NTNU

Kunnskap for en bedre verden

Jobbnorge-ID: 157951
Søknadsfrist: Avsluttet
Nettside:
Omfang:
Varighet:

PhD position in Material Flow Analysis (MFA) and spatial modelling (IV-233/18)

Description
The Department of Energy and Process Engineering at the Norwegian University of Science and Technology (NTNU) is seeking a PhD student to support the Norwegian county Trøndelag in the development of a scientific basis for evaluating alternative Circular Economy strategies related to biomass management. The candidate will be working in close cooperation with the county Trøndelag and will be involved in the project “Nutrients in a Circular Bioeconomy: Barriers and opportunities for Mineral Phosphorus Independence in Norway” (MIND-P) and the implementation of the findings of the EU project MinFuture “Global material flows and supply-demand forecasting for mineral strategies”.

The goal of this PhD project is to develop, in cooperation with the Trøndelag County council, a prototype for a “Material and Energy Information System” (MEIS-biomass) that serves as a basis for identifying opportunities for increased resource efficiency and for developing and evaluating alternative strategies for resource management, emissions control, and climate change mitigation. The MEIS will link statistical information collected by government agencies at the communal, the county, and the national level using material flow analysis (MFA) principles. This will allow the county council to regularly monitor the material and energy stocks and flows within its territory and its interdependencies with the national and international economy (imports and exports) as well as with the environment (resource extraction and emissions). It will further allow businesses to recognise and evaluate opportunities for new business models related to a circular economy.

The PhD project will implement the findings of the EU project MinFuture, which is developing a framework and a roadmap for monitoring the global physical economy, at the regional level. The candidate will also work in close collaboration with the MIND-P project team, which develops a spatially explicit model of the phosphorus cycle in Norway. In addition, the candidate will work with a professional graphic designer to develop a visualisation tool for effectively communicating the results towards policy makers.

Qualifications
The research involves developing a spatially explicit model for biomass stocks and flows. Therefore, the successful candidate should be able to demonstrate a strong background in computer programming, geomatics or engineering. Demonstrated experience in one or more of the following is required: spatial analysis, mathematics, modelling and/or programming. Good communication skills are highly relevant for this project. Knowledge of the Norwegian language is an advantage. The candidate should further be willing to work both independently and in teams with other researchers across disciplines.

Conditions
PhD Candidates are remunerated in code 1017, and are normally remunerated at gross NOK 449 400 before tax. There will be a 2 % deduction to the Norwegian Public Service Pension Fund from gross wage.

Engagement as a PhD Candidate is done in accordance with “Regulation concerning terms and conditions of employment for the posts of post-doctoral research fellow, research fellow, research assistant and resident”, given by the Ministry of Education and Research of 19.07.2010. The goal of the positions is to obtain a PhD degree. Applicants will engage in an organized PhD training program, and appointment requires approval of the applicants plan for a PhD study within three months from the date of commencement.

The research position is set for a duration of 3 years towards the degree of PhD. The position may be extended to 4 years with a 25% duty work at the Trøndelag County.

For further information and informal enquiries about the position please contact Prof. Daniel B. Müller, Department of Energy and Process Engineering, NTNU, Trondheim. Email: daniel.mueller@ntnu.no.

See https://www.ntnu.edu/iv/doctoral-programme for more information.

The engagement is to be made in accordance with the regulations in force concerning State Employees and Civil Servants. The positions adhere to the Norwegian Government's policy of balanced ethnicity, age and gender. Women are encouraged to apply.

The application
The application must contain information of educational background and work experience. Certified copies of transcripts and reference letters should be enclosed. Applications with CV, grade transcripts and other enclosures should be submitted via this webpage at www.jobbnorge.no.
Mark the application with IV-233/18.

Start-up date in agreement with the Department, as soon as possible.

Application deadline is 10 October 2018.

According to the new Freedom of Information Act, information concerning the applicant may be made public even if the applicant has requested not to be included in the list of applicants.

Tilleggsinformasjon

Arbeidssted: