2130-P Imeglimin Modulated ER Stress to Prevent β-Cell Apoptosis Induced by High Glucose or Thapsigargin
JINGHE LI, JUN SHIRAKAWA, YU TOGASHI, YASUO TERAUCHI, Yokohama, Japan
2131-P Dextran Sulfate and HGF Ameliorate Type 1 Diabetes
GEMING LU, TUO ZHANG, DIRK HOMANN, ADOLFO GARCIA-OCAÑA, New York, NY

2132-P Islet Amyloid Deposition Is Cytotoxic to Islet Endothelial Cells
JOSEPH J. CASTILLO, MEGHAN F. HOGAN, ALFRED APLIN, DARYL J. HACKNEY, REBECCA L. HULL, Seattle, WA

2133-P Protein Kinase C Delta Mediates Cytokine-Induced Apoptosis in the Pancreatic Beta Cell
NIKKI L. FARNSWORTH, ROBERT A. PISCOPIO, RICHARD K. BENNINGER, Aurora, CO, Denver, CO

2134-P Protection of Beta-Cell Mass from Diabetogenic Condition-Induced Apoptosis by the Inhibition of Mammalian STE20-Like Protein Kinase 1 (MST1)
ZAHEERBASHA SAMEERMAHOOD, DHALANALAKSHMI SIVANDHAN, BISWAJIT KALITA, SOWMYA RAMAIAH, AMIR SIDDIQUI, BHARAT R. ZOPE, SANJAY V. KADNUR, MADHURI KANAVALLI, KRISHNAKUMAR V., SRINIVASAN SWAMINATHAN, RUDRESH G., SUNIL MOHIRE, RAGHUNADHA R. BURRI, RAJENDRA KRISTAM, JYARAJ D.A, SRIRAM RAJAGOPAL, SARAVANAKUMAR DHAKSHINAMOORTHY, Bangalore, India

2135-P Genetic Ablation of CB1R Protects against Streptozotocin-Induced β-Cell Destruction in Mice
KANIKKAI RAJA ASEER, JOSEPHINE M. EGAN, Baltimore, MD

2136-P Effects of Cytokine Exposure on the Proteome of Human Islets as Evaluated by Shotgun and 2DE Analysis
FRANCESCA GRANO, FEDERICA CIREGIA, MAURIZIO RONCI, MARIA ROSA MAZZONI, LUTGART OVERBERGH, CARMELA DE LUCA, MARA SULEIMAN, LORELLA MARSELLI, PAOLO DE SIMONE, UGO BOGGI, BRUNO JOVER, MATHIEU, DECO L. EIZIRIK, SR., ANTONIO LUCACCHINI, LAURA GIUSTI, PIERO MARCHETTI, MARKO BUGLIANI, Siena, Italy, Liege, Belgium, Chieti, Italy, Pisa, Italy, Leuven, Belgium, Brussels, Belgium

2137-P Cholecystokinin Protects Mouse Pancreatic Beta Cells against Cytokine Insult through the Cholecystokinin A Receptor
HUNG TAE KIM, STEVE SACOTTE, RASHAUN A. WILLIAMS, ARNALDO H. DE SOUZA, JEE YOUNG HAN, JACOB T. BARTOSIAK, GRACE H. YANG, DAWN B. DAVIS, Madison, WI

2138-P Pancreatic Exocrine Changes in Longstanding Type 1 Diabetes
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2140-P Pancreatic Islet and Exocrine Tissue Innervation Is Not Altered in Type 1 Diabetes
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2141-P Nrf2 Mediates Glucose-Stimulated Beta-Cell Proliferation
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2142-P Toll-Like Receptors 2 and 4 Act as Brakes to Regulate Adaptive β-Cell Mass Expansion in Diet-Induced Obesity
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2143-P GLP-1 Conjugation Enhances the Activity of Antisense Oligonucleotides Targeting Islet Amyloid Polypeptide (IAPP) or Kelch-Like ECH Associated Protein 1 (Keap1) in Isolated Pancreatic Islets
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2144-P Early Administration of Dapagliflozin Preserves Pancreatic Beta-Cell Mass through an Epigenetic Modification in a Mouse Model of Type 2 Diabetes
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2145-P Notch1 Has Important Role in Beta-Cell Mass Determination and Development of Diabetes
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2146-P Offspring Exposed to Maternal High-Fat Diet Exhibits Decreased REG3G, Pancreatic Islet Dysfunction, and Systemic Inflammation
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2147-P Pancreatic Specific Deletion of NOS1AP Lowered Islet Mass
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2148-P Islet Endocrine Cells Shows a Unique Pattern on Development and Growth of Each Cell Type in Human Subjects
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2149-P Mitochondrial Akt Modulated Human Embryonic Stem Cell Differentiation Lineages—Analysis with Single Cell RNA Sequencing
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2150-P Single Cell RNA-Sequencing Dissects Proliferation of Pancreatic Beta Cells
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2152-P Impaired Iron-Sulfur-Cluster Redox Regulation in Monogenic Ncb5or Diabetes
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2155-P Peripheral Nervous System Innervation of the Developing Pancreas
SEAN DE LA O, LAUREN BYRNES, DANIEL M. WONG, SARAH KNOX, JULIE B. SNEDDON, San Francisco, CA

2156-P Development of the Immune System in the Normal Rat Pancreas
THEA GOLDEN, G. SCOTT WORTHEN, REBECCA A. SIMMONS, Philadelphia, PA

2157-P Tyrosine Hydroxylase-Containing Cells in the Human Fetal Pancreas
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2158-P GLIS3 Is Crucial for Maintenance of Neonatal β Cells
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2159-P Beta-Cell Compensation to Pubertal Insulin Resistance Is Compromised in High-Fat Fed Rats and Impairs Glucose Homeostasis Later in Life
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2160-P Islet Aggregation around Early Duct Lesions in Human Donor Pancreas
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2162-P • Autophagy Deficiency Cumulatively Causes β-Cell Failure in Mice
LUKA SUZUKI, TAKESHI MIYATSUKA, MIWA HIMURO, MASAKI MIURA, TAKEHIRO KATAHIRA, KOJI KOMIYA, YOSHIO FUJITANI, YUYA NISHIDA, HIROTAKA WATADA, Tokyo, Japan, Maebashi, Japan

2163-P • Characterizing Peptide Hormone and Metabolite Variability in Individual Islets and Individual Cells of the Human Islets via Mass Spectrometry
JONATHAN V. SWEEDLER, Urbana, IL

2164-P • Paired Box 6 Modulates Pancreatic Beta-Cell Insulin Secretion through Regulation of Munc18-1/2 Expression: Involvement of CREB Signaling
WING YAN YAN, WEIPING HAN, Singapore, Singapore, Coppell, TX

2165-P • In Vivo Islet Imaging Reveals that GLP-1 Paradoxically Increases Insulin Content
CORENTIN M.H. CRAS-MENEUR, HENRIETTE FRIKKE-SCHMIDT, PETER ARVAN, RANDY J. SEELEY, Ann Arbor, MI

2166-P • Sel1L-Hrd1 ERAD Is a Key Regulator of Beta-Cell Function and Identity
NEHA SHRESTHA, XIN LI, YEWEI JI, RACHEL B. REINERT, PETER ARVAN, LING QI, Ann Arbor, MI

2167-P • A Gene Expression Network Analysis of the Pancreatic Islets from Lean and Obese Mice Identifies Complement 1q-Like-3 Secreted Protein as a Regulator of Beta-Cell Function
JAMES KOLTES, ITIKA ARORA, RAJESH GUPTA, DAN C. NGUYEN, SUSHANT BHATNAGAR, Ames, IA, Birmingham, AL

2168-P • A Novel Method for Efficient and Homogeneous Viral Transduction of Pancreatic Islets
BURCAK YESILDAG, JOAN MIR-COLL, APARNA NEELAKANDHAN, FELIX FORSCHLER, ADELINN BIERNATH, INGO B. LEIBIGER, BARBARA LEIBIGER, PER-OLOF BERGGREN, TILO MOEDE, CARINA AMMALA, Stockholm, Sweden, Malmö, Sweden

2169-P • A Gene Expression Network Analysis of the Pancreatic Islets from Lean and Obese Mice Identifies Complement 1q-Like-3 Secreted Protein as a Regulator of Beta-Cell Function
JAMES KOLTES, ITIKA ARORA, RAJESH GUPTA, DAN C. NGUYEN, SUSHANT BHATNAGAR, Ames, IA, Birmingham, AL

2170-P • Excessive Drinking Impairs FGF-21/Beta-Klotho-Mediated Protective Effects against Islet Dysfunction and Apoptosis in Mouse Pancreatic Islets
BAOCHEN YANG, POSING LEUNG, Hong Kong, China

