Department:	Institute of Biological Information Processing (IBI) IBI-2: Mechanobiology
Job site:	Forschungszentrum Jülich (FZJ)
Description of the position:	PhD Position in Mechanobiology of Multilayered Epithelia
Job description:	Our profile
	We use mechanobiological tools to study the vital feedback loop between cells and mechanical cues from their environment and how these stimuli in turn shape cell mechanics. We use and develop cutting-edge tools from molecular cell biology and biophysics to apply defined mechanical stimuli to cells and tissues cultured in mechanically defined environments, and to quantify the ensuing cell responses. To this end we apply advanced live-cell microscopy and immunofluorescence imaging, cell force microscopy, and state of the art techniques from molecular biology. Biologists, physicists and chemists work hand in hand to accomplish the challenging scientific tasks in the fascinating field of mechanobiology. We greatly value teamwork and strive for excellent supervision.
	Your tasks
	You will be part of the DFG-funded graduate school Mechanobiology in Epithelial 3D Tissue Constructs (ME∃T; me3t.rwth-aachen.de). In project B1 '3D mapping of epidermal tissue mechanobiology upon mechanical stress and during growth' you will cultivate simplified epidermal equivalents (SEE) on stretchable substrates and subject them to defined mechanical strain. This signal will induce cellular mechanoadaptations like reinforcement of the actin cytoskeleton and cell-cell-adhesions that you will image and quantify in all layers of SEE. You will use photobleaching techniques to explore protein exchange upon mechanoadaptation. Moreover, you will compare cells of different genetic background. The successful applicant must be accepted as a Dr. rer. nat. candidate at the faculty of Sciences of Bonn University.
Requirements / Your profile:	Your profile
	You have completed your studies in biology, biophysics or biotechnology very successfully with a M.Sc. degree, have acquired a "love for science" and are now searching for a challenging PhD project in a stimulating interdisciplinary and international environment. During your studies you have acquired knowledge in the transdisciplinary fields of biophysics and/or cell biology. Ideally, you have experience in at least one of the following fields: advanced light microscopy, cell culture, mechanics, and digital image processing. You distinguish yourself by resilience and excellent teamwork capacity. You are fluent in written and spoken English.
Pay category:	TVöD Bund 13
Hiring date:	July 01, 2022
Duration of employment:	3 years
Contact/Send application to:	UnivProf. Rudolf Merkel Email: <u>r.merkel@fz-juelich.de</u> , phone: +49 (0)2461 61-4551 <u>www.fz-juelich.de/ics/ics-7/EN/Home/home_node.html</u>
Equal career prospects for women and men	
Severely disabled applicants with equal qualification will be given preferential consideration	
Application deadline: March 31, 2022	