

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). It conducts research to achieve the dual goals of meeting direct human needs for water and maintaining the function and integrity of aquatic ecosystems.

The Department of Water Resources and Drinking Water (W+T) has a vacancy for a

PhD Student in Aquatic Photochemistry

The subject of the present doctoral thesis is “**Characterizing organic radical oxidants produced by photoirradiation of dissolved organic matter**”.

Dissolved organic matter (DOM) is the main absorber of sunlight in most surface waters and can induce the indirect phototransformation of a variety of organic contaminants, thus enhancing their transformation in the aquatic environment. The dominant reactive intermediates in these indirect phototransformations are currently assumed to be excited triplet states of the DOM. However, there is evidence that other reactive radical oxidants, formed upon absorption of sunlight by DOM, are particularly effective in the phototransformation of electron-rich contaminants. In the present project we address some central open questions of this barely investigated topic. The goals of the project consist in the identification of the classes and types of contaminants prone to transformation induced by these radical oxidants and in the chemical characterization of the latter. We expect that, for certain contaminants present in surface waters, this study may reveal highly enhanced indirect phototransformation rates in comparison to current predictions that are made considering only excited triplet states of DOM as reactive intermediates.

Most experimental work, involving conventional photochemical and water analysis techniques, will be conducted at our Institute. Moreover, we have an important collaboration with the research group of Prof. Dr Petr Klán, Masaryk University, Brno (Czech Republic), who will supervise laser flash photolysis studies to be performed in his laboratory.

The successful candidate for this position should hold an MSc degree in Chemistry or Environmental Sciences as well as advanced knowledge and practical laboratory experience in either aquatic chemistry or photochemistry/spectroscopy. Fluency in English (working language) is a requirement. Fluency in German would be an advantage but is not a requirement.

For further information about the position, please contact Dr Silvio Canonica, Phone: +41 58 765 54 53, Email silvio.canonica@eawag.ch.

Deadline for applications is 15 February 2017. The position starts as soon as possible for a project duration of four years. PhD enrolment will be at EPFL, Lausanne, Switzerland. Advisors of the PhD thesis will be Dr Silvio Canonica, Prof. Dr Urs von Gunten and Prof. Dr Petr Klán.

Eawag offers a unique research (www.eawag.ch/en/aboutus/working/researchenvironment) and working environment and is committed to promoting equal opportunities for women and men and to support the compatibility of family and work. Applications from women are especially welcome. For more information about Eawag and our work conditions please consult www.eawag.ch and www.eawag.ch/en/aboutus/working/employment.

We look forward to receiving your application. Please submit your application (including CV, motivation letter, and copies of academic qualifications, and the names and contact information for references) 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/673277/0485/pub/1/index.html>