Jobbnorge ID: 224376
Deadline: 5/31/2022
Website: http://www.ntnu.no
Scope: Fulltime
Duration: Temporary

The Department of Materials Science and Engineering has a vacancy for a

PhD Candidate within the field of advanced microstructure and chemistry characterization

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 will 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 PhD Candidate at the Department of Materials Science and Engineering.

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

The PhD candidate will be part of a research group focusing on the chemistry, processing, microstructure and proprieties of metallic materials. The PhD project is focusing on the structure and chemistry of grain boundaries (GB) down to atomic scale and their influences on the mechanical and corrosion properties of metal alloys. Advanced characterization instruments like Atom Probe Tomography (APT) and Transmission Electron Microscopy (TEM) will be used. Some thermodynamic models and atomic scale simulations will also be applied to understand the GB segregation behaviors of impurity elements during different thermomechanical processes.

The PhD project is funded by the SFI PhysMet and is part of the research area multi-scale material analyses. SFI PhysMet - Centre for Sustainable and Competitive Metallurgical and Manufacturing Industry is hosted by NTNU (Department of Materials Science and Engineering, and Department of Physics), together with key research partners (SINTEF and IFE), and user partners from the metallurgical and manufacturing industry in Norway. The candidate will have the chance to collaborate with highly competent researchers from both academic institutions and their industrial partners.

Duties of the position

- Perform theoretical and experimental work related to the project tasks.
- Collaborate with and support other PhD and MSc students.
- Contribute to project meetings, workshops, seminars etc.
- Conduct academic writing and publish project results in acknowledged peer-reviewed journals.

Required selection criteria

- You must have a professionally relevant background in Materials Science and Engineering or Material Physics and Material Chemistry.
- You must have hands-on experiences with materials characterisation techniques, preferentially, APT, TEM, FIB or SEM-EBSD.
- Your education must correspond to a five-year Norwegian degree program in Materials Science and Engineering, Physics, Materials Chemistry, or equivalent, 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
- You must have good written and oral English language and communication skills.

MSc students who expect to complete their studies by summer 2022 are also encouraged to apply. Employment will then be postponed until the Master's degree is finished.

The appointment is to be made in accordance with the regulations in force concerning State Employees and Civil Servants 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

- Hands-on experiences with TEM, APT, FIB or SEM-EBSD
- Atomic scale simulation experiences, e.g. DFT or MD.
- Competences working with solid state phase transformations or corrosion behavior of metal alloys.
- Knowledge of a Scandinavian language is considered as a plus.

Personal characteristics

- Creative, with a strong ability to work goal-oriented and independently.
- Good skills to deliver oral and written presentations of research results.
- He/she should also enjoy interdisciplinary research and take keen interest in working in project teams.

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 491 200 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 (which can be extended to 4 years with teaching duties).

Appointment to a PhD position requires that you are admitted to the PhD programme in Materials Science within three months of employment, and that you participate in an organized PhD program 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.

The position is subject to external funding.

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

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.

The application must include:

- CV, certificates and diplomas
- A cover letter describing the personal motivation, summarising scientific work, and how the applicant sees her/his background suitable
- CV, certificates and diplomas
- 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.
- Name, address and contact information of three referees
- Documentation of English language proficiency.
- Possible academic works - published or unpublished - that you would like to be considered in the assessment.

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 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 Professor Yanjun Li, telephone 98283973, email yanjun.li@ntnu.no, Professor Randi Holmestad, telephone 48170066, email randi.holmestad@ntnu.no, or Professor Knut Marthinsen, telephone 73593473, email knut.marthinsen@ntnu.no.

Please submit your application electronically via jobbnorge.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-133/22 when applying.

Application deadline: 31.05.2022

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 Materials Science and Engineering

We are Norway's leading educational and research environment in materials engineering, materials chemistry and materials science. In collaboration with business and industry, we are a driving force for the development of innovative materials as well as new applications and manufacturing processes. Activities in our disciplines are vital for the green shift. The Department of Materials Science and Engineering is one of eight departments in the Faculty of Natural Sciences.

Additional information

Place of service:

Trondheim 7491 Trondheim (Trondheim Municipality)