

Curriculum Vitae (06.2023)

Matthias Liess (Prof. Dr.)

I am an aquatic ecologist analyzing long-term effects of multiple stress from toxicants and other stressors in ecosystems. Based on a mechanistic understanding coupled with a reduction of system complexity I developed:

(i) the SPEAR indicator system to identify ecological effects of pesticides in streams,

(ii) the SAM approach (stressor Addition Model) to predict combined effects of stressors and

(iii) Applying this knowledge I am contributing to the

- One Health approach developing tools reducing mosquito occurrence and Bilharzia vectors.

- improving the regulatory risk assessment of pesticides



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Appointments

- Since 2014 Professor for System-Ecotoxicology, Technical University Aachen, Germany.
- Since 2006 Head of department System-Ecotoxicology, UFZ - Centre for Environmental Research Leipzig, Germany.
- 2003–2004 Professor for Ecology and Ecotoxicology University of Helsinki, Finland, fixed-term appointment.
- 2002 Guest scientist and lectureship, University of West of England, Bristol, UK.
- 2001–2006 Head of research group - Effect Propagation, Aquatic Ecotoxicology, UFZ - Centre for Environmental Research in Leipzig, Germany.
- 1998 Expedition and research in the Antarctic, „Synergistic action of UV radiation on coastal ecosystems contaminated with heavy metals“ Australian Antarctic Division, Australia.
- 1997 Expedition and research in the Antarctic, "Ecotoxicological evaluation of a waste dump" Australian Antarctic Division, Australia.
- 1997 Visiting scientist „Development of test systems“ at the National Research Centre for Environmental Toxicology - Brisbane, Australia.
- 1995 Visiting scientist „Monitoring of agricultural pesticide inputs into streams“ at the Institute for Material Science, University of Hanoi, Vietnam.
- 1993–2000 Head of research group „Aquatic Ecotoxicology“ at the Technical University Braunschweig, Germany.
- 1990 - 1993 Scientist at the Zoological Institute of the Technical University Braunschweig, Germany.

Education

- 1999 Habilitation „Aquatic Risk Assessment of Agricultural Insecticides Based on Ecological Aspects“, TU Braunschweig, Venia legendi: Animal Ecology.
- 1993 Ph.D. dissertation completed at the TU Braunschweig, with high distinction. „On the ecotoxicology of the inputs from agricultural surfaces into streams“
- 1989 Diploma in Biology granted, with highest distinction

Committees (selected)

Advisory

- Expert for the German Federal Ministry of Food and Agriculture for the National Action Plan on the Sustainable Use of Plant Protection Products (NAP), 2015-2019.
- Member of the scientific panel on plant protection products and their residues(PPR); European Food Safety Authority, 2012-2015.
- Expert of EU Scientific committee on (i) Consumer Safety (SCCS), (ii) Health and Environmental Risks (SCHER), (iii) Emerging and Newly Identified Health Risks (SCENIHR), 2011-2013.
- Member of the scientific panel on plant protection products and their residues(PPR); European Food Safety Authority, 2006-2010.
- FOCUS working group „Landscape and Mitigation Factors in Aquatic Ecological Risk Assessment“ European Commission for Health & Consumer Protection, EU, 2002-2008.

Reviewer

- Numerous evaluations of senior researchers
- journal reviews
- Reviewer of research projects, including:
 - EU funding program
 - Belgian office for scientific, technical and cultural affairs
 - PSD - Pesticide Safety directorate, United Kingdom
 - FORMAS, Swedish research council
 - United States - Israel science foundation
 - DBU - Deutsche Bundesstiftung Umwelt, Germany
 - Humboldt Stiftung, Germany
- External reviewer of PhD students in Australia, Belgium, Sweden, Finland, France, Germany, Italy, The Netherlands, United Kingdom

Projects (selected)

Selected third-party projects are listed. The total funds acquired for external research projects amount to € 9 million.

- National monitoring of agricultural streams; Small stream monitoring (KgM) with the NAP framework (National Action Plan on the Sustainable Use of Plant Protection Products) 2018-2023.
- FLOW - Citizen Scientists investigate insecticide exposure and insect diversity of small streams, BMBF, Germany 2020-2023
- SENTINEL - Freshwater pollution and the links to the distribution of *Schistosoma* host snails in Western Kenya. DFG. 2018-2023.
- PuMa, Pesticide management - Web application to identify and the entry of pesticides into protected areas, DBU, 2020-2023.
- Development of an indicator for Hydrocarbon contamination in water, TOTAL, France 2012-2015.
- Review on topics of relevance to the revision of the Guidance Documents on Aquatic and Terrestrial Ecotoxicology, EFSA, EU 2012.
- MOCC-A, Sustainable mosquito control in Africa, 2011-2013, BMBF, Germany.
- NANOSIT, Assessment of nano particle toxicity, BMBF, Germany.
- Improving risk assessment of toxicants for aquatic communities by considering competition on the population and community level; EU-Marie Curie.
- ECOLINK - Effects of environmental toxicants at population and community level. Helmholtz and Russian Academy of Science.
- Development of harmonised environmental indicators for pesticide risk, HAIR; EU-STREP.
- Modelling the effects of pesticides on non-target aquatic organisms to improve risk assessment, DEFRA, United Kingdom.
- Developing ecological data layers and tools for landscape-level aquatic risk assessment of insecticides, and an analysis of factors that contribute to perturbations in agricultural aquatic ecosystems. SYNGENTA, Switzerland.

Publications

329 Publications, 19.800 citations, h-Index 73 (Google Scholar 06.2023)

2 Patents

Compilation at

- Web of Science: <http://www.researcherid.com/rid/A-8582-2009>
- ORCID: <http://orcid.org/0000-0002-3321-8909>
- Research Gate: https://www.researchgate.net/profile/Matthias_Liess
- Google Scholar: <https://scholar.google.de/citations?user=Jpz-KpUAAAAJ&hl=de>