






Dr. rer. nat. Nicole Scholz, Dipl. Biol.  
(21.06.1984, Mühlhausen, Germany)

University of Leipzig, Medical Faculty  
Rudolf Schönheimer Institute of Biochemistry  
Division of General Biochemistry  
Johannisallee 30, D-04103 Leipzig

 scholzlab@gmail.com

 +49 (0) 341-97-22145

 @scholzlab

 0000-0001-8087-8451



## Academic Training & Positions

### **Group Leader (10/2016 – present)**

Cellular Neuromechanics and Adhesion GPCR group  
Rudolf Schönheimer Institute of Biochemistry,  
Division of General Biochemistry, Faculty of Medicine, Leipzig University

### **Postdoctoral Fellow (12/2015 – 9/2016)**

Institute of Physiology, Department of Neurophysiology, University of Würzburg

### **Neuroscience, Dr. rer. nat. (8/2010 – 12/2015)**

University of Würzburg, Institute of Physiology, Department of Neurophysiology

### **Studies in Biology, Diplom Biology (10/2004 – 5/2010)**

University of Würzburg / Institute of Physiology, Dept of Neurophysiology

## Scientific Activities, Honors, Awards

2022	<b>Elected Board Member</b> of the Adhesion GPCR Consortium (AGC)
2022	<b>Chair</b> Plenary Lecture <b>Thomas C. Südhof</b> 4GPCRnet - International Symposium, Leipzig University
2012 & 2016	<b>Posterprizes</b> at the 91. and 95. Meeting of the German Physiology Society, Dresden and Lübeck
2014	<b>Baron-von-Swaine Stipendium</b> , Universitätsbund Würzburg
2014	<b>Travel Award</b> for Scientific Talk, 7. International Adhesion GPCR Workshop, Harvard University, Boston

## 10 Most Important Original Research Articles (\*equal contribution/#Correspondence & Senior Author)

Max Buhlan, Dmitrij Ljaschenko, **Nicole Scholz**<sup>#</sup>, Tobias Langenhan<sup>#</sup> (2023). Experimental modulation of physiological force application on leg joint neurons in intact *Drosophila melanogaster*. *Nat. Protoc.* Doi: 10.1038/s41596-023-00907-7.

**Nicole Scholz**<sup>\*#</sup>, Anne-Kristin Dahse\*, Marguerite Kemkemer, Anne Bormann, Genevieve M. Auger, Fernando Vieira Contreras, Lucia F. Ernst, Hauke Staake, Marek B. Körner, Amelie Meyer-Mölk, Yin-Kwan Chung, Beatriz Blanco-Redondo, Franziska Klose, Mohamed Ali Jarboui, Dmitrij Ljaschenko, Tobias Langenhan<sup>#</sup> (2023). Molecular sensing of mechano- and ligand-dependent adhesion GPCR dissociation. *Nature*, 615(7954); 945-953. Doi: 10.1038/s41586-023-05802-5.

Mila M Paul\*, Sven Dannhäuser\*, Lydia Morris\*, Achmed Mrestani\*, Martha Hübsch, Jennifer Gehring, Georgios N Hatzopoulos, Martin Pauli, Genevieve M Auger, Grit Bornschein, **Nicole Scholz**, Dmitrij Ljaschenko, Martin Müller, Markus Sauer, Hartmut Schmidt, Robert J Kittel, Aaron DiAntonio, Ioannis Vakonakis, Manfred Heckmann<sup>#</sup>, Tobias Langenhan<sup>#</sup> (2022). The human cognition-enhancing *CORD7* mutation increases active zone number and synaptic release. *Brain*. awac011, doi.org/10.1093/brain/awac011.

Ulli Heydasch, Renate Kessler, Jan-Peter Warnke, Klaus Eschrich, **Nicole Scholz**<sup>#</sup>, Marina Bigl<sup>#</sup> (2021). Functional diversity of PFKFB3 splice variants in glioblastoma. *PLoS One*. 16(7): e0241092. doi.org/10.1371/journal.pone.0241092.

Tina Smolič, Petra Tavčar, Anemari Horvat, Urška Černe, Ana Halužan Vasle, Larisa Tratnjek, Mateja Erdani Kreft, **Nicole Scholz**, Maja Matis, Toni Petan, Robert Zorec, Nina Vardjan<sup>#</sup> (2021). Astrocytes in stress accumulate lipid droplets. *Glia*. 69(6):1540-1562. Doi: 10.1002/glia.23978.

