MONDAY, FEBRUARY 1
Welcome Remarks and Keynote Address (Joint) (8am Denver/Mountain Time Start)
*Kevin L. Grove, Novo Nordisk, USA
Session Chair
*Lori Sussel, University of Colorado Anschutz Medical Campus, USA
Session Chair
Morris F. White, Boston Children's Hospital, Harvard Medical School, USA
Peripheral and Central Faces of Hepatic Insulin Resistance
Gut Instincts: Influence of the Intestine on Glucose Homeostasis (Joint) (8:40am Denver/Mountain Time Start)
*Kevin L. Grove, Novo Nordisk, USA
Session Chair
*Mary-Elizabeth Patti, Joslin Diabetes Center, USA
Hypoglycemia After Bariatric Surgery: Lessons Learned About Abdominal Control of Glucose Metabolism
Max Nieuwdorp, University of Amsterdam, Netherlands
Does the Disease Start with the Gut Microbiome?
Roy Taylor, Newcastle University, UK
T2DM: Simple Etiology but Heterogenous Individuals
Aneta Stefanidis, Monash University, Australia
Short Talk: The Importance of Brown Fat in Mediating Changes in Glucose Regulation following Vertical Sleeve Gastrectomy
Chisayo Kozuka, RIKEN Center for Integrative Medical Sciences, Japan
Short Talk: Bromodomain-Containing Proteins Regulate Glucose Metabolism via Gut-Liver FGF15/19 Pathway
Career Roundtable (Joint) (12:30pm Denver/Mountain Time Start)
Diego V. Bohórquez, Duke University, USA
Murielle M. Véniant-Ellison, Amgen Inc., USA
Kristen Jane Nadeau, University of Colorado Denver, USA
Poster Session 1 (Joint) (1:30pm Denver/Mountain Time Start)
Central Adaptations to Body Weight Change (3pm Denver/Mountain Time Start) (EK17)
*Thomas H. Meek, Novo Nordisk, USA
Session Chair
Hans Rudolf Berthoud, Pennington Biomedical Research Center, USA
Central Effects of Bariatric Surgery

*Stephanie E. Fulton, University of Montreal, Canada
Curbing Hedonia: Neurometabolic Adaptations to High-Fat Diet and Obesity
Dana M. Small, Yale University School of Medicine, USA
Striatal – Prefrontal Circuit Sensitivity to Insulin Determines Working Memory Ability in Youth with Obesity
Murielle M. Véniant-Ellison, Amgen Inc., USA
GIPR Antagonist Antibodies Conjugated to GLP-1 Peptides Decrease Weight in Obese Preclinical Models
Elinor L. Sullivan, Oregon National Primate Research Center, USA
[NOT AVAILABLE ON DEMAND] The Influence of Maternal Nutrition and Metabolic State on Offspring Risk for Psychiatric Disorders
Chen Liu, University of Texas Southwestern Medical Center, USA
Short Talk: Atypical Antipsychotics Target Hypothalamic Melanocortin 4 Receptors to Cause Weight Gain
Natasha Gaito, Virginia Tech, USA
Short Talk: In silico Analysis of the POMC and NPY Promoters: The Role of Methylation in Environmental Triggers of Obesity

Muscling in on Insulin Resistance (3pm Denver/Mountain Time Start) (EK18)
Juleen R. Zierath, Karolinska Institutet, Sweden
Skeletal Muscle Mediators and Exercise-Induced Adaptations Governing Insulin Sensitivity in Type 2 Diabetes
*Joseph T. Brozinick, Eli Lilly and Company, USA
Therapeutically Targeting Skeletal Muscle to Treat Type II Diabetes: Could Urocortin 2 be Exercise in a Bottle?
*Bret H. Goodpaster, Translational Research Institute for Metabolism and Diabetes, USA
Fat Accumulation in Muscle: Implications for Diabetes
Lena Espelage, German Diabetes Center, Germany
Short Talk: Contraction Response in Skeletal Muscle Glucose Uptake Is Regulated by the Two RabGAPs TBC1D1, TBC1D4 and the Key Components of Exercise Signaling, AMPK and Rac1, in a Cooperative Manner
Taiyi Kuo, Columbia University, USA
Short Talk: Systemic Benefits of Gc Inhibition to Preserve Insulin Sensitivity
Dongyin Guan, Baylor College of Medicine, USA
Short Talk: Canonical and Non-Canonical Clock Regulators in Obesity and Diabetes
Adam J. Rose, Monash University, Australia
Short Talk: An Endocrine-Hepato-Muscular Metabolic Cycle Links Skeletal Muscle Atrophy and Hyperglycemia in Type 2 Diabetes
Christoffer Clemmensen, University of Copenhagen, Denmark
Short Talk: GDF15 as a Regulator of Energy Metabolism: Physiology vs. Pharmacology

* Session Chair † Invited but not yet accepted Program current as of July 3, 2023.
For the most up-to-date details, visit https://www.keystonesymposia.org.
TUESDAY, FEBRUARY 2