2171-P • Effects of Glucocorticoid on Gene Expression and Secretion of Insulin in Pancreatic β Cells
TOSHITAKA MURASHIMA, TAKUMA KONDO, KEN KONDO, NARU MORITA, ATSUKO KITAHARA, YOSHIAKU SUMITANI, KAZUTO TAKAHASHI, TOSHIKI TANAKA, TOSHI HIROSASHI, HITOSHI ISHIDA, Tokyo, Japan, Shizuoka, Japan

2172-P • Effects of AMP-Activated Protein Kinase Activation on Insulin Secretion in Mice
MARIÉ-SOPHIE NGUYEN-TU, JOSEPH P. HARRIS, AIDA MARTINEZ-SANCHEZ, ISABELLE LECLERC, GUY A. RUTTER, London, United Kingdom

2173-P • Effects of AMP-Activated Protein Kinase Activation on Insulin Secretion in Mice
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2174-P • FBW7 Regulates Beta-Cell Dedifferentiation
JING XU, XIAOMU LI, Shanghai, China

2175-P • Isoform-Specific Roles of Prolyl Hydroxylase Domain Proteins in Regulating Beta-Cell Function
MONICA HOANG, SARAH M. JANSSEN, JAMIE W. JOSEPH, Waterloo, ON, Canada, London, ON, CANADA, Kitchener, ON, Canada

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JIWON KIM, YOUNG HYE YOU, EUN YOUNG LEE, KUN-HO YOON, Seoul, Republic of Korea
2177-P Role of De Novo Sphingolipid Metabolites in Oleate-Induced Pancreatic β-Cell Proliferation in Rats
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2178-P Beta-Cell Gene Expression Pattern in Food Restricted db/db Mice and Moderate Dedifferentiation Status in ob/ob Islets
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2179-P Overexpression Screening Identifies Mitochondrial Carbonic Anhydrase 5b as an Important Regulator of Glucose-Stimulated Insulin Secretion in Beta Cells
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2180-P HERG2 Channel Plays a Key Role in Insulin Secretion
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2181-P Protective Effects of Lin28a-RNA Binding Protein Against Glucotoxicity in Pancreatic Beta Cell
KYEONG-MIN LEE, YEOJIN HWANG, JUN-HYEOK CHOI, Daegu, Republic of Korea

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2184-P Foxo1-CoF Repressor (FCoR) Regulates Pancreatic Alpha- and Beta-Cell Identity by both DNA and Histone Methylation
NORIKO KODANI, MASAKI KOBAYASHI, OSAMU KIKUCHI, TADAHIRO KITAMURA, HIROSHI ITOH, JUN NAKAE, Tokyo, Japan, Gunma, Japan, Maebashi, Japan, Narita, Japan

2185-P Estimation of Autophagy Flux by a Novel Fluorescent Reporter in Organs Involved in Glucose Metabolism Including Pancreatic β Cells
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2186-P Circulating Exosomes from Simple Obese Humans Inhibited Islet β-Cell Proliferation through Increasing Cellular Inflammation
XINXIN XIE, QIAN GE, RONGFENG HUANG, XIAOQIU XIAO, XI LI, Chongqing, China

2187-P Gα Deficiency in Pancreatic a Cells Leads to Enlarged Islets
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2188-P Altered Transcription Factor Binding and Gene Bivalency May Contribute to Long-Term Gene Dysregulation in Intrauterine Growth-Retarded Rat Islets
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2190-P Sex-Based Differences in Nr4a1 Beta-Cell Activity
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2191-P PPM1K Regulates β-Cell Proliferation, Insulin Content, and GSIS
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2192-P Extracellular Vesicles as Novel Mediators of Proinflammatory Cytokine-Induced β-Cell Dysfunction
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2193-P SREBP1c-PAX4 Axis Mediates Pancreatic Beta-Cell Compensatory Responses upon Metabolic Stress
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2194-P IL-6/Stat3 Pathway Contribute to the Islet Failure in High-Fat Diet-Induced Mouse Model of Obesity
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2195-P Identification of the Regulatory Mechanism of mTORC1 Signaling Activity in Pancreatic Beta Cells in GCN2 Knockout Mice
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2196-P HB-EGF Signaling Is Required for Glucose-Induced Pancreatic β-Cell Proliferation in Rats
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2197-P SEL1L-HRD1 Endoplasmic Reticulum-Associated Degradation Is Required for Maintaining Glucagon Production in Pancreatic Alpha Cells
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Corporate Symposia

The following programs are planned and conducted by the corporate community in conjunction with the 79th Scientific Sessions. They provide attendees with additional education and information opportunities.

Events are open to a limited number of attendees, and registration is on a first-come, first-served basis. If you pre-registered for an event(s), you received a ticket(s) with your badge. Visit Assisted Registration located in the Lobby (West, Level 1) to check event availability or to register for additional symposia.

Please remember the following when reserving/attending Corporate Symposia:

- Seats are limited. Sign-up for only those events you plan to attend
- If you change your mind about attending, return the ticket to Registration
- Arrive 15 minutes before the scheduled start time to guarantee entrance. Symposia planners reserve the right to allow walk-ins to fill vacant seats
- If a symposium was sold out when you registered, check at the door 15 minutes prior to the event to see if space has become available

Please Note:

- Corporate Symposia held in conjunction with the 79th Scientific Sessions are not part of the official ADA Scientific Sessions program
- Program content and continuing education credit (if applicable) are the sole responsibility of the corporate supporters
- For more information regarding a symposium and/or to inquire about continuing education for the event, contact the corporate supporters directly

FRIDAY, JUNE 7, 2019

6:30 p.m.-8:30 p.m.

Identifying Nonalcoholic Steatohepatitis (NASH) in Patients with Diabetes—What You Need to Know

Jointly provided by Postgraduate Institute for Medicine and Integritas Communications
Supported by an educational grant from Gilead Sciences, Inc.

(6:30 p.m.-7:00 p.m.—Registration and Dinner/7:00 p.m.-8:30 p.m.—Program)

This discussion-based symposium will review the relationship between NASH and diabetes and provide strategies to identify patients at highest risk of NASH, including details regarding noninvasive screening methods. Expert faculty will discuss existing management strategies for these patients, providing practical recommendations for clinicians who treat patients with diabetes and NASH.

Location: San Francisco Marriott Marquis, Yerba Buena Ballroom 9-15
Contact: Mara Simpson/e-mail: msimpson@integritasgrp.com
6:30 p.m.-9:00 p.m.

**New Options and Strategies for Cardiovascular Risk Reduction in Diabetes: What the Data Tell Us**

Sponsored by Medtelligence, Inc.

Supported by an educational grant from Amarin Pharma, Inc.

(6:30 p.m.-7:00 p.m.—Registration and Dinner/7:00 p.m.-9:00 p.m.—Program)

This interactive, CME-certified symposium, developed for advanced-level clinicians, will focus on the complex interrelationship between cardiovascular disease and type 2 diabetes. The multidisciplinary faculty will address complex issues that challenge health care providers in caring for patients with elevated atherogenic cholesterol and triglycerides, many of whom have been sub-optimally managed. The program will describe new strategies and contemporary pharmacologic approaches with the potential to minimize cardiovascular events in patients with diabetes.

**Location:** Intercontinental San Francisco, Grand Ballroom

**Contact:** Kathleen Wickman/e-mail: kwickman@medtelligence.net

6:30 p.m.-9:00 p.m.

**Metas Optimas de Tratamiento—¿Como Alcanzarlas en el 2019?**

Jointly Sponsored by the University of Texas Southwestern Medical Center and Worldwide Initiative for Diabetes Education

Supported by an unrestricted educational grant from Novo Nordisk A/S

This program will be presented in Spanish.

(6:30 p.m.-7:00 p.m.—Registration and Dinner/7:00 p.m.-9:00 p.m.—Educational Program)

La creciente prevalencia de A1C sin control y el aumento en la complexidad de tratamientos disponibles para DMT2 crean un reto importante, principalmente en pacientes de países latinoamericanos. Las recomendaciones de guías actualizadas y las terapias de combinación de dosis fijas son herramientas cruciales para superar la inercia clínica, lograr un mejor control glucémico y mejorar los resultados cardiovasculares en los pacientes.

**Location:** San Francisco Marriott Marquis, Yerba Buena Ballroom 1-8

**Contact:** Jane Savio/e-mail: jane.savio@worldwidediabetes.org
Mark Vinciguerra/e-mail: mark.vinciguerra@utsouthwestern.edu

6:30 p.m.-9:30 p.m.

**Cardiovascular Risk Reduction with SGLT2 Inhibitors and GLP-1 Receptor Agonists: Taking a Closer Look**

Sponsored by Voxmedia

Supported by an educational grant from Boehringer Ingelheim Pharmaceuticals, Inc. and Lilly USA, LLC.

(6:30 p.m.-7:00 p.m.—Dinner/7:00 p.m.-9:30 p.m.—Program)

Chair, Dr. Lawrence Leiter, Dr. David Cherney, Dr. Melanie Davies, Dr. Darren McGuire, and Davida Kruger, NP, will explain the importance of recognizing ASCVD, HF, and CKD in T2D patients; interpret evidence from CVOTs; explore potential mechanisms by which SGLT2 inhibitors and GLP-1 RAs reduce cardiorenal risk; and reveal strategies for effective patient-centered, collaborative care.

**Location:** San Francisco Marriott Marquis, Golden Gate Ballroom AB

**Contact:** Tammy Thompson/e-mail: tthompson@voxmedia.us
SATURDAY, JUNE 8, 2019

5:30 a.m.-7:45 a.m.

Real Time Continuous Glucose Monitoring: New Clinical Outcomes, Progress Toward Automated Insulin Delivery, and Trendsetting with Interoperability
Sponsored by Cognimed Inc.
Supported by an educational grant from Dexcom, Inc.
(5:30 a.m.-6:00 a.m.—Registration and Breakfast/6:00 a.m.-7:45 a.m.—Program)
COMISAIR Study: Outcomes of the longest clinical outcome study in CGM; Progress toward automated insulin delivery and full closed-loop: A global perspective; The newest trend in diabetes technology: Interoperability. Why is it important?

Location: Intercontinental San Francisco, Grand Ballroom
Contact: Jeffrey Rosenberg/e-mail: info@cgmeducation.net

6:15 p.m.-8:45 p.m.

Clinical Issues™—Multidimensional Issues in Type 2 Diabetes—Debates and Discussions Around Cardiovascular and Renal Outcomes
Sponsored by Integritas Communications
Supported by an educational grant from AstraZeneca
(6:15 p.m.-6:45 p.m.—Dinner/6:45 p.m.-8:45 p.m.—Program)
This Clinical Issues™ symposium will address multisystem consequences of type 2 diabetes, namely CVD, CKD, and heart failure, as well as results of SGLT2 inhibitor CV outcomes trials. Following this program, attendees should understand the role of maladaptive glucose reabsorption, the relationship between common comorbidities associated with T2DM, and application of SGLT2 inhibitors in clinical practice.

Location: San Francisco Marriott Marquis, Golden Gate Ballroom
Contact: Christa Master/e-mail: cmaster@integritasgrp.com

6:15 p.m.-8:45 p.m.

Patient-Centered Approaches to Long-Term Success in Weight Loss: “The Time Has Come,” the Walrus Said, “to Talk of Many Things”
Sponsored by Endocrine Society
Supported by an educational grant from Novo Nordisk Inc.
(6:15 p.m.-6:45 p.m.—Dinner/6:45 p.m.-8:45 p.m.—Program)
Through innovative clinic-based scenarios with the faculty, a patient actor, and a fellow, this program provides learners patient-centered strategies on how to manage obesity and its comorbidities, implement evidence-based pharmacotherapy strategies, and overcome challenges in long-term successful weight loss maintenance. The symposium is accredited for 2.0 AMA PRA Category 1 Credits™ and 2.0 ABIM MOC Points and is chaired by Dr. William T. Donahoo.

Location: Intercontinental San Francisco, Grand Ballroom
Contact: Cassandre Destin/e-mail: cdestin@endocrine.org
6:15 p.m.-9:00 p.m.

**Translating Evidence- and Technology-Based Innovations in Continuous Glucose Monitoring**

*Sponsored by CMEducation Resources*

*Supported by an educational grant from Abbott*

(6:15 p.m.-6:45 p.m.—Dinner/6:45 p.m.-9:00 p.m.—Program)

This CME dinner program will focus on emerging digital, real time, and sensor patch-based technologies for continuous monitoring of glucose levels, to improve drug interventions for diabetic patients, minimize risks of hypoglycemia, maximize time in target range for blood glucose, and to optimize treatment interventions and drug titration and selection.

**Location:** San Francisco Marriott Marquis, Yerba Buena Ballroom 1-8

**Contact:** Milo Falcon/e-mail: milo.falcon@pharmatecture.net
Product Theaters

Product Theaters, located within the Exhibit Hall, offer informative sessions focusing on products or a single facet of diabetes. Product Theater sessions do not provide continuing education credit. These sessions are intended for health care professionals only with practices relevant to the presented information.

Light refreshments provided by the ADA will be served to the first 300 attendees.

SATURDAY, JUNE 8, 2019

10:15 a.m.-11:00 a.m.

Improved Outcomes Through Increased Patient Engagement with FreeStyle Libre 14 Day System

Presented by Abbott

Join us to learn about the #1 CGM worldwide† used by more than 1.3 million people, FreeStyle Libre 14 day system. Daniel Einhorn, MD, FACP, FACE, Medical Director, Scripps Whittier Diabetes Institute, will share how he sees improved clinical outcomes and behavioral change using FreeStyle Libre 14 day system with his patients.

†Data based on the number of users worldwide for FreeStyle Libre personal CGM compared to the number of users for other leading personal CGM brands.

**Presenter:** Daniel Einhorn, MD, FACP, FACE
Medical Director,
Scripps Whittier Diabetes Institute
Clinical Professor
University of California, San Diego
San Diego, CA

**Location:** Product Theater 1 (Booth 125)

10:15 a.m.-11:00 a.m.

Expert Insights: Managing Cardiovascular Risk Based on the Landmark CV Outcomes Trial (REDUCE-IT™)

Presented by Amarin Pharma, Inc.

Despite the benefits of LDL-C lowering, many patients on statin therapy with elevated triglycerides remain at risk for cardiovascular (CV) disease. In this presentation the results from the CV outcomes trial, REDUCE-IT™, will be reviewed. REDUCE-IT™ compared the number of major adverse CV events in 8,179 patients with statin-controlled LDL-C, elevated triglycerides, and other CV risk factors including established CVD and diabetes. Visit Amarin at booth 531 in the Exhibit Hall.

**Presenter:** Robert Busch, MD
Director of Clinical Research
Albany Medical College
Albany, NY

**Location:** Product Theater 2 (Booth 2123)
10:15 a.m.-11:00 a.m.

The Journey of the First Long-Term Implantable Sensor Eversense®: Our Past, Present, and Future
Presented by Senseonics, Inc.

The world’s first CGM system with a long-term, implantable sensor, celebrates one year of being on the market and available to people with diabetes in the U.S.!

During this session, Dr. Francine Kaufman, CMO of Senseonics, Incorporated, will provide an update on the Eversense journey. She will discuss the latest innovations in Eversense technology, pivotal clinical trial results, and provide a glimpse into the future of the Eversense CGM System. Dr. Thomas Blevins will share his Eversense experience as an early prescriber—and highlight the life-changing benefits to his patients. Also, you will hear from two extraordinary patients about their unstoppable journeys with the Eversense CGM System and the results they see in their everyday lives. At the conclusion of the presentations, there will be a Q&A session. You don’t want to miss this exciting program!

Presenters: Francine R. Kaufman, MD
Thomas Blevins, MD
Patient Ambassadors Darrell Greene and Laura Kronen

Location: Product Theater 3 (Booth 2000)

12:30 p.m.-1:30 p.m.

Jardiance® (empagliflozin) tablets: Data from the comprehensive clinical development program
Presented by Boehringer Ingelheim Pharmaceuticals, Inc./Lilly USA

This program will discuss recent data from the ongoing JARDIANCE clinical development program. The presentation will cover efficacy and safety data, as well as the dosing information for JARDIANCE. Attendees will also have the opportunity to ask the faculty questions about the data presented.

Presenters: James R. Gavin III, MD, PhD
Chief Medical Officer
Healing Our Village, Inc.
Clinical Professor of Medicine
Emory University School of Medicine
Atlanta, GA
Pam R. Taub, MD, FACC
Associate Professor of Medicine
University of California, San Diego Health System
San Diego, CA

Location: Product Theater 1 (Booth 125)

12:30 p.m.-1:30 p.m.

What Can Heart Failure Take from Your Patients with Type 2 Diabetes?
Presented by AstraZeneca

• Understand the scope and impact of type 2 diabetes (T2D) focusing on the risk and burden of heart failure (HF)
• Provide an overview of HF and the risk factors for HF in T2D
• Discuss how to assess risk and improve diagnosis of HF in patients with T2D in the primary care setting
• Recognize that renal and cardiovascular disease are closely interconnected in patients with T2D

Presenter: John E. Anderson, MD
The Frist Clinic
Nashville, TN

Location: Product Theater 2 (Booth 2123)
12:30 p.m.-1:30 p.m.

