2 PHD POSITIONS

REMOVAL, DEGRADATION, TRANSFORMATION OF ORGANIC MICROPOLLUTANTS IN ADVANCED WASTEWATER TREATMENT

Research area and project description

Organic micropollutants are contained in municipal wastewater – conventional wastewater treatment is not able to remove these. In the upcoming project "Clear waters from pharmaceuticals" we will focus on removing organic micropollutants (especially pharmaceuticals) with Moving Bed Biofilm Reactors and ozonation. Based on laboratory and pilot reactors, two full scale plants will be put into operation and optimized for the removal of the parent and -were critical- also the transformation products with the aim of re-establishing surface waters as drinking water resources.
The following tasks are expected of the PhD students:

- maintaining (parent compounds) and expanding (metabolites) analytical methods
- assessing removal kinetics of micropollutants in full scale and pilot scale experiments based on HPLC-MS/MS and GC-MS analysis.
- identification of transformation products and processes
- process optimization in biofilm or ozonation reactors
- writing reports and publications

Qualifications and specific competences

The respective candidates should hold a masters in environmental chemistry, environmental analytical chemistry, environmental engineering or similar. Experience in determining organic micropollutants, extraction procedures, environmental mass spectrometry or degradation experiments is prerequisite for these positions. Driving license would be of advantage as some of the treatment plants are not easily reached by public transport.

Place of Employment and Place of Work

Place of Employment is Aarhus University, Department of Environmental Science, Center for advanced water purification. Frederiksborgvej 399, 4000 Roskilde.

Start of project October 1st 2017 or as soon as possible thereafter.

Disclaimer: The project is in principle approved, however filling of these positions is depending on the positive conclusion of the final negotiations of the project.

Contacts

Prospective candidates are very welcome to contact: Professor Kai Bester: +4587158552, kb@envs.au.dk and/ or apply directly on the homepage of Arhus Universities PhD school:
http://phd.au.dk/gradschools/scienceandtechnology/