



# PhD position in Optimization of subsea production systems - IV-201/19

## About the position

We have a vacancy for a 3-year PhD fellowship at the Department of Geoscience and Petroleum (IGP).

The PhD project is part of the SUBPRO center which is a large 8-year research-based innovation program in the field of subsea processing and production. Industrial partners in SUBPRO include Equinor, Lundin, AkerBP, Neptune Energy Norge, Aker Solutions, DNVGL and Kongsberg Digital. For more information about SUBPRO, visit our website: [www.ntnu.edu/subpro](http://www.ntnu.edu/subpro).

The main objective of this project is to develop, evaluate and test methods to design optimal subsea systems that include processing equipment. The Norwegian oil and gas industry has the ambition to expand the use of subsea processing in existing and future fields, therefore this topic is important to enable smart and efficient design of such systems.

This PhD project is an interdisciplinary initiative of the Department of Geoscience and Petroleum and the Department of Chemical Engineering of NTNU. The PhD student is assigned to the Department of Geoscience and Petroleum, but the PhD candidate will spend approximately 50% of the time at the Department of Chemical Engineering. The candidate is supervised by Associate Prof. Stanko from the Department of Geoscience and Petroleum Engineering, and Associate Prof. Jäschke from the Department of Chemical Engineering will act as co-supervisor.

The position reports to the Head of Department

## Main duties and responsibilities

- This PhD project will explore the use of numerical optimization tools to determine layouts of subsea production systems that maximize value (i.e. increase production, reduce expenses) while fulfilling operational and technical constraints.
- This PhD is a continuation of a previous PostDoctoral project, and will build on and further develop the methods.
- A particular focus of this project is the development of tools that enable us to find optimal field layouts at an early planning stage. That includes the integration and optimization of system models, and making decisions on whether to deploy decentralized or centralized units, while taking into account flow assurance, reliability and maintenance considerations.

## Qualification requirements

The PhD-position's main objective is to qualify for work in research positions. The qualification requirement is completion of a master's degree or second degree (equivalent to 120 credits) with a strong academic background in engineering or equivalent education with a grade of B or better in terms of [NTNU's grading scale](#). Applicants with no letter grades from previous studies must have an equally good academic foundation. Applicants who are unable to meet these criteria may be considered only if they can document that they are particularly suitable candidates for education leading to a PhD 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, postdoctor and research assistant](#)

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

Other qualifications

- The candidate should have solid and relevant background in engineering one of the following engineering fields: Chemical, process, control, petroleum, or mechanical engineering.
- The candidate should possess documented scientific programming skills to solve engineering problems that require modeling.
- An interest in mathematics and programming is essential, and it is a significant advantage if the candidate has previous documented knowledge on using numerical optimization software.
- Good written and oral English language skills are essential.

## Personal characteristics

- A high level of personal responsibility and initiative.
- Work independently as well as part of a team in accordance with the project objectives.

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal suitability, as well as motivation, in terms of the qualification requirements specified in the advertisement.

## 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

PhD candidates are remunerated in code 1017, and are normally remunerated at gross from NOK 479 600 before tax per year. From the salary, 2 % is deducted as a contribution to the Norwegian Public Service Pension Fund. Note: Preliminary table subject to approval by the Storting.

The period of employment is 3 years without required duties. Appointment to a PhD position requires admission to the PhD programme in engineering (<https://www.ntnu.edu/iv/doctoral-programme>).

As a PhD candidate, you undertake to participate in an organized PhD programme during the employment period. A condition of appointment is that you are in fact qualified for admission to the PhD programme within three months.

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 criterias 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.

## General information

A good work environment is characterized by diversity. We encourage qualified candidates to apply, regardless of their gender, functional capacity or cultural background. Under the Freedom of Information Act (offentleglova), information about the applicant may be made public even if the applicant has requested not to have their name entered on the list of applicants.

Questions about the position can be directed to Associate Professor Milan Stanko, e-mail: [milan.stanko@ntnu.no](mailto:milan.stanko@ntnu.no).

About the application:

Publications and other academic works that the applicant would like to be considered in the evaluation must accompany the application. Joint works will be considered. If it is difficult to identify the individual applicant's contribution to joint works, the applicant must include a brief description of his or her contribution.

Please submit your application electronically via [jobb norge.no](http://jobb norge.no) with your CV, diplomas and certificates. Applicants invited for interview must include certified copies of transcripts and reference letters. Please refer to the application number 201/19 when applying.

**Application deadline: 15.08.2019**

## NTNU - knowledge for a better world

### 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 Geoscience and Petroleum

We conduct teaching and research related to management of Earth's geological resources. Norway's rich resources of wind, water, oil, gas and minerals have been and are essential to the country's prosperity, and will continue to be in the future. The Department plays a key role in the development of technology and the education of graduates who enable value creation based on our natural resources. [The Department of Geoscience and Petroleum](#) is one of eight departments in the [Faculty of Engineering](#).

Jobbnorge-ID: 172643, Søknadsfrist: Søknadsfristen er gått ut