



UNIVERSITÄT
BAYREUTH



member of
Bayceer
Department of Hydrology



HELMHOLTZ
CENTRE FOR
ENVIRONMENTAL
RESEARCH – UFZ



4 new PhD positions:

Behavior of micro-plastic (MP) in limnic and fluvial systems

The main objective of the recently funded Collaborative Research Center 1357 (SFB 1357): Micro-plastic is to gain more process-based understanding of the behavior and effects of micro-plastic in the environment. An interdisciplinary research team consisting of scientists from various disciplines such as chemistry, biology, hydrology and environmental sciences is working towards an improved mechanistic understanding of the fate of MP in the environment. To strengthen our team in hydrology/limnology, we seek four motivated PhD students at the Department of Hydrology, University of Bayreuth (Germany) and the Department of Hydrogeology at the Helmholtz Centre for Environmental Research, UFZ in Leipzig (Germany):

1. PhD (75% E13) for 3 years (starting April 2019) Flume Experiments (Bayreuth): *Establish and perform flume experiments to investigate the hydrodynamic behavior of MP in the open-water and the hyporheic zone of fluvial systems.* This project is closely related to PhD-project 2 as the data gained from the flume experiments is the basis for the CFD simulations as part of project 2. Applicants typically hold a Master degree in hydrology, fluid mechanics, hydraulic engineering or similar disciplines with an excellent study record. Applicants should send a curriculum vitae, a short summary of the master's thesis, a list of potential referees, and a letter of motivation to **Dr. Sven Frei** (sven.frei@uni-bayreuth.de), **Department of Hydrology, University of Bayreuth, 95440 Bayreuth, Germany.**

2. PhD (75% E13) for 3 years (starting April 2019) Computational Fluid Dynamics – transport and fate of MP in fluvial systems (Leipzig/Bayreuth): This PhD project investigates the mechanisms of transport and fate of MP in the open-water and hyporheic zone of fluvial systems using numerical simulations (CFD). The models will first be calibrated against flume experiments (PhD-project 1) and then used to evaluate a range of scenarios. Applicants should have a Master's degree and a strong background in at least one of the following disciplines: hydrology, hydraulics, civil or environmental engineering, geosciences or environmental sciences (with a focus on water). The application should include a detailed CV (including names and addresses of two potential referees), a letter of motivation, pdf-copies of certificates and, if applicable, pdf-copies of relevant published work. For further information please contact: **Prof. Dr. Jan Fleckenstein** (jan.fleckenstein@ufz.de), **Department of Hydrogeology, Helmholtz Center for Environmental Research, UFZ, Permoserstrasse 15, 04318 Leipzig, Germany. Online Recruiting:** <https://recruitingapp-5128.de.umantis.com/Vacancies/1569/Description/2?customer=5128>

3. PhD (75% E13) for 3 years (starting April 2019) Lake Mesocosm Experiments (Bayreuth): *Microplastic cycling and transport in the lakes.* This project will investigate MP transport pathways within the lake water column using a range of field and lab experiments. We will address questions such as 'how long are organisms exposed to MP in lake surface water' and 'how long does it take for MP to reach the lake sediments?' using a quantitative experimental approach. This project is closely related to PhD-project 4 as the data gained from the mesocosm experiments is the basis for subsequent CFD simulations as part of project 4. Applicants should hold a Master degree in limnology, hydrology, environmental physics or similar disciplines with an excellent study record. Applicants should send a CV, a short summary of the master's thesis, a list of potential referees, and a letter of **motivation to Dr.**

Benjamin Gilfedder (*Benjamin-silas.Gilfedder@Uni-Bayreuth.de*), Limnological Research Station, University of Bayreuth

4. PhD (75% E13) for 3 years (starting April 2019) Computational Fluid Dynamics – transport and fate of MP in lake systems (Leipzig/Bayreuth): This PhD project investigates the mechanisms of transport and fate of MP in standing waters and lake systems using numerical simulations (CFD). Core transport processes in the vertical water column in the models will be calibrated against lake mesocosm experiments (PhD-project 3). The models will then be used to evaluate a range of scenarios for more complex 3D lake systems. Applicants should have a Master's degree and a strong background in at least one of the following disciplines: limnology/hydrology, hydraulics, civil or environmental engineering, geosciences or environmental sciences (with a focus on lakes). The application should include a detailed CV (including names and addresses of two potential referees), a letter of motivation, pdf-copies of certificates and, if applicable, pdf-copies of relevant published work. For further information please contact: **Prof. Dr. Jan Fleckenstein** (*jan.fleckenstein@ufz.de*), **Department of Hydrogeology, Helmholtz Center for Environmental Research, UFZ, Permoserstrasse 15, 04318 Leipzig, Germany.** **Online Recruiting:** <https://recruitingapp-5128.de.umantis.com/Vacancies/1571/Description/2?customer=5128>