



Join Keystone Symposia
for the 2016 conference on:

Stem Cells & Regeneration in the Digestive Organs

March 13–17, 2016

Keystone Resort | Keystone, Colorado | USA

Scientific Organizers:

Linheng Li, Martín G. Martín, James M. Wells and Markus Grompe

Joint with the conference on Islet Biology: From Cell Birth to Death

The gastrointestinal, pancreatic and hepatobiliary systems serve many essential functions, and stem cell (SC)-based tissue regeneration holds promise for treating diseases of the digestive system (DS). Recent advances include differentiation of pluripotent SCs (ESCs, iPSCs) into intestinal, pancreatic and hepatic cells that may someday be used to replace defective cell types. However, a gap remains between these achievements in basic research and translation into clinical treatment. This meeting will be the first to bring together a broad representation of scientists researching SC from the interrelated fields of the DS. With open and vigorous discussion, the meeting will “cross boundaries” and capitalize on the common principles and unique features of the three systems. Specific aims of the meeting are to: 1) Facilitate characterization of the properties of DS SC in vivo; 2) Address how the heterogeneity of the microenvironment influences the state and fate of SCs/PCs; 3) Narrow the gap between findings of in vitro and in vivo identification; and 4) Explore applications for converting stem into functional DS cell systems to overcome disease. The meeting should result in new scientific methods, insights, collaborations and technical capabilities for the entire DS, and facilitate further clinical advances.

Session Topics:

- GI Lineages from Pluripotent Stem Cells
- Workshop and Panel Discussion: Tissue Engineering
- Disease Modeling
- Identity and Function of GI Stem and Progenitor Cells
- Programmed or Reprogrammed Regeneration
- Adult Pancreatic Stem Cells (Joint)
- Stem and Progenitor Cells in Homeostasis and Diseases
- Developmental Origin of Stem Cells
- Workshop and Panel Discussion: Hurdles to Translation
- Translational and Clinical Applications



Submitting an abstract is a great way of participating in the conference through poster presentation and possible selection for a short talk.

Scholarship & Discounted Abstract Deadline: Nov 12, 2015

Abstract Deadline: Dec 15, 2015

Discounted Registration Deadline: Jan 14, 2016

For additional details, visit www.keystonesymposia.org/16X6.

KEYSTONE SYMPOSIA™
on Molecular and Cellular Biology
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KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Stem Cells and Regeneration in the Digestive Organs (X6)

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Islet Biology: From Cell Birth to Death (X5)

Scientific Organizers: Klaus H. Kaestner, Christopher J. Rhodes and Yuval Dor

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SUNDAY, MARCH 13

Arrival and Registration

MONDAY, MARCH 14

Welcome and Keynote Address (Joint)

Hiromitsu Nakauchi, Stanford University, USA
Generation of Functional Organs by Way of Interspecific Blastocyst Complementation

GI Lineages from Pluripotent Stem Cells (X6)

Gordon M. Keller, University Health Network, MaRS Centre, Canada
Lineage Specific Differentiation of Embryonic Stem (ES) Cells in Culture

Maïke Sander, University of California, San Diego, USA
From ESC to Pancreatic Cells

James M. Wells, Cincinnati Children's Hospital Research Foundation, USA
PSC-Derived GI Tissues as Models of Development and Disease

Short Talk(s) Chosen from Abstracts

Developmental and Regenerative Biology of the Endocrine Pancreas (X5)

Anne Grapin-Botton, University of Copenhagen, Denmark
Progenitor Heterogeneity as a Driver of Pancreas Development

Christopher V. Wright, Vanderbilt University, USA
From Multipotential Progenitors to Endocrine Lineages

Seung K. Kim, Stanford University, USA
Signaling Regulation of Islet Morphogenesis

Short Talk(s) Chosen from Abstracts

Workshop and Panel Discussion 1: Tissue Engineering (X6)

Short Talks Chosen from Abstracts

Workshop 1: Genetic Analysis of Islet Function (X5)

Short Talks Chosen from Abstracts

Disease Modeling (X6)

Frederic J. de Sauvage, Genentech, Inc., USA
Active and Reserve Intestinal Stem Cells in Cancer

Stephen A. Duncan, Medical College of Wisconsin, USA
Disease Modeling with ESC/iPSCs Derived Hepatocyte-Like Cells

Holger Willenbring, University of California, San Francisco, USA
Liver Cell Therapy with Hepatocytes Derived from Pluripotent Stem Cells

Short Talk Chosen from Abstracts

Controlling Beta-Cell Function (X5)

Doris A. Stoffers, Perelman School of Medicine at the University of Pennsylvania, USA

Mining the Pdx1 Cistrome for Novel Insights into Diabetes

Speaker to be Announced

Christopher J. Rhodes, University of Chicago, USA
CNS Control of Pancreatic Islet-Cell Function

Short Talk Chosen from Abstracts

Poster Session 1

TUESDAY, MARCH 15

Identity and Function of GI Stem and Progenitor Cells (X6)

Frédéric Lemaigre, de Duve Institute and Université catholique de Louvain, Belgium

Mechanisms of Cell Fate Decisions in Developing Liver

Stuart Forbes, University of Edinburgh, UK
The Role of Hepatic Progenitor Cells

Timothy C. Wang, Columbia University, USA
Talk Title to be Announced

Linheng Li, Stowers Institute for Medical Research, USA
Characterization of Intestinal Stem Cells

