

Abdel Fattah, Abde Rahman		
Mechanical forces enhance patterning in human neural tube organoids		46
Akhmanova, Maria		
The effect of epithelial cell divisions on tissue invasion by macrophages in the Drosophila embryo		47
Albrecht, Marco		
Modelling irregular fibrous tissues with deformable porous media		48
Aloisio, Francesca		
Arp2/3 Complex Activity Times Stage Transition for Embryonic Stem Cell Differentiation		49
Amiri, Aboutaleb		
Mechanics of epithelial morphogenesis		50
Arraf, Alaa	Presenter: Schultheiss, Tom	
A novel hedgehog-regulated molecular module that shapes epithelial cell and tissue morphogenesis to position the ventral embryonic midline		51
Bailles, Anais		
Mechanically-driven propagation of a wave of Myosin II activation in the Drosophila endoderm		52
Baratchi, Sara		
Shear stress controls the membrane expression and function of mechanosensitive ion channel TRPV4		53
Bolea Albero, Antonio		
Release of global compressive stress via local “mechanical sinks” drives epithelial folding during Drosophila gastrulation		54
Bouchard, Maxime		
Morphogenetic apoptosis as a driver of ureter maturation in the mouse		55

Caballero-Mancebo, Silvia Actin-dependent contraction drives ooplasmic segregation in ascidian oocytes	56
Camacho de la Macorra, Carlos Characterization of Yap/Taz-Tead activity as mechano-transducer of the morphogenesis of the vertebrate retinal pigmented epithelium.	57
Chan, Chii Interplay between tissue mechanics and fate specification during early mouse embryogenesis	58
Chatterjee, Saptarshi Mechanistic model predicts perinuclear positioning of centrosome in interphase cell	59
Cheong, Sek-Shir Disruption of the planar cell polarity (PCP) component Vangl2 alters cell mechanics in loop-tail mice	60
Correia, Andreia Going big: Unraveling the mechanisms of macrophage multinucleation	61
Darby, Daniel A Mechanism of Oriented Cell Division Underlying Cardiac Chamber Expansion	62
Dent, Lucas The dPix-Git complex is essential to coordinate epithelial morphogenesis and regulate myosin during Drosophila egg chamber development	63
Dent, Lucas Systems level identification of protein networks determining mechanical control of the cell cycle in melanoma	64
Diz-Muñoz, Alba Fate determination in the zebrafish notochord	65
Presenter: Sanchez-Iranzo, Hector	

Dubey, Sushil		
The axonal actin-spectrin lattice acts as a shock absorber to protect neurons from stretch-induced damage		66
Duclut, Charlie		
Fluid pumping and active flexoelectricity can promote lumen nucleation in cell assemblies		67
Dupont, Sirio		
Extracellular matrix mechanical cues regulate lipid metabolism through Lipin-1 and SREBP		68
Eckert, Julia		
Approach to measure the Intracellular Stress of Cell-Cell Junctions		69
Ernst, Alexander		
Actomyosin dynamics and the Bmp pathway drive apical extrusion of proepicardial cells		70
Fiore, Vince		
Extracellular matrix and differentiated tissue mechanics cooperate to shape tumor architecture		71
Font-Reverter, Jordi		
Modeling Epithelial Tissues as Active Fluids		72
Foster, Sarah		
Chemical and mechanical signals interact to direct axon growth		73
Fuhrmann, Jana		
Understanding the formation of three dimensional shape during epithelial morphogenesis		74
Fürst, Carina		
Characterization of novel mechanosensitive cell populations during murine embryonic development		75
Galea, Gabriel		
Vangl2 recruits apical non-muscle myosin to drive mammalian neuroepithelial constriction		76

