

PROGRAMME

SY Stem

23–25 March 2022
Vienna, Austria

Symposium for the next generation of stem cell researchers



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Venue

Campus - Vienna - Biocenter



 Buffet

 Coat rack

- EXHIBITORS:
- | | |
|-------------------------|-----------------------|
| ① Takara | ⑦ Sino Biological |
| ② THP Medical | ⑧ Viventis Microscopy |
| ③ Biotechnie | ⑨ Eppendorf |
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Welcome to the Vienna BioCenter!
Enjoy your stay with us!
Special thanks to all sponsors of the SY-Stem symposium!

Programme

DAY 1 - Wednesday, March 22

12:00 **Welcome and introduction**

Keynote lecture 1 - EMBO Young Investigator Lecture

Chair: **Elly Tanaka**

12:10 **Prisca Liberali (Friedrich Miescher Institute for Biomedical Research)** Principles of tissue organization: Symmetry breaking in intestinal organoids

13:10 lunch break

Session 1 - morphogenetic principles

Chairs: **Stephanie Ellis & Diana Pinheiro**

14:30 **Rashmi Priya (The Francis Crick Institute)** Heart Morphomechanics: from single cells to 3D topological meshwork

15:00 **Jérôme Gros (Institut Pasteur)** Mechanical feedback in embryonic self-organization

15:30 **Derk ten Berge (Erasmus MC, University Medical Center)** Pluripotency, morphogenesis, and the modular control of embryonic self-organization

15:50 *Coffee break & group picture*

16:20 **Kate Miroshnikova (National Institutes of Health)** Impact of nuclear mechanics and genome-lamina interactions on stem cell fate transitions

16:50 **Teresa Krammer (Research Institute of Molecular Pathology)** BMP-mediated self-organization of a ventral signaling center in neural tube organoids

17:10 *Break*

17:40 **Alan Rodrigues (The Rockefeller University)** Supracellular regulation of tissue form and cell fate

18:10 **Jakub Sumbal (Institut Curie)** Spatial mapping of stromal microenvironment during mammary branching morphogenesis

18:30 **Teresa Rayon (Babraham institute)** Mechanistic control of timescales in development

19:00 *Symposium dinner*



DAY 2 - Thursday, March 23

Session 2 - cell biology of stem cells

Chair: **Florian Raible**

- 09:00 **Alessandro deSimone (University of Geneva)** How does a regenerating scale reach its final form?
- 09:30 **Chen-Hui Chen (Institute of Cellular and Organismic Biology)** What can we learn from the fish with a hundred colors?
- 10:00 **David Brückner (Institute of Science and Technology Austria)** Theory of reproducibility in self-organized cell fate specification
- 10:20 *Coffee break*
- 10:50 **Maria Alcolea (Wellcome – MRC Cambridge Stem Cell Institute)** From development to homeostasis and back
- 11:20 **Darcie Moore (University of Wisconsin–Madison)** Identifying signatures of adult neural stem cell state
- 11:50 *Break*

Session 3 – part I - stem cell derived in vitro systems

Chair: **Sasha Mendjan**

- 12:10 **Maria Bernabeu-Aznar (EMBL Barcelona)** Building stem cell based 3D blood-brain barrier models to study human and zoonotic malaria
- 12:40 **Amanda Andersson Rolf (Hubrecht Institute)** Discovery and long-term in vitro expansion of a human tri-potent fetal pancreas progenitor
- 13:10 **Lunch break**
- 14:10 **Nikolce Gjorevski (Roche Institute for Translational Bioengineering)** Next-generation immunocompetent intestinal organoids capture drug-induced inflammation
- 14:40 **Franka Voigt (Friedrich Miescher Institute for Biomedical Research)** Deciphering RNA localization codes: A single-molecule imaging approach to dissect RNA targeting mechanisms in 3D model systems
- 15:00 **Poster session I**
- 16:30 **Panel discussion “the value of preprints”**
- 18:00 **Networking event: SY-Stem pub quiz**

DAY 3 - Friday, March 24

Session 3 – part II - stem cell derived in vitro systems

Chairs: **Christian Lehmann & Marie Leitner**

- 09:00 **Jesse Veenliet (Max Planck Institute of Molecular Cell Biology and Genetics)** Connecting spaces and scales in stembryos
- 09:30 **Jens Puschhof (German Cancer Research Center - DKFZ)** Modelling Cancer-Microbiome Interactions with Organoids and Organs-on-Chips
- 10:00 **Clara Schmidt (Institute of Molecular Biotechnology)** Multi-chamber cardioids unravel human heart development and cardiac defects
- 10:20 *Coffee break*

Session 4 – modeling human and primate early development

Chair: **Joanna Jachowicz & Nicolas Rivron**

- 10:50 **Mijo Simunovic (Columbia University)** Breaking embryonic symmetries in the first steps of human development
- 11:20 **Xabier Aranguren (Center for Applied Medical Research - CIMA)** Blastocyst complementation and interspecies chimeras for organ generation
- 11:40 **Thorsten Boroviak (University of Cambridge)** How to build a primate: Modelling postimplantation development in a dish
- 12:10 *Lunch break*
- 13:00 **Poster session II**
- 14:30 **Ayaka Yanigada (The University of Tokyo)** Capturing early human embryonic development using naive pluripotent stem cells
- 15:00 **Sina Schumacher (Max Planck Institute of Molecular Physiology)** Bilayered embryo-like aggregates reveal a tissue-autonomous mechanism for AVE differentiation
- 15:20 **Peter Rugg-Gunn (Babraham Institute)** Establishing the epigenome in human development and pluripotency
- 15:50 *Coffee break*

Keynote lecture II

Chair: **Juergen Knoblich**

- 16:20 **Michele De Luca (University of Modena and Reggio Emilia)** Combined cell and gene therapy for Epidermolysis Bullosa
- 17:20 **Closing remarks**
- 17:30 *Light bites & farewell*

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