

Empa - the place where innovation starts

Empa is the research institute for materials science and technology of the ETH Domain and conducts cutting-edge research for the benefit of industry and the well-being of society. Empa's Laboratory for Air Pollution/Environmental Technology develops atmospheric measurement techniques and modelling tools as a contribution to a healthy and safe environment.

The Laboratory for Air Pollution/Environmental Technology offers a

36 month Postdoc position on N₂O production from nitrification-anammox

The postdoc at Empa will collaborate with scientists at University of Basel (Prof. Dr. Moritz Lehmann), and Eawag in Dübendorf and Kastanienbaum (Dr. A. Joss and Dr. H. Bürgmann) to advance our understanding of the nitrogen metabolism in pure and mixed anammox cultures. The overarching goal of the SNF Sinergia project is to develop an optimized nitrogen removal process for full-scale wastewater treatment using nitrification-anammox systems with stable operation, high N removal efficiency and minimized greenhouse gas emissions.

Work at Empa will focus on the identification of major biogenic or abiotic N₂O production pathway(s) in nitrification-anammox using ¹⁵N and ¹⁸O labelling and natural abundance studies. Therefore also the isotopic composition of N₂O from potentially related inorganic pathways will be determined. Gaseous emissions from lab and pilot scale reactors will be monitored using QCL absorption spectroscopy, FTIR spectroscopy as well as mass spectrometry. Activities will be coordinated with activities at Eawag Dübendorf on process design / modelling, University of Basel on the inorganic nitrogen pathway, and Eawag Kastanienbaum using molecular biological techniques to study the anammox consortia.

We are looking for a highly motivated scientist with a PhD in chemistry, environmental sciences or a related discipline, and a strong interest in nitrogen isotope biogeochemistry and trace gas as well as isotope analysis. You have hands on laboratory experience with customized scientific instrumentation. You are self-motivated and take responsibility for your project, which you will present in project meetings and at scientific conferences.

Candidates with demonstrated research skills and excellent publication records will be considered. Demonstrated written and oral presentation skills in English are required; basic comprehension and oral expression skills in German are desirable.

We are looking forward to your application including a cover letter, curriculum vitae, transcripts of diplomas, a list of publications, a short statement of research interests and names and addresses of three references. Review of applications will begin June 2017 and will continue until the position is filled. The start date for the postdoc is fall 2017.

Please submit your application only online at www.empa.ch/jobs.

For further information please contact Dr. Joachim Mohn, +41 58 765 46 87, joachim.mohn@empa.ch, www.empa.ch/web/s503/emissions-and-isotopes.