Gamez, Carolina		
Mechanical stimuli induce recruitment of mesenchymal stromal/stem cells		77
Ghanbarzadeh Nodehi, Sedigheh		
Theoretical modeling for mechanical wave propagation between cellular and nuclear membranes		78
Gonçalves, Margarida		
Drosophila RNAi screen to uncover the impact of cell adhesion on epithelial cytokinesis efficiency		79
Greig, Joshua	Presenter: Greig, Joshua; Bulgakova, Natalia	
Tissue response to anisotropic mechanical forces during the development of the Drosophila epidermis		80
Gryadunova, Anna		
Structural Determinants of Biomechanical Properties of Chondrospheres		81
Gryadunova, Anna		
Estimation of Biomechanical Properties of Tissue Spheroids: Tensiometry		82
Guillon, Emilie		
Inter-tissue adhesion and the mechanics of early spinal column development		83
Halonen, Heidi		
High frequency mechanical vibration regulates proliferation, osteogenesis and mechanotransduction of human adipose-derived stem cells culture medium and adhesion –dependently		84
Häring, Matthias		
Mechano-sensitive ion channels mediate the coordination of epithelial cells during morphogenesis		85
Härtter, Daniel		
The amnioserosa in numbers: quantification of cell oscillations in dorsal closure using convolutional neural networks		86

Hassan, Abeer		
Muscle-Neuron mechanical coupling: the role of ECM mechanics in proprioception		87
Heilmann, Silja		
Pancreatic plexus remodeling through loop closure:		88
Herrmann, Anne		
Interkinetic nuclear migration - a stochastic process constrained by tissue architecture		89
Hirashima, Tsuyoshi		
Mechano-chemical coupling via ERK signal for repetitive branching morphogenesis of lung epithelial sheet		90
Hoijman, Esteban		
Epithelial cells perform phagocytic clearance in the early embryo by acting as mechanical loaders		91
Hosseini, Kamran	Presenter: Fischer-Friedrich, Elisabeth	
EMT-induced cell mechanical changes enhance mitotic rounding strength		92
Housman, Genevieve		
Development of a comparative primate skeletal cell culture model to study gene expression responses to mechanical strain		93
Iyer, K. Venkatesan		
Epithelial viscoelasticity is regulated by mechanosensitive E-Cadherin turnover		94
Jain, Akanksha		
Cell rearrangements driven by an actomyosin cable result in epithelial gap closure of Tribolium serosa		95
Johns, Emma		
Investigating differential mechano-responses across a multi-layered tissue		96

Jovanic, Svetlana SPIM in vivo and in toto imaging for the reconstruction of multilevel dynamics	97
Kale, Girish Tensile and shear forces have opposite effects on E-cadherin levels during ectoderm morphogenesis	98
Kale, Sohan Emergent collective behaviors in interacting system of active crawlers	99
Kamaraj, Mageshi Cell dynamics and genetic regulation in the zebrafish hindbrain morphogenesis	100
Kamps, Dominic Reaction-diffusion based focusing of local cell contraction pulses	101
Khoromskaia, Diana Deformations of epithelia as active surfaces	102
Klipa, Olga Can mechanical stress explain recognition and elimination of mis-specified cells?	103
Koledova, Zuzana Mechanical force exerted by fibroblasts induces mammary epithelial folding	104
Kong, Deqing Cell quadruplets coordinate expansion and contraction to drive vertex resolution in epithelial morphogenesis	105
Kosodo, Yoichi How physiological tissue stiffness in brain regulates neural stem cell differentiation?	106
Kowalczyk, Izabela Integrity of the stem cell niche in the developing brain – mechanisms shaping the neural tube	107

Kreysing, Eva Influence of the mechanical environment on neuronal maturation	108
Krishna, Abhijeet Achieving Curvature from Flat Tissues	109
Ku, Seung-Yub Effects of 2D vs 3D in vitro culture conditions on differentiation of human embryonic stem cells into cardiomyocytes	110
Kuony, Alison Cell distribution in a context of epithelial tube and ductal compartment formation	111
Lee, Hsiao-Hui Defining force requirement of focal adhesion maturation and YAP nuclear translocation	112
Lenner, Nicolas Reverse time inference of developmental processes evolving towards target states	113
Loreau, Vincent Quantifying the impact of titin elasticity on sarcomere architecture during muscle development	114
Lu, Kun Progressive stretch promotes the maturation of human engineered heart tissue	115
Magali, Suzanne Mechanical impact of epithelial-mesenchymal transition on epithelial morphogenesis	116
Maiuri, Paolo The front-rear polarity of cell nucleus	117
Manning, Cerys Interplay between mechanical stimuli and cell fate protein expression dynamics in eye development and developmental disorders	118

