



Regenerative Biology and Applications: Cell Differentiation, Tissue Organization and Biomedical Engineering

October 15–19, 2017 | University of Hong Kong | Pok Fu Lam, Hong Kong | China

Scientific Organizers:

Paul K.H. Tam, University of Hong Kong, China

Urban Lendahl, Karolinska Institutet, Sweden

Freda D. Miller, SickKids, Canada

*Organized in Collaboration with the Croucher Foundation
and The University of Hong Kong – Held in honor of the 130th Anniversary
of The University of Hong Kong Li Ka Shing Faculty of Medicine*



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130 YEARS OF
MEDICINE
IN HONG KONG

This four-day Keystone Symposia conference focuses on three important aspects of the rapidly developing area of regenerative biology: 1) The biology of the stem cell, with a focus on single-cell transcriptomics, deduction of cell lineage, pluripotency control and epigenetic regulation; 2) The tissue level, including the stem cell niche, organ generation, organoids and dysregulation of these processes in disease; and 3) Biomedical engineering and various types of disease modeling. Focusing on these three particular areas stems will prevent the meeting from being spread too thin over the entire realm of regenerative medicine, but will at the same time provide insights into research fields where progress currently occurs at a blistering speed. The overall goal of the conference is to provide both late-breaking data for the experts in the fields as well as overviews in areas that will interest a broad scientific community. Across the three main themes, the aim is to blend discussions on a range of organs, such as liver, heart, bone and skin, with talks that cover novel tissue engineering and organoid biology principles. Speakers from both academia and industry who are at the forefront in disease modeling, organs-on-chips and drug discovery will present. With this three-pronged thematic approach, the conference will be focused, yet broad enough to foster an exciting cross-disciplinary discussion among speakers and attendees, which will be highly stimulating for the regenerative medicine community in Hong Kong and the rest of the world. This is vital for training of the next-generation stem cell biologists and clinicians and to accelerate the pace at which basic science discoveries can be converted into clinical applications.

Session Topics:

- Pluripotency and Differentiation of Stem Cells
- Molecular Regulation of Stem Cells
- Tissue Organization (The Stem Cell Niche)
- Tissue Organization (Generating Tissue-Specific Cells)
- Tissue Organization (Physiological and Pathophysiological Development of Organ Systems) I & II
- Stem Cells for Biomedical Engineering
- Biomedical Engineering for Stem Cells

plus poster teaser sessions

Abstract Deadline (for short talk consideration): July 24, 2017

Local Registration Subsidy Application Deadline: July 27, 2017

Discounted Registration Deadline: August 15, 2017



Note: Local registration subsidy awards, covering the full registration fee, are available for researchers in Hong Kong.

Upper image of stem cells delivered by biomaterials, courtesy of Luo Gu, James Weaver and David J. Mooney, School of Engineering and Applied Sciences, and the Wyss Institute for Biologically Inspired Engineering, Harvard University.

Meeting Hashtag: #KSregenbio

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KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Regenerative Biology and Applications: Cell Differentiation, Tissue Organization and Biomedical Engineering (T3)

October 15-19, 2017 • Lee Shau Kee Lecture Centre, Centennial Campus, The University of Hong Kong • Pok Fu Lam, Hong Kong

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Travel Award Deadline: June 13, 2017 / Abstract & Scholarship Deadline: June 15, 2017 / Abstract Deadline: July 24, 2017 / Discounted Registration Deadline: August 15, 2017

SUNDAY, OCTOBER 15

Arrival and Registration

MONDAY, OCTOBER 16

Welcome and Keynote Address

Robin H. Lovell-Badge, Francis Crick Institute, UK
Regulation, Sex and Stem Cells

Pluripotency and Differentiation of Stem Cells

Duanqing Pei, Guangzhou Institutes of Biomedicine and Health, China
The Use of Gene Modification Technologies and the Potential Use in Humans

Pentao Liu, Wellcome Trust Sanger Institute, UK
Establishment of Cultures of Mammalian Expanded Potential Stem Cells

