

Tuesday, July 31

09:30 **Welcome by Erwin Frey**

09:45 **Peter Bieling**

Challenges in reconstituting "life-like" biochemical modules

10:15 **Ariel Amir**

From single-cell variability and correlations across lineages to the population growth

10:45 **Coffee Break**

11:15 **Guillaume Charras**

Reverse engineering cell competition

11:45 **Damien Baigl**

Challenges in biophysics and synthetic biology: does soft matter?

12:30 **Lunch**

13:45 **Edward Lemke**

Decoding Molecular Plasticity in the Dark Proteome

14:15 **Daniel Needleman**

Biophysics of Chromosome Segregation and Cell Division

14:45 **Knut Drescher**

Bacterial Collective Behaviour

15:15 **Coffee Break**

15:45 **Michael Murrell**

Work and Dissipation in the Cell Cytoskeleton

16:15 **Erwin Peterman**

A single-molecule view on intracellular transport in living *C. elegans*

18:30 **Dinner**

19:30 **Concert**

Wednesday, August 1

09:00 **Gašper Tkacik:** Towards physical principles in biology: adventures between theory and experiment, part I

09:30 **Thomas Gregor:** Towards physical principles in biology: adventures between theory and experiment, part II

10:00 **Stephanie Weber**

No membrane, no problem: condensing bacterial organelles

10:30 **Coffee Break**

11:00 **Sven van Teeffelen**

Regulation of bacterial cell-volume during growth

11:30 **Otger Campas**

Shaping embryos through fluid-to-solid phase transitions

12:00 **Rafael Bernardi**

Bridging the gap between in silico and in vitro force spectroscopy

12:40 **Lunch**

14:00 **Barbara Treutlein**

Reconstructing development and regeneration using single-cell transcriptomics

14:30 **Karen Alim**

Fluid flows shaping morphology

15:00 **Georg Fritz:** Making and Breaking the Wall - A Systems Level Approach to Cell Wall Homeostasis in Bacteria

15:30 **Coffee Break**

16:00 **Ramin Golestanian**

Enhanced Diffusion and Chemotaxis of Enzymes

16:30 **Pierre-Francois Lenne:** Shaping cell contacts during tissue morphogenesis

18:30 **Dinner**

Thursday, August 2

09:00 **Sebastian Maerkl**

(Reverse) Engineering Gene Regulatory Networks

09:30 **Eleni Katifori**

The physics of flow in vascular networks

10:00 **Nikta Fakhri**

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10:30 **Coffee Break**

11:00 **Nate Goehring**

PAR protein mobility and symmetry-breaking in the *C. elegans* embryo

11:30 **Ming Guo**

Spontaneous cell swelling, softening and migration in 3D tumor micro-dynamics

12:00 **Kinneret Keren**

Hydra regeneration: actin dynamics and the influence of mechanical constraints

12:40 **Lunch**

14:00 **Heinz Köppl**

Contextualizing biomolecular circuit models

14:30 **Uri Raviv**

Dynamic self-assembly of biomolecular complexes

15:00 **Rob Cross**

Unsolved aspects of the kinesin stepping mechanism

16:00 **Departure**