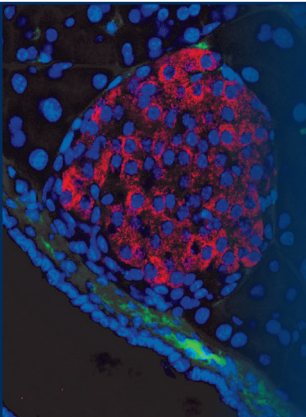




Frontiers in Islet Biology and Diabetes

February 4–8, 2018 | Keystone Resort | Keystone, Colorado | USA

Scientific Organizers:

Matthias Hebrok, University of California, San Francisco, USA

Seung K. Kim, Stanford University, USA

Felicia Pagliuca, Semma Therapeutics, Inc., USA

Anil Bhushan, University of California, San Francisco, USA

Diabetes mellitus is a pandemic disease rooted in defects of multiple organs. Autoimmune destruction of pancreatic islet beta cells (type 1 diabetes) or relentless deterioration in beta cell function from excessive systemic insulin demand (type 2 diabetes) culminates in severe or lethal metabolic derangement. Inter-organ signaling has emerged as a crucial mechanism for achieving metabolic balance, including responses by peripheral insulin-target organs that, in turn, remotely regulate islet activity. This meeting will focus on crucial aspects of beta cell biology, including islet development, pancreas cellular plasticity, beta cell surrogate generation from stem cells, novel gene editing technologies, and immune-islet interactions, as well as translation of basic discoveries into novel therapeutic trials for diabetic patients. This meeting will encourage the presentation of novel concepts, foster useful interactions between participants from academia and industry, and accelerate interdisciplinary approaches in diabetes research.

Session Topics:

- Beta Cell Development/Maturation
- Human Islet Biology
- Alpha Cells/Intracellular Islet Communication
- Emerging Technologies and Disease Modeling
- Progenitor to Islet Cells
- Workshop 1: Single Cell Analysis of Islet Cell Constituencies
- Inter-Organ Signaling Islet Biology
- Immunology/Clinical Trials
- Workshop 2: Big Data and Personalized Approaches to Diabetes
- Bioengineering/Encapsulation

Scholarship Application & Discounted Abstract Deadline: October 5, 2017

Abstract Deadline: November 7, 2017

Discounted Registration Deadline: December 7, 2017



Note: Scholarships are available for graduate students and postdoctoral fellows and are awarded based on the abstract submitted. Submitting an abstract is an excellent opportunity to gain exposure for your work. Abstracts submitted by the abstract deadline will also be considered for short talks on the program.

Upper image of mouse pancreatic islet courtesy of Jakob Suckale

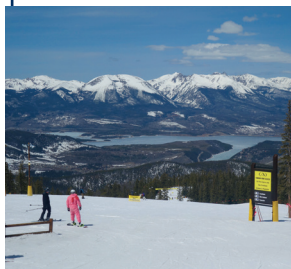
Meeting Hashtag: #KSisletbio

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SUNDAY, FEBRUARY 4

Arrival and Registration

MONDAY, FEBRUARY 5

Welcome and Keynote Address

Ronald M. Evans, Howard Hughes Medical Institute, Salk Institute, USA

Nuclear Receptors, Diabetes and Beyond

Beta Cell Development/Maturation

Danwei Huangfu, Memorial Sloan-Kettering Cancer Institute, USA
Human Pancreas Development Through the Lens of Pluripotent Stem Cells

Chris Wright, Vanderbilt University Medical Center, USA
Transcriptional Regulation of beta Cell Formation

Anne Grapin-Botton, University of Copenhagen, Denmark
Single-Cell Investigation of the Paths to Pancreatic Differentiation in Mouse and Human

Short Talk(s) Chosen from Abstracts

Human Islet Biology

Alvin C. Powers, Vanderbilt University School of Medicine, USA
Lessons from Early Human Pancreatic Islet Development and Function

Anath Shalev, University Alabama at Birmingham, USA
Clinical Trials Promoting beta Cell Survival

