

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.

At the Department of Environmental Chemistry, there is an opening for a

PhD student in the field of bioaccumulation of organic contaminants

Bioaccumulation of anthropogenic contaminants is an important parameter for the derivation of environmental quality standards and risk assessment within chemical authorization. Understanding bioaccumulation processes such as uptake, elimination, distribution, and biotransformation in organisms is essential to mechanistically link the exposure with effects and to allow predictions under different environmental scenarios. In our recent research, we explored irreversible receptor binding of a neonicotinoid insecticide in aquatic invertebrates as causative for strong bioaccumulation. In the present project, we aim to expand our understanding towards other neonicotinoids and receptor agonists. Furthermore, we aim to connect biota concentrations and consequent adverse effects.

In this project, the link between contaminant exposure of organic contaminants and effects on key freshwater invertebrate species (*Gammarus pulex* and *Hyalella azteca*) will be studied by using a variety of laboratory experiments including uptake-elimination experiments, receptor binding assays, and behavioral studies using video tracking. Analysis of contaminants and their biotransformation products will be performed using an automated solid phase extraction system followed by liquid chromatography and coupled to high-resolution tandem mass spectrometry. Internal concentration data will be evaluated by toxicokinetic-receptor modeling and linked to adverse effects by using toxicokinetic-toxicodynamic modeling.

The position is funded for a four years period with an attractive remuneration package. Next to the training at ETH Zurich in the Environmental Systems Science Department, the PhD student will have the opportunity to contribute to a practical course on organic trace analysis of ETH Zurich and to supervise bachelor/master students in support of the research program. The location is Dübendorf near Zurich.

We encourage applications from highly motivated candidates with a master degree in biology, chemistry or environmental sciences and a strong interest to work interdisciplinary at the interface between biology and chemistry. Previous hands-on experience with organic environmental chemistry, mass spectrometry, and experimentation with aquatic invertebrates would be an advantage. Experience in programming (e.g., R, MATLAB or Python) is an asset.

We are looking for a creative individual with a strong interest in teamwork, good communication skills and excellent time management abilities. Solid work ethics, analytical thinking, problem-solving attitude, flexibility, ability to work independently and communicate clearly are all essential for this position. Candidates are expected to have excellent academic records and be fluent in written and spoken English.

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

Applications should include a cover letter giving a description of the motivation to apply and highlighting the relevant experience and specific interests, curriculum vitae, copies of academic qualifications, and the names (with email addresses and phone numbers) of at least two potential referees. The applications will be screened continuously. The PhD project is scheduled to begin in the fall of 2023.

For further information, please contact [Prof. Dr Juliane Hollender](mailto:j.hollender@eawag.ch)

We look forward to receiving your application. Please send it through this webpage, 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/673277/1054/pub/3/index.html>