Are We Waiting Too Long to Start a GLP-1 RA in Adult Patients with Type 2 Diabetes (T2D)?
Presented by Novo Nordisk A/S

This presentation provides an overview of a GLP-1 RA for adult patients with T2D, including an in-depth review of head-to-head data from the clinical trial program. The results from a CVOT will also be reviewed. Lastly, initiation and proper dosing schedule will be discussed.

**Presenter:** Helen L. Baron, MD
Endocrinology and Diabetes
Medical Director, Diabetes Education Services
Eisenhower Diabetes and Endocrinology Clinic
Rancho Mirage, CA

**Location:** Product Theater 3 (Booth 2000)

3:00 p.m.-3:45 p.m.

Is GLP-1 Activity Insufficient in T2D?
Presented by Novo Nordisk A/S

This presentation focuses on GLP-1 activity in type 2 diabetes (T2D). The role of endogenous GLP-1 in glucose homeostasis will be explored as well as the link between beta-cell dysfunction, metabolic defects, and GLP-1 insufficiency in T2D. Recent consensus recommendations for patient assessment will also be examined, as expert opinion is shifting towards early risk evaluation and considering T2D complications.

**Presenter:** Vivian Fonseca, MD
Professor of Medicine and Pharmacology
Assistant Dean for Clinical Research
Tullis Tulane Alumni Chair in Diabetes
Chief, Section of Endocrinology
Tulane University Health Sciences Center
New Orleans, LA

**Location:** Product Theater 2 (Booth 2123)

3:00 p.m.-3:45 p.m.

Innovations in Dexcom CGM Technology for the Patient and the Professional
Presented by Dexcom, Inc.

Overview of the Category of Continuous Glucose Monitoring (CGM); Update on the Clinical Studies; Review of Dexcom CGM; New and Upcoming Technologies.

**Presenters:** Keri Leone, MS, RD, CDE
Jake Leach
Davida F. Kruger, MSN, APN-BC, BC-ADM

**Location:** Product Theater 3 (Booth 2000)
SUNDAY, JUNE 9, 2019

10:15 a.m.-11:00 a.m.

Praluent® (alirocumab)—Introducing New Clinical Data  
*Presented by Sanofi-Regeneron*

**Presenter:** Robert Busch, MD, FNLA  
Director of Clinical Research  
Albany Med Community Division: The Endocrine Group at Albany Medical  
Albany, NY

**Location:** Product Theater 1 (Booth 125)

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10:15 a.m.-11:00 a.m.

Criticality of LDL-C Lowering in Patients with Diabetes  
*Presented by Amgen*

This expert disease state educational program will focus on the criticality of lowering LDL-C in patients with diabetes.

**Presenter:** Yehuda Handelsman, MD, FACP, FNLA, FASPC, MACE  
Medical Director & Principal Investigator  
Metabolic Institute of America  
Tarzana, CA

**Location:** Product Theater 2 (Booth 2123)

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10:15 a.m.-11:00 a.m.

The Next Generation in CGM—FreeStyle Libre 2 System  
*Presented by Abbott*

**Presenter:** Alexander Seibold, MD  
Regional Medical Director of Europe and Middle East, Diabetes Care  
Abbott

**Location:** Product Theater 3 (Booth 2000)

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12:30 p.m.-1:30 p.m.

Understanding Diabetic Kidney Disease (DKD)—The Risks, Recognition, and Clinical Management  
*Presented by Bayer*

Diabetic kidney disease (DKD) develops in a substantial proportion of patients with diabetes and significantly increases risk for adverse cardiovascular and renal outcomes. Multiple factors can contribute to the development and progression of DKD, although the precise etiology continues to evolve. The deleterious impact of DKD progresses over time, but consequences become evident in early stage disease, raising the importance of adherence to guideline recommendations for diagnostic screening, continued monitoring, and coordination of care across specialties to improve outcomes for patients with DKD.

**Presenters:** Kumar Sharma, MD  
University of Texas Health San Antonio  
San Antonio, TX

Peter A. McCullough, MD, MPH  
Baylor University Medical Center  
Dallas, TX

**Location:** Product Theater 1 (Booth 125)
12:30 p.m.-1:30 p.m.

**Getting to Goal—Treatment Options for T2DM Patients with High A1C**  
*Presented by Sanofi*

**Location:** Product Theater 2 (Booth 2123)

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3:00 p.m.-3:45 p.m.

**Considerations When Choosing a Basal Insulin for Your Adult Patients with Diabetes**  
*Presented by Sanofi*

**Presenter:** John E. Anderson, MD  
The Frist Clinic  
Nashville, TN

**Location:** Product Theater 1 (Booth 125)

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**MONDAY, JUNE 10, 2019**

10:15 a.m.-11:00 a.m.

**Lower Together—LDL-C, Risk, Hassle, Cost**  
*Presented by Amgen*

**Presenter:** Eliot A. Brinton, MD, FAHA, FNLA  
Past President, American Board of Clinical Lipidology  
President, Utah Lipid Center  
Salt Lake City, UT

Join Eliot A. Brinton, MD, for an educational presentation on the treatment of very high-risk patients described in the 2018 ACC/AHA Guidelines on the Management of Blood Cholesterol. Hear about his experience and the treatment options available for appropriate patients.

**Location:** Product Theater 2 (Booth 2123)
12:30 p.m.-1:30 p.m.

Beyond Omnipod DASH™—The Future of Insulin Delivery Technology
Presented by Insulet Corporation

The Omnipod DASH™ Insulin Management System introduced exciting innovation to insulin delivery for the management of diabetes and provides the foundation of the Omnipod Horizon™ Automated Glucose Control System. Discover how the Omnipod DASH™ System’s innovative technology has made an impact to diabetes management in the lives of people with diabetes and the HCPs prescribing it. Learn how the future of insulin delivery technology with the Omnipod Horizon™ System leverages the discreet design and ease-of-use of the tubeless, waterproof* Pod while taking a leap forward to deliver the benefits of hybrid closed-loop technology for people with insulin-requiring diabetes. Join us as this Product Theater highlights Insulet’s commitment to reducing the burden for people with diabetes, their caregivers, and HCPs with products today and technology advances in the future.

Presenters: Trang Ly, MBBS, FRACP, PhD
Senior Vice President and Medical Director
Insulet Corporation
Billerica, MA

Gregory P. Forlenza, MD
Assistant Professor of Pediatrics
Barbara Davis Center for Diabetes
Aurora, CO

Location: Product Theater 1 (Booth 125)

12:30 p.m.-1:30 p.m.

The Burden of Pneumococcal Disease and Risk Management in Adults with Diabetes
Presented by Merck

- Understand the pathogenesis of pneumococcal disease, and the risks of pneumococcal disease in adults with diabetes
- Discuss ACIP recommendations for adults <65 years of age with diabetes
- Discuss strategies to help manage the risk for pneumococcal disease in adults with diabetes

Location: Product Theater 2 (Booth 2123)
Exhibitors

Listed below are the exhibitors for the 79th Scientific Sessions along with their booth numbers and a brief description of the products and services they provide. Exhibitors are also listed by product category at the end of this section.

Abbott
Booth 732
Abbott is the global leader in point-of-care diagnostics with the broadest portfolio of best-in-class rapid tests, services, and handheld devices across all health care settings. Abbott’s offering of industry-leading near patient tests and services is unmatched across key health and therapeutic areas: infectious disease, cardiometabolic & informatics, toxicology, and consumer diagnostics.

Abbott Diabetes Care
Booth 625

ACCUSPLIT, Make A Difference Programs
Booth 2201
ACCUSPLIT Make A Difference Programs introduces "Walking Is Medicine" to promote Physical Activity in your DPP clients. Studies show pedometer users increase PA by 26.9%. Prescribe "Walking Is Medicine" and ACCUSPLIT Certified Accurate for Research Pedometers to start your clients walking the road to wellness and stop type 2 diabetes.

Agilent Technologies Inc.
Booth 1439
Agilent Technologies Inc. is a global leader in life sciences, diagnostics, and applied chemical markets. With more than 50 years of insight and innovation, Agilent instruments, software, services, solutions, and people provide trusted answers to its customers’ most challenging questions. Agilent employs about 13,500 people worldwide.

Alfa Wassermann Diagnostic Technologies
Booth 118
Alfa Wassermann offers a compact, cost-effective, easy-to-use, innovative benchtop blood chemistry analyzer to maximize research success by quickly and cost-effectively transforming in vivo drug safety and efficacy screens. Our blood chemistry analyzers offer low void volume and allow for more data from fewer animals.

Allergan, Inc.
Booth 525
Allergan plc (NYSE: AGN), is a bold, global pharmaceutical company focused on developing, manufacturing, and commercializing branded pharmaceuticals, devices, and biologic products for patients around the world. For more information, visit Allergan’s website at www.allergan.com.

