

The Department of Chemical Engineering has a vacancy for a

Postdoc position within the area of Autonomous production optimization with degrading equipment

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 postdoc position within the area of Autonomous production optimization with degrading equipment at Department of Chemical Engineering. Startingdate will be as soon as possible.

The postdoctoral fellowship is a 2 year temporary position where the main goal is to qualify for work in senior academic positions.

The postdoc will develop methods and algorithms that use information about current process and production conditions, as well as predictive models to make optimal operation and maintenance decisions autonomously, while systematically taking uncertainty into account. The use of nonlinear model predictive control methods as well as planning and scheduling approaches under uncertainty will be considered as part of the development scope.

A secondary goal is to give the candidate hands-on experience as a researcher and in teaching activities.

You will report to your supervisor.

About the project

The project is part of an interdisciplinary collaboration between the Systems Engineering Group at the Department of Chemical Engineering and the RAMS (Reliability, Availability, Maintenance, and Safety) group at the Department of Mechanical and Industrial Engineering at NTNU, Aker BP and 3 Chinese Universities (China Univ. of Petroleum East China, Beihang University, Ocean University of China), as well as Jereh and CNOOC. The AutoPRO project is a spin-off project associated with the Centre for Research-based Innovation Subsea production and processing (SUBPRO). www.ntnu.edu/subpro.

The scientific goal of this postdoc project is to study and develop approaches for operating offshore oil and gas processes in the best possible way, and thus make optimal use of the available resources and infrastructure.

Duties of the position

- Development and programming of control-oriented models for optimal operation of offshore production systems with degrading components
- Analysis and development of methods and algorithms that enable for system-wide optimal operation with degrading equipment
- Teaching duties and supervision of master students
- Publication of results in scientific journals and on conferences

Required selection criteria

- You must have completed a Norwegian doctoral degree or corresponding foreign doctoral degree recognized as equivalent to a Norwegian PhD
- You must have a professionally relevant background in Process Systems Engineering
- Good written and oral English skills
- Experience in one or more of the following:
 - Process modelling and optimization
 - Process control
 - Programming (Matlab, Julia, Python, and others)

- Willingness to collaborate with our industry partners as well as our project partners in China

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](#)

Preferred selection criteria

- Knowledge in state and parameter estimation

Personal characteristics

- High level of personal responsibility and initiative
- Willingness to work independently, as well as part of a team in accordance with project objectives
- Systematic and goal-oriented way of working

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 2 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 on 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:

- CV, certificates and diplomas
- transcripts and diplomas for bachelor's-, master's- and PhD degrees.
- Academic works - published or unpublished - that you would like to be considered in the assessment (up to 10 items)
- Name and contact information 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. Description of the documentation required can be found here. 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.

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 Associate Professor Johannes Jäschke, email johannes.jaschke@ntnu.no. If you have any questions about the recruitment process, please contact HR Advisor Nina Sandberg, e-mail: nina.sandberg@ntnu.no

Please submit your application electronically via jobbno.no with your CV, diplomas and certificates. Applications submitted elsewhere will not be considered. Diploma Supplement is required to attach for European Master Diplomas outside Norway. Chinese applicants are required to provide confirmation of Master Diploma from [China Credentials Verification \(CHSI\)](#).

If you are invited for interview you must include certified copies of transcripts and reference letters. Please refer to the application number NVD 81/22 when applying.

Application deadline: 15.04.2022

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 Chemical Engineering

We take chemistry from laboratory scale to industrial production. This demands a wide range of knowledge, from molecular processes and nanotechnology to building and operation of large processing plants. We educate graduates for some of Norway's most important industries. The Department of Chemical Engineering is one of eight departments in the Faculty of Natural Sciences.

Jobbno-ID: 222197, Søknadsfrist: 16. april 2022