

## Frontiers in Stem Cell & Organoid Medicine

March 24-25, 2022

### **Accelerating Industry-Academic Collaboration** Cincinnati Children's Hospital Medical Center

Co-Hosted by:

[Center for Stem Cell & Organoid Medicine \(CuSTOM\)](#)  
[RIKEN-BDR](#)

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Inspire the Next

#### Day 1, Thursday, March 24<sup>th</sup>

**11:00am EST**  
8:00am PST  
24:00 JST March 24

[Exhibitor Booth | Chat | Q&A](#)

**11:00am EST**  
8:00am PST  
24:00 JST March 24

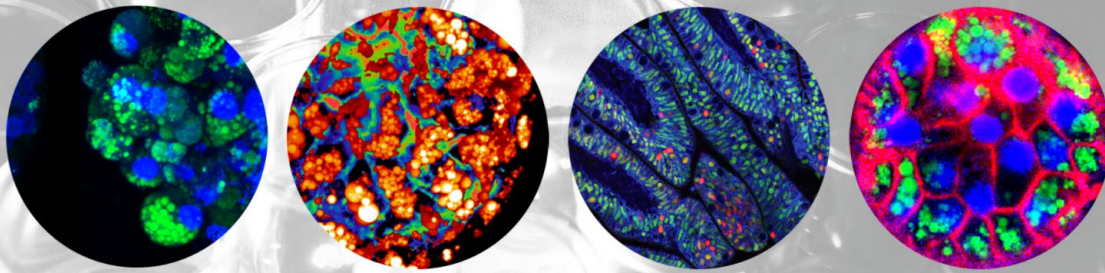
[Cincinnati Children's/CuSTOM Career Booth | Chat | Q&A](#)

**12:00pm EST**  
9:00am PST  
01:00 JST March 25

[Welcome and Logistics](#)  
[Aaron Zorn](#), Director, CuSTOM, Cincinnati Children's, USA

**12:05pm EST**  
09:05am PST  
01:05 JST

[Welcome](#)  
[Steve Davis](#), President and Chief Executive Officer  
Cincinnati Children's, USA



# Frontiers in Stem Cell & Organoid Medicine

March 24-25, 2022

## Day 1, Thursday, March 24<sup>th</sup>

**12:15pm EST**

9:15am PST  
01:15 JST

### Keynote Speaker

**Gordon Keller**, University Health Network, Canada

*Modeling human development for new cell therapies*

Introduction by **Jim Wells**, CuSTOM, Cincinnati Children's, USA

**12:50pm EST**

9:50am PST  
01:50 JST

### Session 1: Disease Modeling

**Moderator: Mingxia Gu**, CuSTOM, Cincinnati Children's, USA

**Li Qian**, University of North Carolina, USA

*Direct Cardiac Reprogramming Comes of Age*

**1:10pm EST**

10:10am PST  
02:10 JST

**Darrell Kotton**, Boston University, USA

*Lung epithelial reconstitution by engraftment of differentiated pluripotent stem cells*

**1:30pm EST**

10:30am PST  
02:30 JST

**Susanne Wells**, CuSTOM, Cincinnati Children's, USA

*How to study Fanconi anemia in the age of personalized medicine*

**1:50pm EST**

10:50am PST  
02:50 JST

**Mark Skylar-Scott**, Stanford University, USA

*Multi-Modal Tissue Engineering: From Engineered Stem Cells To Bioprinted Organs*

**2:10pm EST**

11:10am PST  
03:10 JST

**Josef Penninger**, University of British Columbia, Canada

*Organoids to model SARS-CoV2 infections*

**2:30pm EST**

11:30am PST  
03:30 JST

### Selected Abstract Presentation

**Yi Lin**, Children's Hospital Medical Center, USA

*Modeling Neuronopathic Gaucher Disease with Human Patient-Specific Midbrain Organoids*

**3:00pm EST**

12:00pm PST  
04:00 JST

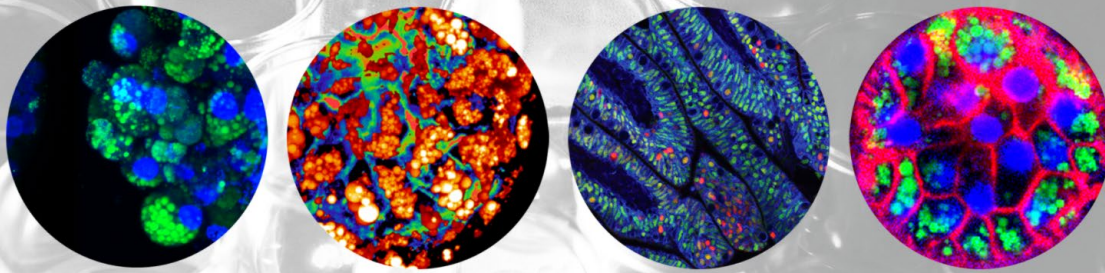
**Industry Flash Talk: Oksana Sirenko**, **Molecular Devices**

