

Day 1: June 8th, 2022

14:00 - 14:10 *Opening ceremony*

Session 1: If Newton and Angström had ever met Förster

- 14:10 - 14:45 **Kristian Franze** (Erlangen)
The chemo-mechanical regulation of brain development
- 14:45 - 15:20 **Alexander Dunn** (Stanford)
Mechanosensing at afadin-based cellular adhesion complexes
- 15:20 - 15:55 **Christos Gatsogiannis** (Münster)
Molecular Mechanism of LTX neurotoxic action
- 15:55 - 16:15 **Flash-Light Talks 1-4**
Lab Klingauf, Heuer, Galic & Missler
- 16:15 - 16:45 *Coffee break*

Session 2: Engineering and analyzing bottom up from single cells

- 16:45 - 17:20 **Seraphine Wegner** (Münster)
Optogenetic regulation of cell-cell adhesions
- 17:20 - 17:55 **Peter Horvath** (Hungary)
Life beyond the pixels: Single-cell analysis using deep learning and image analysis methods
- 17:55 - 18:30 **Ivo Sbalzarini** (Dresden)
Machine learning of spatio-temporal models from image data
- 18:30 - 18:40 **Flash-Light Talks 5-6**
Lab Grashoff & Wedlich-Söldner

Day 2: June 9th, 2022

Session 3a: Barrier and polarity dynamics

- 09:00 - 09:35 **Alf Honigmann** (Dresden)
Dynamics of tight junction formation
- 09:35 - 10:10 **Ian Macara** (Vanderbilt)
Dynamics of polarity protein traffic itineraries
- 10:10 - 10:20 **Flash-Light Talks 7-8**
Lab Luschnig & Krahn
- 10:20 - 10:50 *Coffee break*

Session 3b: The in's and out's, cis' and trans' of cell mechanobiology

- 10:50 - 11:25 **Yanlan Mao** (London)
Coping with mechanical stress: Tissue dynamics during development and repair
- 11:25 - 12:00 **Alba Diz-Munoz** (Heidelberg)
Mechanobiology at the cell surface
- 12:00 - 12:35 **Ada Cavalcanti-Adam** (Heidelberg)
Engineering the local control of cell-matrix and cell-cell adhesion receptors
- 12:35 - 12:50 **Flash-Light Talks 9-11**
Lab Zarbock, Schulte-Merker & Grobe
- 12:50 - 14:00 *Lunch & Poster Presentation*

Session 4: It's a long long way endo

- 14:00 - 14:35 **Anne Spang** (Basel)
Compartmentalisation in the endosomal system
- 14:35 - 15:10 **Marta Miaczynska** (Warsaw)
AXL-driven plasma membrane dynamics in cancer cell biology
- 15:10 - 15:45 **Ludger Johannes** (Paris)
Mechanisms of acute regulation of GlycoLipid-Lectin (GL-Lect) endocytosis
- 15:45 - 15:55 **Flash-Light Talks 12-13**
Lab Rescher & Schelhaas

Day 3: June 10th, 2022

Session 5a: Cytoskeletal dynamics and lipid networks

- 09:00 - 09:35 **Michael Way** (London)
Analysis of Vaccinia virus release from infected cells using cryo-ET
- 09:35 - 10:10 **Maria Bohnert** (Münster)
Systematic approaches to uncover new players in lipid droplet biology
- 10:10 - 10:25 **Flash-Light Talks 14-16**
Lab Püschel, Rumpf & Klämbt
- 10:25 – 11:00 *Coffee break*

Session 5b: Morphodynamics of embryonic development

- 11:00 - 11:35 **Ivan Bedzhov** (Münster)
Cellular mechanisms of embryonic development & embryo-maternal interactions during implantation
- 11:35 – 12:10 **Verena Ruprecht** (Barcelona)
Mechanical control of morphodynamic cell plasticity in development
- 12:10 - 12:20 **Flash-Light Talks 17-18**
Lab Raz & Adams/Pitulescu
- 12:20 - 14:30 *Lunch & Poster Presentation*

Session 6: Fold, stretch, attach: May the dynamic forces be with you

- 14:30 - 15:05 **Carien Niessen** (Cologne)
Cell polarity signaling in epithelial stratification and tumor formation
- 15:05 - 15:40 **Christian Dahmann** (Dresden)
Cellular forces guiding epithelial folding
- 15:40 - 16:15 **Anne-Kathrin Classen** (Freiburg)
Cell surface affinity controls soma-germline morphogenesis