

## Monday, March 2 (Day 1)

9:00-9:50 Registration

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

### Session 1: Origin of life

Chair: Shunsuke Tagami (RIKEN Center for Biosystems Dynamics Research, Japan)

10:00-10:30 **S1-1**

**On the unified chemical origins of peptides and nucleic acids**

Matthew W. Powner (University College London, UK)

10:30-10:50 **S1-2**✕

**Membraneless polyester microdroplets as primordial compartments at the origins of life**

Tony Jia (Tokyo Institute of Technology, Japan)

10:50-11:20 **S1-3**

**Evolution from Simple Peptides to Folded Proteins**

**–The Origin Core of RNA Polymerase–**

Shunsuke Tagami (RIKEN Center for Biosystems Dynamics Research, Japan)

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11:20-11:40 *Coffee Break*

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### Session 2: Protein/RNA self-assembly

Chair: Shun-ichi Sekine (RIKEN Center for Biosystems Dynamics Research, Japan)

11:40-12:10 **S2-1**

**Self-assembling supramolecular nanostructures constructed from protein nanobuilding blocks**

Ryoichi Arai (Shinshu University, Japan)

12:10-12:40 **S2-2**

**Evolution-inspired computational design of symmetric proteins**

Kam Zhang (RIKEN Center for Biosystems Dynamics Research, Japan)

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12:40-13:40 *Lunch*

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13:40-14:10 **S2-3**

**Dynamics of transcription factors binding to DNA**

Sina Wittmann (Max Planck Institute of Molecular Cell Biology and Genetics, Germany)

14:10-14:40 **S2-4**

**Exploring the 3D genome organization dynamics through single-cell DNA replication profiling**

Ichiro Hiratani (RIKEN Center for Biosystems Dynamics Research, Japan)

14:40-15:10 **S2-5**

**Loose genome chromatin networks via transcription machinery revealed by single nucleosome imaging**

Kazuhiro Maeshima (National Institute of Genetics, Japan)

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15:10-16:50 **Poster Session 1**

15:10-16:00 Presenters of Odd numbered posters

16:00-16:50 Presenters of Even numbered posters

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**Session 3: Intracellular Organelle formation**

Chair: Tatsuo Shibata (RIKEN Center for Biosystems Dynamics Research, Japan)

16:50-17:10 **S3-1**✳

**Paternal pronucleus remotely safeguards maternal H3K4me3 via a cytoplasmic competition mechanism in the zygote**

Hirohisa Kyogoku (RIKEN Center for Biosystems Dynamics Research, Japan)

17:10-17:30 **S3-2**✳

**The Physical Simulation of Self-organization of the Golgi Apparatus**

Masashi Tachikawa (Kyoto University, Japan)

17:30-18:00 **S3-3**

**Organelle degradation by autophagy and autophagy-related pathways**

Noboru Mizushima (The University of Tokyo, Japan)

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18:00- Reception at BDR Lounge

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## Tuesday, March 26 (Day 2)

9:30-10:00 **S3-4**

**Reconstruction of Par-cell polarity in non-polar cultured cells reveals novel dynamic states of the Par complex clusters**

Fumio Matsuzaki (RIKEN Center for Biosystems Dynamics Research, Japan)

10:00-10:30 **S3-5**

**Opportunities and Challenges in Understanding Cortical Pattern Formation**

Min Wu (Yale School of Medicine, USA)

10:30-11:00 **S3-6**

**Unifying data across experiments towards an integrated view of cell organization**

Gregory R. Johnson (Allen Institute for Cell Science, USA)

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11:00-12:40 **Poster Session 2**

11:00-11:50 Presenters of posters with category "A"

11:50-12:40 Presenters of posters with category "B"

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12:40-13:40

*Lunch*

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### **Session 4: Brain function and its underlying principle**

Chair: Atsushi Iriki (RIKEN Center for Biosystems Dynamics Research, Japan)

13:40-14:10 **S4-1**

**Resolving Organization, Dynamics and States of Primate Brain**

Takuya Hayashi (RIKEN Center for Biosystems Dynamics Research, Japan)

14:10-14:40 **Marmoset as a model animal for primate brain mapping projects**

Tetsuo Yamamori (RIKEN Center for Brain Science, Japan)

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14:30-14:50

*Coffee Break*

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14:50-15:20 **S4-3\***

**Atypical myosin tunes the emergence of dendrite arbor complexity**

Adrian Moore (RIKEN Center for Brain Science, Japan)

15:20-15:50 **S4-4**

**How does the non-conscious visuo-motor function emerge after damage to the primary visual cortex?**

Tadashi Isa (Kyoto University, Japan)

15:50-16:20 **S4-5**

**Mapping the Cerebral Cortex in Humans and Nonhuman Primates**

David C. Van Essen (Washington University in St. Louis, USA)

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16:20-16:40

*Coffee Break*

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**Session 5: Cell assembly and organ formation**

Chair: Minoru Takasato (RIKEN Center for Biosystems Dynamics Research, Japan)

16:40-17:10 **S5-1**

**TBD**

Shuichi Onami (RIKEN Center for Biosystems Dynamics Research, Japan)

17:10-17:30 **S5-2**✳

**SOX2 and SOX21 repress CDX2 and the intestinal program during developmental gastric patterning and metaplasia in humans**

Daniel O. Kechele (CuSTOM, Cincinnati Children's Hospital Medical Center, USA)

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17:30-

*Speaker's Dinner*

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## Wednesday, March 4 (Day 3)

9:30-10:00 **S5-3**

**TBD**

Vikas Trivedi (EMBL, Spain)

10:00-10:30 **S5-4**

**Single cell transcriptomics reveals a signaling roadmap coordinating endoderm and mesoderm lineage diversification during foregut organogenesis**

Aaron M. Zorn (CuSTOM, Cincinnati Children's Hospital Medical Center, USA)

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10:30-10:50

*Coffee Break*

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10:50-11:20 **S5-5**

**Synthetic Embryology: a new window on mammalian development**

Eric Siggia (The Rockefeller University, USA)

11:20-11:50 **S5-6**

**TBD**

Mototsugu Eiraku (Kyoto University, Japan)

11:50

Closing Remarks