

Department:	Institute of Molecular and Cellular Anatomy (MOCA)
Job site:	RWTH Aachen University Hospital
Description of the position:	PhD student: Epidermal tissue stability in keratinopathy
Job description:	<p>Our profile Research at MOCA deals with the cytoskeleton and cellular junctions as main integrators of cell and tissue function. We use morphological and functional imaging techniques in vital cells, tissues, organoids and organisms (www.moca.ukaachen.de).</p> <p>PhD project: The project examines the effects of keratin mutations on epidermal mechanoresponses and neuronal stimulation. The project aims to develop in vitro models for the investigation of mechanically induced pathomechanisms in two inherited epidermal keratinopathies: Epidermolysis bullosa simplex, which has been linked to keratins 5 and 14 and is characterized by intraepidermal blisters and intense itching, and Pachyonychia congenita, which has been linked to keratins 6, 16 and 17 and is characterized by suprabasal hyperproliferation, extensive cornification and intense pain.</p> <p>Your tasks: You will be part of the graduate school "Mechanobiology in Epithelial 3D Tissue Constructs". You are expected to work in an interdisciplinary team with a keen interest in novel technological developments. Your project combines 3D culture systems with state-of-the-art microscopy and mechanobiological analyses. You will monitor cytoskeletal keratin network dynamics, measure local mechanical properties and study mechanoresponses in wild-type and mutant keratinocytes grown as monolayers and epidermal equivalents.</p>
Requirements / Your profile:	<p>Your profile: We are looking for a highly motivated and ambitious PhD student with a strong background in cell biology or mechanobiology. Knowledge in the fields of biomaterials, tissue engineering and microscopy is appreciated. The successful applicant must have completed a master or equivalent degree in biology, biomedical engineering or a comparable study program to be accepted either as a Dr. rer. nat. or Dr. rer. medic. candidate at RWTH Aachen University. Willingness for teamwork, the ability to work independently and excellent English language skills are expected.</p>
Pay category:	TV-L 13 (65 %)
Hiring date:	July 01, 2025
Duration of employment:	3 years
Contact/Send application to:	Univ.-Prof. Dr. Rudolf Leube Email: rleube@ukaachen.de , phone: +49 (0)241 80-89107 Web: www.moca.ukaachen.de
Equal career prospects for women and men.	
Severely disabled applicants with equal qualification will be given preferential consideration.	
Application deadline: March 03, 2025	