Short Talk(s) Chosen from Abstracts

Beta-Cell Growth and Proliferation (X5)

Yuval Dor, Hebrew University-Hadassah Medical School, Israel
The Genetic Program of Replicating Beta Cells

Heiko Lickert, Institute of Diabetes and Regeneration, Germany
Fate and Localization of Replicating Beta-Cells

Klaus H. Kaestner, University of Pennsylvania School of Medicine, USA

The Epigenome in the Aging Beta-Cell

Jorge Ferrer, Imperial College London, UK
Long Noncoding RNAs in Beta-Cells

Short Talk(s) Chosen from Abstracts

Programmed or Reprogrammed Regeneration (X6)

Lijian Hui, Shanghai Institutes of Biological Sciences, China
Direct Reprogramming of Human Fibroblasts to Functional Hepatocyte-Like Cells

Louise Laurent, University of California, San Diego, USA
Reprogramming of Fibroblasts using MicroRNAs for Autologous Cell Replacement Therapy for Juvenile Diabetes

Markus Grompe, Oregon Health & Science University, USA
Stem Cell Properties of Mature Hepatocytes

Short Talk Chosen from Abstracts

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Other Islet Cell Types: Major Contributor to Glucose Homeostasis and Health? (X5)

Alvin C. Powers, Vanderbilt University, USA

Interactions of Endothelial Cells, Macrophages, and Islet Cells

Patrik Rorsman, Oxford Centre for Diabetes, Endocrinology and Metabolism, UK

The Katp Channel in Pancreatic Alpha-Cells

Per-Olof Berggren, Karolinska Institutet, Sweden

Autocrine Regulation of Glucagon Secretion in the Alpha-Cell

Short Talk Chosen from Abstracts

Poster Session 2

WEDNESDAY, MARCH 16

Adult Pancreatic Stem Cells (Joint)

Matthias Hebrok, University of California, San Francisco, USA

Cell Plasticity in the Adult Pancreas

Qiao Zhou, Harvard Stem Cell Institute, USA

Reprogram Endocrine Cells of the Gastrointestinal Tract to Beta Cells

Lori Sussel, Columbia University, USA

Maintenance of Beta Cell Identity

Paul Gadue, Children's Hospital of Philadelphia, USA

Pancreatic Beta Cells Derived from Endodermal Stem Cells

Short Talk(s) Chosen from Abstracts

Stem and Progenitor Cells in Homeostasis and Diseases (X6)

Maureen Gannon, Vanderbilt University, USA

Regulation of Endocrine Differentiation

Calvin Kuo, Stanford University, USA

Regulation of Intestinal Stem Cell Self-Renewal

Ben Z. Stanger, University of Pennsylvania Perelman School of Medicine, USA

Cellular Plasticity in the Liver

Short Talk Chosen from Abstracts

Beta-Cell Stress (X5)

Miriam Cnop, Universite Libre de Bruxelles, Belgium

Mechanisms of Pancreatic Beta-Cell Death in Type 2 Diabetes

Marc Y. Donath, University Hospital Basel, Switzerland

Targeting Inflammation in the Treatment of Type 2 Diabetes

Roland W. Stein, Vanderbilt University Medical Center, USA

The Impact of Stressors on Transcription Factor Function in T2DM Islets

Short Talk Chosen from Abstracts

Poster Session 3

THURSDAY, MARCH 17

Keynote Address (X6)

Hans C. Clevers, Hubrecht Institute, Netherlands

Lgr5 Marks Multiple Adult Stem Cells

Developmental Origin of Stem Cells (X6)

Jason R. Spence, University of Michigan Health System, USA

Talk Title to be Announced

Atsushi Suzuki, Medical Institute of Bioregulation, Kyushu University, Japan

Molecular Regulation of Organogenesis and Regeneration

Olivia G. Kelly, Viacyte, Inc., USA

Development of an Encapsulated Cell Replacement Therapy for Diabetes

Short Talk(s) Chosen from Abstracts

Targeting Novel Drugs to the Islet (X5)

Shalev Itzkovitz, Weizmann Institute of Science, Israel

Single Molecule Approaches for Studying Gene Expression in Intact Mammalian Tissues

Andrew F. Stewart, Mount Sinai School of Medicine, USA

Progress and Hurdles in Human Beta Cell Regeneration for Diabetes

Cristina M. Rondinone, MedImmune, USA

Talk Title to be Announced

Short Talk(s) Chosen from Abstracts

Workshop and Panel Discussion 2: Hurdles to Translation (X6)

Short Talks Chosen from Abstracts

Workshop 2: Techniques for ES-Cell Differentiation and Reprogramming of Differentiated Cells into Beta-Cells (X5)

Short Talks Chosen from Abstracts

Translational and Clinical Applications (X6)

Tsutomu Chiba, Kyoto University, Japan

Regeneration of Gastrointestinal Organs

William Proctor, Genentech, Inc., USA

Hepatocyte iPS Biology

Martín G. Martín, David Geffen School of Medicine at UCLA, USA

Bench and Bedside: Future Challenges

Type-1 Diabetes: The Beta-Cell Immune System Interface (X5)

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Mark A. Atkinson, University of Florida, USA

The Immune System Perspective

Carla J. Greenbaum, Benaroya Research Institute at Virginia Mason, USA

T1D Therapeutic Approaches

Rene Maehr, University of Massachusetts Medical School, USA

Using iPS Cells for Insight into T1D

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)
(X6)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)
(X5)

FRIDAY, MARCH 18

Departure