Programme

From Stem Cells to Human Development



Wotton House, UK, 11 – 14 September 2022





From Stem Cells to Human Development

11-14 September 2022 Wotton House, Surrey, UK

Programme

Sunday 11 September		
12:00	Registration open	
12:30	Lunch	
14:30	Katherine Brown, Development, UK Welcome	
Session 1	Chair: Harry Leitch	
14:45	Mitinori Saitou, Kyoto University, Japan Mechanism and <i>in vitro</i> reconstitution of mammalian germ-cell development	
15:15	Amander Clark, University of California, Los Angeles (UCLA), USA Induction of human germ cells from pluripotent stem cells	
15:45	Bailey Weatherbee, University of Cambridge, UK Dynamic morphogen signalling during <i>in vitro</i> implantation of the human embryo	
16:00	Dhanur Prakash Iyer, Max Planck Institute for Molecular Genetics, Germany A reversibly dormant state in human naïve pluripotent cells	
16:15	Coffee break & Check-in	
16:45	Naomi Moris, The Francis Crick Institute, UK Embryo-like models: Using self-organising 3D gastruloids to explore human development	
17:15	Thorsten Boroviak, University of Cambridge, UK Microgel culture elucidates embryonic disc and amnion specification	
17:30	Lila Solnica-Krezel, Washington University School of Medicine, USA Germ layer specification in the 2D micropatterned human ESC gastruloids	
18:00	Jean-Léon Maître, Institut Curie, France Mechanics of blastocyst morphogenesis	
18:30	Speed networking and pre-dinner drinks	
19:45	Dinner	



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Monday 12 September

07:00	Breakfast
Session 2	Chair: Thorsten Boroviak
09:00	Ido Amit, Weizmann Institute of Science, Israel The power of ONE: Immunology in the age of single cell genomics
09:30	Silvia Santos, The Francis Crick Institute, UK GATA3 mediates early epigenomic remodelling and patterning in human gastrulation
09:45	Peter Rugg-Gunn, Babraham Institute, UK Establishing the epigenome in human development and pluripotency
10:15	Sponsor: Mike Day, Parse Biosciences The Parse Biosciences Evercode platform. Scalable single cell RNA sequencing - no instrument required
10:25	Coffee break/Meet the exhibitors
11:00	Gray Camp, Roche Institute for Translational Bioengineering (ITB), Basel / University of Basel, Switzerland Multimodal spatial reconstruction of human retinal organoid development
11:30	Miki Ebisuya, EMBL Barcelona, Spain Stem cell zoo to study species-specific development
12:00	Harry Leitch, MRC London Institute of Medical Sciences, UK Interrogating the potential of mammalian primordial germ cells
12:15	Celine Roelse, Leiden University Medical Centre, The Netherlands Establishment and optimization of a human fetal testis culture system
12:30	Lunch
14:00	Free time
15:30	Coffee break/Meet the exhibitors
Session 3	Chair: Patrick Tam
16:00	Sarah Teichmann, Wellcome Sanger Institute/University of Cambridge, UK Human development: One cell at a time
16:30	Sergiu Pasca, Stanford University, USA From stem cells to assembloids: Constructing and deconstructing human nervous system development and disease
17:00	 Panel discussion session: Technical, ethical and legal challenges of studying early human development Chair: Patrick Tam Panel: Amander Clark, Robin Lovell Badge, Sergiu Pasca, Sarah Teichmann, Magdalena Zernicka-Goetz



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18:00 Poster session 1 (odd numbers) – Pre dinner drinks are sponsored by Parse Biosciences

20:00 Dinner

Tuesday 13 September

07:00	Breakfast
Session 4	Chair: Nick Owens
09:00	Paul Riley, University of Oxford, UK New insights into human heart development
09:30	Marie-Christine Leitner, IMBA Vienna, Austria Deciphering the specification of human lateral plate mesoderm
09:45	Kristina Haase, EMBL Barcelona, Spain Development and disease revealed through tissue-specific <i>in vitro</i> vascularization
10:15	Sponsor: Roxana Miczik, STEMCELL Technologies PSC-derived cells and organoids as tools for stem cell research
10:25	Coffee break/Meet the exhibitors
11:00	Vijay Sankaran, Boston Children's Hospital/ Harvard Medical School, USA Genetic dissection of human hematopoiesis
11:30	Loic Fort, Vanderbilt University, USA Cardiac lineage commitment requires nucleotide signalling from apoptosing cells
11:45	Samantha Morris, Washington University School of Medicine, USA New genomic technologies for a quantitative characterization of cell identity
12:15	Wei Xie, Tsinghua University, China Epigenetic reprogramming and transcription regulation in mammalian preimplantation embryos
12:45	Lunch
Session 5	Chair: Kristina Haase
14:30	James Briscoe, The Francis Crick Institute, UK About time: The species-specific control of developmental tempo
15:00	Juan Eduardo Rodriguez Gatica, University of Bonn, Germany Imaging 3D brain organoid architecture from meso to nanoscale across development
15:15	Mina Gouti, Max Delbrück Center for Molecular Medicine in the Helmholtz Association, Germany Building advanced human neuromuscular organoids to study development and disease
15:45	Coffee break/Meet the exhibitors



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16:15 Katie Long, King's College London, UK

How does the human neocortex develop to the right size and shape? The role of the extracellular matrix

- 16:45Masaya Hagiwara, RIKEN, JapanDesign and control of microenvironments to achieve organoid architecture
- 17:00Patrick Fortuna, Harvard Medical School, USAMulti-lineage organoid model with high levels of vasculature and innervation
- 17:15 Poster session 2 and pre-dinner drinks in the Evelyn Suite
- 19:30 Dinner

Wednesday 14 September

- 07:00 Breakfast
- Session 6 Chair: Katie Long
- 09:00 Emma Rawlins, Gurdon Institute, University of Cambridge, UK Human embryonic lung development: Lessons from tissue-derived organoids
- 09:30 Robert Turnbull, MRC LMB, UK Human kidney organoids model de novo polarity acquisition during nephrogenesis
- 09:45 Prisca Liberali, Friedrich Miescher Institute for Biomedical Research, Switzerland

Human-to-human variability in intestinal regenerative response

- 10:15 Coffee break
- 10:45 Rocio Sancho, King's College London, UK

Pancreas cell fate decisions in development and disease: New organoid models

- 11:15 Renee Hein, University of Michigan, USA Epithelial-Mesenchymal Interactions During Human Lung Development
- 11:30 Nick Owens, University of Exeter, UK Primate-specific ZNF808 is essential for pancreatic development in humans
- 11:45 Henrik Semb, Helmholtz Diabetes Center, Munich, Germany Pluripotent stem cells in modeling human organogenesis and monogenetic disease
- 12:15 James Briscoe, Development, UK Closing remarks
- 12:20 Lunch/depart



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