

Curriculum Vitae

Fenja Knoepp Dr. rer. nat.
d.o.b. October 3rd, 1984, in Darmstadt, Germany

University Education

2012-2015 Doctorate Biology, JLU
2008-2012 Parental Leave
2003-2008 Studies of Biology, Justus Liebig University Giessen (JLU)

Scientific Career

Since 2015 Junior Research Group Leader, Cardio-Pulmonary Institute (CPI), JLU
2017-2018 Visiting Academic at the University of Otago (Dunedin, New Zealand)
2014-2015 Research and Teaching Fellow, Institute for Animal Physiology, JLU

Awards and Honors

2026 René Baumgart Research Award • awarded by the René Baumgart Foundation
2025 Paper of the Month • awarded by the German Physiological Society (DPG) • Selected publication: Knoepp et al. 2025, *Circ Res*;136(9):1031–1048
2021 Front Cover of the Journal “Small Methods” • Selected Publication: A Microfluidic System for Simultaneous Raman Spectroscopy, Patch-Clamp Electrophysiology, and Live-Cell Imaging to Study Key Cellular Events of Single Living Cells in Response to Acute Hypoxia • Published by von Wiley (John Wiley & Sons), Online ISSN: 2366-9608
2021 Poster Award • awarded by the German Physiological Society (DPG) • 100th Annual Meeting of the German Physiological Society, Frankfurt, Germany
2020 Paper of the Month • awarded by the German Physiological Society (DPG) • Selected publication: Knoepp et al. 2020, *PNAS*; 117 (1): 717-726
2018 Travel Award for “Europhysiology” • London, Great Britain • awarded by the German Physiological Society (DPG)2014
2015 Early Career Bursary Award • awarded by the Cost ADMIRE Network • ENaC-Meeting „Aldosterone, MR, and Salt - What’s new“ • Zermatt, Schweiz
2014 Meritorious Research Award • Awarded to an Oral Presentation • „Experimental Biology“ • American Physiological Society • San Diego, California/USA
2012 Postgraduate Scholarship • Awarded to the Project: „The mechanosensitivity of the epithelial Na⁺-channel (ENaC)“ • Justus Liebig University Giessen, Germany

Citation Record

Total citations: 562; h-index:10; h-index since 2021: 9 (Google Scholar February 5th, 2026)

Top-10 selected Publications

Knoepp F, Abid S, Lipskaia L, Gökyildirim MY, Born E, Marcos E, Arhatte M, Glogowska E, Günther A, Kraut S, Breitenborn-Müller I, Quanz K, Fenner-Nau D, Derumeaux G, Weissmann N, Honoré E, Adnot E. Piezo1 in PSMCs: Critical for Hypoxia-Induced Pulmonary Hypertension Development. **Circ Res** 2025 Apr 25;136(9), 1031-1048. [doi:10.1161/CIRCRESAHA.124.325475](https://doi.org/10.1161/CIRCRESAHA.124.325475)

Knoepp F, Wahl J, Andersson A, Kraut S, Sommer N, Weissmann N, Ramser K. A Microfluidic System for Simultaneous Raman Spectroscopy, Patch-Clamp Electrophysiology, and Live-Cell Imaging to Study Key Cellular Events of Single Living Cells in Response to Acute Hypoxia. **Small Methods** 2021, 5, 2100470. [doi:10.1002/smt.202100470](https://doi.org/10.1002/smt.202100470)

Knoepp F, Ashley Z, Barth D, Baldin JP, Jennings M, Kazantseva M, Saw EL, Katare R, Alvarez de la Rosa D, Weissmann N, Fronius M. Shear force sensing of epithelial Na⁺ channel (ENaC) relies on N-glycosylated asparagines in the palm and knuckle domains of α ENaC. **PNAS USA**. 2020; 117 (1): 717-726. [doi:10.1073/pnas.1911243117](https://doi.org/10.1073/pnas.1911243117)

