

CELLMECH 2019

June 3-6, 2019 | IFOM - Milan, ITALY

Conference Room, Bldg. 9

PROGRAM

LAST UPDATE: MAY, 28

Monday, June 3

14:00 - 15:00	<i>Registration</i> (Foyer Conference Room, Bldg. 9) Poster positioning Session 1 (Meeting Room 1+2, Bldg. 9)
15:00 - 15:30	<i>Welcome address</i>
SESSION 1	
15:30 - 16:00	Kristian Franze - <i>University of Cambridge, UK</i> Cortical cell stiffness is largely independent of substrate mechanics
16:00 - 16:30	Ana-Maria Lennon-Duménil - <i>Institut Curie, Paris, FR</i> Macropinocytosis Overcomes Directional Bias in Dendritic Cells Due to Hydraulic Resistance and Facilitates Space Exploration
16:30 - 16:45	Francesco Baschieri - <i>Gustave Roussy Institute, FR</i> Frustrated endocytosis controls signaling in cancer
16:45 - 17:00	Julien Husson - <i>Hydrodynamics Laboratory (LadHyX), Ecole polytechnique - CNRS, FR</i> Mechanics of leukocyte activation
17:00 - 18:00	<i>Coffee break</i> Poster Session 1 (Meeting Room 1+2, Bldg. 9)
SESSION 2	
18:00 - 18:30	Virgile Viasnoff - <i>MBI/NUS, SG and CNRS, FR</i> Autonomous induction of hepatic polarity to construct single cell liver
18:30 - 19:00	Michael Sheetz - <i>MBI/NUS, SG and Columbia University, USA</i> Out of Touch: Depletion of Mechanosensors Drives Cancer and Wound-Healing
19:00 - 19:15	Giovanni Cappello - <i>Université Grenoble Alpes - (LiPhy), FR</i> Extracellular Matrix acts as pressure detector in model tissues
19:15 - 19:30	Claude Inserra - <i>INSERM U1032, FR</i> Ultrafast cell imaging by micro-elastography and acoustic bubble-induced deformations
19:45 - 22:00	<i>Apéritif dinner - Barrio Alto, Via Serio 14, Milan</i>

Tuesday, June 4

SESSION 3	
09:00 - 09:30	Jean-François Rupprecht - <i>CNRS & CenTuri, Aix-Marseille University, FR</i> Bridging forces between micro- and macro-scale models: from actomyosin contractility to stress fluctuations
09:30 - 09:45	Marta Ripamonti - <i>Université de Genève, Centre Médical Universitaire, CH</i> Analysis of paxillin adapter protein in mechanosensing in focal adhesion
09:45 - 10:00	Thomas Schmidt - <i>Leiden University, Huygens-Kamerlingh Onnes Laboratories, NL</i> Fibronectin patches as anchoring points for force sensing and transmission in human induced pluripotent stem cell-derived pericytes

