Dr. Kira Rehfeld

Physicist,
Earth System Scientist,
Professor of Climatology and the Biosphere

- October 28, 1982
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About Me

The central focus of my research is to explain the state- and timescale-dependency of **climate variability**. In particular, my research explores the dynamical changes within the Earth system under global mean temperature change, and its sensitivity to external climate forcing. I am also interested in understanding how complex Earth system models have to be to capture features of climate correctly, and in developing **climate change mitigation** options.

Publication Lists

- scholar.google.de:PgC-JDQAAAAJ
- orcid.org/0000-0002-9442-5362
- Web of Science ResearcherID:O-1781-2019

Software

- tocsy.pik-potsdam.de/nest.php
- https://github.com/krehfeld
- https://github.com/paleovar

Education

Postgraduate Training

2009 – 2013	**Ph.D Physics**	Humboldt-Universität zu Berlin

Thesis: Embracing nature's inhomogeneity – the challenge to infer spatio-temporal dependence from palaeoclimate data.
Advisor: Jürgen Kurths.

2003 – 2009	**Diploma Physics**	Heidelberg University

Thesis: Investigation into Mont Blanc summit ice cores at seasonal resolution.
Advisor: Dietmar Wagenbach

2007 – 2008	**M.Sc. Medical Physics**	Heidelberg University/Harvard Medical School

Specialization: Biomedical Optics and Radiotherapy.
Advisor: Yulia Lyatskaya

Professional Experience

since 2021	**Tübingen University, Tübingen, Germany**	Professor

Professor of Climatology & Biosphere in the Department of Geosciences and the Department of Physics.

2018 – 2021	**Heidelberg University, Heidelberg, Germany**	Group Leader

Emmy Noether Independent Junior Research Group at the Institute of Environmental Physics.

2016 – 2018	**British Antarctic Survey, Cambridge, UK**	Postdoc

DFG fellowship on climate and isotope tracer modelling.

2013 – 2016	**Alfred-Wegener-Institute for Polar and Marine Research**	Postdoc

Analysing palaeoclimate and -environmental proxies.

2009 – 2013	**Potsdam-Institute for Climate Impact Research**	Researcher

Development of methods for climate data analysis.

Major funding and Awards

2024	Award for Courageous Science, State of Baden-Württemberg
2021	Manfred-Fuchs Prize, Heidelberg Academy of Sciences
2019	Hengstberger Award for Young Scientists
2018	DFG Emmy Noether fellowship

Key Publications

2020	**Variability of surface climate in simulations of past and future** *Rehfeld, K. et al. K Rehfeld, Hébert, R., Lora, J.M., Lofverstrom, M., Brierley, C.M., Earth Syst. Dynam.* DOI:10.5194/esd-11-447-2020
2018	**Global patterns of declining temperature variability from the Last Glacial Maximum to the Holocene** *K. Rehfeld, T. Münch, S.L. Ho and T. Laepple. Nature* DOI:10.1038/nature25454
2011	**Comparison of correlation analysis techniques for irregularly sampled time series** *K. Rehfeld, N. Marwan, J. Heitzig, and J. Kurths, Nonlin. Proc. Geophys.* DOI:10.5194/npg-18-389-2011

*52 published peer-reviewed articles. H-index 23/27 (Web of Sci./G*Scholar).*

Community Service

since 2022	Editor, Earth System Dynamics and Nonlinear Processes in Geosciences; Steering group: nat-esm.de and HLRS Stuttgart
2018-2023	Session convener, European Geoscience Union General Assembly
since 2019	Steering group member of the PAGES working groups Climate Variability Across Scales (CVAS) and Speleothem Synthesis and Analysis (SISAL), the PalMod project (since 2018) and the Past2Future working group of the Palaeoclimate Modeling Intercomparison Project.