

Frontiers in Organoid Medicine Symposium

Day 1 – Thursday, October 18, 2018

Sabin Auditorium

8:00 – 22:00

8:00 Registration and Continental Breakfast

9:00 Welcome and Logistics

**Dr. Margaret Hostetter, BK Rachford Professor, Chief Medical Officer,
Chair of Pediatrics, Director, Cincinnati Children's Research Foundation,
USA**

Aaron Zorn, Director, CuSTOM, Cincinnati Children's, USA

9:15 Keynote Speaker

Kazutoshi Takahashi, Kyoto University, Japan/Gladstone Institute, USA
Human Endogenous Retrovirus in Pluripotency

Session 1: Modeling Development and Disease

Sponsored by STEMCELL Technologies,

Moderator: Samantha Brugmann, CuSTOM Cincinnati Children's, USA

10:00 Minoru Takasato, RIKEN, BDR, Japan

3-D Kidney Organoids to Model Renal Morphogenesis

10:20 Jason Spence, University of Michigan, USA

Interrogating Basal Stem Cell Differentiation in the Human Lung

10:45 Laurent David, University of Nantes, France

*Pseudo-time Modeling and Time-lapse Imaging Reveals the Dynamics of EPI/TE
Specification of Human Preimplantation Development*

10:55 Miki Ebisuya, EMBL Barcelona/RIKEN, Japan

Human Time vs. Mouse Time in Segmentation Clock Organoids

11:05 Philipp Kramer, STEMCELL Technologies, Canada

New Tools for the Generation and Culture of 3D Organoids

11:15 Coffee Break

Session 2: Biofabrication and Tissue Engineering

Sponsored by RIKEN

Moderator: Minoru Takasato, RIKEN, Kobe Japan

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- 11:35** **Shoji Takeuchi, University of Tokyo, Japan**
Cell Fiber Technology for 3D Cell Culture
- 11:55** **Rio Sugimura, Kyoto University, Japan**
Forward Engineering Human Hematopoietic Stem Cell Development
- 12:15** **Jerome Guicheux, Nantes University, France**
Stem Cells and Biomaterials for the Regenerative Medicine of Intervertebral Disc: “When Tissue Engineers Meet Developmental Biologists”
- 12:25** **Eben Alsberg, Case Western Reserve University, USA**
Controlling Spatiotemporal Signals in High-Density Culture Systems for Engineering Complex Tissue
- 12:35** **Industry Three Minute Flash Presentations**
AGC Inc.
Nissan Chemical
RORZE Lifesciences
TamaiKasei Co. LTD
- 12:50** **Lunch, Industry Displays, and Networking**
- Session 3: Frontiers of Bioprinting Technology**
Sponsored by Cyfuse
Moderator: Takanori Takebe, CuSTOM Cincinnati Children’s, USA
- 14:00** **Koichi Nakayama, Saga University, Japan**
Scaffold-free Bio-3D Printing for Solid Organ Fabrication
- 14:20** **Moo-Yeal Lee, Cleveland State University, USA**
Microarray 3D Bioprinting for Organoid Culture
- 14:40** **Keitaro Matsumoto, Nagasaki University, Japan**
Artificial Trachea and Esophagus Using Bio-3D Printer “Regenova”
- 15:00** **Yoshihiro Ito, RIKEN, Japan**
Design of 3D Scaffold by Photo-reactive Biological Macromolecules and Adhesive Growth Factors
- 15:10** **Industry Three Minute Flash Presentations**
Cyfuse
Nacalai Tesque
JTEC Corporation

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15:30 **Coffee Break**

**Session 4: Emerging Leaders in Stem Cell and Organoid Medicine,
Moderator: Aaron Zorn, CuSTOM Cincinnati Children's, USA**

