Mechanobiology:
How Cells and Tissues Respond to and Deal With Mechanical Stress

Uniklinik RWTH Aachen University, seminar room
April 7, 2017

Programme

9:00	Registration - Coffee - Opening
9:15-10:15	Dennis E. Discher, Biophysical Eng'g. Labs, University of Pennsylvania, Philadelphia *Mechanobiology from matrix to nucleus - in heart development, differentiation, and 3D migration*
10:15-10:45	Wolfgang Wagner, Helmholtz Institute for Biomedical Engineering, Uniklinik RWTH Aachen *Does soft really matter? Impact of elasticity and surface topography on differentiation of mesenchymal stromal cells and induced pluripotent stem cells*
10:45-11:15	Mechanobiology @ RWTH Spotlight Presentations Reinhard Windoffer, Probing intermediate filament mechanics from the inside and outside in epithelial cells Barbara Nöthel, Transduction of external forces is shifted from focal adhesions to adherens junctions upon epidermal differentiation Andreas Ludwig, Upregulation of the metalloproteinase ADAM15 by the transcription factor KLF2 promotes endothelial cell survival under shear stress conditions
11:15-11:45	Coffee Break
11:45-12:30	Lorenzo Moroni, MERLN Institute for Technology-Inspired Regenerative Medicine, Maastricht University *How biofabrication techniques could be used for mechanobiology*
12:30-13:00	Mechanobiology @ RWTH Spotlight Presentations Andreas Blaeser, Effect of 3D bioprinting-induced shear stress on the survival and proliferation potential of human mesenchymal stromal cells Petra Mela, Bioreactor-based tissue development in cardiovascular tissue Laura de Laporte, Nerve cells decide to orient inside an injectable hydrogel with minimal structural guidance engineering
13:00	Closing

Thinking the Future
Zukunft denken

Registration and further information from B. Küppers, ERS-Forum
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Registration deadline: March 31, 2017