Huck-Hui Ng, Genome Institute of Singapore, Singapore
Systems Biology of Stem Cells

Short Talk(s) Chosen from Abstracts

Molecular Regulation of Stem Cells

Urban Lendahl, Karolinska Institute, Sweden
Notch Signaling and Vascular Differentiation

Ana Martin-Villalba, DKFZ German Cancer Research Center, Germany
Chromatin as a Hub Integrating Environmental Signals and Fate Decisions in Adult Neural Stem Cells

Timm Schroeder, ETH Zürich, Switzerland
Long-Term Single Cell Quantification: New Tools for Old Questions
Short Talk Chosen from Abstracts

Poster Teasers for Poster Session 1

TUESDAY, OCTOBER 17

Tissue Organization (The Stem Cell Niche)

Yechiel Elkabetz, Tel Aviv University, Israel
Neural Stem Cells/Epigenetics

Michael Rudnicki, Ottawa Hospital Research Institute, Canada
Molecular Regulation of Muscle Stem Cell Function

Guo-li Ming, University of Pennsylvania, USA
Engineering Brain-Region-Specific Organoids for Neural Development and Brain Disease Modeling

Christopher S. Chen, Boston University, USA
Engineering 3D Culture Models of Physiology and Disease
Short Talk(s) Chosen from Abstracts

Poster Session 1

Tissue Organization (Generating Tissue-Specific Cells)

Kristin J. Hope, McMaster Stem Cell and Cancer Research Institute, Canada
Molecular Mechanisms that Regulate Hematopoietic Stem Cell Expansion

David Piper, Thermo Fisher Scientific, USA

Improvements in the Genome Engineering of iPSCs to Build Disease Models for Screening

Mahendra S. Rao, New York Stem Cell Foundation, USA
Generation of Clinical-Grade Pluripotent Stem Cells
Short Talk Chosen from Abstracts

WEDNESDAY, OCTOBER 18

Tissue Organization (Physiological and Pathophysiological Development of Organ Systems) I

Berthold Gottgens, Cambridge Institute for Medical Research, UK
Cellular States and Regulatory Networks of Normal and Leukaemic Blood Cell Development

Freda D. Miller, SickKids, Canada
Cellular Mechanisms Underlying Adult Mammalian Digit Tip Regeneration

Yukiko Gotoh, University of Tokyo, Japan
Regulation of Embryonic and Adult Neural Stem Cell Fate

Paul K.H. Tam, University of Hong Kong, Hong Kong
Neural Crest Stem Cells and Hirschsprung Disease

Short Talk(s) Chosen from Abstracts

Tissue Organization (Physiological and Pathophysiological Development of Organ Systems) II

Hongkui Deng, Peking University, China
Chemical Biology and Cell Differentiation

Lingling Chen†, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, China
Talk Title to be Announced

Speaker to be Announced

Short Talk Chosen from Abstracts

Poster Teasers for Poster Session 2

THURSDAY, OCTOBER 19

Keynote Address

Hans C. Clevers, Hubrecht Institute, Netherlands
Lgr5 Stem Cell-Based Organoids in Human Disease

Stem Cells for Biomedical Engineering

Lorenz Studer, Memorial Sloan Kettering Cancer Center, USA
Parkinson's Disease

Himanshu Kaul, University of Toronto, Canada
Engineering Early Human Development

Lee L. Rubin, Harvard University, USA
Improving Neural Function

Molly S. Shoichet, University of Toronto, Canada
Using Biomimetic Strategies to Design Hydrogels for 3D Cell Culture
Short Talk(s) Chosen from Abstracts

Poster Session 2

Biomedical Engineering for Stem Cells

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Qi Zhou[†], Chinese Academy of Sciences, Institute of Zoology, China

Talk Title to be Announced

Gordana V. Vunjak-Novakovic, Columbia University, USA

Engineering Human Cardiac Tissue for Studying Development and Disease

V. Narry Kim[†], Seoul National University, South Korea

Talk Title to be Announced

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

FRIDAY, OCTOBER 20

Departure