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| Department:                                                                                     | Institute of Biological Information Processing (IBI) IBI-2:<br>Mechanobiology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Job site:                                                                                       | Forschungszentrum Jülich (FZJ)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Description of the position:                                                                    | <b>PhD Position: Breast gland development and cell invasion in strained microenvironments</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Job description:                                                                                | <p><b>Our profile</b></p> <p>We use mechanobiological tools to study the feedback loop between cells and mechanical cues from their environment, and how these stimuli shape cell mechanics. We develop cutting-edge tools from molecular cell biology and biophysics to apply defined mechanical stimuli to cells and tissues in controlled environments and quantify the resulting cell responses. We apply advanced live-cell microscopy, immunofluorescence imaging, and cell force microscopy. Biologists, physicists, and chemists collaborate to tackle complex scientific tasks in mechanobiology. We value teamwork and strive for excellent supervision.</p> <p><b>Your tasks</b></p> <p>You will join the DFG-funded graduate school Mechanobiology in Epithelial 3D Tissue Constructs (<b>ME3T</b>) and work at the renowned Research Center Jülich. In your project A2, you will investigate the mechanobiological regulation of breast epithelium organization and cell invasion. You will use human-derived 3D breast cell acini to study the role of basement membranes (BM) as regulators of epithelial tissue homeostasis. Your project will focus on cellular signal processing mechanisms at the interface between cells, the BM barrier, and ECM. You will employ cell force microscopy techniques to study the response to mechanical ECM cues on developed normal breast acini and tumorigenic spheroids. Additionally, you will investigate mechano-sensitive ion channels and proto-oncogene activity in invasive cell behavior. Gene expression and protein activation analyses will unravel the signaling circuits that regulate cell adaptation to mechanical ECM stresses. You must meet the Bonn University requirements for Dr. rer. nat. candidates.</p> |
| Requirements / Your profile:                                                                    | <p><b>Your profile</b></p> <p>You have completed your studies in biology, biotechnology, or biophysics successfully with an M.Sc. degree. You have developed a "love for science" and acquired knowledge in biophysics and/or cell biology. You should have experience in standard techniques such as light microscopy, live cell imaging, and animal cell culture. You seek a highly relevant transdisciplinary PhD project and are highly motivated to work in a vibrant scientific environment. You distinguish yourself by endurance, self-reliance, and excellent teamwork skills. You are fluent in written and spoken English.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Pay category:                                                                                   | TVöD Bund 13 (65 %)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Hiring date:                                                                                    | July 01, 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Duration of employment:                                                                         | 3 years                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Contact/Send application to:                                                                    | Dr. rer. nat. Erik Noetzel-Reiss,<br>Email: <a href="mailto:e.noetzel-reiss@fz-juelich.de">e.noetzel-reiss@fz-juelich.de</a> , phone: +49 (0)2461 61 4603<br><a href="http://www.fz-juelich.de/en/ibi/ibi-2">www.fz-juelich.de/en/ibi/ibi-2</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Equal career prospects for women and men.                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Severely disabled applicants with equal qualification will be given preferential consideration. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Application deadline: March 03, 2025</b>                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |