

Dr. Andreas Bruder, Institute of Microbiology, University of Applied Sciences and Arts of Southern Switzerland (SUPSI) email: andreas.bruder@supsi.ch, Google Scholar [profile](#), ORCID [profile](#)

I'm a stream ecologist with a focus on functional biodiversity and ecosystem processes. I mainly use detritus-based food webs of streams to study how these elements of ecosystems are interlinked and modified by anthropogenic change. I established a laboratory to study all aspects of the biodiversity, ecology and biogeography of aquatic hyphomycetes, a diverse but understudied group of freshwater saprobic fungi. I use knowledge gained from these studies in collaborative projects with stakeholders, for instance to develop functional bioindicators or knowledge on understudied organism groups. I apply my expertise and enthusiasm to support policy making for biodiversity conservation through my lead roles in GEOBON and IUCN SSC.

Education

- 04/2007 – 04/2011 PhD at the Department of Aquatic Ecology of the Swiss Federal Institute of Aquatic Science and Technology (eawag), Dübendorf, Switzerland. Studying biodiversity effects on detrital processes in streams. Supervisor: Prof. Dr. Mark Gessner
- 04/2006 – 11/2006 Master project at the Department of Ecology and Environmental Sciences of the Umea University, Sweden. Studying the effects of river restoration on ecosystem metabolism
Supervisor: Prof. Dr. Björn Malmqvist
- 10/2000 – 04/2006 Undergraduate education in Environmental Sciences at the Swiss Federal Institute of Technology (ETH), Zürich. Specialisation in aquatic systems and biology

Employment history

- 02/2018 – present Senior Scientist and Group leader at the Institute of Microbiology, University of Applied Sciences and Arts of Southern Switzerland, Mendrisio. Responsible for research in applied stream ecology and freshwater biodiversity. See my [personal webpage](#) and that of my [Stream Ecology Group](#) for further information.
- 07/2015 – 01/2018 Scientist at Institute of Earth Sciences, University of Applied Sciences and Arts of Southern Switzerland. Canobbio, Switzerland.
Responsible for research and monitoring of freshwater ecosystems in lakes and streams.
- 02/2013 – 06/2015 Postdoctoral Fellow in the Department of Zoology, University of Otago, Dunedin, New Zealand: Studying the effects of multiple agricultural stressors on stream ecosystem functioning.
Supervisor: Dr. habil. Christoph Matthaei
- 06/2011 – 12/2012 Postdoctoral Fellow in the Department of Surface Waters of the Swiss Federal Institute for Aquatic Science and Technology, Dübendorf, Switzerland.
Evaluation of mitigation measures aimed at reducing the impacts of hydropeaking on river ecosystems. Supervisors: Prof. Dr. Alfred Wüest and Stefan Vollenweider

Institutional responsibilities

- 02/2018 – present Group leader at Institute of Microbiology, SUPSI

Approved research projects

Lead-PI on 15 externally funded research projects with a total funding of 2'277'712 CHF and 12 mobility grants with a total funding of 263'878 CHF.

Supervision of junior researchers

Supervision/mentoring of 36 students and collaborators at Bachelor, Master, PhD and Postdoc level.

Teaching activities

Teaching in 12 courses in freshwater ecology. Classroom teaching and practical. Total of 322 h of teaching.

Membership in panels, etc. and reviewing activity

- 03/2021 – present Co-Chair of the [IUCN SSC](#) Task Force on freshwater macroinvertebrate sampling protocols.
- 11/2019 – present Co-Chair of the Freshwater Biodiversity Observation Network ([FWBON](#)). As part of GEOBON, we are a global initiative with the goal to coordinate activities for assessment and monitoring of freshwater biodiversity and to develop the underlying methodologies and data structure.
- 05/2016 – 10/2018 Member of the expert panel of the Swiss Federal Office for the Environment for research and mitigation of hydropeaking effects on stream ecosystems
- 12/2016 – 12/2018 Member of the expert panel of the Swiss Federal Office for the Environment for monitoring of water temperatures in surface waters

01/2016 – 03/2018	National Focal Point for the International Cooperative Programme on Integrated Monitoring of Air Pollution Effects on Ecosystems (ICP IM) by the UNECE Convention on Long-Range Transboundary Air Pollution
08/2015 – 01/2018	Member of the expert panel of CIP AIS on effects of harmful substances on freshwater ecosystems
01/2008 – present	125 manuscripts reviewed for 40 peer-reviewed international scientific journals in applied and fundamental freshwater ecology and biodiversity

Most relevant publications from the last 5 years

Total number of publications in international peer-reviewed journals (since 2011): 42

Oester R., P. C. dos Reis Oliveira, M. S. Moretti, F. Altermatt & **A. Bruder** (in press): Leaf-associated macroinvertebrate assemblage and leaf litter breakdown in headwater streams depend on local riparian vegetation. *Hydrobiologia*

Esmaeili Ofogh A. R., E. Ebrahimi Dorche, S. Birk & **A. Bruder** (2023) Effect of seasonal variability on the development and application of a novel Multimetric Index based on benthic macroinvertebrate communities – A case study from streams in the Karun river basin (Iran). *Ecological Indicators* 146: 109843

Fathi P., E. Ebrahimi-Dorche, O. Beyraghdar-Kashkooli, J. Stribling & **A. Bruder** (2022): Spatiotemporal variation in macroinvertebrate community composition along the stressor gradients in rivers of a middle-eastern basin. *International Journal of Environmental Science and Technology* 19: 8587-8612

Consoli G., F. Lepori, C. T. Robinson & **A. Bruder** (2021): Predicting macroinvertebrate responses to water abstraction in alpine streams. *Water* 13: 2121

Frainer A., **A. Bruder**, F. Colas, V. Ferreira & B. McKie (2021): Plant litter decomposition as a tool for stream ecosystem assessment. Chapter 21 in C. Swan, L. Boyero & C. Canhoto (eds.) *The Ecology of Plant Litter Decomposition in Stream Ecosystems*, Springer, Amsterdam

Bruder A., A. Frainer, T. Rota & R. Primicerio (2019): The importance of ecological networks for multiple-stressor research and management. *Frontiers in Environmental Science* 7: 59

Cornut J., S. De Respinis, O. Petrini, M. Tonolla, F. Bärlocher, E. Chauvet & **A. Bruder** (2019): Rapid characterization of aquatic hyphomycetes by MALDI-TOF mass spectrometry. *Mycologia* 111(1): 177-189

Bruder A., R. Salis, P. Jones & C. Matthaei (2017): Biotic interactions modify multiple-stressor effects on juvenile brown trout in an experimental stream food web. *Global Change Biology* 23(9): 3882-3894