Sunday 27th March 2022 Mechanotransduction
Session Sponsor: **Cytosurge** Cytosurge Website
Boris Martinac 3.8 billion years of mechanotransduction: From osmoregulation to the sense of touch
Mariana Azevedo Gonzalez Oliva The role of Piezo1 in transducing viscoelasticity to the cell nucleus
Valeria Venturini The nucleus acts as an elastic mechanosensor to gauge physical shape deformation and control cellular behavior
Joachim Spatz Title To Be Confirmed

Monday 28th March 2022 Mechanochemistry / Tunable Biomaterials
Session Sponsor: **Optics11, Impetux** Optics 11 Website, Impetux Website
Andreas Herrmann Controlling the activity of drugs, proteins and genes by ultrasound
Eva Carvalho Oligodendrocytes have feelings too – A tissue engineering approach to uncover the mechanobiology of myelination
Seb Doherty-Boyd Developing a synthetic bone marrow niche for hematopoietic stem cell maintenance
Kerstin Blank Shedding Light on Cell-Material Interactions with Coiled Coil-based Molecular Force Sensors
Lorenza Garau Paganella 3D models to investigate the biological effects of chemomechanical coupling in the dermal niche
Robert Göstl From force-reporting to force-resistant: using mechanochemistry to understand polymer materials
Delphine Gourdon 3D Tunable Fibronectin-Collagen Tumour-Mimicking Platforms for Control of Cell Adhesion and Matrix Deposition
Arne Gennerich Single-molecule studies of KIF1A motion and force generation
Aránzazu del Campo Bécares Engineered living therapeutic materials: new concepts for sustained and sustainable drug delivery

Susan Babu Enhancing the guided growth of neurons using synthetic Anisogels
Stefan Jentsch Drop-on-demand acoustic bioprinting from picoliter to nanoliter range avoiding wall shear stress

Tuesday 29th March 2022 **Translation of mechanobiological insights/methods into clinical settings**
Social Event to Genova **It's Time for Translation – Young Scientist Award presentations**
Jochen Guck Feeling for Covid19
Mark Schvartzman Nanoscale Spatio-Mechanical Regulation of the Immune Signaling in Cytotoxic Lymphocytes
Nafsika Chala Mechanical Fingerprint of Senescence in Endothelial Cells
Lim Chwee Teck Title To Be Confirmed
Sylvain Gabriele Sensing the curvature: active mechanics and nuclear mechanoadaptation
Patrizia Romani Mitochondrial fission links ECM mechanotransduction to metabolic redox homeostasis and metastatic chemotherapy resistance

Wednesday 30th March 2022 **Mechanobiology of multicellular systems**
Session Sponsor: **Bruker, Lumicks, Nanosurf** Bruker Website, Lumicks Website, Nanosurf Website
Sara Wickström Regulation of cell fate and integrity by nuclear mechanotransduction
Aleksandra Kozyrina Extracellular Matrix Spatial Heterogeneity Drives Retinal Epithelium Mechanobiology
Florian Friedland Cyclic tissue strain triggers apoptotic cell extrusion in early breast gland development.
Pierre-Francois Lenne From cell generated forces to global tissue pattern and shape (and back)
Rudolf Merkel Behavior of Skin and Skin Models Under Mechanical Strain
Pascal Silberzan Active cells nematics: Architectures and flows
Pierre Ucla

Dynamics of endothelial engagement and filopodia formation in complex 3D microstructures
Kenji Nishizawa Shaping cell contacts by locally applied forces
Daniel Müller Quantifying individual cell membrane receptors regulating cell mass, adhesion and rheology
Kay-Eberhard Gottschalk Super-Resolution Imaging with Metal-Induced Energy Transfer reveals effect of Force on the Actin Cytoskeleton
Sandra Citi Cingulin tethers nonmuscle myosin 2B to ZO-1 to mechanoregulate the apicolateral membrane and the tight junction barrier

Thursday 31st March 2022 **Role of mechanics in Morphogenesis**
Karine Guevorkian Mesodermal mechanics during the axial morphogenesis of chicken embryo
Elijah R Shelton Towards mechanical stimulation of stem cell derived retinal organoids
Anna Sternberg The impact of mechanical forces in preparation for human embryo implantation
Carl-Philipp Heisenberg Mechanochemical feedback loops in early zebrafish embryogenesis
Wolfgang Wagner Spatial self-organization of pluripotent stem cells in colonies and aggregates
Young Choi Use of a Novel Bistable Stretching Device for Investigating Acute Stretch of Endothelial Monolayers and the Effects of Senescence