Veith C, Vartürk-Özcan I, Wujak M, Hadzic S, Wu CY, **Knoepp F**, Kraut S, Petrovic A, Gredic M, Pak O, Brosien M, Heimbrodt M, Wilhelm J, Weisel FC, Malkmus K, Schäfer K, Gall H, Tello K, Kosanovic D, Sydykov A, Sarybaev A, Günther A, Brandes RP, Seeger W, Grimminger F, Ghofrani HA, Schermuly RT, Kwapiszewska G, Sommer N, Weissmann N. Secreted Protein Acidic and Rich in Cysteine, a Novel Regulator of Vascular Cell Function in Pulmonary Hypertension. **Circulation**. 2022; 145:916-933. [doi: 10.1161/CIRCULATIONAHA.121.057001](https://doi.org/10.1161/CIRCULATIONAHA.121.057001)

Sommer N, Huttemann M, Pak O, Scheibe S, **Knoepp F**, Sinkler C, Malczyk M, Gierhardt M, Esfandiary A, Kraut S, Jonas F, Veith C, Aras S, Sydykov A, Alebrahimdehkordi N, Giehl K, Hecker M, Brandes R, Seeger W, Grimminger F, Ghofrani H, Schermuly R, Grossman L, Weissmann N. Mitochondrial complex IV subunit 4 isoform 2 is essential for acute pulmonary oxygen sensing. **Circ Res** 2017;121:424-438. [doi: 10.1161/CIRCRESAHA.116.310482](https://doi.org/10.1161/CIRCRESAHA.116.310482).

Seimetz M, Sommer N, Bednorz M, Pak O, Veith C, Hadzic H, Gredic M, Parajuli N, Kojonazarov B, Kraut S, Wilhelm J, **Knoepp F**, Henneke H, Pichl A, Kanbagli Z, Scheibe S, Fysikopoulos A, Wu C-Y, Klepetko W, Jaksch P, Eichstaedt C, Grünig E, Hinderhofer K, Geiszt M, Müller N, Rezende F, Buchmann G, Wittig I, Hecker M, Hecker A, Padberg W, Dorfmueller P, Gattenlöhner S, Vogelmeier C, Günther A, Karnati S, Baumgart-Vogt E, Schermuly R, Ghofrani H, Seeger W, Schröder K, Grimminger F, Brandes R P, Weissmann N. NADPH Oxidase Subunit NoxO1 is a target for emphysema treatment in COPD. **Nature Metabolism**. 2020; 2(6): 532-546; Erratum in: Nature Metabolism 2020;2(7): 648. [doi: 10.1038/s42255-020-0215-8](https://doi.org/10.1038/s42255-020-0215-8).

Sommer N, Alebrahimdehkordi N, Pak O, **Knoepp F**, Strielkov I, Scheibe S, Dufour E, Andjelković A, Sydykov A, Saraji A, Petrovic A, Quanz K, Hecker M, Kumar M, Wahl J, Kraut S, Seeger W, Schermuly R, Ghofrani HA, Ramser K, Braun T, Jacobs HT, Weissmann N, Szibor M. Bypassing mitochondrial complex III using alternative oxidase inhibits acute pulmonary oxygen sensing. **Science Advances**. 2020; eaba0694. [doi: 10.1126/sciadv.aba0694](https://doi.org/10.1126/sciadv.aba0694).

Yamdjeu OT, Begerow A, Sommer N, Weissmann N, **Knoepp F**. H₂O₂ Sensitivity of Kv Channels in Hypoxic Pulmonary Vasoconstriction: Experimental Conditions Matter. **Int. J. Mol. Sci.** 2025, 26(14), 6857. [doi: 10.3390/ijms26146857](https://doi.org/10.3390/ijms26146857).

Dartsch RC, Kraut S, Mayer T, Gabel A, Dietrich A, Weissmann N, Fuchs B, **Knoepp F**. Use of FRET-Sensor 'Mermaid' to Detect Subtle Changes in Membrane Potential of Primary Mouse PSMCs. **Cells** 2024, 13(12), 1070. [doi: 10.3390/cells13121070](https://doi.org/10.3390/cells13121070).

Barth D†, **Knoepp F**†, Fronius M. Enhanced Shear Force Responsiveness of Epithelial Na⁺ Channel's (ENaC) δ Subunit Following the Insertion of N-Glycosylation Motifs Relies on the Extracellular Matrix. **Int. J. Mol. Sci.** 2021; 22(5): 2500; †Equal contribution. [doi: 10.3390/ijms22052500](https://doi.org/10.3390/ijms22052500).