Department:	Institute of Biological Information Processing (IBI) IBI-2: Mechanobiology
Job site:	Forschungszentrum Jülich (FZJ)
Description of the position:	**PhD Position Mechanobiology of Acini**
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) and work at the FZJ. In project A2 'Mechanobiological regulation of breast epithelium organization and cell invasion', you will use human-derived 3D breast cell acini and investigate the role of basement membranes (BM) as crucial regulator of epithelial tissue homeostasis. Your project concentrates on the cellular signal processing mechanisms at the interface between cells, the BM barrier and the ECM. You will employ our in-house designed cell force microscopy techniques to study the cellular response to mechanical ECM cues. Further, you will investigate the role of proto-oncogene activity in the modulation of invasive cell behavior. You will use our nanosurgery setup to induce local BM damage and analyze the related cellular response mechanisms. Gene expression and protein activation analyses will give new insights into the underlying signaling circuits regulating cellular adaptation upon mechanical ECM stresses. The 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, biotechnology or biophysics very successfully with a M-Sc. degree. During your studies, you have developed a "love for science" and acquired knowledge in the fields of biophysics and/or cell biology. You should have experience in standard techniques such as light microscopy, live cell imaging and animal cell culture. Now, you search for a highly relevant transdisciplinary PhD project, and you are highly motivated to work in a vivid scientific environment. You distinguish yourself by endurance, self-reliance and an excellent capacity for teamwork. 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:	Dr. rer. nat. Erik Noetzel-Reiss Email: e.noetzel-reiss@fz-juelich.de, phone: +49 (0)2461 61 4603 www.fz-juelich.de/ics/ics-7
Equal career prospects for women and men.	
Severely disabled applicants with equal qualification will be given preferential consideration.	
Application deadline: March 31, 2022	