

WEDNESDAY FEBRUARY 15

8:00 am **Group photo outside NATC Meet out front**

8:15 am **Welcome Address J Johnson, B Verchere, P MacDonald**

8:30 am: **SESSION 1 Things That Affect β -cell and Islet Function 1 Chair: Nicole Krentz, PhD, Stanford**

1- Amanda Schukarucha Gomes Glycine receptor activity in β cells is downregulated in Type 2 diabetes and after high glucose culture

2- Saumadrita Kar Transplantation of pramlintide-expressing stem-cell derived beta cells to mitigate amyloid associated islet transplant failure

3- Ineli Perera Examining the impact of dioxin and dioxin-like chemicals on beta cell function via use of human stem cell-derived beta-like cells

4- Kyle van Allen Investigating diabetogenic activity of Dechlorane Plus, an organic flame Retardant, on pancreatic beta cells

09:30 am: **SESSION 2 Islet Secretion Chair: Alice Carr, PhD, University of Alberta**

5- Ariana Kordic Glimepiride stimulates insulin secretion by acting on KATP and TRPM5 channels

6- Xiong Liu, PhD Functional characterization of TMEM55A on α/β cell exocytosis

7- Jenicia Zhen Peptidyl-alpha amidating monooxygenase regulates insulin secretion and islet amyloid formation

8- Howard Cen, PhD Comparative analyses of human islet transcriptomes and proteomes

9- Samantha Mar Transcriptional coregulator Med15 is required for glucagon expression in mouse pancreatic alpha cells

11:15 am: **SESSION 3 Diabetes and Immunology 1 Chair: Braulio Marfil Garza, U of Alberta**

10- Ekaterina Filatov Developing stem cell-derived β -cells expressing CCL22 for transplants to cause T regulatory cell homing

11- Lindsay Pallo Optimizing a mRNA-lipid nanoparticle vaccine for preventing autoimmunity in a murine model of Type 1 diabetes

12- Rana Minab Fecal microbiota transplantation for type 1 diabetes therapy

4:30 pm: **SESSION 4 β -cell Stress and Protection Chair: Liam Hall, PhD, UBC**

13- Peter Yuanjie Zou Roles of Transcription Factor EB (TFEB) in β -cell homeostasis and glucose tolerance under stress

14- Natalie Nahirney Using AAV8-Ins1Cre to decrease beta-cell Ins2 expression in NOD mice

15- Peter Overby Loss of beta-cell Scn9a Na⁺ channel activity is protective in the context of type 1 diabetes while suppressing glucose-stimulated insulin secretion

5:30 pm: KEYNOTE SPEAKER Dr. Laura Alonso, Cornell University

Pancreatic beta cell stress response: Promise and Peril

THURSDAY FEBRUARY 16

8:00 am **SESSION 5 Diabetes and Immunology 2** **Chair: Braulio Marfil Garza, UofA**

- 16- Bruno Freitas** Using macrophages to improve stem-cell-derived β -cell differentiation, maturation and function
- 17- Lucas Starchuk** Targeting pro-inflammatory macrophage metabolism in diabetes
- 18- Lauar B Monteiro, PhD** Leptin signaling boosts macrophage responses and determines immunometabolic outcomes in obesity
- 19- Jane Velghe** Transcriptomic profiling of human islet immune cells

9:00 am **SESSION 6 Things that affect β -cell and Islet Function 1** **Chair: Nicole Krentz, PhD, Stanford**

- 20- Hashim Islam, PhD** Markers of beta-cell function are unaltered despite improved indices of hepatic function following a 12-week pharmacist-led low-carbohydrate, energy-restricted diet in individuals with type 2 diabetes: Secondary analyses of a randomized controlled trial
- 21- Liam Hall, PhD** Mechanisms mediating hyperinsulinemia and metabolic dysfunction in physical inactivity
- 22- Faria Athar** Understanding the nutritional control of reproductive aging

10:30 am **SESSION 7 Looking into Islet Cells** **Chair: Howard Cen, PhD, UBC**

- 23- Vriti Bhagat** In vitro determination of the function of prohormone convertase 2 on human pro-islet amyloid polypeptide processing
- 24- Jamie Chu** Perturbations on dynamics of Ins2 gene transcription
- 25- Rachel Spencer** Transcriptional coregulator Med15 is required for function of matured beta cells
- 26- Aurora Mattison** Mechanisms and consequences of RYR2-mediated calcium signals in the pancreatic beta cell
- 27- Janyne Johnson** Exploring GLP-1 production in pancreatic alpha-cells

4:30 pm **SESSION 8 Islet Organization** **Chair: Cyrus Setha, University of Wisconsin**

- 28- Bayley Waters** Islet architecture in adult mice is actively maintained by Robo2 expression in β cells
- 29- Alexander Garner** Investigating pancreatic islet cytoarchitecture and function
- 30- Jingqiang Wang, PhD** Vascularizing stem cell derived-islet organoids improve beta cells property and transplant survival
- 31- Helen Huang** Truncated CD19 as a selection marker for the isolation of stem cell derived β -cells

5:30pm **KEYNOTE SPEAKER Dr. Barak Blum, University of Wisconsin- Madison** Organogenesis, remodeling, and differentiation in the islets of Langerhans