ALPCO
Booth 1233
ALPCO is a leading manufacturer and provider of diabetes and obesity-related assays such as insulin, proinsulin, c-peptide, glucagon, and GLP-1. We offer solutions for investigation in the areas of alpha and beta-cell hormones, adipokines, incretins, satiety hormones, and many more.

Amarin Pharma, Inc.
Booth 531
Amarin Corporation plc is a biopharmaceutical company focused on the commercialization and development of therapeutics to improve cardiovascular health. Vascepa® (icosapent ethyl), Amarin's first FDA approved product, is a pure, EPA-only, omega-3 fatty acid product available by prescription. For more information about Vascepa visit www.vascepa.com. For more information visit www.amarincorp.com.

AMCR Institute, Inc.
Booth 209
AMCR Institute is a clinical research center (Ph I-IV) carrying out medical device and biopharmaceutical research from feasibility to pivotal in pediatric and adult populations. Expect extensive glucose clamp experience, fast and high-numbers enrollment from a comprehensive proprietary volunteer-database, and additionally, all aspects of human factors testing (formative, summative).
American Association of Clinical Endocrinologists (AACE)
Booth 2301
The American Association of Clinical Endocrinologists (AACE) is the trusted voice of the clinical endocrinologist, primary care physicians, and other health care professionals who treat patients with endocrine conditions (diabetes, thyroid dysfunction, obesity, osteoporosis, growth disorders, lipids, adrenal, metabolism, and reproduction), with over 7,000 members from around the U.S. and worldwide.

American Association of Diabetes Educators (AADE)
Booth 2300
We are the educators, nurses, dietitians, pharmacists, physician assistants, public health specialists, and all those making a difference in the care of persons affected by diabetes and chronic conditions. If you are a health care professional dedicated to diabetes self-management education, you belong with the only organization specifically for diabetes educators.

American Board of Wound Management
Booth 111
The American Board of Wound Management (ABWM) is the standard of excellence in Multidisciplinary Wound Certification. We offer three certifications: Certified Wound Care Associate (CWCA), Certified Wound Specialist (CWS), and Certified Wound Specialist Physician (CWSP). ABWM was established in 1995 and is nationally accredited by the National Commission for Certifying Agencies.

American College of Physicians (ACP)/Annals of Internal Medicine
Booth 2315

American Diabetes Association (ADA)
Booth 1325
The ADA Exhibit (booth 1325) is the place to learn about what the ADA does for both you and your patients. Get the latest tools to help you and your patients better manage and prevent diabetes.

Amgen, Inc.
Booth 1601
Amgen is committed to unlocking the potential of biology for patients suffering from serious illnesses by discovering, developing, manufacturing, and delivering innovative human therapeutics. A biotechnology pioneer since 1980, Amgen has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential.

AMP-T2D Knowledge Portal
Booth 2306

Analox Technologies North America
Booth 2203

Ansh Labs LLC
Booth 1133
Ansh Labs develops and manufactures immunoassay test kits for research and clinical laboratories. We specialize in reproductive function and glucagon regulation assays. We will feature a range of highly-specific assays with simple same-day procedures for glucagon, GLP-1, GLP-2, oxyntomodulin, and MPGF. Glicentin, proglucagon, and several other analytes are currently in development.

Ascensia Diabetes Care
Booth 1916
Ascensia Diabetes Care is a global diabetes care company. Our mission is to empower people living with diabetes through innovative solutions that simplify and improve lives. Home to the world-renowned CONTOUR®NEXT Portfolio of blood glucose monitoring systems, our products combine advanced technology with user-friendly functionality. For further information visit www.ascensia.com.

AstraZeneca
Booth 409
AstraZeneca is a global, science led biopharmaceutical company that focuses on the discovery, development, and commercialization of prescription medicines, primarily in three main therapy areas: Oncology, Cardiovascular, Renal & Metabolism, and Respiratory. AstraZeneca operates in over 100 countries and its innovative medicines are used by millions of patients worldwide.
Bayer Booth 309
Bayer is a global life sciences leader in cardiopulmonology, hematology, neurology, oncology, and women’s health. Building on a 150-year legacy in health care, Bayer is committed to improving patient lives by developing innovative therapies and delivering first-in-class educational and support programs to meet their needs. For more information, visit www.bayer.us.

BD Medical - Diabetes Care Booth 925
BD is one of the largest global medical technology companies in the world and is advancing the world of health by improving medical discovery, diagnostics, and the delivery of care. BD helps customers enhance outcomes, lower costs, increase efficiencies, improve safety, and expand access to health care. www.bd.com.

Best of ADA/Encore Medical Education Booth 1441
Bring the clinical highlights and research news presented at the Scientific Sessions to clinicians in your region. Encore is the exclusive, official representative of Best of ADA events and webcast presentations. Deliver the science from San Francisco to your target audience in your preferred format: F2F meetings, online, phone app, or print.

Boehringer Ingelheim Pharmaceuticals, Inc./Lilly USA, LLC Booth 1301
Boehringer Ingelheim Pharmaceuticals, Inc. and Lilly USA welcome you to the ADA’s 79th Scientific Sessions and look forward to the opportunity to share the latest clinical information on our products. Visit www.us.boehringer-ingelheim.com and follow us on Twitter at @boehringerus. Our diabetes alliance also welcomes you to visit www.lilly.com.

Calmoseptine, Inc. Booth 1332
Calmoseptine® Ointment protects and helps heal skin irritations from moisture such as urinary and fecal incontinence. It is also effective for irritations from perspiration, wound drainage, fecal & vaginal fistulas, and feeding tube site leakage. Calmoseptine® temporarily relieves discomfort and itching. Free samples at our booth!

Coimbatore Diabetes Foundation Booth 110
Diabetes lifestyle disease management resort hospital. One hundred beds all under one roof. Super specialty hospital.

Colgate-Palmolive Co. Booth 2200

Companion Medical, Inc. Booth 117
Companion Medical is a leader in the development of advanced technology to improve diabetes care. InPen™ is the first and only FDA-cleared smart pen for insulin delivery. The InPen system includes a dose calculator, tracks insulin-on-board, offers insulin dose reminders, BGM/CGM integration, and contains sharable reports for health care providers.

Corcept Therapeutics Booth 2207
Corcept is a pharmaceutical company engaged in the discovery, development, and commercialization of drugs that treat severe metabolic, oncologic, and psychiatric disorders by modulating the effects of cortisol. Korlym® is the company’s first FDA-approved medication.

Covance Inc. Booth 301
Covance Inc., the drug development business of Laboratory Corporation of America Holdings (LabCorp) headquartered in Princeton, New Jersey, is the world’s most comprehensive drug development company, dedicated to advancing health care and delivering Solutions Made Real®. Information on Covance’s solutions can be obtained through its website at www.covance.com.
Crown Bioscience  
**Booth 2119**  
Crown Bioscience is a cutting-edge preclinical solutions provider in cardiovascular and metabolic disease, oncology, and inflammation. Our unique rodent and NHP translational platforms replicate the human prediabetic state, diabetes progression, and diabetic complications, supporting the transition of new antidiabetic agents from lead compounds into the clinic.

Crystal Chem  
**Booth 2202**  
Crystal Chem is the leading provider of high-quality assays for diabetes and obesity research. We first gained recognition through our core line of insulin ELISA kits and leptin ELISA kits, and we now offer a comprehensive product line of important markers in diabetes and obesity research.

DarioHealth  
**Booth 312**  
DarioHealth is a leading digital health company that provides mobile health and big data solutions for a revolutionary approach to managing blood glucose and lifestyle behaviors to achieve better outcomes for patients with diabetes.

Data Sciences International (DSI)  
**Booth 1638**  
Data Sciences International (DSI) offers preclinical physiological monitoring solutions for small to large animal models. With DSI’s continuous glucose implantable telemetry platform, diabetes researchers are equipped to acquire 28 days of continuous glucose data from freely moving animal models. See what you’ve been missing with glucose telemetry.

Dexcom, Inc.  
**Booth 1908**  
Dexcom, Inc., provides continuous glucose monitoring (CGM) products for people with diabetes as young as two years old. The Dexcom G6® does not require fingersticks for calibration or diabetes treatment decisions.

DIABNEXT®  
**Booth 1334**  
DIABNEXT is a unique, open, and universal app and cloud solution for diabetes data monitoring and remote patient care. Its connected patented IoT devices allow automatic data transfer of patients’ clinical logbooks into DIABNEXT’s app and web platform, enabling patients and health care professionals to better prevent and manage the disease.

