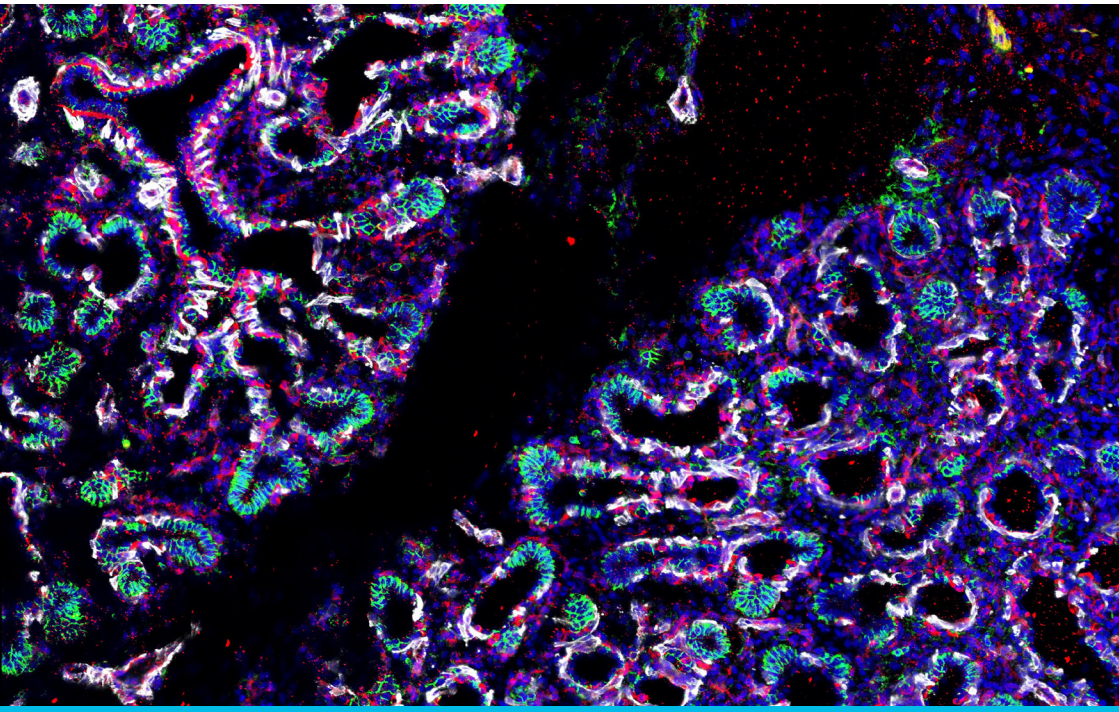
Provisional programme

From Stem Cells to Human Development



Wotton House, Surrey, UK, 16 – 19 September 2024

The Company of Biologists

Development

From Stem Cells to Human Development

Programme

Monday 16 September

12:00	**Registration opens**
12:30	**Lunch**
14:30	**Welcome:** Development, UK
Session 1	
14:45	**Kathy Niakan**, University of Cambridge, UK Signalling pathways regulating early human development and their application to stem cell biology
15:15	**Maria Rostovskaya**, Babraham Institute, UK Molecular timetable of lineage specification in human pluripotent epiblast
15:30	**Kristina Stapornwongkul**, EMBL Barcelona, Spain Environmental and metabolic regulators of embryonic development
15:45	**Muzz Haniffa**, Wellcome Sanger Institute, UK The developing human immune system
16:15	**Coffee break**
16:45	**Marta Shahbazi**, MRC Laboratory of Molecular Biology, UK Developmental plasticity of the early human embryo
17:15	**Elena Camacho Aguilar**, Centro Andaluz de Biologia del Desarrollo, Spain Understanding cell fate transitions in early human embryonic development
17:30	**Joshua Brickman**, University of Copenhagen, Denmark Plasticity and commitment in naive extra-embryonic endoderm - an *in vitro* model for human hypoblast specification
18:00	**Oliver Inge**, The Francis Crick Institute, UK Combinatorial signalling inputs drive multiple routes to human endoderm
18:15	**Pre-dinner drinks**
19:00	**Dinner**

