

Institute of Nutrition, Metabolism and Diabetes Institut de la nutrition, du métabolisme et du diabète



National Institute of **Diabetes and Digestive** and Kidney Diseases

Heterogeneity of Diabetes: Beta Cells, Phenotypes & Precision Medicine Symposium

June 2-3, 2021

AGENDA

WEDNESDAY, JUNE 2ND

10:00 AM – 10:30 AM (EDT)	Dr. Michael Strong – President, Canadian Institutes of Health Research (CIHR)
	Dr. Griffin Rodgers – Director, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), NIH
()	Meeting Objectives

Dr. Francis Collins – Director, National Institutes of Health (NIH)

Dr. Norman Rosenblum - Scientific Director, Institute of Nutrition, Metabolism and Diabetes (INMD), CIHR

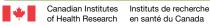
Dr. William Cefalu - Director, Division of Diabetes, Endocrinology, and Metabolic Diseases NIDDK, NIH

SESSION 1: ISLET BIOLOGY IN HEALTH AND DIABETES

PART 1: ISLET MICROENVIRONMENT

Moderators: Jennifer Estall (McGill U) & Alvin Powers (Vanderbilt U)

	Islet microenvironment: islet cell interactions and heterogeneity Speaker: Mark Huising (U of California Davis)
	Beta cell heterogeneity Speaker: Richard Benninger (U of Colorado)
10:30 AM - 12:05 PM	Islet microenvironment: islet pericytes and macrophages Speaker: Joana Almaca (U of Miami)
(EDT)	Exocrine pancreas inflammation and islet function Speaker: Rebecca Hull-Meichle (U of Washington)
	Lessons learned from human islet studies Speaker: Patrick MacDonald (U of Alberta)
	Panel Discussion





WEDNESDAY, JUNE 2ND (continued)

12:05 PM – 12:20 PM (EDT)	Health Break	
PART 2: ISLET ENGINEERING Moderators: Corinne Hoesli (McGill U) & Jeff Millman (U of Washington)		
12:20 PM – 2:00 PM (EDT)	Engineering islet endocrine cells from stem cells <mark>Speaker: Francis Lynn</mark> (U of British Columbia)	
	Engineering the islet niche <mark>Speaker: Juan Melero-Martin</mark> (Harvard U)	
	Engineering islet organoids for immune evasion Speaker: Eiji Yoshihara (Lundquist Institute)	
	Engineering encapsulation for replacement therapy Speaker: Cherie Stabler (U of Florida)	
	Engineering islets on a chip Speaker: Maike Sander (U of California San Diego)	
	Panel Discussion	
2:00 PM – 2:15 PM (EDT)	Health Break	
PART 3: BETA CELL STRESS AND DEATH IN TYPE 1 AND TYPE 2 DIABETES Moderators: Jim Johnson (U of British Columbia) & Amelia Linnemann (Indiana U)		
2:15 PM –3:35 PM (EDT)	Beta cell stress pathways in diabetes <mark>Speaker: Carmella Evans-Molina</mark> (Indiana U)	
	Beta cell senescence in diabetes Speaker: Peter Thompson (U of Manitoba)	
	Targeting beta cell unfolded protein response in type 1 diabetes Speaker: Feyza Engin (U of Wisconsin)	
	Targeting beta cell stress pathways from cells to clinical trial Speaker: Anath Shalev (U of Alabama)	
	Panel Discussion	

SESSION 2: HETEROGENEITY OF DIABETIC PHENOTYPES BEFORE AND AFTER DIAGNOSIS – IMPACT ON MANAGEMENT AND TREATMENT

PART 1: DIVERSITY OF PHENOTYPES AND PATHOPHYSIOLOGICAL ENDOTYPES. IMPACT ON PROGNOSIS AND PERSONALIZED TREATMENT CURRENT RESEARCH AND KNOWLEDGE GAPS

Moderators: Meredith Hawkins (Albert Einstein College of Medicine) & Christopher Pin (Western U)

3:35 PM – 5:10 PM (EDT)	Type 1 Diabetes Speaker: Maria Redondo (Baylor College of Medicine)
	Pre-diabetes/Type 2 Diabetes Speaker: John Dennis (U of Exeter)
	T2D in youth - Phenotypes and Clinical Progression Speaker: Kristen Nadeau (U of Colorado)
	Type 3C Diabetes: Misdiagnosis, surveillance Speaker: Melena Bellin (U of Minnesota)
	Rare and atypical forms of diabetes-characterization from monogenic to polygenic diabetes Speaker: Miriam Udler (Massachusetts General Hospital)
	Panel Discussion
5:10 PM – 5:15 PM (EDT)	Summary of Day 1 Norman Rosenblum (INMD, CIHR) & William Cefalu (NIDDK, NIH)

THURSDAY, JUNE 3RD

10:00 AM - 10:05 AM (EDT)

Welcome Remarks Day 2

Norman Rosenblum (INMD, CIHR) & William Cefalu (NIDDK, NIH)

SESSION 2: HETEROGENEITY OF DIABETIC PHENOTYPES BEFORE AND AFTER DIAGNOSIS IMPACT ON MANAGEMENT AND TREATMENT

PART 2: DETERMINANTS OF PATHOPHYSIOLOGICAL AND CLINICAL PHENOTYPES. TOOLS AND STRATEGIES FOR THEIR CHARACTERIZATION Moderators: Anna Gloyn (Stanford U) & Minna Woo (U of Toronto)

	The interplay between environmental and genetic factors determining diabetes phenotypes Speaker: Satya Dash (U of Toronto)
10:05 AM – 12:05 PM (EDT)	Multiomics/microbiomics profiling for revealing molecular and clinical phenotypes Speaker: Wenyu Zhou (Tempus Labs)
	ls it possible to predict phenotypes? Can novel technologies help? Speaker: Michael Snyder (Stanford U)
	Integration of electronic health records and big data as part of multidimensional phenotyping approach Speaker: Gillian Booth (U of Toronto)
	Panel Discussion
12:05 PM – 12:25 PM (EDT)	Health Break

SESSION 3: PRECISION MEDICINE IN DIABETES

Moderators: Norman Rosenblum (INMD, CIHR) & William Cefalu (NIDDK, NIH)

12:25 PM – 12:55 PM (EDT)	The power and promise of artificial intelligence: How it will revolutionize clinical care Speaker: Atul Butte (U of California San Francisco)
12:55 PM – 1:25 PM (EDT)	The future of precision medicine and how it will transform diabetes care Speaker: Jose Florez (Harvard Medical School)
1:25 PM – 2:00 PM (EDT)	Panel Discussion: Atul Butte, Jose Florez
2:00 PM – 2:40 PM (EDT)	General Symposium Discussion: Considering our increased understanding of the concept of heterogeneity, what does the future look like for diabetes research?
	Panelists:
	Jose Florez, (Harvard Medical School)
	Carmella Evans-Molina, (Indiana U)
	Maike Sander, (U of California San Diego)
	Miriam Udler, (Harvard Medical School)
2:40 PM – 2:50 PM (EDT)	Wrap Up/Closing Remarks
	Norman Rosenblum (INMD, CIHR) & William Cefalu (NIDDK, NIH)