Dr. Comfort  
**Booth 1805**  
Dr. Comfort offers the finest quality and best-looking diabetic footwear available. In addition, Dr. Comfort features an onsite pedorthic laboratory that offers custom inserts, toe fillers, and various shoe modifications. Combining the best diabetic footwear with exceptional customer service is what makes Dr. Comfort America’s premier diabetic footwear brand.

DreaMed Diabetes  
**Booth 1939**  
Founded in 2014, DreaMed Diabetes develops health care solutions and decision-support tools for the optimization of therapy for people with type 1 and type 2 diabetes. The company is bringing glycemic control to people everywhere, with personalized medicine that improves their quality of life and lowers their overall treatment costs.

Echosens North America Inc.  
**Booth 1135**  
Echosens™ is the leading provider of non-invasive medical devices dedicated to the liver.

FibroScan® systems are:

- FDA cleared as an aid for the diagnosis and monitoring of liver disease
- Supported by over 2,000 publications
- The reference for many of the leading liver diseases treatment guidelines
AMERICAN DIABETES ASSOCIATION

Elsevier
Booth 200

Endocrine Today and Healio.com by SLACK Inc.
Booth 1839
Endocrine Today/Healio invites you to booth 1839. Get a free copy of Endocrine Today, our monthly clinical news on diabetes and endocrine disorders. Sign up for our free e-mail news wire at www.healio.com/endocrinology.

EOFlow Co., Ltd.
Booth 1138
EOFlow provides a wearable disposable insulin pump, EOPatch, which talks to continuous glucose sensors. EOPatch will launch in Korea later this year and its software will soon be upgraded to enable automated insulin delivery. EOFlow is also developing a wearable artificial pancreas solution which integrates CGMS and insulin pump into one wearable module.

European Association for the Study of Diabetes (EASD)
Booth 2311
EASD is a non-profit, medical scientific Association. The goals of the Association are to encourage and support research in the field of diabetes, the rapid diffusion of acquired knowledge, and to facilitate its application. EASD holds its annual meeting in Europe with more than 15,000 international delegates.

Eyenuk Inc.
Booth 2007
Eyenuk Inc. is a global artificial intelligence (AI) medical technology and services company and the leader in real-world AI Eye Screening™ for autonomous disease detection and AI Predictive Biomarkers™ for risk assessment and disease surveillance. Presenting EyeArt Eye Screening System with AI technology for autonomous detection of diabetic retinopathy.

Fairlife
Booth 310

Food & Drug Administration
Booth 102

Gan & Lee Pharmaceuticals
Booth 1126
Gan & Lee Pharmaceuticals, founded in 1998, is a research, development, production, and sales of high-tech bio-pharmaceuticals company. It takes a leading position at home and abroad in the development of biosynthetic human insulin and the research, production, and sales of its analogues.

Genfit Corp.
Booth 1239
Genfit is a late-stage biopharmaceutical company dedicated to the discovery and development of innovative therapeutic and diagnostic solutions in metabolic and liver-related diseases. Its most advanced drug candidate, elafibranor, is currently evaluated in a pivotal Phase 3 clinical trial as a potential treatment for nonalcoholic steatohepatitis, or NASH.

Glenmark Pharmaceuticals Ltd.
Booth 1932
Glenmark is a leading player in the discovery of new molecules, both NCEs (New Chemical Entity) and NBEs (New Biological Entity). Our branded generics business has a significant presence in markets across emerging economies including India. The generics business services the requirements of developed markets like the U.S. and Western Europe.

Glooko, Inc.
Booth 2106
Glooko is the universal diabetes data management platform that provides insights to improve the lives of people with diabetes and their caregivers. Compatible with >190 devices, Glooko is in 9,000+ clinical locations and has billions of data points to deliver comprehensive in-clinic and remote diabetes management tools for measurable quality outcomes.
GlucoseZone by Fitscript
Booth 2117
Fitscript’s patented GlucoseZone platform is the first and only digital therapeutic designed to address the exercise component of diabetes self-management. Based on users’ real-time biometrics, GlucoseZone provides individualized guidance and support to help users lose weight, lower A1C, and increase insulin sensitivity. Learn more at www.glucosezone.com.

Glutalor Medical Inc.
Booth 1901

Glytec, LLC
Booth 321
Glytec combines evidence-based decision support technologies with expert clinical services to optimize insulin therapies in the hospital and at home. The company’s patented software solutions improve the safety and health of people with diabetes and make insulin a more effective medication option for millions unable to achieve their treatment goals.

Gubra ApS
Booth 208
Gubra is a Danish biotech company with pre-clinical CRO services as well as proprietary early target and drug discovery programs. Our focus is metabolic diseases (obesity, diabetes, diabetic complications, and NASH), and we specialize in in vivo/ex vivo/in vitro pharmacology, peptide chemistry, molecular pharmacology, histology, imaging, stereology, NGS, and bioinformatics.

Hawaiian Moon
Booth 1938
Say goodbye to dry skin with Hawaiian Moon Organic Aloe Cream! It is free of dyes, fragrance, parabens, sulfates, mineral oil, and any other harsh chemicals, including petroleum. Our cream penetrates the skin up to 7 layers deep and absorbs into the skin instantly.

ICON plc
Booth 635
ICON plc is a global provider of outsourced drug development and commercialization solutions to the pharmaceutical, biotechnology, medical device, and government/public health organizations. The company specializes in the strategic development, management, and analysis of programs that support clinical development. ICON operates in 37 countries and has approximately 13,680 employees.

IDx
Booth 2204
IDx is a leading AI diagnostics company on a mission to transform the quality, accessibility, and affordability of health care. The company’s first product, IDx-DR, is an FDA-cleared AI-based diagnostic system designed for use at the front lines of care to detect diabetic retinopathy.

Insulet Corporation
Booth 1823
The Omnipod DASH™ Insulin Management System is a tubeless, wearable insulin pump that delivers up to three days of continuous insulin therapy through customizable basal rates and bolus amounts. The system consists of a discreet, waterproof Pod and an intuitive touch-screen Personal Diabetes Manager (PDM) to easily control the Pod.

Integrated Islet Distribution Program (IIDP)
Booth 2319

International Diabetes Center
Booth 2303
International Diabetes Center at Park Nicollet is a not-for-profit organization whose mission is to improve the lives of people with diabetes by providing world-class diabetes care, education, and clinical research to meet the needs of people with diabetes, their families, and the health professionals who care for them.
i-SENS, Inc.
Booth 2101
Founded in 2000, i-SENS is a global company dedicated to improving the lives of people with diabetes and the health professionals who care for them. CareSens® is the recognized world best brand in providing fast, highly accurate blood glucose testing results with an annual production capacity of 2.2 billion test strips.

Janssen Pharmaceuticals, Inc.
Booth 325
Janssen Pharmaceuticals, Inc., a pharmaceutical company of Johnson & Johnson, aims to create a world without disease. We bring together the best minds and pursue the most promising science in areas of critical need. We collaborate with the world for the health of everyone in it. Learn more at www.janssen.com.

JDRF International
Booth 2312
JDRF is the leading global organization funding type 1 diabetes research. JDRF is promoting our online Clinical Trials Connection, a matching service to help people find trials for which they may be eligible. We will also have information about our research priorities and how to apply for JDRF funding.

Know Diabetes by Heart™
Booth 1339
Learn about Know Diabetes by Heart™, the groundbreaking collaborative initiative between the American Heart Association and the American Diabetes Association to reduce cardiovascular deaths, heart attacks, and strokes in people living with type 2 diabetes. You can also get a complimentary headshot taken by a professional photographer.

KRONUS®, Inc.
Booth 2030
KRONUS, a leading provider of in vitro immunoassay test kits, will be presenting information regarding the company’s diabetes-related test kits for the detection and measurement of autoantibodies to GAD, IA-2, ZnT8, and insulin. Please visit KRONUS at booth 2030 for additional information and product details.

LAMEDITECH Co., Ltd.
Booth 1139
The HandyRay is an innovative laser lancing device for capillary blood collection based on laser technology, without a normal needle. This product leads to improve the disadvantages of the traditional needle lancet like pain, callus, cross infection, and enables safer capillary blood sampling for the various blood tests.

LifeScan, Inc.
Booth 2118
LifeScan, Inc. is a world leader in blood glucose monitoring, and the LifeScan Diabetes Institute is a global initiative to help transform diabetes care through professional education and training. For over 35 years, LifeScan has had an unwavering commitment to improving the quality of life for people with diabetes by developing products defined by simplicity, accuracy, and trust. Globally more than 20 million people depend on OneTouch® brand products to help them manage their diabetes.

LMC Healthcare
Booth 2105
LMC Healthcare is the world’s largest specialist group in diabetes and endocrinology that includes 60+ endocrinologists, unified EMR, and 12 centers of excellence managing 300,000 patients. LMC Manna Research is an industry leader providing Phase I-IV clinical research site services with access to 1,000,000 patients across 20+ clinics covering 30 therapeutic areas.

