

Harold Hamm Diabetes Center Research Symposium 2022

Program Schedule

Friday, November 11, 2022

7:30 – 8:00 AM *Check-In*
Continental Breakfast

8:00 – 8:30 AM *Welcome and Opening Remarks*

Ann Louise Olson, PhD

Professor of Biochemistry and Molecular Biology
Edith Kinney Gaylord Foundation Presidential Professor
Presidential Associates Presidential Professor
Member, Harold Hamm Diabetes Center
University of Oklahoma Health Sciences Center

Jed Friedman, PhD

Director, Harold Hamm Diabetes Center
Associate Vice-Provost for Diabetes Programs
Chickasaw Nation Endowed Chair
Professor of Physiology, Biochemistry & Molecular Biology
Professor of Pediatrics, Division of Endocrinology and Metabolism
University of Oklahoma Health Sciences Center

ORAL PRESENTATIONS

SESSION 1

Level Two, Auditorium

Moderator: Cassie Mitchell, PhD, RD

8:30 – 9:00 AM ***Updates on Type 2 Diabetes in Pregnancy – Clinical Outcomes and Pathophysiology***

Jeanie Tryggstad, MD

Associate Professor of Pediatric Diabetes and Endocrinology
CHF Paul and Ruth Jonas Chair
Pediatric Diabetes and Endocrinology Section
Member, Harold Hamm Diabetes Center
University of Oklahoma Health Sciences Center

- 9:00 – 9:30 AM ***Lactational Programming: Prevention or Cause of Obesity & Diabetes***
David Fields, PhD
Associate Professor of Pediatric Diabetes and Endocrinology
CHF Chickasaw Nation Endowed Chair
Pediatric Diabetes and Endocrinology Section
Associate Director, Metabolic Research Program
Member, Harold Hamm Diabetes Center
University of Oklahoma Health Sciences Center
- 9:30 – 10:00 AM ***Pathophysiology of pediatric nonalcoholic fatty liver disease***
Kevin Short, PhD, FACSM
Associate Professor of Pediatric Diabetes and Endocrinology
CHF Choctaw Nation Chair in Pediatric Endocrinology and Diabetes
Member, Harold Hamm Diabetes Center
University of Oklahoma Health Sciences Center
- 10:00 – 10:15 AM *Break*
Refreshments available in foyer – Level 2

SESSION 2

Level Two, Auditorium

Moderator: Michael Rudolph, PhD

- 10:15 – 10:45 AM ***In Vivo Omega-3 Fatty Acid Programming of Adipocyte Stem-Like Cell Metabolism Early in Life***
Michael Rudolph, PhD
Assistant Professor of Physiology
Choctaw Nation Chair in Adult Endocrinology
Director, Rodent Metabolic Phenotyping Resource
Member, Harold Hamm Diabetes Center
University of Oklahoma Health Sciences Center
- 10:45 – 11:15 AM ***Maternal Exposure to Pyrroloquinoline Quinone Modulates Novel Aryl Hydrocarbon Receptor Targets in Offspring and Protects Against NAFLD***
Karen Jonscher, PhD
Associate Professor of Biochemistry & Molecular Biology
Member, Harold Hamm Diabetes Center
University of Oklahoma Health Sciences Center

11:15 – 11:45 AM ***Cullin RING E3 ligase in liver metabolism***
Tiangang Li, PhD
Associate Professor of Physiology
Harold Hamm Chair for Adult Diabetes Research
Member, Harold Hamm Diabetes Center
University of Oklahoma Health Sciences Center

11:45 – 12:15 PM ***Dietary Restriction and Intestinal Stem Cell Aging***
Archana Unnikrishnan, PhD
Assistant Professor of Biochemistry & Molecular Biology
Oklahoma Center for Geroscience and Brain Aging
Member, Harold Hamm Diabetes Center
University of Oklahoma Health Sciences Center

