### Description of the position:

**PhD Position in Mechanobiology**

### Job description:

**Our profile**

We focus on mechanobiology to study the vital feedback loop between cells and mechanical cues from their environment and how these stimuli in turn shape cell mechanics. We are using and developing cutting-edge tools from molecular cell biology and biophysics to apply defined mechanical stimuli to cells and tissues in order to quantify cell responses. We combine those mechanical stimulations with advanced live cell microscopy and immunofluorescence imaging on cells and tissues cultured in mechanically defined environments to quantify cell responses. We aim at a deep scientific understanding of physiologically relevant processes and thus contribute to progress in biotechnology and medicine. We are a dedicated interdisciplinary team of scientists originating from biology, chemistry, and physics.

**Your tasks**

You will be part of the DFG-funded graduate school Mechanobiology in Epithelial 3D Tissue Constructs (ME3T; me3t.rwth-aachen.de). In project B1 ‘3D mapping of epidermal tissue mechanics during growth and upon wounding’ you will cultivate epidermal equivalents on stretchable substrates and subject them to defined strain. This signal will induce cellular adaptations like reinforcement of cytoskeleton and cell-cell-adhesions that you will image and quantify. Moreover, you will use our established laser nanosurgery set-up to create defined micro-lesions in these tissues. You will analyze the mechanical properties of such preconditioned tissues including pre-stress and elucidate the origins of tissue anisotropy. The successful applicant must be accepted as a Dr. rer. nat. candidate at the faculty of Sciences of Bonn University.

### Requirements / 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, 2019

### Duration of employment:

3 years

### Contact:

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http://www.fz-juelich.de/ics/ics-7/EN/Home/home_node.html

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Equal career prospects for women and men.
Severely disabled applicants with equal qualification will be given preferential consideration.

**Application deadline: March 15, 2019** (apply via [https://me3t.rwth-aachen.de/positions](https://me3t.rwth-aachen.de/positions))