

Jobbnorge ID: 209327
Deadline: 8/18/2021
Website: <http://www.ntnu.no>
Scope: Fulltime
Duration: Temporary

The Department of Energy and Process Engineering has a vacancy for a

Postdoctoral Fellow: Environmental Sustainability Analysis of Advanced Biorefinery

This is NTNU

NTNU is a broad-based university with a technical-scientific profile and a focus in professional education. The university is located in three cities with headquarters in Trondheim.

At NTNU, 9,000 employees and 42,000 students work to create knowledge for a better world.

You can find more information about working at NTNU and the application process [here](#).

Video: <https://youtu.be/Xt-yHCN5QS0>

About the position

We have a vacancy for a Postdoctoral Fellow at the Industrial Ecology Programme ([IndEcol](#)). The position is between 2 and 4 years in duration.

IndEcol is a well-known research group with an international leading role in the field of environmental sustainability analysis and climate change mitigation strategies. IndEcol currently consists of about 60 employees in scientific positions and features publications of scientific articles in top-ranked journals, direct contributions to assessment reports from the Intergovernmental Panel on Climate Change (IPCC), and leading roles in several large-scale projects and initiatives at national and European levels.

In order to achieve ambitious targets of climate change mitigation, we need to phase out fossil fuels from our energy and material supply. While many renewable alternatives are available for providing cleaner energy services, the production of fossil-free chemicals and plastics can only rely on biomass-based alternatives. Integrated sustainability analyses of biomass supply through sustainable land management and circular economy with novel technologies are required to secure the sustainability of this necessary transition.

In particular, novel sustainable platform chemicals from lignocellulosic biomass have the potential to produce bio-derived polymers for highly functionalized applications (e.g., automotive industry, coatings, packaging, etc), but more research is needed to improve the production process from a sustainability point of view before a large-scale market implementation.

We seek a scientist that is strongly motivated to study the interactions between novel bio-based conversion technologies for biochemical and bioplastics with environmental sustainability methods. This position will perform both methodological and applied research, and will have the opportunity to access the most up-to-date approaches in Life-Cycle Assessment (LCA), interact with the major global experts in the field, and collaborate with national and international stakeholders (industries and public authorities). Given the interdisciplinary nature of the topic, we deem interest and ability to explore new fields and sub-fields important.

Duties of the position

- Advance environmental sustainability analysis and methods in light of novel biobased conversion technologies and foreseen market/society dynamics
- Perform LCA of biobased conversion technologies for novel platform chemicals and products (e.g., polymers) considering all the relevant impacts in these value chains, from biomass supply to conversion and end use of products
- Identification of potentials and optimization options to increase environmental benefits and resource efficiency
- Data processing, compilation of datasets for integration of primary data, emission inventories, and impact assessment models
- Publishing in peer-reviewed journals
- Presentation of results at international conferences

Required selection criteria

A postdoctoral research fellowship is a qualification position in which the main objective is qualification for work in academic positions. You must have completed a Norwegian doctoral degree in Engineering, Chemistry, Environmental Sciences, Natural Sciences (or similar), or corresponding foreign doctoral degree recognized as equivalent to a Norwegian doctoral degree.

The appointment is to be made in accordance with the regulations in force concerning State Employees and Civil Servants and [national guidelines for appointment as PhD, post doctor and research assistant](#)

- A PhD in the field of the duties of this position (as above)
- Documented experience with LCA, environmental sustainability analysis, and/or techno-economic analysis of biomass and bioenergy systems
- Good programming skills in one or several languages and good understanding of fundamentals in mathematics and physics
- Experience with scientific publications in the topic of this position. The candidates are requested to clearly list their publications and key metrics of their scientific productivity (number of articles, h-index, and total citations, from Scopus)
- Experience in successfully performing research activities within externally financed research projects
- Experience in interactions with industries and other research partners during research projects
- In addition to the cover letter, candidates are required to submit a one-page sketch on how they plan to use their scientific background and research ambitions to address the research challenges of this position
- Excellent written and oral English language skills

Preferred selection criteria

- Previous experience with the LCA softwares (e.g. SimaPro, Brightway)
- Familiarity with process simulation models (e.g. Aspen)

Personal characteristics

- Strongly motivated to advance our and his own current knowledge on the topic of this position
- Strong analytical capabilities
- A good team player while also being able to work independently
- Open to interact in a multidisciplinary and multi-cultural environment
- Soft skills

We offer

- exciting and stimulating tasks in a strong international academic environment
- an open and [inclusive work environment](#) with dedicated colleagues
- favourable terms in the [Norwegian Public Service Pension Fund](#)
- [employee benefits](#)

Salary and conditions

As a Postdoctoral Fellow (code 1352) you are normally paid from gross NOK 545 300 per annum before tax, depending on qualifications and seniority. From the salary, 2% is deducted as a contribution to the Norwegian Public Service Pension Fund.

