

Program
CELL PHYSICS 2023
October 10-13, 2023, Campus Saarbrücken
Saarland University

Tuesday, 10.10.2023		
Date, time	Event, topic, chair (wo)men, speakers	Location
8:30	Conference Opening Organizers	E2.2 GHH
8:35-10:30	<i>Plenary session I</i> Cytoskeleton and mechanobiology Session chair: Franziska Lautenschläger	E2.2 GHH
8:35-9:05	Timo Betz (U Göttingen, DE) Quantifying intracellular mechanics by active and passive measurements	
9:05-9:35	Kevin Chalut (Altos Labs, Cambridge/UK) Mechanobiology of cell fate choice	
9:35-10:05	Rhoda Hawkins (Sheffield, UK) Modelling the active cytoskeleton and applications to phagocytosis	
10:05-10:17	Srishti Dar (EMBL Heidelberg, DE) Membrane fluidity and its attachment to the cortex jointly regulate cortical dynamics	
10:17-10:30	Lucina Kainka (Saarland U) Microtubule polymerization drives Microtentacle Formation	
10:30-10:45	Coffee break	
10:45-12:45	<i>Plenary session II</i> Immuno biophysics Session chairs: Heiko Rieger, Markus Hoth	E2.2 GHH
10:45-11:15	Eva Kiermaier (U Bonn, DE) Immune Cell Migration in the presence of Multiple Centrosomes	
11:15-11:45	Anna Akhmanova (U Utrecht, NL) Microtubule and dynein dynamics during T cell polarization	
11:45-12:15	Mirka Uhlířova (U Cologne, DE) Nucleo-cytoskeletal remodeling promotes macrophage multinucleation via cell-cell fusion	
12:15-12:30	Valentin Bonnet (Institut Pasteur, FR) T-cell killing of cancer cells is inhibited by adenomatous polyposis coli mutation	
12:30-12:45	Bin Qu (Saarland U, DE) Impact of mechanosensing on killing efficiency of natural killer cells	
12:45-13:30	Lunch break	Mensa
12:45-13:30	Mariam Benjdia, PhD, European Research Council (ERC) Executive Agency, Information session on the ERC programme (& lunch bags)	E2.2 GHH
13:30-15:30	Poster session I (odd numbers)	C buildings

15:30-17:30	<i>Concurrent session 1</i> Membrane fusion and trafficking Session chair: Dieter Bruns	E2.2 GHH
15:30-16:00	Cordelia Imig (U Copenhagen, DK) Dissecting Functional Vesicle Pools and Serotonin-Release Kinetics from Sensory Cells in the Gut Epithelium	
16:00-16:30	Noa Lipstein (FMP Berlin, DE) Human UNC13A Gene Variations Cause a Novel Neurodevelopmental Syndrome and Impair Synaptic Function and plasticity	
16:30-17:00	Chiara Zurzolo (Institut Pasteur, Paris, FR) Reshaping connectivity with tunneling nanotubes: structure-function and role in the spreading of amyloid proteins in neurodegenerative diseases	
17:00-17:15	Nils Johnsson (Ulm U, DE) Type V Myosin focuses the polarisome and shapes the tip of yeast cells	
15:30-17:30	<i>Concurrent session 2</i> Multicellular dynamics in cellular communities and tissues Session chair: Ludger Santen	E2.5 HS 2
15:30-16:00	Sebastian Streichan (UC Santa Barbara, US) The design principles of fate, form, forces, and function: from embryogenesis to synthetic morphogenesis	
16:00-16:15	Mehmet Can Ucar (ISTA, AT) Navigating mixed cell populations by self-generated gradients	
16:15-16:30	Ann-Kathrin Burkhart (Saarland U, DE) The Role of the Arp2/3 complex in maintenance of the epidermal Langerhans cell network and DNA integrity	
16:30-16:45	Sabine Fischer (U Würzburg, DE) Cell fate patterns in preimplantation mouse embryos	
16:45-17:00	Christian Schroeter (MPI of Molecular Physiology, DE) Collective differentiation of the first cell types of the mammalian embryo	
17:00-17:15	Garima Rani (U Luxembourg, LU) An entropic insight into growing bacterial colonies	
18:00	Welcome dinner	Aula

