2026 InterPore elections

Insa Neuweiler
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Education and Professional Career

1989-1995 Diploma studies in Physics at the Universities of Tübingen, Hamburg and Heidelberg, Germany
1996-2000 Doctoral studies in modelling of two-phase flow in porous media at ETH Zürich, Zürich, Switzerland
2000-2003 Postdoctoral researcher at Department of Earth Sciences and Engineering at Imperial College London, UK. From 2001-2003: Marie-Curie Postdoctoral Scholarship
2003-2008 Head of an Emmy Noether junior research group “Effective soil parameters for infiltration processes”, University of Stuttgart, Germany, funded by DFG (German Science Foundation)
Since 2008 Professor for Fluid Mechanics and Environmental Physics in Civil Engineering, Leibniz University Hannover, Germany

Commitment, Appointments and Scientific Volunteer Jobs

University and Faculty
2017-2023 Member of the Dean’s Office of the Faculty of Civil Engineering and Geodetic Science at Leibniz University Hannover, elected dean from 2020-2022
2015-2017 Elected member of the senate of Leibniz University of Hannover
Research
Since 2025 Member of the Scientific Advisory Committee of the Institute de Diagnosi Ambiental I Estudis de l’Aigua (IDAEA) of Consejo Superior de Investigationes Eientíficas (CSIC), Barcelona, Spain
Since 2024 Elected member of the review board 3.46 (water research) of Deutsche Forschungsgemeinschaft (DFG), Germany
2018-2026 Member of the Board of Trustees of the Federal Institute for Geosciences and Natural Resources (BGR)
2016-2023 Member of the Scientific Advisory Council of the Leibniz Institute for Applied Geophysics (LIAG) in Hannover
2013-2022 Board member of the Water Science Alliance (WSA)
2013-2019 Member of the Scientific Advisory Council of the Helmholtz Centre for Geosciences, Potsdam (GFZ)
2009-2015 Head-PI of the DFG (German Science Foundation) research unit „Multi-scale interfaces in unsaturated soils“ (FOR1083)
2013-2020 Co-PI of the DFG (German Science Foundation) research unit „Data assimilation for improved characterization of fluxes between compartmental interfaces“ (FOR2131)

Editorial Activities
Since 2022 Associate Editor of Advances in Water Resources
2015-2021 Co-Editor of Vadose Zone Journal
2011-2022 Associate Editor of Hydrology and Earth System Sciences (HESS)
2010-2015 Associate Editor of Vadose Zone Journal

Societies
Member of EGU, InterPore and SIAM GS

Professional Awards, Offers and Recognitions

2013 Award for Excellence in Teaching of the Leibniz University Hannover

2012 Call for a professorship at the University of Potsdam, Germany (declined)

Most important Publications (maximum 10)
(Peer reviewed journal articles / books / patents)

[1] R. Krishna, Y. Méheust, and I. Neuweiler. A two-dimensional depth-integrated model for immiscible two-phase flow in open rough fractures, Journal of Fluid Mechanics 1011, A43, 2025.
[2] D. Feng and I. Neuweiler. A poroelastic d-SPH model for modeling biofilm deformation and sloughing in microfluidic channels. Computers and Geotechnics 175, 106700, 2024.
[3] S. Berkhahn and I. Neuweiler. Data driven real-time prediction of urban floods with spatial and temporal distribution, Journal of Hydrology X 22, 100167, 2024.
[4] L.M. Bahlmann, K.M. Smits, K. Heck, E. Coltman, R. Helmig and I. Neuweiler. Gas component transport across the soil-atmosphere interface for gases of different density: Experiments and Modeling, Water Resources Research 56(9), e2020WR027600, 2020.
[5] G. Schmidt, M. Suermann, B. Bensmann, R. Hanke-Rauschenbach and I. Neuweiler. Modeling overpotentials related to mass transport through porous transport layers of PEM water electrolysis cells, Journal of the Electrochemical Society 167(11), 114511, 2020.
[6] Z. Yang, Y. Meheust, I. Neuweiler, R. Hu, A. Niemi and Y.-F. Chen. Modeling immiscible two-phase flow in rough fractures from capillary to viscous fingering. Water Resources Research 55(3), 2033-2056, 2019.
[7] N. Brandhorst, D. Erdal and I. Neuweiler. Soil moisture prediction with the ensemble Kalman filter: handling uncertainty of soil hydraulic parameters, Advances in Water Resources 110, 360-370, 2017.
[8] D. Erdal, I. Neuweiler and U. Wollschläger. Using bias aware EnKF to account for unresolved structure in an unsaturated zone model. Water Resources Research 50(1): 132-147, 2014.
[9] J. Tecklenburg, I. Neuweiler, M. Dentz, J. Carrera, S. Geiger, C. Abramowski and O. Silva. A non-local two-phase flow model for immiscible displacement in highly heterogeneous porous media and its parametrization. Advances in Water Resources 62: 475-487, 2013.
[10] I. Neuweiler and H.-J. Vogel. Upscaling of unsaturated flow considering connectivity, Water Resources Research 43(3), W03444, 2007.