Project idea:

Nitrous oxide emission from industrial wastewater treatment

Nitrous oxide (N_2O) is a greenhouse gas produced during wastewater treatment primarily through biological processes. As N_2O is a greenhouse gas 298 times stronger than CO_2, the N_2O emissions are substantial in the total climate impact of wastewater treatment.
The source and magnitude of N_2O emissions in WWTPs are relatively unknown and subject of debate in the literature. N_2O emissions are associated with several processes in wastewater treatment plants and the emission fluxes are extremely variable and depend on many operational parameters and environmental conditions.

In this project emission of N_2O from the largest industrial wastewater treatment facility in Northern Europe will be quantified and evaluated. The aim is to develop a data driven model that can predict N_2O emission from the industrial wastewater treatment facility and guide how to reduce the greenhouse gas emission.

- Install and verify N_2O measurement at full-scale industrial wastewater treatment facility
- Data analysis for identification of parameters impacting N_2O emissions
- Develop data drive model predicting N_2O emissions

Contact: Thomas Neergaard
E-mail: thne@pha.dk
Phone: +45 72482225

The present proposal from the company is an invitation to collaboration. The project will be planned, scoped and modified in close collaboration with the university supervisor in order to get the best possible project. The formal application procedure (and application deadline) for a Helix Lab Fellowship must be followed. All applications will be evaluated by the Helix Lab Board before a Fellowship may be given. Read more on our web-site, Helixlab.dk