Wednesday, 11.10.2023		
8:30-10:30	<i>Plenary session III</i> Cell-cell adhesion and intercellular communication Session chair: Sandra Iden	E2.2 GHH
8:30-9:00	Dagmar Iber (ETH Zürich, CH) 3D organization of cells in epithelia	
9:00-9:30	Alex Dunn (Stanford U, USA) Mechanosensing beyond the cadherin-catenin complex	
9:30-10:00	Danijela Vignjevic (Institut Curie, Paris, FR) Cancer-associated fibroblasts actively compress cancer cells modulating their drug resistance and invasion	
10:00-10:15	Kerstin Feistel (U Hohenheim, DE) Hmnr facilitates cross-talk between morphogen signaling and the microtubule cytoskeleton to drive mesenchymal-to-epithelial transition	
10:15-10:30	Hoang Trinh Thao Nguyen (U Stuttgart, DE) Investigating the interplay between β -catenin signaling and cell-cell junction activity in intestinal homeostasis and cancer	
10:30-10:45	Coffee Break	
10:45-12:30	<i>Concurrent session 3</i> Bacteria behaviour in confinement Session chair: Aranzazu del Campo	E2 2 GHH
10:45-11:10	Effie Bastounis (U Tübingen, DE) ERK activation waves are key drivers in the mechanical cell competition that leads to collective onslaught of bacterially-infected cells	
11:10-11:35	Morgan Delarue (LAAS-CNRS Toulouse, FR) Cell growth under mechanical pressure	
11:35-12:00	Alexandre Persat (EPFL Lausanne, CH) Bacteria mechanosense surfaces to guide motility and biofilm formation	
12:00-12:15	Christine Müller-Renno (RPTU Kaiserslautern, DE) Influence of Shear Forces on Bacterial Adhesion on Technical Substrates	
12:15-12:30	Jens Uwe Neurohr (Saarland U, DE) Morphology of nanostructured surfaces	
10:45-12:30	<i>Concurrent session 4</i> Signaling across scales Session chair: Ulrich Boehm	E2.5 HS 2
10:45-11:15	David J. Hodson (U Oxford, UK) Visualizing and interrogating type 2 diabetes and obesity drug targets from the single cell to the tissue	
11:15-11:45	Magali Suzanne (CBI Toulouse, FR) Mechanics of cell delamination	
11:45-12:00	Jo Nguyen (U Toronto, CA) Quantitative descriptions of the skeletal muscle microenvironment's compression stress, geometry confinement, and elasticity	
12:00-12:15	Julian Knerr (U Freiburg, DE) Formin-mediated nuclear actin at androgen receptors promotes transcription	
12:15-12:30	Hugues Meyer (Saarland U, DE) Alignment interaction and band formation in assemblies of auto-chemorepulsive walkers	
12:45-13:30	Lunch break	Mensa
12:45-13:30	Dr. Britta Mädge, German Research Foundation (DFG): "Funding Opportunities for Early Career Researchers" (& lunch bags)	E2 2 GHH
13:45-15:45	Poster session II (even numbers)	C buildings

16:00-18:00	<i>Plenary session IV</i> German-French Cell Biology session (DGZ & SBCF) Session chairs: Roland Wedlich-Söldner, Sandra Iden	E2.2 GHH
16:00-16:30	Florence Niedergang (I Cochin, Paris, FR) How to build a phagosome: from receptor clustering to mechanotransduction	
16:30-17:00	Isabelle Tardieux (CNRS, Grenoble, FR) Coupling high-resolution micropatterning, live imaging and tunable surface chemistry to decode the minimal adhesion requirements behind <i>Toxoplasma gondii</i> high-speed motility	
17:00-17:30	Cristina Cardoso (TU Darmstadt, DE) DNA modifications and (hetero)chromatin compartmentalization	
17:30-18:00	Jörg Höhfeld (U Bonn, DE) Proteome maintenance under mechanical stress – from mechanisms to pathologies	
	Conference photo	E2.2 GHH
18:00	Dinner for participants	On-site
18:30	Speakers' dinner (for invited speakers; details separately)	Handelshof

