

We are looking for a highly motivated

PhD Candidate in stochastic optimization at FME NCCS- Norwegian CCS Centre

This is NTNU

At NTNU, creating knowledge for a better world is the vision that unites our 7 400 employees and 42 000 students.

We are looking for dedicated employees to join us.

Video: <https://www.youtube.com/watch?v=clgKd1SwGLI>

About the position

There is a PhD Candidate position available at the Department of Industrial Economics and Technology Management within optimal design and operation of CCS value chains with focus on interaction between different industries and the power sector.

The position is resident at NTNU's campus in Trondheim. This is an educational position, which will provide promising research recruits the opportunity for professional development through studies towards a PhD-degree. The position is connected to the PhD program at the Faculty of Economics and Management and the faculty will be your employer.

[The department](#) is organized into six sections:

- Managerial Economics, Finance and Operations Research
- Health, Safety and Environment Management
- Strategy and Business Development
- Operations Management
- Experts in Teamwork
- Section of Economics and management (Campus Gjøvik)

The position will be part of the Managerial Economics, Finance and Operations Research section. It will be linked to the The Norwegian CCS Research Centre (NCCS). NCCS is a Centre for Environment-Friendly Energy Research. NCCS aims to fast-track carbon capture and storage (CCS) by working closely with the industry on research that addresses major barriers in making CCS happen in Norway, Europe, and the world.

About the position

The project focuses on decision support for design and operation of value chains for carbon capture and storage in Europe. There is a particular focus on value chains with multiple sinks and sources and where CO₂ is transported either by ship or by pipeline. We would like to study how CCS evolves in different industries like cement, refineries, and steel. We will study both the interaction between the sectors and how alternative measures like energy efficiency, fuel switching, and material efficiencies complements or competes with CCS. The design and operation of the value chains is both subject to uncertainty. There is uncertainty about technological developments, CO₂ prices, and volumes.

The objective of the research is to create models that support both the design and operational phase. The optimization techniques will be based on stochastic programming. It is also of interest to study the interactions between the different players in the value chain, using economic theory to analyse contracts and markets.

Required selection criteria

- The qualification requirement is that you have completed a master's degree or second degree (equivalent to 120 credits) in operations research or optimization or equivalent education with a grade of B or better in terms of [NTNU's grading scale](#).
- The position requires excellent English oral and writing skills.

In addition, the following qualifications will contribute positively to the evaluation of the applicant:

- Experience with stochastic programming, integer programming, energy markets, energy systems
- Experience with or formal education in economics
- Excellent communication skills with both technical and administrative staff

Personal characteristics

Personal qualifications which we see contributing positively to the research team are independence, taking initiative, work capacity and enthusiasm. We are also looking for candidates with social skills benefiting the work environment for the PhD candidates and in general.

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

We offer

- Exciting and stimulating tasks in a strong international academic environment with close links to industry
- An open and [inclusive work environment](#) with dedicated colleagues
- Favourable terms in the [Norwegian Public Service Pension Fund](#)
- [Employee benefits](#)

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.

Salary and conditions

PhD candidates are remunerated in code 1017, remunerated at gross NOK 482 200,- per annum before tax. From the salary, 2% is deducted as a contribution to the Norwegian Public Service Pension Fund.

The period of employment is 3 years without required teaching duties. The position is connected to the PhD program at the Faculty of Economics and Management and the faculty will be your employer. Appointment to a PhD position requires admission to the PhD program in Economics and Management, program option Industrial Economics and Technology Management, and your work place will be at the Department of Industrial Economics and Technology Management (<https://www.ntnu.no/iot>).

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

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](#), as well as 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.

Appointment takes place on the terms that apply to State employees at any time, and after the appointment you must assume that there may be changes in the area of work.

Primary residency in Trondheim is a prerequisite.

About the application

The application must include:

- 1) Application letter concerning your motivation for completing a PhD
- 2) A CV with information on education, previous research experience, together with authorized documentation of certificates and study records
- 3) Academic work (not master thesis). Joint work will be evaluated. If it is difficult to identify the contributions from individuals in a joint piece of work, applicants should enclose a short descriptive summary of what she/he contributed to the work
- 4) 2 References

Publications and other academic works that the applicant would like to be considered in the evaluation must accompany the application

Please submit your application electronically via jobbno.no with your CV, diplomas and certificates.

Incomplete applications will not be considered.

General information

[Working at NTNU](#)

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

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 Professor Asgeir Tomasgard, email Asgeir.tomasgard@ntnu.no / phone 00 47 930 58 771.

Application deadline: June 6th 2021.

NTNU - knowledge for a better world

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

Department of Industrial Economics and Technology Management

We conduct research and teaching at an international level in the interface between technology/natural sciences and economics, management, and HSE (health, safety and the environment). Our goal is sustainable creation of value within technology-based areas in industry, business and the public sector in Norway. We have academic groups in Trondheim and Gjøvik. The [Department of Industrial Economics and Technology Management](#) is one of four departments in the [Faculty of Economics and Management](#).

Jobbnorge-ID: 206460, Søknadsfrist: 6. juni 2021