

Event Schedule

Tuesday, September 11

8h00 - 9h00 Registration

9h10 - 9h15 Introduction

9h15 - 11h00 **Session 1**

Invited speaker: **Daniel St Johnston** (University of Cambridge - UK)
Alternative modes of epithelial polarity

Jonathan Fouchard (University College London - UK)
Basal constriction generates spontaneous curvature governing 3D substrate-free epithelial monolayer shape

Invited speaker: **Aryeh Warmflash** (Rice University - Houston, USA)
Self-organizing stem cell systems to study early human development

Steffen Rulands (Max Planck Institute - Dresden, Germany)
Collective oscillations in DNA methylation during exit from pluripotency

11h00 - 11h40 **Coffee Break**

11h40 - 12h40 **Session 2**

Turing Lecture: **Ben Simons** (University of Cambridge - UK)
Emergent phenomena in tissue stem cell biology

12h40 - 14h10 **Lunch and Poster set-up**

14h10 - 15h40 **Session 3**

Invited speaker: **Aleksandra Walczak** (ENS - Paris, France)
Prediction in immune repertoires

Etienne Loiseau (Aix-Marseille Univ. - France)
The spatiotemporal organization of cilia activity drives multiscale circular flows of mucus in reconstituted human bronchial epithelium

Jean-Daniel Julien (Max Planck Institute - Göttingen, Germany)
A model for the organisation of contractions and fluid flows in the slime mould Physarum polycephalum

Invited speaker: **Yoël Forterre** (Aix-Marseille Univ. - France)
Gravisensing in plants relies on an active granular medium

15h40 - 17h10 **Coffee break and Poster session - EVEN NUMBERS**

17h10 - 18h25 **Session 4**

Invited speaker: **Andreas Herz** (Ludwig-Maximilians-Universität - Munich, Germany)
Decoding the population activity of grid cells for spatial localization and goal-directed navigation

David Brücker (Ludwig-Maximilians-Universität - Munich, Germany)
Stochastic Nonlinear Dynamics of Confined Cell Migration

Invited speaker: **Rosa Cossart** (Aix-Marseille Univ., INSERM - France)
Cortical hub neurons: when theoretical predictions feed experiments

18h30 **Aperitif & Dinner**



Event Schedule

Wednesday, September 12

8h30 - 9h00 Welcoming coffee

9h15 - 10h45 Session 5

Invited speaker: **Pavel Tomančák** (Max Planck Institute - Dresden, Germany)
A new force awakens: comparative approach to tissue morphogenesis in insects

Guy Blanchard (University of Cambridge - UK)
Radially patterned cell behaviours drive tube budding from an epithelium

Marija Matejčić (Max Planck Institute - Dresden, Germany)
A non-cell autonomous actin redistribution enables isotropic retinal growth

Invited speaker: **Marie-Hélène Verlhac** (Collège de France - Paris, France)
Aberrant cortical tension generates aneuploidy in oocytes

10h45 - 11h20 **Coffee Break**

11h20 - 12h35 Session 6

Sandra Lemke (Max Planck Institute - Martinsried, Germany)
A small proportion of Talin molecules transmit forces to achieve muscle attachment in vivo

Invited speaker: **Pere Roca-Cusachs** (IBEC- Barcelona, Spain)
The molecular clutch model as a framework to understand integrin-mediated mechanotransduction

Sham Tlili (Mechanobiology Institute, National University of Singapore - Singapore)
The interplay between mechanical forces and cell differentiation drives shape formation in the developing zebrafish myotome

Anaïs Bailles (Aix-Marseille Univ., CNRS - France)
A self-organized mechanical cycle underlies a tissue contractile wave and polarizes morphogenesis of the Drosophila endoderm

12h35 - 14h20 **Lunch and Poster session - ODD NUMBERS**

14h20 - 15h20 Session 7

Bragg Lecture: **Terence Hwa** (University of California - San Diego, USA)
Dimension Reduction by Cells

15h20 - 16h00 **Coffee Break**

16h00 - 17h15 Session 8

Invited speaker: **Tâm Mignot** (Aix-Marseille Univ., CNRS - France)
Linking single cell behaviors to the formation of multicellular patterns in a social bacterium

Clara Essmann (University College London - UK)
Mechanical sensing of damage?

Invited speaker: **Kristian Franze** (University of Cambridge - UK)
The molecular control of microtubule orientation in neurons

17h15 - 17h30 **Prizes & closing remarks**

