The Stream Ecology Group of the University of Applied Sciences and Arts (SUPSI) has an opening for a 4-years, fully funded PhD-position in Applied Stream Ecology on an international project in collaboration with the Universidade Vila Velha (UVV, Brazil) and the University of Zürich (UZH).

PhD-position in Applied Stream Ecology

Headwater stream food webs are based on leaf litter from the riparian vegetation as principal basal resource. Microorganisms (mainly fungi) and invertebrates govern the processes of litter decomposition and secondary production in these food webs. Process rates depend on taxonomic and functional biodiversity of these organism groups and of leaf litter. However, biodiversity in these food webs and their resource availability are increasingly threatened by anthropogenic alterations. Of these alterations, changes to the riparian vegetation as a consequence of land-use are particularly influential. Despite functional similarity, tropical and temperate stream food webs have shown to respond differently to such alterations due to substantial differences in relative importance of microbial and invertebrate decomposers. However, such differences in responses have not been systematically compared using a food web perspective. The project aims at elucidating the effects of degradation of riparian vegetation on biodiversity and ecosystem processes in stream food-webs. It is based on replicate field experiments in Switzerland (sites north and south of the Alps) and in the Atlantic Forest, south-east Brazil. In line with the research questions, the project puts equal weight on microbial and invertebrate detritivores and aims at testing direct and indirect effects on the functioning of these food webs using advanced statistical analyses (incl. structural equation modelling). The project also has an explicit outreach component with stakeholder workshops planned in Switzerland and Brazil towards the end of the project. The project is part of the programme of Joint Research Projects (JRPs) for collaborations between Switzerland and Brazil, with funding from the Swiss National Science Foundation (SNSF), the Brazilian National Council for Scientific and Technological Development (CNPq) and Research Foundation of the State of Espírito Santo (FAPES).

The PhD-student will mainly be based at SUPSI on the Mendrisio campus (Stream Ecology Group, Laboratory of Applied Microbiology, Dr. Andreas Bruder) and collaborate with a Post-doc researcher and Master students on this project. He/she is expected to spend a substantial amount of time in Brazil for field work and training (several months in 2020 and 2021 mainly in the Laboratory of Aquatic Insect Ecology at UVV, led by Prof. Dr. Marcelo Moretti) and at University of Zürich (UZH, Department of Evolutionary Biology and Environmental Studies) in the lab of Prof. Dr. Florian Altermatt for training and teaching. The PhD-student will be enrolled at UZH (which will be the degree granting institution) and the UZH PhD program in ecology (https://www.ieu.uzh.ch/en/teaching/phd/graduate) and be formally hosted by Prof. Florian Altermatt. The student is expected to contribute to teaching and activities at UZH according to the rules of the graduate program.

We are looking for candidates that have a passion for science and applied ecology and an independent, enthusiastic, and interactive work ethic. Competitive candidates have a Master degree (or equivalent) in Ecology or Environmental Sciences and substantial training in field and labwork. Solid basic knowledge of statistics and very good communication and writing skills in English are a requirement. Given the nature of the project, enthusiasm and flexibility to travel is also a requirement. As the language spoken in SUPSIs Laboratory of Applied Microbiology is Italian, communication skills in Italian are an advantage but not a requirement.

Further information can be obtained from SUPSIs Stream Ecology Group webpage, from www.altermattlab.ch and from the webpage of UVVs Laboratory of Aquatic Insect Ecology, and directly from Dr. Andreas Bruder (andreas.bruder@supsi.ch, Phone: +41 58 6666222).

Application dossiers (all documents in English in a single pdf file) must be submitted by 29th February 2020 to andreas.bruder@supsi.ch and must include (i) a motivation letter with a short description of relevant work experience, (ii) a complete CV, (iii) names and contact details of two references from earlier academic projects, and (iv) copies of certificates of academic qualifications. The involved institutes promote diversity and equal opportunity in science and thus particularly invite members of groups underrepresented in academia, incl. women, to apply. We also explicitly provide support to facilitate the compatibility of family and work.