

**Subject:** Graduate position - Switzerland Whitefish Speciation Genomics

Eawag, the Swiss Federal Institute of Aquatic Science and Technology, is a Swiss-based and internationally networked aquatic research institute within the ETH Domain (Swiss Federal Institute of Science and Technology). It is committed to the ecologically, economically and socially responsible management of water resources and aquatic ecosystems.

The Department of Fish Ecology and Evolution (FishEc) located in Kastanienbaum (Lucerne, Switzerland) has a vacancy for a 1 PhD-student in Whitefish Speciation Genomics.

Speciation research has started to address long-standing questions on the genomic basis underlying and the genome evolution accompanying the speciation process. However, the accurate interpretation of genomic patterns is challenging due to a variety of different processes, such as drift, selection, gene flow, and recombination, all acting simultaneously in shaping the genome and contributing to the heterogeneity of divergence observed along the genome. A system like the Swiss whitefish radiation (*Coregonus lavaretus* complex) permits us to assess genomic divergence along a continuum of geographic, genetic, and ecological differentiation, in order to understand which evolutionary processes drive adaptation and divergence and to gain insights on the genomic basis of ecological speciation.

The PhD project advertised here is aiming to build a reference genome backbone and assess the variation in genome structure across whitefish species in Swiss lakes. Another goal will be to investigate the genetic architecture of ecological and reproductive traits differing across whitefish species and to compare patterns of genomic divergence across different sympatric and allopatric species. This will require the development of innovative analysis methods, which make full use of the fantastic study system to enhance our knowledge on the genomic basis of adaptation and speciation.

The successful candidate will have substantial opportunities to develop his or her own research skills and to assist in the supervision of Bachelors, and Master students. The work will consist of the analysis of next generation whole genome data, the development of bioinformatics pipelines and tools, and the interpretation and publication of the results. This study will be carried out in a close collaboration between the Fish Genomics group of Philine Feulner

(<http://www.eawag.ch/en/departement/fishec/main-focus/fish-genomics/>) and the Evolutionary Biodiversity Dynamics group of Ole Seehausen (<http://www.eawag.ch/en/departement/fishec/main-focus/biodiversity-dynamics/>) at Eawag Kastanienbaum.

Applications are sought from individuals with a profound interest in Bioinformatics and Evolutionary Genomics. Applicants should have earned an MSc-degree (or equivalent) in a relevant field of evolutionary biology, or bioinformatics. Excellent communication skills in English and skills in team work are essential. The duration of the position will be three years, financed by the Swiss National Science Foundation.

We are a research department of Eawag (Department of Fish Ecology and Evolution; <http://www.eawag.ch/en/departement/fishec/>) and a division (Aquatic Ecology) of the Institute of Ecology and Evolution of the University of Bern, and the successful candidate will greatly benefit from the possibility to take advantage of both these excellent academic environments. The work place is at Eawag's Center for Ecology, Evolution and Biogeochemistry in Kastanienbaum, Lucerne, which besides the Fish Ecology and Evolution Department hosts research group from the

Departments “Aquatic Ecology” and “Surface Waters – Research & Management” and offers a beautiful workplace at the shores of Lake Lucerne, a friendly international working climate and a strong cross-disciplinary research environment. The successful candidate will be enrolled in the University of Bern PhD-student program.

Eawag is an equal opportunity employer. Women are explicitly encouraged to apply to increase their share in science and research. Applications should include a concise statement describing your motivation to work on this research project, curriculum vitae, copies of your academic qualifications and names for two references.

**The deadline for applications is 29 February 2016** but we consider applications until the position is filled. The starting date for the position is anticipated as soon as possible. For further information, please contact Philine Feulner([philine.feulner@eawag.ch](mailto:philine.feulner@eawag.ch) ; +41 58 765 21 06).

We look forward to receiving your application through this webpage, any other way of applying will not be considered. Please click on the link below, this will take you directly to the application form.

<https://apply.refline.ch/673277/0401/pub/1/index.html>