

Eawag, the Swiss Federal Institute of Aquatic Science and Technology (Dübendorf, Switzerland), and IGB, the Leibniz-Institute of Freshwater Ecology and Inland Fisheries (Berlin, Germany), are internationally recognized institutes that are committed to the ecological, economical and social management of water. They offer excellent laboratory and field facilities for interdisciplinary research, large-scale experimental facilities, and long-term research programs and data sets. These institutions share common goals towards education, research, and technology transfer at the highest international level.

The Department of Aquatic Ecology (Eawag) and the Department of Ecosystem Research (IGB) seek

Postdoctoral Researcher in Genomics (2-year position)

Project title: Host–parasite interactions in hybridizing *Daphnia*, from correlations to experiments

The postdoctoral researcher will participate in a collaborative research project with PD Dr. Piet Spaak (Eawag) and Prof. Justyna Wolinska (IGB), financed by the Swiss and German Science Foundations (SNF & DFG).

Eutrophication is a worldwide environmental problem accelerated by global warming, affecting the stability of aquatic ecosystems and having long-lasting consequences. We will investigate if and how eutrophication affects two interacting evolutionary processes: disease spread and interspecific hybridization. We will use water fleas (*Daphnia*), a well-established model in both host-parasite and hybridization research. This project is a combination of field surveys of two eutrophic lakes, a large scale mesocosm experiment (where trophic conditions will be manipulated), the transcriptional profiling of *Daphnia* exposed to stressful eutrophic conditions, and the development and application of molecular markers to study parasite evolution in eutrophic environments. Overall, through the unique combination of expertise and methods, this project will improve our understanding of disease spread and biodiversity loss under different trophic conditions and, consequently, might provide tools for management of aquatic ecosystems.

This is a collaborative project involving a team of five researchers: both PI's, a PhD student in Germany, a PhD student in Switzerland as well as this postdoctoral researcher (one year in Germany and one year in Switzerland). The PhD students will be primarily responsible for processing samples in a molecular lab (as well as for experimental- and field-work), whereas the postdoctoral researcher will work on the bioinformatics of the project. The first task will be the sequencing of the genome of our model parasite species, and the use of this information to develop molecular markers to study parasite evolution in the hybridizing host (*Daphnia*). Second, *Daphnia* will be transcriptionally profiled (RNA-seq) under various stressful conditions (including parasitism), in order to explore the mechanisms underlying immunity and synergistic interactions between the stressors. Third, depending on skills and interests, the postdoctoral researcher might also get involved in a large genomic project, which involves an annotation of several *Daphnia* lineages, belonging to either parental species or interspecific hybrids.

The position will be for a period of two years and should start in January 2017 or soon thereafter (negotiable). Generous funds are available to cover attendance at national and international conferences and for stays in collaborating institutions. The postdoctoral researcher will have an opportunity to participate in several research training exercises and workshops to facilitate career building: <http://www.igb-berlin.de/postdocs-at-igb-kopie.html>

In Berlin, the postdoctoral researcher will additionally be affiliated with the Berlin Center for Genomics in Biodiversity Research (BeGenDiv): <http://begendiv.de/>

The ideal candidate should have a strong background in bioinformatics and genomics, and interest in applying these tools to evolutionary questions. In particular, experience with genome annotation, development of SNP markers, and/or analyses of RNA-seq data would be advantageous. In addition, some lab experience would be beneficial (but this is not a must).

We are seeking a highly motivated person who has an ambition to stay in academia. A record of successful publication is anticipated. We expect strong analytical and data handling skills, and the ability to communicate within a cross-disciplinary research environment. Excellent writing skills in English, good work ethic, and creative thinking are desired. The working language of the group is English. In keeping with the IGB's policy regarding gender equality, female applicants are particularly encouraged. Severely disabled applicants with equal qualification and aptitude are given preferential consideration.

For further information please consult Dr [Justyna Wolinska](mailto:wolinska@igb-berlin.de) (wolinska@igb-berlin.de) or Dr [Piet Spaak](mailto:spaak@eawag.ch) (spaak@eawag.ch).

The application should be submitted by 20 July 2016.

We look forward to receiving your application. Please submit your application including a motivation letter with a description of pertinent experience, a complete CV (incl. publication list), the names (with e-mail addresses) of three potential referees, and copies of certificates of academic qualifications via the Eawag Jobs & Career webpage, any other way of applying will not be considered. The link below will take you directly to the application form.

<https://apply.refline.ch/673277/0447/pub/1/index.html>