12:15 PM *Box lunch available in foyer – Level 2*

SHORT TALKS BY TRAINEES AND FELLOWS

SESSION 3: 12:30 – 2:00 PM

Session 3a: Fetal/Maternal interactions

Level B, Conference Room A

Judges: Norman Hord, PhD, MPH, RD and Cassie Mitchell, PhD, RD

12:30 – 12:45 PM *Circulating mirnas in youth onset type 2 diabetes: predictors of glycemic failure and complications.* ALLEN, DAKOTA; Bialek, Shannon; Gipson, Jenny; Jones, Kenneth; Tryggestad, Jeanie

12:45 – 1:00 PM *Maternal supplementation with microbiome-derived tryptophan metabolites blunts long-term developmental programming of nafld in offspring via gut microbiome.* MANDALA, ASHOK; Teague, April; Janssen, Rachel; Sugino, Kameron; Zhao, Wanke; Joshi, Aditya; Friedman, Jed; Jonscher, Karen

1:00 – 1:15 PM *Improving genetic prediction of type 2 diabetes using an ancestry-specific polygenic score.* HART, TESSA; Rout, Madhusmita; Goyal, Shiwali; Ralhan, Sarju; Wander, Gurpreet; Singh, JaiRup; Mehra, Narinder; Blackett, Piers; Chernausk, Steven; Sanghera, Dharambir

1:15 – 1:30 PM *Differences in per- and polyfluoroalkyl substances (pfas) breastmilk concentrations between siblings in early lactation.* KERR, WHITNEY; Peck, Jennifer; Huset, Carin; Duncan, Katy; Pierce, Stephanie; Fields, David; Demerath, Ellen

1:30 – 1:45 PM *Novel mouse model of maternal exercise defines metabolic responses of dams and molecular adaptations of lactation.* KYERE-DAVIES, GERTRUDE; Varshney, Rohan; Das, Snehasis; Farriester, Jacob; Martinez, Alexandra; Mullen, Greg; Rudolph, Michael

1:45 – 2:00 PM *The impact of maternal diet on reprogramming of fetal airway epithelial stem/progenitor cells.* SUBRAMANIYAN, BHARATHIRAJA; Gurung, Sunam; Bodas, Manish; Moore, Andrew; Larabee, Jason; Reuter, Darlene; Myers, Dean; Papin, James; Walters, Matthew

2:00 – 2:15 PM *Plasma lipopolysaccharide binding protein levels in late pregnancy are associated with gut microbiome composition.* SUGINO, KAMERON

Session 3b: Adipocyte Biology

Level One, East Board Room

Judges: Karen Jonscher, PhD and Archana Unnikrishnan, PhD

12:30 – 12:45 PM *Early life activation of beige programming in adipocyte precursor cells (apc) by omega-3 exposure depends on nr2f2.* DAS, SNEHASIS; Varshney, Rohan; Farriester, Jacob; Kyere-Davies, Gertrude; Martinez, Alexandra; Mullen, Gregory; Rudolph, Michael

12:45 – 1:00 PM *Melocortin-4 receptors on astrocytes in the hypothalamus and regulation of food consumption and metabolic homeostasis in a high-fat mouse model.* ELIASON, NICOLE; Rudolph, Michael; Sharpe, Amanda

1:00 – 1:15 PM *Role of macrophage mir-130b in adipose tissue inflammation in obesity.* KIM, YOUNGSIL; Jiang, Shaoning

1:15 – 1:30 PM *Identifying how endothelial protease-activated receptors control insulin signaling: implications for diabetes.* RAJALA, RAHUL; Courtney Griffin

1:30 – 1:45 PM *Sars-cov-2 infection induces alteration of glucose metabolism in a feline model.* ROCHOWSKI, MATTHEW; Selvan, Miruthula; Jayathilake, WMN; Balcerak, John; Campolo, Allison; Gunasekara, Sachithra; Rudd, Jennifer; Miller, Craig; Lacombe, Véronique