*Automated development and high content imaging of 3D organoids*

**3:20pm EST**

12:20pm PST  
04:20 JST

**Break**



## Frontiers in Stem Cell & Organoid Medicine

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### Day 1, Thursday, March 24<sup>th</sup>

#### 3:35pm EST

12:35pm PST  
04:35 JST

#### Session 2: Emerging Leaders in Stem Cell and Organoid Medicine

Moderator: Aaron Zorn, CuSTOM Cincinnati Children's, USA

[Ziyuan Guo](#), CuSTOM, Cincinnati Children's, USA

*Human vascularized brain organoids with blood-brain-barrier formation for study of brain vascular disorders*

[Kelley Yan](#), Columbia Medical School, USA

*A Top-Down Approach to Understanding Intestinal Crypts and Regeneration*

#### 3:55pm EST

12:55pm PST  
04:55 JST

#### 4:15pm EST

1:15pm PST  
05:15 JST

[Mingxia Gu](#), CuSTOM, Cincinnati Children's, USA

*Engineering Vascularized Organoids to Study Development and Disease*

#### 4:35pm EST

1:35pm PST  
05:35 JST

[Kyle McCracken](#), Boston Children's Hospital, USA

*hPSC-derived organoids recapitulate kidney morphogenesis and renal tubular physiology*

#### 4:55pm EST

1:55pm PST  
05:55 JST

[Yi Zheng](#), University of Michigan, USA

*Single-cell analysis of embryoids reveals lineage diversification roadmaps of early human development*

#### 5:15pm EST

2:15pm PST  
06:15 JST

#### Session 3: Biomedical & Tissue Engineering Organoids

Moderator: Mitsuru Morimoto, RIKEN, Japan

[Leyla Esfandiari](#), CuSTOM, University of Cincinnati, USA

*Nano-biosensors for continuous monitoring of cellular activities in 3D organoids*

#### 5:35pm EST

2:35pm PST  
06:35 JST

[Sergiu Pasca](#), Stanford University, USA

*From stem cells to assembloids: Constructing and deconstructing human nervous system development and disease*

#### 5:55pm EST

2:55pm PST  
06:55 JST

[Michael Helmrich](#), CuSTOM, Cincinnati Children's, USA

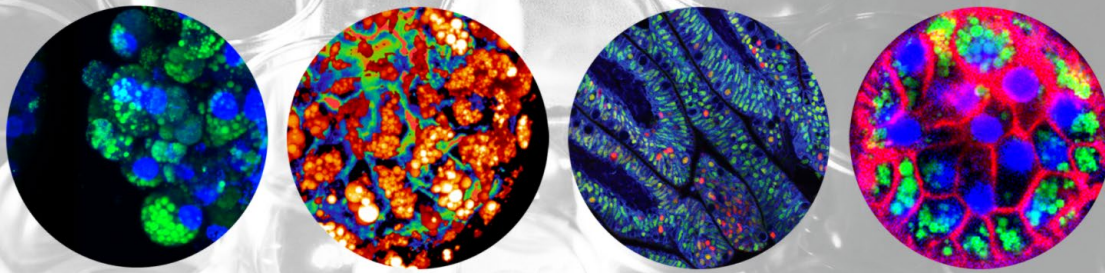
*Translating Intestinal Organoids*

#### 6:15pm EST

3:15pm PST  
07:15 JST

[Minoru Takasato](#), RIKEN-BDR, Japan

*Generating bladder organoids from human pluripotent stem cells*



## Frontiers in Stem Cell & Organoid Medicine

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### Day 1, Thursday, March 24<sup>th</sup>

**6:35pm EST**     [Yo Tanaka](#), RIKEN-BDR, Japan  
3:35pm PST  
07:35 JST     *Microfluidic devices for cell and tissue handling*

**6:55pm EST**     **End of Day 1**  
3:55pm PST  
07:55 JST

### Day 2, Friday, March 25<sup>th</sup>

**11:00am EST**     [Exhibitor Booth | Chat | Q&A](#)  
8:00am PST  
24:00 JST March 25

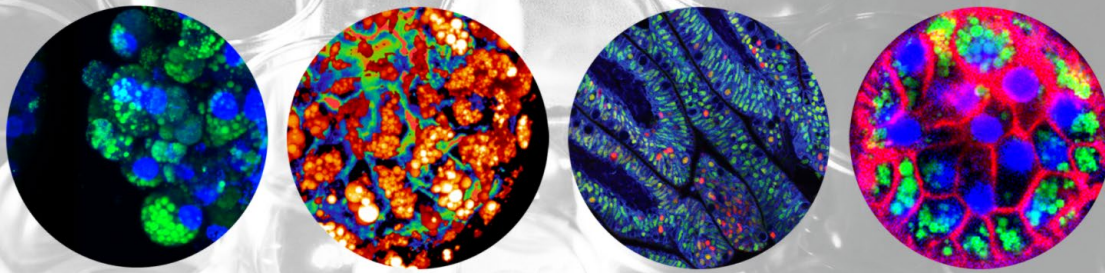
**11:00am EST**     [Cincinnati Children's/CuSTOM Career Booth | Chat | Q&A](#)  
8:00am PST  
24:00 JST March 25

