Curriculum Vitae

Dr. rer. nat. Arne Hofemeier

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Education

09/2017 – 09/2021	PhD „Forcing changes in health and disease: New access into bioengineered skeletal muscle mechanics", Institute for Cell Biology, Prof. Betz, University of Münster, Germany
10/2014 – 04/2017	Master of Science "Molecular Biomedicine": "Herpes simplex virus type I induced membrane fusion: Analysis of glycoprotein L and D chimeras", Institute of Virology, Prof. Kühn, University of Münster, Germany
10/2011 – 09/2014	Bachelor of Science "Molecular Biology": "Detection of osteogenic differentiation of human inferior turbinate stem cells by CARS microscopy", Department of Cell Biology, Department of Biomolecular Photonics, Prof. Kaltschmidt, Prof. Huser, University of Bielefeld, Germany

Academic Career

Since 11/2022	Postdoctoral Scientist, Institute of Pharmacology and Toxicology, University Medical Center Göttingen, Germany
11/2021 – 10/2022	Postdoctoral Scientist, Third Institute of Physics – Biophysics – University of Göttingen, Germany
09/2017 – 09/2021	Doctoral candidate, Institute for Cell Biology – ZMBE – University of Münster, Germany
09/2019 – 11/2019	Visiting scientist in the Lab of Prof. Gilbert, Donnelly Centre for Cellular and Biomolecular Research – University of Toronto, Canada
10/2013 – 02/2014	Visiting scientist in the Lab of Prof. Nielsen, Australian Institute for Bioengineering and Nanotechnology, University of Queensland, Brisbane, Australia

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Professional Activities

Reviewer	• Optics Express
Member	• DZHK - Deutsches Zentrum für Herz-Kreislauf-Forschung
	• DPG - Deutsche Physikalische Gesellschaft

Research Interests

Duchenne muscular dystrophy, skeletal muscle, tissue engineering, cell mechanics, stem cells, high-res. microscopy

Selected Publications

Arne D. Hofemeier, Till Moritz Muenker, Fabian Herkenrath, Mariam Ristau, Matthias Brandt, Mina Shahriyari, Malte Tiburcy, Wolfram Hubertus Zimmermann, Christof Lenz, Kamel Mamchaoui, Anne Bigot, Penney M. Gilbert, Timo Betz. “Dystrophin is mechanical tension modulator.” *bioRxiv*, 2022 Dec 23, doi:https://doi.org/10.1101/2022.12.23.521750

Swetha Raghuraman, Ann-Sophie Schubert, Stephan Bröker, Alejandro Jurado, Annika Müller, Matthias Brandt, Bart E. Vos, **Arne D. Hofemeier**, Fatemeh Abbasi, Martin Stehling, Raphael Wittkowski, Johanna Ivaska, Timo Betz. "Pressure drives rapid burst-like coordinated cellular motion from 3D cancer aggregates." *Advanced Science*,, 2022 Jan 07, doi:10.1002/advs.202104808

Hendrik Schürmann, Fatemeh Abbasi, Antonella Russo, **Arne D. Hofemeier**, Matthias Brandt, Johannes Roth, Thomas Vogl, Timo Betz. "Analysis of monocyte cell tractions in 2.5D reveals mesoscale mechanics of podosomes during substrate-indenting cell protrusions." *Journal of Cell Science*, 2022 May 27, doi:10.1101/2021.06.18.449040

Arne D. Hofemeier, Tamara Limon, Till Moritz Muenker, Bernhard Wallmeyer, Alejandro Jurado, Mohammad Ebrahim Afshar, Majid Ebrahimi, Roman Tsukanov, Nazar Oleksiievets, Jörg Enderlein, Penney M. Gilbert, Timo Betz. “Global and local tension measure- ments in biomimetic skeletal muscle tissues reveals early mechanical homeostasis.” *eLife*, 2021 Jan 18, doi:10.7554/eLife.60145

Arne D. Hofemeier, Henning Hachmeister, Christian Pilger, Matthias Schürmann, Johannes F. W. Greiner, Lena Nolte, Holger Sudhoff, Christian Kaltschmidt, Thomas Huser, Barbara Kaltschmidt. “Label-free nonlinear optical microscopy detects early markers for osteogenic differentiation of human stem cells.” *Scientific Reports*, 2016 May 26, doi:10.1038/srep26716

Sabine A. E. Heider, Natalie Wolf, **Arne D. Hofemeier**, Petra Peters-Wendisch, Volker Wendisch. “Optimization of the IPP Precursor Supply for the Production of Lycopene, Decaprenoxanthin and Astaxanthin by Corynebacterium glutamicum.” *Frontiers in Bioengineering and Biotechnology*, 2014 Aug 20, doi:10.3389/fbioe.2014.00028