1:45 – 2:00 PM *Lipidome-wide association study detects genetically disruptive fatty acid metabolism and calcineurin-dependent nfat signaling pathway to underlie type 2 diabetes.* ROUT, MADHUSMITA; Sanghera, Dharambir

2:00 – 2:15 PM *Regulation of adipocyte progenitors by estrogen receptor and wisp2.* THOMAS, NISHA; Liter, Laci; Wellberg, Elizabeth

Session 3c: Liver disease and diabetes complications

Level One, West Board Room

Judges: Tiangang Li, PhD and Kevin Short, PhD, FACSM

12:30 – 12:45 PM *Identifying longitudinal trends of lab results in ehr for diabetic retinopathy patients.* AN, SIYU

12:45 – 1:00 PM *Necroptosis contributes to age associated hepatic inflammation and steatosis.* JAZIR, SABIRA; Nair, Haritha; Tran, Albert; Thadathil, Nidheesh; Ohene-Marfo, Phoebe; Selvarani, Ramasamy; Richardson, Arlan; Sathyaseelan, Deepa

1:00 – 1:15 PM *"Cre-notyping" - an efficient strategy for identifying transgene homozygotes.* MARTINEZ, ALEXANDREA; Farriester, Jacob; Kyere-Davies, Gertrude; Das, Snehasis; Varshney, Rohan; Mullen, Gregory; Rudolph, Michael

1:15 – 1:30 PM *Necroptosis effector mlkl regulates glucose and lipid metabolism, and mitochondrial dynamics in non-alcoholic fatty liver disease.* OHENE-MARFO, PHOEBE; Nair, Haritha; Tran, Albert; Mohammed, Sabira; Thadathil, Nidheesh; Wang, Dawei; Varshney, Rohan; Richardson, Arlan; Rudolph, Michael; Kinter, Michael; Sathyaseelan, Deepa

1:30 – 1:45 PM *Cinnabarinic acid-mediated hepatoprotection against non-alcoholic fatty liver disease.* PATIL, NIKHIL; Rus, Iulia; Downing, Emma; Mandala, Ashok; Friedman, Jed; Joshi, Aditya

1:45 – 2:00 PM *Development of novel knock-in mouse models to study the role of necroptosis in age-related diseases and to test the effect of diquat and ccl4 in knock-in mouse models.* SELVARANI, RAMASAMY; Nguyen, Hoang; Deepa, Sathyaseelan; Richardson, Arlan

2:00 – 2:15 PM *Influenza viral replication is dependent on bronchial epithelial glucose metabolism.* ROCHOWSKI, MATTHEW; Balcerak, John; Allen, Shawn; Campolo, Allison; Lacombe, Véronique

SESSION 4: Keynote Addresses

Level Two, Auditorium

Moderator: David Sparling, MD, PhD

2:30 – 3:30 PM *Lipid-centric view of diabetic retinopathy*

Julia Busik, PhD

Professor of Physiology

College of Natural Science

Michigan State University

3:30 – 4:30 PM *Pancreatic islets in human diabetes: from development to genetics to genomics to function*

Alvin C. Powers, MD

Professor of Medicine, Molecular Physiology and Biophysics

Joe C. Davis Chair in Biomedical Science

Director, Vanderbilt Diabetes Center

Chief, Division of Diabetes, Endocrinology and Metabolism

Vanderbilt University Medical Center

4:30 – 4:40 PM *Closing Remarks*

Jed Friedman, PhD

Director, Harold Hamm Diabetes Center

Associate Vice-Provost for Diabetes Programs

Chickasaw Nation Endowed Chair

Professor of Physiology, Biochemistry & Molecular Biology

Professor of Pediatrics, Division of Endocrinology and Metabolism

University of Oklahoma Health Sciences Center

4:40 – 6:00 PM *Awards Presentation & Reception*

Level One, West Foyer

Awards Presentation

Ann Louise Olson, PhD

Professor of Biochemistry and Molecular Biology

Edith Kinney Gaylord Foundation Presidential Professor

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