19/12/2013

Master thesis positions in environmental chemistry

Department of Aquatic Sciences and Assessment, SLU, Uppsala

1. Seasonal trends and fluxes of perfluoroalkyl substances in Fyris River

Perfluoroalkyl substances (PFASs) are emerging pollutants that have received increasing public attention due to their persistence, bioaccumulative potential, and possible adverse effects on human and wildlife. PFASs have for example been detected in the drinking water of Uppsala. The student performing this master thesis work will measure PFASs in Fyris River to investigate their seasonal trends, distribution and fluxes. The water sampling and chemical analyses will be performed by the student. The student should have knowledge of environmental chemistry and be interested in working in an organic chemistry laboratory. The project is scheduled to take approximately 6 month.

2. Assessment of organic contaminants in indoor air at Ultuna, Uppsala, SLU

AKADEMISKA HUS

Previous studies have shown that indoor air concentrations of industrial chemicals (e.g. flame retardants) are about 1000 times higher than in ambient air. This is of concern due to possible hazardous effects associated with these contaminants. In this project, passive samplers will be deployed in lecture rooms, offices, meeting rooms and laboratories at Ultuna, SLU, for assessing organic contaminants in indoor air. The aim of this master thesis is to investigate organic contaminants in indoor air using passive air samplers. The sampling and analysis of the passive air samplers will be performed by the student. The student should have laboratory experience and be interested in analytical chemistry. This project is scheduled to take approximately 6 month.

3. Evaluation of the environmental transport and toxicity of fluorinated compounds

Fluorinated compounds have been widely used in for instance fire-fighting foams and ski waxes, and they have been found in water bodies all over the world. They are highly persistent in the environment and have bioaccumulative and toxic potential. In this master thesis project, different environmental compartments (snow, water, sediment, biota) at a study site will be sampled and analysed to investigate the fate and transport of fluorinated compounds in the environment. The toxic effects of the environmental samples on aquatic organisms will also be tested, using a zebrafish embryo test. The student interested in this project should have laboratory experience and be interested in toxicology and analytical chemistry. This project is scheduled to take approximately 6 month.

4. Assessment of emerging contaminants in water using passive samplers

Emerging persistent organic pollutants (POPs) have received increasing public attention due to their persistence, bioaccumulative potential, and toxicity. However, only a few data are available on the presence of emerging POPs in water. Thus, there is a need for a simple sampling technique to improve our understanding of POPs in the aquatic environment. The student performing this master thesis work will compare different passive sampler types for the measurement of emerging POPs in water and apply the passive sampler on field samples. The method development and sampling of water will be performed by the student. The student should have laboratory experience and be interested in analytical chemistry. This project is scheduled to take approximately 6 month.

Contact persons

Karin Wiberg:	karin.wiberg@slu.se	070-2341570 or 018-673115
Lutz Ahrens:	lutz.ahrens@slu.se	070-297 2245
Sarah Josefsson:	sarah.josefsson@slu.se	018-673032

You find us on the 4th floor in the MVM-Centre.