

Department of Chemical Analytics and Biogeochemistry



Dr. Michael Hupfer

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Research group

Biogeochemistry

Main research interests

Redox controlled matter transport across boundaries, lake internal nutrient cycles
Lake management, impact of climate and land use changes on lakes

Education

1983–1985
1985–1988
1988–1993

Study in Marine Ecology, University Rostock
Diploma study in the field of Hydrobiology/Limnology, TU Dresden
PhD study at the TU Dresden and Innsbruck/Mondsee (Dr. rer. nat., TU Dresden)

Professional appointments

1988–1992
1992–1994

1994–1995
1996–2001
2001–

Research Assistant at the Institute of Hydrobiology, TU Dresden
Postdoc Research Fellow at Eawag, Swiss Federal Institute for Environmental Science and Technology, Department of Biogeochemistry
Scientist at UFZ Centre of Environmental Research Leipzig-Halle Ltd., Mining lake group
Scientist at Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB), Berlin
Senior scientist at IGB

Key publications (last five years)

Lau, M.P., Hupfer, M., Grossart, H.-P. (2017): Reduction-oxidation cycles of organic matter increase bacterial activity in the pelagic oxycline. *Environmental Microbiology Reports* DOI: 10.1111/1758-2229.12526

Hupfer, M., Kasper R., Kleeberg, A., Lewandowski, J. (2016): Long-term efficiency of lake restoration by chemical phosphorus precipitation: Scenario analysis with a phosphorus balance model. *Water Research* 97: 153-161 .

Rothe M, Kleeberg A, Hupfer M (2016): The occurrence, identification and environmental relevance of vivianite in waterlogged soils and aquatic sediments. *Earth-Science Reviews* 158:51-64

Lau, M., M. Sander, J. Gelbrecht, M. Hupfer (2015): Solid phases as important electron acceptors in freshwater organic sediments. *Biogeochemistry* 123: 49-61.

Rothe, M., Kleeberg, A., Grüneberg, B., Friese, K., Pérez-Mayo, M. & Hupfer, M. (2015): Sedimentary Sulphur:Iron Ratio Indicates Vivianite Occurrence: A Study from Two Contrasting Freshwater Systems. *PLoS ONE*, 10(11), e0143737.

Bernhardt, J., Kirillin, G., Hupfer, M. (2014): Periodic convection within littoral lake sediments on the background of seiche-driven oxygen fluctuations.- *Limnology & Oceanography: Fluids & Environment* 4: 17-33.

Four main research projects (last five years)

CAPRILO Foundation: ISEO: Iseo- Improving the lake status from eutrophy towards Oligotrophy, Subproject: Internal P cycle, 2016-2018

DFG: RedoxPhos: How do physical and biogeochemical conditions in pelagic boundaries control vertical transport and generation of phosphorus species? 2011-2016 (HU 740/5-1)

Leibniz-Pakt für Innovation und Forschung: Coordination (together with G. Nützmann) of the “International Leibniz Graduate School AQUALINK” Aquatic boundaries and linkages in a changing environment, 2012-2016

DFG: Research Training Group Urban Water interfaces, T4 Impact of remaining wastewater constituents on interfaces in surface water, 2015-2027

Leibniz-Pakt für Innovation und Forschung: The Baltic Sea and its Southern Lowlands: Proxy-Environment interaction in times of rapid changes (2017-2020)

Current teaching and supervision

Lectures

VL SS Ecohydrology (Nützmann, Hupfer, Lewandowski), HUB Geography

Graduate students

Maximilian Lau, Aqualink (SAW), solid phase electron acceptors (2016 finished)

Matthias Rothe, Redoxphos (DFG), vivianite formation in lake sediments (2016 finished)

Jonas Keitel, Innovate (BMBF), Phosphorus retention under fluctuating water levels

Robert Ladwig, UWI (DFG), Phosphorus cycling in urban lakes

Gregor Scholtysik (SAW), Proxy formation during early diagenesis

Current services and memberships

Editorial boards

- Editor in chief Handbuch Angewandte Limnologie, Wiley-VCH
- Editor Limnologica, Elsevier

Scientific advisory boards and committees

- Consulting commission for the graduate school program ‘soil-water-contamination’, Hochschule Osnabrück
- Advisory Board Member of CLEAR (Center of lake Restoration), University of Southern Denmark, Odense, Denmark

Other functions

- Head of the IGB cross-cutting research domain ‘Aquatic boundaries and linkages’
- Vice Head of the IGB Department Chemical Analytics and Biogeochemistry

Honours and awards

- IGB Service award for scientists (2015)
- Award of the Berlin Brandenburg Academy of Sciences (2005)
- Award of the German Water Chemistry Society (2001)