Supported by



Tuesday, June 4

10:00 - 10:15	Pascale Monzo - <i>IFOM, IT</i> Implication of formins in the regulation of mechanoproperties of invasive gliomas
10:15 - 10:30	Pierre-Olivier Strale - <i>Alvéole, FR</i> (Sponsor presentation) Bioengineering cellular microenvironments with PRIMO®
10:30 - 11:00	<i>Coffee break</i> Poster removal/repositioning (Meeting Room 1+2, Bldg. 9)
SESSION 4	
11:00 - 11:30	E. Ada Cavalcanti-Adam - <i>Max-Planck-Institute for Medical Research, DE</i> LInDA: An optochemical tool for light induced dissociation of adherens junctions
11:30 - 11:45	Víctor González-Tarragó - <i>Institut de Bioenginyeria de Catalunya, ES</i> The force loading rate drives cell mechanosensing
11:45 - 12:00	Nilankur Dutta - <i>CNRS - Univ Grenoble Alpes - LiPhy, FR</i> The self-avoiding dynamics of apical Myosin-II foci
12:00 - 12:15	Jennifer Young - <i>Max Planck Institute for Medical Research, DE</i> Dual gradient hydrogel systems for mechanobiology applications
12:15 - 12:30	Pierre Duval - <i>Optics11, NL</i> (Sponsor presentation) A new nanoindentation method for local dynamic mechanical analysis (micro-DMA) of heterogenous silicon elastomers (PDMS) and other viscoelastic biomaterials
12:30 - 14:30	<i>Lunch at Campus Bar</i> Poster Session 2 (Meeting Room 1+2, Bldg. 9)
SESSION 5	
14:30 - 15:00	Guillaume Charras - <i>London Centre for Nanotechnology, University College London, UK</i> On another plane: curling and buckling in epithelia
15:00 - 15:15	Larisa Venkova - <i>Institut Curie, FR</i> Cell volume regulation associated to cell deformations
15:15 - 15:30	Qingsen Li - <i>IFOM, IT</i> Cell compression device
15:30 - 16:00	Matthias Lütolf - <i>EPFL, École Polytechnique Fédérale de Lausanne, CH</i> Tissue geometry drives deterministic organoid patterning
16:00 - 16:15	François Fagotto - <i>CRBM - University of Montpellier and CNRS, UMR5237, FR</i> Ectoderm to mesoderm transition results from regulation of actomyosin contractility
16:15 - 16:30	Valentina Caorsi - <i>Abbelight, FR</i> (Sponsor presentation) Into the Nanoworld
16:30 - 17:00	<i>Coffee break</i>
SESSION 6	
17:00 - 17:30	Vito Conte - <i>IBEC, ES and Eindhoven University of Technology, NL</i> Synthetic Morphogenesis for Disease and Regeneration
17:30 - 17:45	James Bradford - <i>University of Sheffield, UK</i> Modelling force generation in phagocytosis
17:45 - 18:00	Sarah Barger - <i>SUNY Upstate Medical University, USA</i> Dynamic adhesions regulated by myosin-Is exert subcellular forces during phagocytosis
18:00 - 18:30	Roberto Mayor - <i>University College London, UK</i> A novel mechanism of collective cell migration based on rear-wheel drive
18:30 - 18:45	Vanni Petrolli - <i>Université Grenoble Alpe - (LiPhy), FR</i> Confinement-induced transition between wave-like collective cell migration modes

Tuesday, June 4

18:45 - 19:00	Gururaj Rao Kidiyoor - <i>IFOM, IT</i> ATR contributes to cell migration, neurogenesis and tissue homeostasis by regulating nuclear mechanics and mechano-responsiveness
20:00 - 24:00	<i>Social dinner - Cibus104, Via Ripamonti 104, Milan</i>

Wednesday, June 5

SESSION 7

09:00 - 09:30	Sandrine Etienne-Manneville - <i>Institut Pasteur/CNRS, FR</i> Microtubule contribution to mechanotransduction
09:30 - 09:45	Thomas Iskratsch - <i>Queen Mary University of London, UK</i> The role of the (non-myofibrillar) cytoskeleton in cardiomyocyte mechanosensing
09:45 - 10:00	Jonathan Ron - <i>Weizmann Institute, IL</i> Length dependent oscillations during stick slip dynamics in linear cell migration
10:00 - 10:15	Nicole Roselli - <i>LadHyX, Ecole Polytechnique, FR</i> Relations between Intracellular Atp Concentration and Endothelial Cell Migration on Adhesive Line Patterns
10:15 - 10:30	Giorgio Seano - <i>Institut Curie, FR</i> Solid stress in brain tumours causes neuronal loss and neurological dysfunction and can be reversed by lithium
10:30 - 11:00	<i>Coffee break</i> Poster removal/repositioning (Meeting Room 1+2, Bldg. 9)

SESSION 8

11:00 - 11:30	Stefano Piccolo - <i>IFOM and University of Padua, IT</i> YAP/TAZ activity as hallmark of cancer: biological properties, upstream regulations and downstream targets
11:30 - 11:45	Bernhard Illes - <i>Ludwig-Maximilians-Universität München, DE</i> Directing growth of HeLa spheroids by photoactivation of YAP
11:45 - 12:00	Celine Bruyere - <i>University of Mons, BE</i> Actomyosin contractility scales with myoblast elongation and enhances differentiation through YAP nuclear export
12:00 - 12:15	Rebecca Bertolio - <i>Laboratorio Nazionale CIB, IT</i> Sterol regulatory element binding protein 1 couples mechanical cues and lipid metabolism
12:15 - 12:30	Alexandre Souchaud - <i>MSC - Université Paris 7, FR</i> Micro-sensors for stress measurements in living tissues
12:30 - 14:30	<i>Lunch at Campus Bar</i> Poster Session 3 (Meeting Room 1+2, Bldg. 9)