Thursday, 12.10.2023

8:30-10:30	<i>Plenary session V</i> Cytoskeletal motors and active transport processes Session chair: Laura Aradilla-Zapata	E2.2 GHH
8:30-9:00	Karin John (U Grenoble Alpes, FR) Lattice dynamics in microtubules: active and passive mechanisms	
9:00-9:30	Ondrej Kucera (SETU, Waterford, IE) The Anillin Link: Non-Motorised Contractility and Symmetry Breaking in Cytoskeletal Networks	
9:30-10:00	François Nédélec (U Cambridge, UK) Simple Chromosome Partitioning Mechanisms and a Mitotic Spindle	
10:00-10:15	Oliver Gruß (U Bonn, DE) A novel tandem array of microtubules functions in interphase and mitosis	
10:15-10:30	Huiqiong Wu (Institut Jacques Monod/CNRS, FR) Epithelial homeostasis on boundary-less deformable surfaces	
10:30-10:45	Coffee break	
10:45-12:45	<i>Plenary session VI</i> Heterogeneity and Diversity Session chair: Jochen Hub	E2.2 GHH
10:45-11:15	Gijsje Koenderink (TU Delft, NL) The cell as a material	
11:15-11:45	Daniel Larson (NIH, Bethesda, US) Transcription Specificity Through Kinetic Proofreading	
11:45-12:15	Takeshi Harayama (U Côte d'Azur, FR) Heterogeneity and diversity in membrane lipid structures	
12:15-12:30	Susan Wagner (KIT IBCS-BIP, DE) CRISPR activation screen to improve the optical properties of living tissues	
12:30-12:45	Hsin-Fang Chang (Saarland U, DE) Investigating the Diverse Landscape of Cytotoxic T Lymphocytes: Exploring Multicore Cytotoxic Granules and Gender-Based Variations	
12:45-13:45	Lunch and poster session III (even and odd)	C buildings
afternoon	Social and networking events (upon sign-up via registration system)	off-campus
evening	Conference party	Aula

Friday, 13.10.2023

8:30-10:15	<p><i>Concurrent session 5</i></p> <p>New directions in OMICs and single cell biology</p> <p>Session chair: Bruce Morgan</p>	E2.5 GHH
8:30-8:55	Rafael Kramann (UK Aachen, DE) Single cell and spatial genomics to dissect mechanisms of kidney and cardiovascular disease	
8:55-9:20	Sandra Siegert (ISTA, AT) How to get from microglia cell shape to their function	
9:20-9:45	Bettina Warscheid (U Würzburg, DE) Multifaceted Proteomics to Comprehend Mitochondrial Function and Dysfunction	
9:45-10:00	Johannes Rheinlaender (Tübingen U, DE) Measuring the Cortical Tension of Living Cells with the Scanning Ion Conductance Microscope	
10:00-10:15	Patrick Schuster (Saarland U, DE) Time-resolved primary cilia proteomics reveals cilia localization of the putative phosphatase PALD1 in a signaling- and lipidation-dependent fashion	
8:30-10:15	<p><i>Concurrent session 6</i></p> <p>Membrane:protein interactions</p> <p>Session chair: Bianca Schrul</p>	E2.5 HS 2
8:30-8:55	Rumiana Dimova (MPI-KG Potsdam, DE) Membrane remodeling in artificial cells: to bud or not to bud	
8:55-9:20	Benoit Kornmann (U Oxford, UK) Shared Structural Features of Miro Binding Control Mitochondrial Homeostasis	
9:20-9:45	Aurélien Roux (U Geneva, CH) Topological defects control morphogenesis of cellular tornadoes and bicephalous hydra	
9:45-10:00	Katja Zieske (MPI-PL Erlangen, DE) Wetting-effects of biomolecular condensates on lipid membranes	
10:00-10:15	Chetan Poojari (Saarland U, DE) Mechanism and energetics of lipid recognition by viral fusion proteins	
10:15-10:30	Coffee break	
10:30-12:30	<p><i>Plenary session VII</i></p> <p>Membrane homeostasis and remodeling</p> <p>Session chair: Robert Ernst</p>	E2.2 GHH
10:30-11:00	Katia Cosentino (U Osnabrück, DE) Plasticity of GSDM pores for the control of pyroptotic cell death	
11:00-11:30	Arun Radhakrishnan (UT Southwestern, US) How cells control cholesterol	
11:30-11:45	Sandra Scharaw (Karolinska Institute, SE) Golgi organization is a determinant of stem cell function in the small intestine	
11:45-12:00	Rafaella Jekabson (U Muenster, DE) INF2 coordinates actin remodeling during plasma membrane repair	
12:00-12:15	Jona Causemann (Saarland U, DE) How ubiquitylation amplifies fluctuating signals from the membrane to regulate lipid saturation	
12:15-13:00	Poster and short-talk awards, concluding remarks	E2.2 GHH