

The Stream Ecology Group of the University of Applied Sciences and Arts of Southern Switzerland (SUPSI) and the Forest Entomology Group of WSL has an opening for a 4-years, fully funded

PhD-position in Metacommunity Ecology

Freshwater biodiversity is declining at a fast rate in many regions of the world. This has consequences on ecosystem processes and the services they provide to humanity. These consequences might be shaped by different facets of biodiversity and its spatial organization (biodiversity-ecosystem functioning (BEF)-relationships). In this project, we use a unique study system, i.e. dendrotelmata (water-filled tree holes) as model in several field experiments to understand BEF-relationships at different levels of biological organisation (intra-specific, α -diversity, β -diversity, meta-communities) and how they are affected by spatial scale and climate change stressors. These natural freshwater microcosms are unevenly distributed across the vertical and horizontal extent of forests and provide microhabitats and hotspots for freshwater communities and processes in a terrestrial ecosystem. Because they are discrete and easy to manipulate they are very suitable to study spatial scales of BEF (β -diversity and meta-community dynamics). Communities and food webs in dendrotelmata are based on leaf litter and fine particulate organic matter. They are dominated by microorganisms (bacteria and filamentous fungi) and macroinvertebrates (mainly insect larvae) at several trophic levels. Despite overall similarities of organisms and processes involved, climatic conditions and resource quantity and quality depends on large-scale environmental context. Community composition, biodiversity and BEF-relationships might thus be very different in temperate and tropical forests (biomes), which will be tested using several field sites in Europe, Brazil and India.

The PhD-student will mainly be based at SUPSI on the Mendrisio campus (Stream Ecology Group, Institute of 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 at WSL where he/she will be supervised by Prof. Dr. Martin Gossner but also at the field sites in Brazil and India. The PhD-student will be enrolled at ETHZ (which will be the degree granting institution) with Prof. Dr. Martin Gossner as main and Prof. Loïc Pellissier as second supervisor.

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

Further information on the work environment can be obtained from the webpage of SUPSI's [Stream Ecology Group](#) and WSL's [Forest Entomology Group](#), and directly from Dr. Andreas Bruder (andreas.bruder@supsi.ch, Phone: +41 58 6666222) and Prof. Dr. Martin Gossner (martin.gossner@wsl.ch, Phone: +41 447392588).

Application dossiers (all documents in English in a single pdf file) must be submitted 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. **Application dossiers will be evaluated starting 15th December 2021** and the position filled if a suitable candidate is found. 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.