

Curriculum Vitae



Personal Data

Title	PD Dr.
First name	Ralf
Name	Kiese
Date of birth	23.05.1972
Current position	Head of department Terrestrial Biogeochemistry, Senior Scientist
Current institution	Karlsruhe Institute of Technology, Campus Alpine, IMK-IFU, Garmisch-Partenkirchen, Germany

Qualifications and Career

Stages	Periods and Details
Degree programme	1993-1999 Study of Hydrology, Diploma, University Freiburg
Doctorate	2000-2002 at Forschungszentrum Karlsruhe, IMK-IFU, Garmisch-Partenkirchen, PhD Dr. rer. nat. at University Freiburg, Title „N und C Spurengasaustausch und Erstellung eines N ₂ O-Emissionskatasters für tropische Regenwälder Australiens“, Supervisor Prof. Hans Papen
Stages of academic/professional career	Since 2022 Head of Division Terrestrial Biogeochemistry, KIT, Campus Alpine, IMK-IFU, Garmisch-Partenkirchen, Germany 2012 Habilitation in Biogeochemistry, University Freiburg, Germany Since 2011 Head of Working Group Ecosystem Matter Fluxes, KIT, Campus Alpine, IMK-IFU, Garmisch-Partenkirchen, Germany 2005-2011 Senior Scientist, KIT, Campus Alpine, IMK-IFU, Garmisch-Partenkirchen, Germany 2002-2005 PostDoc, KIT, Campus Alpine, IMK-IFU, Garmisch-Partenkirchen, Germany

Activities in the Research System

Since 2024 Member of DFG Permanent Senate Commission on “*Transformation of agricultural and food systems*”

Since 2022 Member of ITMS (Integrated Monitoring System of Germany) coordination group

Since 2021 Associate Editor Global Biogeochemical Cycles

Since 2015 Member of TERENO steering committee

Supervision of Researchers in Early Career Phases

Since 2013 graduation of 23 PhD students, plus committee member of 6 external PhDs

Since 2013 supervision of 22 Master/ Bachelor thesis

Currently 6 PhD students enrolled, plus committee member of 4 external PhDs

Currently 1 postdoctoral researcher working on a habilitation

Academic Distinctions

2021 Reuters List of World's Top 1000 Climate Scientists, ranking 834

2003 Best PhD Award Institute of Meteorology and Climate Research, KIT

Selected publications (H-Index 46, 01/24 Web of Science)

- Butterbach-Bahl K., Baggs E., Dannenmann M., **Kiese R.**, Zechmeister-Boltenstern S. 2013. Nitrous oxide emissions from soils: how well do we understand the processes and their controls? *Philosophical transactions of the Royal Society of London. Series B, Biological sciences* 368, 20130122.
- Butterbach Bahl K., Gettel G., **Kiese R.**, Fuchs K., Werner C., Rahimi J., Barthel M., Merbold L. 2020. Livestock enclosures in drylands of Sub-Saharan Africa are overlooked hotspots of N₂O emissions. *Nature Communications*, DOI: 10.1038/s41467-020-18359-y.
- Guetein A., Gerschlauser F., Kikoti I., **Kiese R.** 2018. Impacts of climate and land use on N₂O and CH₄ fluxes from tropical ecosystems in the Mt. Kilimanjaro region, Tanzania. *Global Change Biology*, DOI: 10.1111/gcb.13944.
- Dirnböck T., Kraus D., Grote R., Klatt S., Kobler J., Schindlbacher A., Seidl R., Thom D., **Kiese R.** (2020). Substantial understory contribution to the C sink of a European temperate mountain forest landscape. *Landscape Ecology*, 35, DOI:10.1007/s10980-019-00960-2.
- Gerschlauser F., Dannenmann M., Kühnel A., Meier R., Kolar A., Butterbach-Bahl K., **Kiese R.** 2016. Gross Nitrogen Turnover of Natural and Managed Tropical Ecosystems at Mt. Kilimanjaro, Tanzania. *Ecosystems*, DOI:10.1007/s10021-016-0001-3.
- Kiese R.**, Fersch B., Baessler C., Brosy C., Butterbach-Bahl K., Chwala C., Dannenmann M., Fu J., Gasche R., Grote R., Jahn C., Klatt J., Kunstmann H., Mauder M., Rödiger T., Smiatek G., Soltani M., Steinbrecher R., Völksch I., Werhahn J., Wolf B., Zeeman M., Schmid H.P. (2018). The TERENO-preAlpine Observatory: integrating meteorological, hydrological and biogeochemical measurements and modelling. *Vadose Zone Journal*, DOI:10.2136/vzj2018.03.0060.
- Kiese R.**, Heinzeller C., Werner C., Wochele S., Grote R., Butterbach-Bahl K. 2011. Quantification of nitrate leaching from German forest ecosystems by use of a process oriented biogeochemical model. *Environmental Pollution* 159, 3204-3014.
- Kiese R.**, Hewett B., Butterbach-Bahl K. 2008, Seasonal dynamic of gross nitrification and N₂O emission at two tropical rainforest sites in Queensland, Australia. *Plant and Soil*, 309, 211-226.
- Kiese R.**, Li C., Hilbert W., Papen H., Butterbach-Bahl K., 2005. Regional application of PnET-N-DNDC for estimating the N₂O source strength of tropical rainforests in the Wet Tropics of Australia. *Global Change Biology* 11, 128-144.
- Mwanake R.M., Gettel G.M., Wangari E.G., Glaser C., Houska T., Breuer L., Butterbach-Bahl K., **Kiese R.** 2023. Anthropogenic activities significantly increase annual greenhouse gas (GHG) fluxes from temperate headwater streams in Germany. *Biogeosciences*, doi.10.5194/bg-20-3395-2023.
- Petersen K., Kraus D., Calanca P., Semenov M.A., Butterbach-Bahl K., **Kiese R.** (2021): Dynamic simulation of management events for assessing impacts of climate change on pre-alpine grassland productivity: *European Journal of Agronomy*. doi.10.1016/j.eja.2021.126306.
- Smerald A., Kraus D., Rahimi J., Fuchs K., **Kiese R.**, Butterbach-Bahl K., Scheer C. 2023. A redistribution of nitrogen fertiliser across global croplands can help achieve food security within environmental boundaries. *Nature Communication Earth & Environment*, doi.10.1038/s43247-023-00970-8.
- Wang N, Xia L., Goodale C.L., Butterbach-Bahl K., Kiese R. (2021). Climate change can accelerate depletion of montane grassland C stocks. *Global Biogeochemical Cycles*, <https://doi.org/10.1029/2020GB006792>.
- Xia LL., Lam SK., **Kiese R.**, Chen DL., Luo YQ., van Groenigen KJ., Ainsworth EA., Chen J., Liu SW., Ma L., Zhu YH., Butterbach-Bahl K. (2021). Elevated CO₂ negates O₃ impacts on terrestrial carbon and nitrogen cycles. *One Earth*, doi.10.1016/j.oneear.2021.11.009.