Tuesday 17 September

From 07:00	**Breakfast**
Session 2	
09:00	**Alain Chédotal**, Institut de la Vision, France Tridimensional analysis of human embryogenesis
09:30	**Mo Ebrahimkhani**, University of Pittsburgh, USA Modeling post-implantation human development to yolk sac blood emergence
10:00	**Janine Post**, University of Twente, The Netherlands Computational models of iPSC differentiation: mapping signaling pathways
10:15	**Sponsored talk – Vicky Norris**, Parse Biosciences Smash the limits of single cell sequencing with Parse Biosciences
10:25	**Coffee break and exhibition**
11:00	**Cantas Alev**, Kyoto University, Japan Reconstituting human axial development *in vitro* with axioloids
11:30	**Duanqing Pei**, Westlake University, China Regenerating the human segmentation clock by reprogramming
11:45	**Anne Camus**, Regenerative Medicine and Skeleton, France Reconstructing intervertebral disc progenitors from human pluripotent stem cells
12:00	**Olivier Pourquié**, Harvard Medical School, USA Reconstituting human musculo-skeletal development *in vitro*
12:30	**Lunch**
Session 3	
14:00	**Jim Wells**, Cincinnati Children's Hospital Medical Center, USA Gaining insights into human organogenesis using pluripotent stem cells
14:30	**Francesca Spagnoli**, King's College London, UK Progenitor niches in the developing pancreas: regulation of cell fate and beyond
15:00	**Emma Rawlins**, University of Cambridge, UK Chronic hypoxia in normal fetal development promotes differentiation in the developing human lungs
15:30	**Coffee break and exhibition**
16:00	**Andy McMahon**, University of Southern California, USA The human kidney: from developmental programming to organ engineering

16:30	**Louis Prahl**, University of Pennsylvania, USA Branching, crowding, and packing: engineering the embryonic kidney epithelium
16:45	**Carlos Sainz**, University of Nottingham, UK Modelling particulate matter in the lung using a hIPSC multi-cell organoid system
17:00	**Margherita Yayoi Turco**, Friedrich Miescher Institute for Biomedical Research, Switzerland Charting human placental development using trophoblast organoids
17:30	**Poster session 1, pre-dinner drinks and exhibition**
19:00	**Dinner**

Wednesday 18 September

From 07:00	**Breakfast**

Session 4

09:00	**James Briscoe**, The Francis Crick Institute, UK The dynamics of human spinal cord development
09:30	**Afnan Azizi**, The Francis Crick Institute and King's College London, UK Signalling dynamics in early patterning of human and mouse telencephalon
09:45	**Debra Silver**, Duke University, USA Building our brains: from disease to evolution
10:15	**Akanksha Jain**, ETH-Zurich, Switzerland Morphodynamics of early human brain organoid development
10:30	**Group photo**
10:45	**Coffee break and exhibition**
11:15	**Paola Arlotta**, Harvard University, USA Human brain chimeroids as avatars to study interindividual variation in brain development and disease
11:45	**Agnete Kirkeby**, University of Copenhagen, Denmark Using stem cells to model and repair the human brain
12:15	**Jingyan Yang**, King's College London, UK Understanding inner ear development in human iPSC-derived organoids
12:30	**Jane Sowden**, University College London, UK Tissue engineering retina from human embryonic stem cells
13:00	**Lunch**

14:00	**Free time**
15:30	**Coffee break and exhibition**

Session 5

16:00	**Nick Hopwood**, University of Cambridge, UK History of human developmental biology
16:30	**HDBI update**
16:45	**Panel discussion**
17:45	**Poster session 2, pre-dinner drinks and exhibition**
19:15	**Dinner**

Thursday 19 September

From 07:00	**Breakfast**

Session 6

09:00	**Susana Chuva de Sousa Lopes**, Leiden University, The Netherlands The ins and outs of the human fetal gonad and reproductive tract
09:30	**Dorian Lujikx**, Maastricht University, The Netherlands Double Trouble: modelling monochorionic twinning in human blastoids
09:45	**Kara McKinley**, Harvard University, USA Regeneration in the uterus
10:15	**Coffee break**
10:45	**Sasha Mendjan**, Institute of Molecular Biotechnology (IMBA), Austria Cardioids unravel human heart development and cardiac defects
11:15	**Loic Fort**, Vanderbilt University, USA Actomyosin contractility regulates mesoderm lineage specification by licensing WNT pathway response
11:30	**Oscar Abilez**, Stanford University, USA Gastruloids enable modeling of human cardiac and hepatic organoid vascularization
11:45	**The EMBO Keynote Lecture: Matthias Lütolf**, École Polytechnique Fédérale de Lausanne, Switzerland Bioengineering human epithelial organoid morphogenesis
12:15	**Lunch/Depart**