SESSION 9

14:30 - 15:00	Sylvie Hénon - <i>Université Paris Diderot, FR</i> Effect of geometrical constraints on the distribution, at cell scale, of epigenetic factors
15:00 - 15:15	Antoine Jégou - <i>CNRS - Institut Jacques Monod, FR</i> Effect of geometrical confinement on formin activity
15:15 - 15:30	Samuel Mathieu - <i>CNRS UMR 144, Institut Curie, FR</i> The Golgi apparatus: a mechanosensitive organelle?
15:30 - 16:00	Dirk Drasdo - <i>INRIA, Rocquencourt/Paris, FR and IZBI, Leipzig, DE</i> Quantitative single-cell-based modeling reveals predictable response of growing tumor spheroids on external mechanical stress, and how this informs liver regeneration

Wednesday, June 5

16:00 - 16:15	Giulia Cardillo - <i>Hydrodynamics Laboratory, École Polytechnique, FR</i> A Computational Model of Chemical and Mechanical Platelet Activation and Aggregation
16:15 - 16:30	Eleni Dalaka - <i>University of St Andrews, UK</i> Measurement and analysis of invadopodia forces in 2D and 3D environments
16:30 - 17:00	<i>Coffee break</i>
SESSION 10	
17:00 - 17:30	Giorgio Scita - <i>IFOM and University of Milan, IT</i> Endocytic control of phase transition in cancer progression
17:30 - 17:45	Henry De Belly - <i>University College London, UK</i> Crosstalk between cell surface mechanics and fate decisions in embryonic stem cells
17:45 - 18:00	Daria Bonazzi - <i>Institut Pasteur, FR</i> Bacterial aggregates of <i>Neisseria meningitidis</i> are active fluids which efficiently colonize blood vessels
18:00 - 18:30	Benoit Ladoux - <i>Institut Jacques Monod, Université Paris Diderot & CNRS, Paris, FR</i> Role of cell polarity in collective cell migration
18:30 - 18:45	Sirio Dupont - <i>Department of Molecular Medicine - University of Padova, IT</i> Extracellular matrix mechanical cues regulate lipid metabolism through Lipin-1 and SREBP
18:45 - 19:00	Magali Suzanne - <i>CBI, FR</i> Mechanical impact of epithelial-mesenchymal transition on epithelial morphogenesis
19:00	<i>Free dinner</i>

Thursday, June 6

SESSION 11	
09:00 - 09:30	Maté Biro - <i>EMBL Australia, University of New South Wales, Sydney, AU</i> Mechanobiology of cytotoxic T lymphocyte and tumour cell movements and interactions
09:30 - 10:00	Nicolas Minc - <i>Institut Jacques Monod, CNRS, Paris, FR</i> Cell Shape and early Embryonic Development
10:00 - 10:15	Olivier Theodoly - <i>LAI, INSERM U1067, CNRS, Aix Marseille University, FR</i> Swimming reveals an ubiquitous mechanism of lymphocyte migration
10:15 - 10:30	Blanca Gonzalez-Bermudez - <i>Universidad Politécnica de Madrid, ES</i> Linking cell deformability and microstructure by a single-cell approach: application to immune cells
10:30 - 11:00	<i>Coffee break</i>
	Poster removal (Meeting Room 1+2, Bldg. 9)
SESSION 12	
11:00 - 11:30	Kinneret Keren - <i>The Technion Department of Physics, Haifa, IL</i> Dynamics and instabilities of contracting actin networks in artificial cells
11:30 - 12:00	Timothy Saunders - <i>MBI/NUS, SG</i> Selective Filopodia Adhesion Ensures Robust Cell Matching in the <i>Drosophila</i> Heart
12:00 - 12:15	Nicholas Kurniawan - <i>Eindhoven University of Technology, NL</i> Interplay between cell adhesion, contractility, and nuclear mechanics universally determines cell migration on curved substrates
12:15 - 12:30	Paolo Maiuri - <i>IFOM, IT</i> Nuclear Polarity
12:30 - 12:40	<i>Conclusions</i>
12:40 - 13:30	<i>Light Lunch (coffee break area) & Departure</i>