

Eawag, the Swiss Federal Institute of Aquatic Science and Technology, is an internationally networked aquatic research institute within the ETH Domain (Swiss Federal Institutes of Technology). Eawag conducts research, education and expert consulting to achieve the dual goals of meeting direct human needs for water and maintaining the function and integrity of aquatic ecosystems.

The Department of Surface Waters – Research and Management (SURF) located in Kastanienbaum (Lucerne) has a vacancy for a

Postdoctoral researcher (80-100%) Numerical modelling of lakes (2.5 years)

Would you like to work on the development of a new model to evaluate how climate change and quagga mussel proliferation are impacting the aquatic ecosystem in the deep peri-alpine Lake Constance?

This position is part of the international interdisciplinary applied research project “SeeWandel-Climate: Modelling the consequences of climate change and neobiota for Lake Constance”. The ecosystem of Lake Constance is expected to undergo significant changes in the next few decades due to the interacting effects of continued climate warming and invasive species, such as the further proliferation of the quagga mussel that has recently invaded the lake. Existing long-term data and new data enable changes in the food web to be investigated, taking into account the interaction with climate change. The data is incorporated into simulation models that forecast the changing biology and ecology of Lake Constance for decades to come. The general goal of SeeWandel-Climate is to provide projections of the consequences of climate change and the impact of invasive species on the Lake Constance ecosystem and its sustainable utilization. The large collaborative project involves researchers from seven institutions from Germany, Austria and Switzerland, working closely with authorities across borders relying on these predictions to implement integrated management at Lake Constance. SeeWandel-Climate receives funding under the Interreg VI programme “Alpenrhein-Bodensee-Hochrhein Germany/Austria/Switzerland/Liechtenstein” which funds are provided by the European Regional Development Fund as well as the Swiss Confederation and cantons, and the international Lake Constance commissions “Internationale Gewässerschutzkommission für den Bodensee” (IGKB) and “Internationale Bevollmächtigtenkonferenz für die Bodenseefischerei” (IBKF).

The goal this subproject at Eawag is to develop one-dimensional, vertically resolved models for projecting the consequences of climate change and quagga mussel invasion in Lake Constance. In a first step, projections for future thermal conditions as well as oxygen and nutrient concentrations will be made using a coupled physical-geochemical model. Subsequently, the impacts of these changes on the ecological network in the lake will be assessed how these changes will affect the ecological network by combining the results of this model with data-driven ecological models developed in collaboration with other subprojects.

We are seeking an outstanding and highly motivated person with a doctorate in a relevant field of physics, environmental science or engineering and a strong background in numerical modelling and data analysis. Demonstrated expertise in Python and open research practices are required, experience with Fortran will be of advantage. Excellent communication skills in English are essential. Knowledge of German is not required, but of advantage for communication with stakeholders. You should enjoy collaboration within an interdisciplinary team.

The successful candidate will have substantial opportunities to develop his or her own research activities in the context of the project and to assist in the supervision of Bachelor and Masters students. The position can be filled at 100% for 2.5 years or at 80% for 3 years.

Applications must be submitted by 5 January 2024 and should include an application letter describing your interests and their relevance to this position, a CV and list of publications, and the names and contact information for three references. Interviews will be held in the second half of January 2024, and the starting date for the position is April 2024 or on agreement. Your main place of work will be at Eawag in Kastanienbaum at the shores of beautiful Lake Lucerne.

Eawag is a modern employer and offers an excellent working environment where staff can contribute their strengths, experience and ways of thinking. We promote gender equality and are committed to staff diversity and inclusion. The compatibility of career and family is of central importance to us. For more information about Eawag and our work conditions please consult www.eawag.ch and www.eawag.ch/en/aboutus/working/employment.

For further information, please contact Dr Martin Schmid (martin.schmid@eawag.ch) or Dr Damien Bouffard (damien.bouffard@eawag.ch).

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

<https://apply.refline.ch/673277/1119/pub/en/index.html>