Maroudas-Sacks, Yonit	
Actin organization as an active nematic and its role in morphogenesis in Hydra regeneration	119
Marshall, Abigail	
Investigating the biomechanical role of the surface ectoderm during Neural Tube Closure in normal and Grhl mutant mouse embryos	120
Martin-Blanco, Enrique	
Mechanical coordination directs tissue replacement during metamorphosis in drosophila	121
Méndez Acevedo, Kevin Manuel	
Mylk3 is a novel effector of the Planar Cell Polarity pathway.	122
Menon, Deepikaa	
Regulation of membrane scission in yeast endocytosis	123
Mercier, Barbara	
Mechanical effects on self-organization of differentiating cell colonies	124
Merks, Anne	
Planar Cell Polarity Signalling Affects Mechanosensitive Muscle Differentiation Program	125
Mirouse, Vincent	
Oriented basement membrane fibrils provide a memory for F-actin planar polarization via the Dystrophin-Dystroglycan complex during tissue elongation	126
Mirza, Waleed Ahmad	
Pattern formations in active nematic systems	127
Missirlis, Dimitris	
Cell Polarization is Governed by Substrate Viscosity and Fibronectin Adsorption Strength	128
Mogha, Pankaj	
Inter-cellular mechanical interaction via matrix reverses cell behaviour on soft substrates	129

Mukherjee, Abhishek		
The role of a-catenin in mechano-sensing of the ECM		130
Munoz, Jose		
Mechanics of cell intercalation in flat three-dimensional epithelia		131
Münster, Stefan		
External forces generated by the attachment between blastoderm and vitelline envelope affect gastrulation of insects		132
Nakaya, Yukiko		
Mesoderm cells collectively migrate in the form of dynamic meshwork during chick gastrulation		133
Naseri, Amirmasoud	Presenter: Eskandari, Mahnaz	
Numerical Modeling of the Mechanical Properties of F-Actin Solutions To Be Used in Cancer Study		134
Natan, Sari		
Long-range mechanical coupling of cells in 3D Fibrous Gels		135
Obr, Adam		
The role of p21-activated kinases in adhesion structures of hematopoietic cells		136
Oliver De La Cruz, Jorge	Presenter: Oliver De La Cruz, Jorge; Forte, Giancarlo	
Harnessing cell mechanosensing potential in regenerative medicine and tumor management		137
Padmanabhan, Krishnanand		
Thymosin β4 is essential for the establishment of planar cell polarity during epidermal development		138
Pai, Vaibhav		
Biophysical Basis of Teratogenesis and its Cure: A Computational Roadmap for Developmental Bioelectrics for Repair of Neural Defects in vivo		139
Paijmans, Joris		
How single cells contribute to changes in shape and curvature of developing tissues		140

Pantazis, Periklis GenEPI: Piezo1 based fluorescent reporter for visualizing mechanical stimuli with high spatiotemporal resolution	141
Park, Han-Jin Generation of hepatic organoids from human pluripotent stem cells	142
Pillai, Eva Mechanical regulation of chemical signalling in the developing brain.	143
Piscitello Gómez, Romina Elucidating the molecular mechanisms that determine epithelial viscoelasticity during morphogenesis	144
Ray, Poulomi Remodeling of Apical Junctions During Epithelial Morphogenesis in <i>C. elegans</i>	145
Roshan, Zahra The influence of cross-linker density on rheological properties of alginate bioink; an investigation	146
Rougerie, Pablo Curvature-dependent control of anisotropic growth at the tissue scale	147
Sánchez-Carranza, Oscar Physiological characterization of pathogenic PIEZO2 mutations	148
Sanketi, Bhargav D. Synchronizing midgut formation with the initiation of its leftward tilt	149
Sanson, Bénédicte Role of apical vertices and the adhesion molecule Sidekick in <i>Drosophila</i> axis extension	150
Schulz, Julia Plant cell wall integrity (CWI) maintenance from a biomechanical perspective	151