**12:00pm EST**     [Welcome to Day 2 and Logistics](#)  
9:05am PST  
01:05 JST March 26     [Aaron Zorn](#), Director, CuSTOM, Cincinnati Children's, USA

**12:05pm EST**     [Keynote Speaker](#)  
9:05am PST  
01:05 JST     [Lorenz Studer](#), Memorial Sloan Kettering Cancer Center, USA  
*Developing Cell Therapies for Neurodevelopmental and Neurodegenerative disorders*  
Introduction by [Jason Tchieu](#), CuSTOM, Cincinnati Children's, USA

**12:40pm EST**     [Deborah Hursh](#), CBER / FDA, USA  
9:40am PST  
01:40 JST     *CMC Considerations for Pluripotent Stem Cell Derived Products: FDA Perspectives*

**1:05pm EST**     [Discussion Panel: Cell Therapeutics: How to Get There?](#)  
10:05am PST  
02:05 JST     **Moderator:** [Michael Helmrath](#), CuSTOM, Cincinnati Children's, USA  
[Takanori Takebe](#), CuSTOM, USA  
[Deborah Hursh](#), Food and Drug Administration, USA  
[Jose Cancelas-Perez](#), CuSTOM, USA  
[Luis Rodriguez-Borlado](#), [Takeda](#)



## Frontiers in Stem Cell & Organoid Medicine

March 24-25, 2022

### Day 2, Friday, March 25<sup>th</sup>

**2:25pm EST**

11:25am PST  
03:25 JST

**Meet the Speakers**

**3:25pm EST**

12:25pm PST  
04:25 JST

**Break**

**3:45pm EST**

12:45pm PST  
04:45 JST

**Session 4: Organoids for development and drug discovery**  
**Moderator: Takanori Takebe, CuSTOM Accelerator, Cincinnati Children's, USA**

**Adrian Roth, Roche, Switzerland**

*How 3D, Organoids & Organs on Chips can improve and renew current drug development paths*

**4:05pm EST**

1:05pm PST  
05:05 JST

**Karl Koehler, Harvard Medical School, USA**

*Skin organoids for developmental modeling and cell therapy*

**4:25pm EST**

1:25pm PST  
05:25 JST

**Selected Abstract Presentation**

**Stefan Semrau, Leiden University, Netherlands**

*Extraembryonic endoderm cells induce neuroepithelial tissue in gastruloids*

**4:45pm EST**

1:45pm PST  
05:45 JST

**Mitsuru Morimoto, RIKEN-BDR, Japan**

*Identifying a lung stem cell subpopulation by combining single-stem cell morphometrics, organoid culture, and transcriptomics*

**5:05pm EST**

2:05pm PST  
06:05 JST

**Session 5: Cell and Tissue Therapeutics**

**Moderator: Jim Wells, CuSTOM, Cincinnati Children's, USA**

**James Wells, CuSTOM, Cincinnati Children's, USA**

*Engineering cellular complexity into PSC-derived gastrointestinal organoids*

**5:25pm EST**

2:25pm PST  
06:25 JST

**Toshiro Sato, Keio University, Japan**

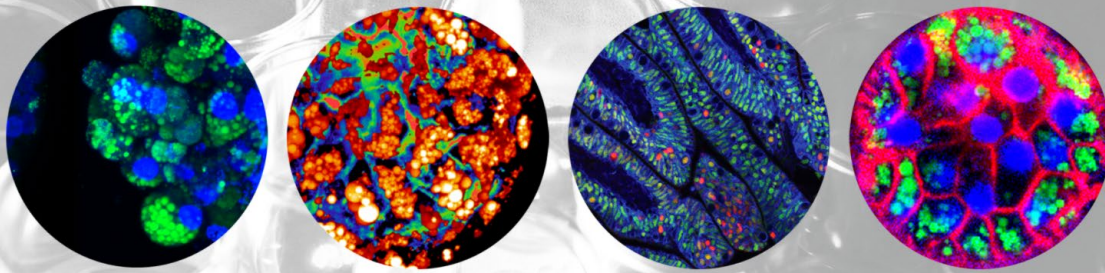
*Understanding of human normal and diseased intestinal stem cells using organoid technology*

**5:45pm EST**

2:45pm PST  
06:45 JST

**Hidetoshi Masumoto, RIKEN-BDR, Japan**

*Human iPS cell-derived heart organoids and the medical application*



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### Day 2, Friday, March 25<sup>th</sup>

6:05pm EST  
3:05pm PST  
07:05 JST

#### Closing Remarks

[Aaron Zorn](#), Director, CuSTOM, Cincinnati Children's, USA  
[Mitsuru Morimoto](#), RIKEN-BDR, Japan

### Symposium Adjourns

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