The period of employment is between 2 and 4 years.

The engagement is to be made in accordance with the regulations in force concerning State Employees and Civil Servants, and the acts relating to Control of the Export of Strategic Goods, Services and Technology. Candidates who by assessment of the application and attachment are seen to conflict with the criteria in the latter law will be prohibited from recruitment to NTNU. After the appointment you must assume that there may be changes in the area of work.

The position is subject to external funding.

It is a prerequisite you can be present at and accessible to the institution on a daily basis.

About the application

The application and supporting documentation to be used as the basis for the assessment must be in English.

Publications and other scientific work must follow the application. Please note that applications are only evaluated based on the information available by the application deadline. You should ensure that your application shows clearly how your skills and experience meet the criteria which are set out above.

If, for any reason, you have taken a career break or have had an atypical career and wish to disclose this in your application, the selection committee will take this into account, recognizing that the quantity of your research may be reduced as a result.

The application must include:

- Cover letter
- CV with publication list
- Certificates and diplomas
- A one-page sketch on how the candidate plans to use their scientific background and research ambitions to address the research challenges of this position
- Academic works - published or unpublished - that you would like to be considered in the assessment (up to 5 works)
- Name and address of three referees

If all, or parts, of your education has been taken abroad, we also ask you to attach documentation of the scope and quality of your entire education. Please submit your application and supporting documents electronically via [jobbnorge.no](#). Applications submitted elsewhere will not be considered. Applicants with European Master's qualifications from outside Norway are required to include a Diploma Supplement. Applicants with Master's qualifications from China are required to include confirmation of Master's Diplomas from China Credentials Verification (CHSI): <http://www.chsi.com.cn/en/>. If you already have a statement from NOKUT, please attach this as well.

Joint works will be considered. If it is difficult to identify your contribution to joint works, you must attach a brief description of your participation.

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal and interpersonal qualities. Motivation, ambitions, and potential will also count in the assessment of the candidates.

NTNU is committed to following evaluation criteria for research quality according to [The San Francisco Declaration on Research Assessment - DORA](#).

General information

[Working at NTNU](#)

A good work environment is characterized by diversity. We encourage qualified candidates to apply, regardless of their gender, functional capacity or cultural background.

The city of Trondheim is a modern European city with a rich cultural scene. Trondheim is the innovation capital of Norway with a population of 200,000. The Norwegian welfare state, including healthcare, schools, kindergartens and overall equality, is probably the best of its kind in the world. Professional subsidized day-care for children is easily available. Furthermore, Trondheim offers great opportunities for education (including international schools) and possibilities to enjoy nature, culture and family life and has low crime rates and clean air quality.

As an employee at NTNU, you must at all times adhere to the changes that the development in the subject entails and the organizational changes that are adopted.

In accordance with the Public Information Act (Offentleglova), your name, age, position and municipality may be made public even if you have requested not to have your name entered on the list of applicants.

If you have any questions about the position, please contact Francesco Cherubini, francesco.cherubini@ntnu.no and Otavio Cavalett, otavio.cavalett@ntnu.no. If you have any questions about the recruitment process, please contact Megan Norris, megan.norris@ntnu.no.

If you are invited for interview you must include certified copies of transcripts and reference letters. Please refer to the application number IV/189/21 when applying.

Application deadline: 18.08.2021

NTNU

NTNU - knowledge for a better world

The Norwegian University of Science and Technology (NTNU) creates knowledge for a better world and solutions that can change everyday life.

Department of Energy and Process Engineering

We conduct research and teaching covering the entire energy chain, from resources to the end-user. We look at how energy is produced and used by humans and machines in a sustainable way with regard to health, climate change and the resource base. [The Department of Energy and Process Engineering](#) is one of eight departments in the [Faculty of Engineering](#).

Additional information

Place of service:

Kolbjørn Hejes vei 1B 7491 Trondheim (Trondheim Municipality)