Mary Ann Liebert, Inc. Publishers
Booth 2213
Diabetes Technology & Therapeutics is the only peer-reviewed journal providing health care professionals with information on new devices, drugs, drug delivery systems, and software for managing patients with diabetes. This leading international journal delivers practical information and comprehensive coverage of cutting-edge technologies and therapeutics in the field.

Med Angel
Booth 211
Med Angel is a wireless thermometer designed to monitor the temperature of insulin and other sensitive medications. Our goal is to educate the public on the proper storage of insulin.
Med-Care Pharmaceuticals  
Booth 213

**Medscape Diabetes & Endocrinology**  
Booth 1913
Medscape offers free news and perspective, drug and disease look-up, CME, and innovative education available in multiple language editions, including free business courses and Medscape Consult, a case-sharing network with over 500,000 physicians posting and discussing real-world cases, get all the essentials to support your medical practice, for free.

**Medtronic Inc.**  
Booth 1511
As a global medical technology company, we are dedicated to improving patient outcomes and improving health care for all. Learn more at [www.medtronicdiabetes.com](http://www.medtronicdiabetes.com).

**Merck & Co., Inc.**  
Booth 1525

**Mercodia, Inc.**  
Booth 2216
Mercodia focuses on the development of ELISA technology within the field of metabolic disorders. This includes our bioanalytically validated glucagon ELISA, beta-cell hormones, incretins like GIP and GLP-1, and more. Our recently launched Insulin Lispro-Specific ELISA offers specific measurements of Insulin Lispro and enables insulin biosimilar clinical trials.

**Metabolic Endocrine Education Foundation (MEEF)**  
Booth 2316
The Metabolic Endocrine Education Foundation (MEEF) is a leading national health foundation devoted to improving patient care and public health through education. MEEF develops and sponsors multiple live educational programs activities for professional health providers. In 2019, MEEF will feature two meetings: 3rd HID, [www.heartindiabetes.com](http://www.heartindiabetes.com) and 17th WCIRDC, [www.wcir.org](http://www.wcir.org).

**Monarch Medical Technologies**  
Booth 738
Monarch Medical Technologies is the leading provider of precision insulin dosing technology for optimized inpatient glycemic management. Monarch’s EndoTool® Glucose Management System, an FDA-cleared software suite, uses proven, complex algorithms to model, predict, and adapt dosing recommendations for patients and their individual response for more precise and safer insulin therapy.

**Monogenic Diabetes Research and Advocacy Project (MDRAP)**  
Booth 2304
MDRAP is an alliance of patients, health care providers, and scientists dedicated to promoting awareness and diagnosis of monogenic diabetes, which accounts for approximately 1/50 cases of diabetes, or approximately 600,000 people in the United States, in order to assure safe and efficacious treatment.

**Mouse Metabolic Phenotyping Centers (MMPC)**  
Booth 109
The MMPC is a National Institutes of Health-sponsored resource that provides experimental testing services to scientists studying diabetes, obesity, diabetic complications, and other metabolic diseases in mice.

**National Certification Board of Diabetes Educators (NCBDE)**  
Booth 2302
Established in 1986, NCBDE grants recognition through board certification in the field of diabetes education to individuals who have met all eligibility requirements and successfully completed the certification examination for diabetes educators.

**National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)**  
Booth 2310
NIH’s National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) conducts and supports medical research and translates findings to bring science-based tools and information to patients, health care providers, and the public. NIDDK addresses diabetes, obesity, nutrition; kidney, urologic, and digestive diseases; and some endocrine, metabolic, and blood disorders.
Booth 2309  
A free national library program that provides braille and recorded materials to people who cannot see or handle print materials. NLS selects books and magazines for full-length publication in accessible formats. Reading materials are circulated through a network of libraries across the United States and to American citizens living abroad.

Network for Pancreatic Organ Donors with Diabetes (nPOD)  
Booth 2205  
Maintain a network of procuring and characterizing in a collaborative manner, pancreata and related tissues (spleen, lymph node, pancreatic lymph node, peripheral blood, thymus, and bone marrow) from cadaveric organ donors with type 1 diabetes as well as those who are islet autoantibody positive.

Novo Nordisk A/S  
Booth 601  
Novo Nordisk, a global leader in diabetes care, has been committed to discovering and developing innovative medicines to help people with serious chronic conditions lead longer, healthier lives with fewer limitations. We’re working toward a future where fewer people get diabetes, everyone is diagnosed, and all patients receive adequate treatment.

Novo Nordisk Inc.  
Booth 1315  
Novo Nordisk, a global leader in diabetes care, has been committed to discovering and developing innovative medicines to help people with serious chronic conditions lead longer, healthier lives with fewer limitations. We’re working toward a future where fewer people get diabetes, everyone is diagnosed, and all patients receive adequate treatment.

One Drop  
Booth 210  
One Drop is a digital health company harnessing the power of mobile computing and data science to deliver a clinically-effective diabetes management platform. One Drop empowers users with accurate meter technology, affordable test strip subscriptions, ADA-recognized coaching, and free mobile app features, including accurate BG predictions generated by proprietary AI.

Owen Mumford  
Booth 308  
Owen Mumford is a leading global manufacturer with 60+ years of expertise in the development of medical devices to aid in the treatment of diabetes and other conditions. Owen Mumford’s innovative product range features Unistik® capillary sampling solutions, Unifine® pen needles, Autolet® lancing devices, and Unilet® lancets.

PIKDARE  
Booth 2035  
Pic Solution, leading Italian diabetes care brand, presents Insupen 34Gx3.5mm pen needle, representing the peak of a wide range (33G to 29G). Their Extr3me sharpening technology provides a comfortable injection, while the High Flow Thin Wall cannula enhances the insulin flow. BGMs, syringes, and lancet products complete the assortment.

Premier Protein  
Booth 2206  
Premier Protein’s commitment to taste plus amazing nutrients helps people make better choices, no matter where they are on their health journey. Premier Protein shakes, powders, bars, and clear drinks are packed with protein and are an essential part of a balanced lifestyle. For more information, visit www.premierprotein.com.

PromarkerD  
Booth 1738  
PromarkerD is a new predictive diagnostic test for diabetic kidney disease. In peer-reviewed clinical studies, PromarkerD correctly predicted 86% of otherwise healthy diabetics who went on to develop chronic kidney disease within four years. To access a new standard in patient care for diabetic kidney disease, visit the PromarkerD booth.
ProSciento, Inc.  
Booth 1801  
ProSciento is a specialty CRO exclusively focused on metabolic diseases. ProSciento works with biopharma companies worldwide to support their clinical research needs with comprehensive services for multinational, early development clinical trial programs. Founded in 2003, ProSciento has supported the development of many approved metabolic drugs and devices on the market.

PTS Diagnostics  
Booth 1501  
PTS Diagnostics creates health innovation through point-of-care medical device products to assess cardiovascular disease risks and HbA1c. In 2019, PreVantage™ Solutions was launched. This is a network of products, strategies, and partnerships aimed at helping health care organizations meet changing industry and consumer demands. For more information visit www.ptsdiagnostics.com.

Public Health Foundation of India (PHFI)  
Booth 2308

Quantum Medical Supply  
Booth 637  
A DME/Software company linking patients to local representatives to fit them for diabetic shoes.

Remidio Innovative Solutions Pvt. Ltd.  
Booth 108  
Remidio provides the world’s first integrated diabetic retinopathy screening solution generating instant Referable DR (RDR) report high accuracy. Solution includes FDA 510k approved non-mydriatic, smartphone-based imaging device and validated AI solutions that grades RDR on a smartphone. AI algorithms aren’t U.S. FDA 510k approved and only available for investigational purposes now in the U.S.

Research Diets, Inc.  
Booth 1639  
Research Diets, Inc. formulates and produces purified OpenSource Diets® for laboratory animals. Custom diets are shipped in 5-7 days. BioDAQ® Food/Liquid Intake Monitor for mice and rats mounts to the home cage and records the time, duration, and amount of each meal automatically. BioDAQ NHP monitors food intake of socially housed NHPs.

Sable Systems International, Inc.  
Booth 1739  
Sable Systems is the world’s most trusted provider of equipment for research in metabolic and behavior monitoring. The Promethion System measures food and water intake, food access control, body weight, total activity, running wheel, and temperature every second. The metabolic data is synchronized with all behavior data.

Salix Pharmaceuticals  
Booth 2209  
For almost 30 years, Salix Pharmaceuticals has been committed to the prevention and treatment of gastrointestinal diseases. Salix licenses, develops, and markets innovative products to improve patients’ lives and arm health care providers with life-changing solutions. Salix is headquartered in Bridgewater, NJ.