Adipose Tissue Communication (8am Denver/Mountain Time Start) (EK17)
*Kevin L. Grove, Novo Nordisk, USA
Session Chair
*Philipp E. Scherer, University of Texas Southwestern Medical Center, USA
Novel Insights into the Endocrine Actions of the Adipocyte
Ana Domingos, University of Oxford, UK
Sympathetic Innervation of Adipose Tissue
Sean M. Hartig, Baylor College of Medicine, USA
Leveraging MicroRNA Targets to Treat Obesity
Camilla Charlotte Schéele, University of Copenhagen, Denmark
Early Differentiation of Human Brown and White Adipocytes at Single Cell Level Reveals Common Subtype with Genetic Association to Body Fat Distribution
Stephanie Wesolowski, University of Colorado, USA
Metabolic Programming in the Fetal Liver- Potentiation of Gluconeogenesis by Hypoxemia
Kai Sun, University of Texas Health Science Center at Houston, USA
Short Talk: Adipose-Derived MMP14 Is a Key Player in Metabolic Health
Aimee L. Edinger, University of California, Irvine, USA
Short Talk: A Drug-Like Sphingolipid Opposes Mitochondrial Fragmentation and Corrects the Adiponectin:Leptin Ratio and Obesity

Diabetes – One Name, Many Variations (8am Denver/Mountain Time Start) (EK19)
*Laura C. Alonso, Weill Cornell Medicine, USA
Session Chair
Ellen E. Blaak, Maastricht University, Netherlands
Obesity Metabolic Phenotypes Leading to Type 2 Diabetes Mellitus: Implications for Personalized Prevention
Kristen Jane Nadeau, University of Colorado Denver, USA
Emerging Aspects of T2D in Youth
Matthew B. Johnson, University of Exeter Medical School, UK
Genetic Insights into Autoimmune Diabetes
*Carmella Evans-Molina, Indiana University, USA
Type 1 Diabetes: Taking the Long View
Keane C. Herold, Yale University, USA
Cancer Immunotherapy and T1D
Alka M. Kanaya, University of California, San Francisco, USA
Heterogeneity of Type 2 Diabetes Subtypes by Ethnicity
Debora R. Sobreira, University of Chicago, USA
Short Talk: An Integrative Platform to Uncover the Mechanisms of the Association of TCF7L2 and T2D

Meet the Editors (Joint) (12:30pm Denver/Mountain Time Start)
Katherine Samaras, Frontiers in Endocrinology, Australia
Jeff Holly, Frontiers in Endocrinology, UK
Kristen van der Vos, Cell Press, Netherlands
Allyson Evans, Cell Press, USA

Poster Session 2 (Joint) (1:30pm Denver/Mountain Time Start)
A Gut Feeling: How the Gut Speaks to the Brain (3pm Denver/Mountain Time Start) (EK17)
*Rachel L. Batterham, University College London, UK
Short Talk: Overexpression of Regulator Of G-Protein Signaling (RGS) In Obesity Contributes To Impaired GPCR-Mediated Hormone Secretion In Human Enteroendocrine Cells: A Single-Cell RNA Sequencing Study of
Geke Aline Boer, University of Copenhagen, Biomedical Institute, Denmark
Short Talk: Chronic Glucose-Dependent Insulinotropic Polypeptide Receptor (GIPR) Agonism Desensitizes Adipocyte GIPR Activity Mimicking Functional GIPR Antagonism
Ki-Suk Kim, University of Colorado Anschutz Medical Campus, USA
Short Talk: The Role of Bile Acid Receptor Expressed in Intestinal Stem Cells on Enteroendocrine Cell Differentiation after Bariatric Surgery

Diabetes: Many Faces of the Disease (EK18)
Scientific Organizers: Lori Sussel, Juleen R. Zierath and Laura C. Alonso
February 1-3, 2021 • Virtual at your computer
Sponsored by AstraZeneca and Novo Nordisk A/S

The Failing Beta Cell in T1D and T2D (3pm Denver/Mountain Time Start) (EK18)
Chantal Mathieu, KU Leuven, Belgium
Dialog Between the Immune System and the Beta Cell
Laura C. Alonso, Weill Cornell Medicine, USA
ER Stress: The Good, the Bad and the Ugly
*Marc Prentki, Montreal Diabetes Research Center, Canada
Novel Metabolic Enzyme Glycerol 3-P-Phosphatase: From β-cell Gluco-detoxification to Healthy Aging

* Session Chair † Invited but not yet accepted  Program current as of July 3, 2023.
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**Lori Sussel**, University of Colorado Anschutz Medical Campus, USA
*Beta Cell Dysfunction Contributes to T1D*

**Feyza Engin**, University of Wisconsin-Madison, USA
*Short Talk: Targeting Beta Cell Unfolded Protein Response in T1D*

**Sangeeta Dhawan**, City of Hope, USA
*Short Talk: DNA Hydroxymethylation and Functional Beta Cell Mass in Health and Diabetes*