Gerti Beliu\*, Steffen Altrichter\*, Ramon Guixà-González\*, Mareike Hemberger, Ina Brauer, Anne-Kristin Dahse, **Nicole Scholz**, Robert Wieduwild, Alexander Kuhlemann, Hossein Batebi, Florian Seufert, Pérez-Hernández G, Peter W. Hildebrand<sup>#</sup>, Markus Sauer M<sup>#</sup>, Tobias Langenhan<sup>#</sup> (2021). Tethered agonist exposure in intact adhesion/class B2 GPCRs through intrinsic structural flexibility of the GAIN domain. *Mol Cell*. Doi.org/10.1016/j.molcel.2020.12.042.

**Nicole Scholz**, Tobias Langenhan<sup>#</sup>, Torsten Schöneberg<sup>#</sup> (2019). Revisiting the classification of adhesion GPCRs. *Ann NY Acad Sci*, 1456: 80-95.

**Nicole Scholz**<sup>\*</sup>, Nadine Ehmman<sup>\*</sup>, Divya Sachidanandan, Cordelia Imig, Benjamin H. Cooper, Olaf Jahn, Kerstin Reim, Nils Brose, Jutta Meyer, Marius Lamberty, Steffen Altrichter, Anne Bormann, Stefan Hallermann, Martin Pauli, Manfred Heckmann, Christian Stigloher, Tobias Langenhan<sup>#</sup>, Robert J. Kittel<sup>#</sup> (2018). Complexin cooperates with Bruchpilot to tether synaptic vesicles to the active zone cytomatrix. *J Cell Biol*. 218, 1011–1026.

**Nicole Scholz**<sup>\*</sup>, Chonglin Guan\*, Matthias Nieberler\*, Alexander Grotemeyer\*, Isabella Maiellaro, Shiqiang Gao, Sebastian Beck, Matthias Pawlak, Markus Sauer, Esther Asan, Sven Rothemund, Jana Winkler, Simone Prömel, Georg Nagel, Tobias Langenhan<sup>#</sup>, Robert J. Kittel<sup>#</sup> (2017). Mechano-dependent signaling by Latrophilin/CIRL quenches cAMP in proprioceptive neurons. *eLife* 6: e28360.

**Nicole Scholz**<sup>\*</sup>, Jennifer Gehring\*, Chonglin Guan\*, Dmitrij Ljaschenko, Robin Fischer, Vetrivel Lakshmanan, Robert J. Kittel<sup>#</sup>, Tobias Langenhan<sup>#</sup> (2015). The Adhesion-GPCR Latrophilin/CIRL shapes mechanosensation. *Cell Rep* 11 (6): 866-874. Doi: 10.1016/j.celrep.2015.04.008.

## Patents

“Chimeric sensor protein and methods of use thereof”, (Application WO/2022/063915, pending)  
 2020 European Priority Application EP.20198501.7  
 2021 PCT-Application EP2021/076234

## Funding

### **DFG, SFB 1432 – “Structural Dynamics of GPCR Activation and Signaling”**

421152132, 2024-2027 (2. Funding period), Co-PI: T. Langenhan

Projekt B06: [\*Dynamic modulation of adhesion GPCR function through complex formation.\*](#)

### **BMBF, “VIP+ -Validation of the technological and social innovation potential of scientific research“**

03VP11220, 2023-2026, Co-applicant: T. Langenhan

[\*Pharmacological Search method for Adhesion GPCR compounds.\*](#)

### **DFG, SFB 1432 – “Structural Dynamics of GPCR Activation and Signaling”**

421152132, 2020-2023, Co-PI: Prof. T. Langenhan

Projekt B06: [\*Dynamic modulation of adhesion GPCR function through complex formation.\*](#)

### **DFG, Forschungsgruppe 2149 – “Elucidation of Adhesion-GPCR Signaling”**

265903901, 2018-2022, Co-PI: T. Langenhan

Projekt P01: [\*Functional analysis of the Adhesion-GPCR class in Drosophila.\*](#)

### **DAAD, Bilateral Exchange Grant**

2018-2019

P33 Germany – Slovenia (Partner: Nina Vardjan, Universität Ljubljana)

*“Alzheimer’s disease Drosophila model and metabolism”*

### **Junior Research Grant, Medical Faculty, Leipzig University**

2018-6/2019

*“Adhesion GPCR as force sensors – Investigating the putative role of Adhesion GPCR in mechanical tension homeostasis of neurons”*