Sanford Health  
Booth 112

Sanofi  
Booth 909  
Sanofi is dedicated to supporting people through health challenges. We prevent illness with vaccines and provide innovative treatments to fight pain and ease suffering. Regeneron discovers, develops, manufactures, and commercializes biologic medicines. Since 2007, Sanofi and Regeneron have collaborated to develop and commercialize fully human monoclonal antibodies.

Sansum Diabetes Research  
Booth 103
Sebia
Booth 1902
Sebia is the world’s leading provider of clinical protein electrophoresis equipment and reagents, a technology used for in vitro diagnostic testing. Its systems analyze proteins in order to screen and monitor various diseases and conditions; primarily oncology (multiple myeloma), metabolic disorders such as diabetes by HbA1c quantification, and also hemoglobinopathy.

Senseonics
Booth 700, 339

Siemens Healthineers
Booth 1132
Siemens Healthineers enables healthcare providers to increase value by expanding precision medicine, transforming care delivery, and improving patient experience, enabled by digitalizing health care. A leader in medical technology for over 120 years, the > 48,000 dedicated colleagues at Siemens Healthineers will continue to innovate and shape the future of health care.

Sinclair Research Center, LLC
Booth 2013
Sinclair Research Center, a leader in nonclinical diabetes research, offers animal efficacy models, specialty toxicology, GLP-compliant research capabilities, and IND-enabling services to support biopharmaceutical, animal health, and medical device development programs. Pharmacology | PK/PD | Efficacy Models | Safety Toxicology | GLP | SEND.

SOOIL Development Co. Ltd.
Booth 2124
SOOIL Development produced the first commercial insulin pump in 1980. Today, with a 40-year history, SOOIL produces and distributes the DANA range of insulin pumps, infusion sets, and CGM devices. A leader in accurate insulin pump design including safe BLE communication and user-friendly cell-phone applications. “Delivering joy to people with diabetes.”

Springer Healthcare
Booth 1328
Springer Healthcare provides highly targeted, innovative medical educational content and services through our free website Medicine Matters. The Medicine Matters team has detailed knowledge of the health care industry, distinguished relationships with KOLs, and collaborations with leading medical societies. Medicine Matters is your one stop for all your medical education needs.

Stericycle, Inc.
Booth 2038
Stericycle has a portfolio of regulated waste, shredding, compliance, and sustainability services to help health care facilities manage their businesses within complex laws and regulations. In doing so, we protect businesses, we protect brands, we protect employees and patients, and we protect communities. We protect what matters.

Studylog Systems, Inc.
Booth 1838
Studylog’s Animal Study Software manages the entire animal study workflow, reducing study-related labor and time by half for most customers. Its comprehensive functionality, ease-of-use, and flexibility make animal researchers’ jobs easier, more organized, and productive. Studylog also securely preserves study information and results for searching and use forever.

Tandem Diabetes Care, Inc.
Booth 800
Tandem Diabetes Care, Inc. is a medical device company dedicated to improving the lives of people with diabetes through relentless innovation and revolutionary customer experience. The company takes an innovative, user-centric approach to the design, development, and commercialization of products, including the t:slim X2™ Insulin Pump with Basal-IQ™ Technology.
The JAMA Network  
**Booth 1538**  
Building on a tradition of editorial excellence, JAMA Network brings JAMA together with JAMA Network Open and eleven specialty journals to offer enhanced access on the research, reviews, and opinions shaping the future of medicine.

Tidepool  
**Booth 113**  
Tidepool is a 501(c)3 nonprofit organization committed to providing free software for the diabetes community to get the most out of their diabetes devices. Tidepool Loop is a hybrid closed-loop system for your iPhone and Apple Watch currently in development by Tidepool.

Type 1 Diabetes TrialNet  
**Booth 2307**  
TrialNet offers free risk screening for relatives of people with T1D and innovative clinical studies testing ways to stop disease progression by preserving insulin production before and after diagnosis.

Valeritas Inc.  
**Booth 217**  
Valeritas is a medical technology company focused on improving health and simplifying life for people with diabetes. Valeritas’ flagship product, V-Go®, is a simple, affordable, all-in-one basal-bolus insulin delivery for patients with type 2 diabetes that’s worn like a patch and can eliminate the need for taking multiple daily shots.

VeroScience LLC  
**Booth 2100**

Virta Health  
**Booth 1539**  
Virta Health delivers a clinically-proven, technology-enabled treatment to safely and sustainably achieve sub-diabetic glycemic control without the use of medications or surgery. At one year, completing clinical trial patients on average achieved an A1C reduction of 1.3 and lost 30 lbs., while 94% of insulin users reduced or eliminated insulin usage.

Virtual Reality Learning Experience  
**Booth 933**  
Visit us in booth 933 for a Virtual Reality Room experience that includes 3D themes and 360-degree wrap-around content that truly brings the education to life. Learners will experience a virtual world that allows them to enter the body and view the physiological mechanisms of glucose metabolism and the effects of basal insulin in patients with T2DM. The learners will virtually experience what the patient is going through in terms of disease symptoms and treatment effects, which will help them learn the importance of personalized treatment, physician-patient communication, and patient-reported outcomes.  
The Cylinder Room allows for 8-10 learners at a time and each experience lasts 10-minutes. The participants will be provided with 3D-powered glasses to utilize in the room, providing an immersive virtual reality experience without the need to wear an Oculus headset. This activity is sponsored by Med Learning Group and supported by an educational grant from Sanofi.

Voluntis, Inc.  
**Booth 2217**  
Insulia, available via mobile app or web portal, is an FDA cleared, prescription-only medical device that recommends basal insulin doses for adults with type 2 diabetes based on the treatment plan created by the health care provider.

Welch Allyn  
**Booth 2134**  
Welch Allyn, a division of Hillrom, is featuring the RetinaVue® Care Delivery Model. A proven, turnkey teleretinal solution, RetinaVue is simple and affordable enough for primary care practices and scalable for nationwide health programs. A simple five-minute exam could preserve the vision of patients living with diabetes. Visit booth 2134.
Worldwide Initiative for Diabetes Education  
Booth 2318
Worldwide Diabetes is a non-profit foundation dedicated to improving the lives of diabetic patients globally by empowering health care professionals with training, education, and information on diabetes. Its aim is to help shape the future of diabetes by educating professionals in its prevention, early detection, and management to provide optimal care.

Xeris Pharmaceuticals  
Booth 201
Xeris is a specialty pharmaceutical company leveraging its formulation technology platforms to develop and commercialize ready-to-use, liquid-stable injectables. The company’s proprietary technologies allow for the subcutaneous and intramuscular delivery of highly concentrated, non-aqueous, ready-to-use formulations of peptides, proteins, antibodies, and small molecules using syringes, auto-injectors, multi-dose pens, and infusion pumps.

23andMe  
Booth 1340
23andMe is a health data science company founded in 2006 to help people access, understand, and benefit from the human genome. It is the only genetic testing company to receive FDA authorization to provide carrier status, genetic health risks, and cancer predisposition information directly to consumers. www.23andme.com/medical.
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Scientific Sessions Meeting Planning Committee Disclosures

It is the ADA’s policy to ensure balance, independence, objectivity, and scientific rigor in all of its educational activities. All participating planning committee members are required to disclose to the program audience any financial relationships related to the subject matter of this program. Disclosure information is reviewed in advance in order to manage and resolve any possible conflicts of interest. The intent of this disclosure is to provide participants with information with which they can make their own judgments.

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As a provider of continuing education, it is the ADA's policy to ensure balance, independence, objectivity, and scientific rigor in all of its educational activities. All participating speakers are required to disclose to the program audience any financial relationships related to the subject matter of this program. Disclosure information is reviewed in advance in order to manage and resolve any possible conflicts of interest. The intent of this disclosure is to provide participants with information with which they can make their own judgments.

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**Alderfer, Melissa A., PhD**  
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**Allaire, Benjamin T., MS**  
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**Allen, Katie, MPH**  
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**Alvarez, Kristin S., PharmD, BCPS**  
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AmΕrian Diabetes Association

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Cyster, Jason, PhD
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Dahl, David, MD

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Disclosed no conflict of interest.

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Espeland, Mark, PhD

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Disclosed no conflict of interest.

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Disclosed no conflict of interest.

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Disclosed no conflict of interest.

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Omission due to printing deadline. Disclosure will be made onsite.

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Mostoslavsky, Raul, MD, PhD
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Schneider, Stephen P., MD, ScD

Schneider, Walther, MD, PhD
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Schneider, William, MD
Disclosed no conflict of interest.

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Zinman, Bernard, CM, MD  

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Disclosed no conflict of interest.
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