**Joan Mir-Coll**, InSphero AG, Switzerland
*Short Talk: Human Islet Microtissues as an in vitro and in vivo Model System for Diabetes*

**Blaise Su Jun Low**, National University of Singapore, Singapore
*Short Talk: Modeling the Insulin Secretion Defects in MODY3 using Patient hiPSC-derived Beta Cells*

**WEDNESDAY, FEBRUARY 3**

**Feeding Behavior: Top Down or Bottom Up? (8am Denver/Mountain Time Start) (EK17)**

**Linda Rinaman**, Florida State University, USA
*GLP-1 Neural Signaling in Stress and Metabolism*

**Lori M. Zeltser**, Columbia University, USA
*Effects of Social Isolation on Stress-Induced Behavior in Females*

**Michael Krashes**, NIDDK, National Institutes of Health, USA
*High-Fat Food Biases Hypothalamic and Mesolimbic Expression of Consummatory Drives*

**Lotte Bjerre Knudsen**, Novo Nordisk A/S, Denmark
*GLP-1 in the Treatment of Obesity, Mechanisms that Translate into Durable Weight Loss in Patients*

**Manolis Kellis**, Massachusetts Institute of Technology, Broad Institute, USA
*Single-Cell Multi-Tissue Dissection of Obesity-Exercise Circuitry in Human and Mouse*

**Katherine Blackmore**, George Washington University, USA
*Short Talk: An Obligatory Forebrain-Hypothalamic ER Stress Driven Circuit Mediates Hepatic Steatosis during Obesity*

**Novel Therapeutic Strategies (8am Denver/Mountain Time Start) (EK18)**

**Juleen R. Zierath**, Karolinska Institutet, Sweden
*Session Chair*

**Jose C. Florez**, Massachusetts General Hospital, USA
*Have GWAS Helped Classify Diabetes?*

**Emma Ahlgqvist**, Lund University, Sweden
*Subclassifying Diabetes by Combining GWAS and Clinical Phenotyping*

**Paul W. Franks**, Lund University and Novo Nordisk Foundation, Sweden
*Precision Medicine in Obesity and Diabetes*

**Rory J. McErimmon**, University of Dundee, UK
*Mechanisms of Therapies for T2D and Potential Crossover to T1D*

**Cara J. Greenbaum**, Benaroya Research Institute at Virginia Mason, USA
*Therapies to Stop T1D...Determining Risk and Conducting Trials*

**Allan Ertmann Karlsen**, Novo Nordisk, Denmark
*Stem Cell Mediated Treatments for Diabetes*

**Workshop and Panel: Patient Perspective and Stigmas (11:30am Denver/Mountain Time Start) (EK17)**

**Rachel L. Batterham**, University College London, UK
*Session Chair*

**Vicki Mooney**, ECPO Executive Director & Patient, Spain

**Francesco Rubino**, King’s College London, UK

**Workshop and Panel Discussion: COVID and Diabetes (11:30am Denver/Mountain Time Start) (EK18)**

**Lori Sussel**, University of Colorado Anschutz Medical Campus, USA
*Session Chair*

**Alpana P. Shukla**, Weill Cornell Medical College, USA
*Interaction between T2D and Obesity and COVID Outcomes*

**G. Todd Alonso**, University of Colorado, USA
*Covid and T1D*

**Shuibing Chen**, Weill Cornell Medical College, USA
*COVID Directly Infects Beta Cells and Affects Beta Cell Function*

**Katie C. Coate**, Vanderbilt University Medical Center, USA
*ACE2 is Expressed in the Islet Microvasculature and Ducts of Human Pancreas*

**Francesco Dotta**, University of Siena, Italy
*Human Beta Cells Express ACE2*

**Dirk Homann**, Icahn School of Medicine at Mount Sinai, USA
*Experimental and Natural SARS-CoV-2 Infection of the Human Pancreas*

**Networking Lounge (Joint) (1:30pm Denver/Mountain Time Start)**

**CNS Control of Energy Homeostasis and Blood Glucose (Joint)**

**Rory J. McErimmon**, University of Dundee, UK
*Mechanisms of Therapies for T2D and Potential Crossover to T1D*

**Cara J. Greenbaum**, Benaroya Research Institute at Virginia Mason, USA
*Therapies to Stop T1D...Determining Risk and Conducting Trials*

**Allan Ertmann Karlsen**, Novo Nordisk, Denmark
*Stem Cell Mediated Treatments for Diabetes*
Michael W. Schwartz, University of Washington, USA
Unraveling Diabetes Remission Induced by the Brain

Ian Enrique Gonzalez, University of Michigan, USA
Short Talk: Paraventricular Hypothalamic Calcitonin Receptor Expressing Neurons Regulate Energy Balance

Juliana Bezerra Medeiros de Lima, Wayne State University, USA
Short Talk: ARC GHR Neurons Control System Glucose Sensitivity via Muscle Glucose Uptake

Closing Remarks (5:50pm Denver/Mountain Time Start) (EK17)
Closing Remarks (5:50pm Denver/Mountain Time Start) (EK18)