Jobbnorge ID: 265972
Deadline: 9/30/2024
Website: http://www.ntnu.no
Scope: Fulltime
Duration: Temporary

The Department of Geoscience and Petroleum has a vacancy for a

PhD Candidate in molecular dynamics simulation in mineral processing - IV-99/24

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 43,000 students work to create knowledge for a better world.

You will find more information about working at NTNU and the application process here.

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

About the job

For a position as a PhD Candidate, the goal is a completed doctoral education up to an obtained doctoral degree.

We are seeking a highly motivated and talented candidate for a 3-year PhD position in molecular dynamics simulation with a focus on mineral processing. This position offers an exciting opportunity to contribute to cutting-edge research aimed at advancing our understanding of mineral behavior and interactions at the molecular level. Sustainable mineral processing is critical for the efficient and environmentally friendly extraction of critical raw materials, essential for the green shift and the development of renewable energy technologies. The successful candidate will work within a multidisciplinary team, utilizing advanced simulation techniques to explore the fundamental processes governing mineral processing.

The successsful candidate will be supervised by Professor Pshem Kowalczuk and will be part of the Mineral Processing Laboratory at NTNU (Mineral processing Laboratory - IGP - NTNU). Research and education at the Mineral Processing Laboratory at NTNU provide vital knowledge on sustainable processing of ores and minerals and the recovery of valuable components from industrial waste. The laboratory is unique in Norway and plays a strategically important role in the shift towards a greener and more circular economy.

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Your immediate leader is the Head of Department of Geoscience and Petroleum.

Duties of the position

- Conduct and develop computational models to investigate the behaviours and interactions of minerals during sustainable processing.
- Analyse and interpret simulation data to derive meaningful insights and conclusions about the molecular mechanisms in sustainable mineral processing.
- Collaborate with team members and external partners to integrate simulation results with experimental findings, fostering a holistic understanding of sustainable mineral processing phenomena.
- Prepare and publish research findings in high-impact scientific journals and present results at national and international conferences.

Required selection criteria

- You must have a professionally relevant background in Physics, Chemistry, Materials Science, Chemical Engineering, Mineral Processing or a related field.
- Your education must correspond to a five-year Norwegian degree program, where 120 credits are obtained at master's level.
- You must have a strong academic background from your previous studies and an average grade from the master's degree program, or equivalent education, which is equal to B or better compared with NTNU's grading scale. If you do not have letter grades from previous studies, you must have an equally good academic basis. If you have a weaker grade background, you may be assessed if you can document that you are particularly suitable for a PhD education.
- You must meet the requirements for admission to the faculty's doctoral program (https://www.ntnu.edu/iv/doctoral-programme)
- Proven experience with molecular dynamics simulations and related computational techniques.

- Proficiency in programming languages commonly used in molecular dynamics simulations.
- Strong analytical skills with the ability to interpret complex simulation data.
- Excellent written and verbal communication skills in English, with the ability to collaborate effectively within a multidisciplinary research team.

The appointment is to be made in accordance with Regulations on terms of employment for positions such as postdoctoral fellow, Phd candidate, research assistant and specialist candidate and Regulations concerning the degrees of Philosophiae Doctor (PhD) and Philosodophiae Doctor (PhD) in artistic research national guidelines for appointment as PhD, post doctor and research assistant

Preferred selection criteria

- Research Publications: A record of peer-reviewed publications in relevant scientific journals.
- Interdisciplinary Experience: Experience working in interdisciplinary research teams.
- Presentation Skills: Demonstrated ability to present research findings effectively at scientific conferences.

Personal characteristics

- Motivated and proactive attitude towards research challenges, with a passion for advancing scientific knowledge.
- Ability to work both independently and collaboratively in a dynamic research environment.
- Strong organizational skills and ability to manage multiple tasks and deadlines effectively.
- Adaptability and openness to learning new methodologies and techniques.
- Commitment to research integrity and ethical conduct in scientific investigations.
- Strong problem-solving abilities with a creative and innovative mindset.

Emphasis will be placed on personal and interpersonal qualities.

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 PhD candidate (code 1017) you are normally paid from gross NOK 532 200 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 3 years.

Appointment to a PhD position requires that you are admitted to the PhD programme in engineering (https://www.ntnu.edu/iv/doctoral-programme) within three months of employment, and that you participate in an organized PhD programme during the employment period.

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.

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 be attached to the application. Please note that your application will be considered based solely on information submitted by the application deadline. You must therefore ensure that your application clearly demonstrates how your skills and experience fulfil the criteria specified above.

The application must include:

- CV and certificates
- transcripts and diplomas for bachelor's and master's degrees. If you have not completed the master's degree, you must submit a confirmation that the master's thesis has been submitted.
- A copy of the master's thesis. If you recently have submitted your master's thesis, you can attach a draft of the thesis. Documentation of a completed master's degree must be presented before taking up the position.
- A cover letter detailing your motivation and sustainability for the position.
- Project proposal
- Name and contact information of three referees
- If you have publications or other relevant research work

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, both bachelor's and master's education, in addition to other higher education. Description of the documentation required can be found here. If you already have a statement from Norwegian Directorate for Higher Education and Skills, please attach this as well.

We will take joint work into account. If it is difficult to identify your efforts in the joint work, you must enclose a short 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

NTNU believes that inclusion and diversity is our strength. We want to recruit people with different competencies, educational backgrounds, life experiences and perspectives to contribute to solving our social responsibilities within education and research. We will facilitate for our employees' needs.

NTNU is working actively to increase the number of women employed in scientific positions and has a number of resources to promote equality.

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.

A public list of applicants with name, age, job title and municipality of residence is prepared after the application deadline. If you want to reserve yourself from entry on the public applicant list, this must be justified. Assessment will be made in accordance with current legislation. You will be notified if the reservation is not accepted.

If you have any questions about the position, please contact Professor Pshem Kowalczuk, email pshem.kowalczuk@ntnu.no. If you have any questions about the recruitment process, please contact Eli Meistad, e-mail: eli.meistad@ntnu.no.

If you think this looks interesting and in line with your qualifications, please submit your application electronically via jobbnorge.no with your CV, diplomas and certificates attached. Applications submitted elsewhere will not be considered. Upon request, you must be able to obtain certified copies of your documentation.

Application deadline: 30.09.2024

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 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.

Additional information

Contact person:

Pshem Kowalczuk, Professor
Phone: | E-mail: pshem.kowalczuk@ntnu.no

Place of service:

S. P. Andersens veg 15A 7491 Trondheim (Trondheim Municipality)