Monday, March 25 (Day 1)

9:00-9:50 Registration

9:50-10:00 Welcoming Address by Eisuke Nishida

Session 1: Making Embryoids and Organoids
Chair: Minoru Takasato

10:00-10:30 **S1-1**
Single cell analysis of early human embryos and pluripotent cells
Fredrik Lanner (Karolinska Institutet, Sweden)

10:30-11:00 **S1-2**
Blastoids: blastocyst-like structures generated solely from stem cells implant in utero
Nicolas Rivron (MERLN Institute and Hubrecht Institute, The Netherlands)

11:00-11:20 *Coffee Break*

11:20-11:50 **S1-3**
Synthetic human embryo-like structures: A new paradigm for human embryology
Jianping Fu (University of Michigan, Ann Arbor, USA)

11:50-12:10 **S1-4***
Induced 2C expression and implantation-competent blastocyst-like cysts from primed pluripotent stem cells
Cody Kime (RIKEN Center for Biosystems Dynamics Research, Japan)

12:10-13:10 *Lunch*

13:10-13:40 **S1-5**
Recreating a lower urinary tract from human pluripotent stem cells
Minoru Takasato (RIKEN Center for Biosystems Dynamics Research, Japan)

13:40-14:10 **S1-6**
Pancreas organoids to decipher organ development
Anne Grapin-Botton (DanStem, University of Copenhagen, Denmark)

---

*Selected talks

14:10-15:40 **Poster Session 1**
14:10-14:55 Presenters of Odd numbered posters
14:55-15:40 Presenters of Even numbered posters

Session 2: From Natural to Artificial Cells
Chair: Shunsuke Tagami

15:40-16:10 **S2-1**
Defining the last 25% of life using a minimal bacterial cell
Yo Suzuki (J. Craig Venter Institute, USA)

16:10-16:40 **S2-2**
Bottom up approaches to synthetic cellularity
T-Y Dora Tang (Max Planck Institute for Cellular Molecular Biology and Genetics, Germany)

16:40-17:10 **S2-3**
Simple peptides enhance assembly and activity of RNA molecules
Shunsuke Tagami (RIKEN Center for Biosystems Dynamics Research, Japan)

17:10-17:30 *Coffee Break*

17:30-18:00 **S2-4**
The biophysics of RNP granule formation and disease
Simon Alberti (Max Planck Institute of Molecular Cell Biology and Genetics, Germany)

18:00-18:20 **S2-5***
Generating force in living cells at will
Takanari Inoue (Johns Hopkins University, USA)

18:20-18:50 **S2-6**
Making an artificial cell capable of Darwinian evolution
Norikazu Ichihashi (The University of Tokyo, Japan)

18:50-20:30 Reception at BDR Lounge

*Selected talks

Tuesday, March 26 (Day 2)

Session 3: Cutting-edge Technology
Chair: Yo Tanaka

9:30-10:00 **S3-1**
High-resolution, high-throughput electrophysiology platforms for drug discovery applications using iPSC-derived neurons
Urs Frey (MaxWell Biosystems AG, Switzerland)

10:00-10:30 **S3-2**
Multiplexed analysis based on the single cells array
Dahai Ren (Tsinghua University, China)

10:30-10:50 **S3-3***
Integrative platform to control and sensing microenvironment for 3D tissue reconstruction
Masaya Hagiwara (Osaka Prefecture University, Japan)

10:50-11:20 *Coffee Break*

11:20-11:50 **S3-4**
Improving cardiovascular "diseases-in-a-dish" with active biomaterials
Adam J Engler (University of California San Diego, USA)

11:50-12:20 **S3-5**
Pioneering nanofluidics for new chemistry, biology, and materials science
Yan Xu (Osaka Prefecture University, Japan)

12:20-12:50 **S3-6**
User-friendly cellular or tissue patterning methods and application to their analysis
Yo Tanaka (RIKEN Center for Biosystems Dynamics Research, Japan)

12:50-13:50 *Lunch*

13:50-15:50 **Poster Session 2**
13:50-14:50 Presenters of posters with category "A"
14:50-15:50 Presenters of posters with category "B"

---

*Selected talks

Session 4: Theory and Data Analysis
Chair: Yoshihiro Morishita

15:50-16:20 **S4-1**
Hybrid control and treatment design of prostate cancer by mathematical modeling and machine learning
Kazuyuki Aihara (The University of Tokyo, Japan)

16:20-16:50 **S4-2**
Neurosensory network functionality and data-driven control
J. Nathan Kutz (University of Washington, USA)

16:50-17:10 *Coffee Break*

17:10-17:40 **S4-3**
Information transfer from medullary central pattern generators to analog microcircuits
Alain Nogaret (University of Bath, UK)

17:40-18:10 **S4-4**
Human time vs. mouse time: in vitro segmentation clock as a model system
Miki Ebisuya (EMBL Barcelona, Spain)

18:10- Speakers' Dinner

---

*Selected talks

Wednesday, March 27 (Day 3)

9:30-9:50 **S4-5***
Topological transitions of epithelial surfaces
Keisuke Ishihara (Max Planck Institute of Molecular Cell Biology and Genetics, Germany)

9:50-10:10 **S4-6***
Noise-resistant developmental reproducibility in vertebrate somite formation
Naoki Honda (Kyoto University, Japan)

10:10-10:40 **S4-7**
A quantitative and systems approach to vertebrate forebrain and heart morphogenesis
Yoshihiro Morishita (RIKEN Center for Biosystems Dynamics Research, Japan)

10:40-11:10 *Coffee Break*

Session 5: Life Cycle
Chair: Tomoya Kitajima

11:10-11:40 **S5-1**
Lifespan extension by modulating inflammation and stem cell function
Heinrich Jasper (Genentech Inc., USA)

11:40-12:10 **S5-2**
Adipose tissue NAD^+ biology in glucose metabolism and thermogenesis
Jun Yoshino (Washington University School of Medicine, USA)

12:10-13:40 Lunch and **Poster Session 3**
Free discussion, all posters

13:40-14:10 **S5-3**
Control of acentrosomal spindle assembly during meiosis in oocytes
Tomoya Kitajima (RIKEN Center for Biosystems Dynamics Research, Japan)

14:10-14:40 **S5-4**
Maternal transmission – a tale of two genomes

*Selected talks

Mary Herbert (Newcastle University, UK)

14:40-15:10 **S5-5**
Reconstitution and understanding of mammalian oogenesis
Katsuhiko Hayashi (Kyushu University, Japan)

15:10-15:20 Closing Remarks by Katsuhiko Hayashi

*Selected talks