Peter C. Butler, University of California, Los Angeles, USA
Mitochondrial Network and Function in Human beta Cells, Type 2 Diabetes (T2D) is Characterized by a Deficit in Beta Cell Mass and Impaired Beta Cell Function (Glucose Mediated Insulin Secretion) in the Residual Beta Cells. In humans with type 2 Diabetes

Short Talk Chosen from Abstracts

Poster Session 1

TUESDAY, FEBRUARY 6

Alpha Cells/Intracellular Islet Communication

Patrick MacDonald, University of Alberta, Canada
Alpha Cell Function and Identity in Human T2D

Lori Sussel, University of Colorado, USA
Regulation of Islet Cell Fates by Long Non-Coding RNAs

Roland W. Stein, Vanderbilt University Medical Center, USA
Recruitment of the Swi/Snf Chromatin Remodeling Complex by Pdx1 is Required for Regulating Pancreas Development and Adult Islet β Cell Function in vivo

Mark O. Huising, University of California, Davis, USA
A Urocortin 3-Mediated Negative Feedback Loop Controls Insulin Secretion to Determine the Homeostatic Set Point for Blood Glucose

Short Talk(s) Chosen from Abstracts

Emerging Technologies and Disease Modeling

Speaker to be Announced

Juan Carlos Izpisua-Belmonte, The Salk Institute for Biological Studies, USA

Regenerative Strategies to Tissue Engineering

Clive N. Svendsen, Cedars-Sinai Regenerative Medicine Institute, USA

Using Organ-On-Chip Combined with Induced Pluripotent Stem Cells to Model Human Disease

Short Talk Chosen from Abstracts

Poster Session 2

WEDNESDAY, FEBRUARY 7

Progenitor to Islet Cells

Markus Grompe, Oregon Health & Science University, USA
Reprogramming Approaches for Beta-Cell Replacement

Anil Bhushan, University of California, San Francisco, USA
A new paradigm for T1D pathogenesis

Matthias Hebrok, University of California, San Francisco, USA
Functional Analysis of Human Stem Cell Derived beta Cells

Heiko Lickert, Institute of Diabetes and Regeneration, Germany
Beta Cell Heterogeneity and Maturation

Short Talk(s) Chosen from Abstracts

Workshop 1: Single Cell Analysis of Islet Cell Constituencies

Short Talks Chosen from Abstracts

Inter-Organ Signaling Islet Biology

Guy A. Rutter, Imperial College London, UK
Role and Regulation of Beta Cell Pacemakers

Rohit N. Kulkarni, Joslin Diabetes Center, Harvard Medical School, USA

Liver-Derived Signals Regulating beta Cell Function

Seung K. Kim, Stanford University, USA

Evidence that Neuromedin U is a Mammalian Deletin Hormone

Short Talk Chosen from Abstracts

Poster Session 3

THURSDAY, FEBRUARY 8

Immunology/Clinical Trials

Anette G. Ziegler, Helmholtz Zentrum München, Germany
Prevention, Identification, and Treatment of Early Stage Type 1 Diabetes

Jane H. Buckner, Benaroya Research Institute at Virginia Mason, USA

Durable Regulatory Cell Therapy of T1D Using Gene Editing

Kevan C. Herold, Yale University, USA
Clinical Trials with Checkpoint Inhibitors

Everett H. Meyer, Stanford University, USA
CAR T-Cell Immunomodulation in Diabetes

Short Talk(s) Chosen from Abstracts

Workshop 2: New Tools and Technologies for Diabetes Research

Short Talks Chosen from Abstracts

Bioengineering/Encapsulation

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Felicia Pagliuca, Semma Therapeutics, Inc, USA

Development of a Stem Cell Derived Pancreatic Islet Cell Therapy for Diabetes

Tejal A. Desai, University of California, San Francisco, USA

Nanoporous Thin Film Devices for Islet Encapsulation

Cherie Stabler, University of Florida, USA

Engineering Bioactive Encapsulation Platforms for Islet Transplantation

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

FRIDAY, FEBRUARY 9

Departure