Sen, Ellora		
The role of Lamin A in YAP1 regulated mitochondrial dynamics		152
Serna-Morales, Eduardo	Presenter: Serna-Morales, Eduardo; Marcotti, Stefania	
Basement Membrane dynamics induces compaction of the embryonic Central Nervous System in Drosophila		153
Shamipour, Shayan		
Bulk actin dynamics drive phase segregation in zebrafish oocytes		154
Sharma, Swati		
Spatiotemporal regulation of contractile ring size in Drosophila cellularization		155
Sharrock, Tom		
Investigating the cell surface code for compartment boundary formation in Drosophila embryos		156
Simonovic, Julijana		
Mathematical commentary of external excitation in bone cell population models		157
Singaraju, Gayathri S.		
Molecular mechanism strong cell-cell adhesion mediated by Cadherin-23.		158
Soans, Karen		
Investigating the role of the extracellular matrix in optic cup morphogenesis		159
Sokleva, Vanesa		
Impact of mechanical signals in human embryonic lung differentiation		160
Sorrell, Emma	Presenter: Lubkin, Sharon	
Notochord morphogenesis as a physical control problem		161
Souchaud, Alexandre		
Mapping the mechanical stresses in living tissues in vitro and in vivo		162

Staddon, Michael Adaptive length control of epithelial cell junctions	163
Stern, Tomer Automated mapping of multi-cellular motifs during tissue morphogenesis	164
Tada, Masazumi Coordination of the interface between two populations during cell extrusion	165
Theis, Sophie Modelling fold formation in Drosophila Melanogaster.	166
Thompson, Barry Role of mechanotransduction via YAP/TAZ during tissue development and regeneration	167
Tiwari, Prabhat The Mechanobiology of Drosophila Ventral Nerve Cord Condensation	168
Tobias Santos, Vitória Divergent segmentation hierarchy underlies embryo patterning in ants	169
Toyama, Yusuke Mechanically induced compensatory proliferation	170
van der Stoel, Miesje Stiffness-induced DLC1 controls endothelial dynamics by modulating contractile forces	171
Varner, Victor An FGF-10-induced buckling mechanism specifies the formation of ectopic buds in cultured embryonic lung explants	172
Vasilev, Dmitri Maternal hypoxia on 14th day of pregnancy disturbs the mechanisms of the development of brain cortex in the offsprings	173

Vetter, Roman		
The origin of Aboave-Weaire's law in epithelial tissue		174
Vianello, Stefano		
Studying the mechanobiology of early mammalian development using self-organising embryonic organoids		175
Vignes, H��l��ne		
Cellular and molecular mechanisms of atrioventricular canal tissue convergence during zebrafish heart morphogenesis		176
Vinarsky, Vladimir		
Mechanotransducer YAP1 regulates cardiomyocyte contractility through changes in calcium handling apparatus.		177
Wittbrodt, Joachim	Presenter: Cornean, Alex	
Deficient Protein O-mannosylation Affects Signalling Pathways In Vertebrates		178
Worzfeld, Thomas		
Semaphorin-plexin signalling controls epithelial cell adhesion		179
Xia, Peng		
Lateral inhibition in cell specification mediated by mechanical forces modulating TAZ activity		180
Yamaguchi, Naoya	Presenter: Knaut, Holger; Yamaguchi, Naoya	
Generation of Traction Force by Collectively Migrating Cells in vivo		181
Yamashita, Satoshi		
Finding homogeneous regions inside a developing heterogeneous tissue		182
Yanakieva, Iskra		
Tissue and cell shape determine actin-dependent nuclear migration mechanisms in neuroepithelia		183
Zahler, Stefan		
Cell based strain stiffening of a non-fibrous matrix as organizing principle for morphogenesis		184

Zimm, Roland Modelling biomechanics during shark odontode morphogenesis	185
Jang, Hwanseok Morphological differentiation and physical interaction of cell clusters by concentration gradient of growth factor	186
Priya, Rashmi Mechanical symmetry breaking drives fate specification during heart morphogenesis	187
Krüger, Daniel Contraction of cortical actomyosin networks driven by myosin activation controls cell shape changes and tissue morphogenesis during animal development	188