16:00 **Kyle Loh, Stanford University, USA**

A Roadmap for Human Tissue Progenitor Development from Pluripotent Stem Cells

16:20 **Jorge Munera, Medical University of South Carolina, USA**

Co-development of Hemogenic Endothelium in hPSC Derived Colonic Organoids

16:40 **Mingxia Gu, Stanford University, USA**

iPSC Disease Modeling: Toward Therapeutic Discovery

17:00 **Jason Tchieu, Memorial Sloan Kettering Institute New York, USA**

A Multi-culture Platform to Investigate Non-neuronal Contribution to Disease

17:20 **Nozomu Takata, Northwestern University, USA**

Molecular Identification and Cell-type Specific Signatures of Optic Vesicle Primordium at a Single Cell Resolution

18:15 **Shuttle 1 to Dinner from Location S, Research Pavilion**

18:45 **Shuttle 2 to Dinner from Location S, Research Pavilion**

18:45 **Dinner at American Sign Museum**

Sponsored by STEMCELL Technologies

<https://www.americansignmuseum.org>

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Day 2 – Friday, October 19, 2018
Research Pavilion, Location S, Rooms S1.203-204
8:00 – 19:00

8:00 **Continental Breakfast**

9:00 **Keynote Speaker**
James Wells, CuSTOM, Cincinnati Children's
GI Organoids in Development and Disease

9:45 **Discussion Panel: Challenges to Translate iPSC Technology,**
Sponsored by STEMCELL Technologies
Moderator: Jim Wells, USA

10:30 **Coffee Break**

Session 1: Disease Modeling and Diagnostics
Sponsored by Hitachi AP
Moderator: Alison Weiss, CuSTOM, University of Cincinnati, USA

11:00 **Cindy Osborn, Food and Drug Administration, USA**
CMC Consideration in iPSCs Derived Cellular Products

11:20 **Joseph Wu, Stanford University, USA**
Stem Cells and Genomics for Precision Medicine

11:40 **Meritxell Huch, Gurdon Institute, UK**
Hepatic Organoids for Understanding Liver Regeneration and Disease

12:00 **Industry Three Minute Flash Presentations**
Kuraray
Ajinomoto Health
Nippi/Matrixome
Hitachi AP

12:15 **Lunch**

Session 2: Drug Discovery and Therapeutics
Sponsored by bio-technie
Moderator: Jorge Bezerra, CuSTOM, Cincinnati Children's, USA

14:00 **Ryuji Morizane, Brigham and Women's Hospital, USA**
Kidney Organoids

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- 14:20** **Shuibing Chen, Weill Cornell Medicine, USA**
3D Colon Organoids-based Disease Modeling and Drug Screening
- 14:40** **Tatiana Karakasheva, University of Pennsylvania, USA**
Patient-derived Organoids from Diagnostic Biopsies as a Pathway to Personalized Medicine in Esophageal Cancer
- 14:50** **Scott Schachtele, bio-technie, Minneapolis, USA**
Gaining Access to the Intestinal Epithelium: Converting Organoids to MimEXTM GI
- 15:00** **Coffee Break**
- Session 3: Cell and Tissue Therapeutics**
Sponsored by Thermo Fisher
Moderator: Mertixell Huch, Gurdon Institute, UK
- 15:40** **Fumihito Arai, Nagoya University, Japan**
Micro-nano Mechatronics for Future Organoid Medicine
- 16:00** **Michael Helmuth, CuSTOM, Cincinnati Children's, USA**
Translating Human Intestinal Organoids (HIOs)
- 16:20** **Kevin D'Amour, Viacyte Inc., San Diego, USA**
Development of Stem-Cell Derived, Islet Replacement for Type 1 Diabetes
- 16:40** **Takanori Takebe, CuSTOM, Cincinnati Children's, USA**
Modeling Early Hepatogenesis Using Human iPSC Towards Organoid Medicine
- 17:00** **Robert Horton, Thermo Fisher, USA**
3D Cell Culture: Developing Better in Vitro Models for Drug Discovery & Development
- 17:30** **Mixer and Hors d'oeuvres, Location T, 14th Floor**
Sponsored by STEMCELL Technologies
- 18:30** **Closing Remarks: Dr. Daniel von Allmen, Surgeon-in-Chief,
Senior Vice President, Surgical Services, Cincinnati Children's, USA**