Jobbnorge ID: 215397
Deadline: 12/31/2021
Website: http://www.ntnu.no
Scope: Fulltime
Duration: Fixed Term

The Department of physics has a vacancy for a

Postdoctoral researcher - coherent X-ray diffraction imaging

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 are searching for a creative, skilled and ambitious candidate for our activities on coherent X-ray diffraction imaging (CXDI) within theICONIC project, funded under the FRINATEK program of the Norwegian Research Council. The candidate will work in an international team ofseveral principal investigators, PhD students, postdocs and master students. External collaboration with other academic research groups and industry actors is an important part for the position.

The ICONIC project aims to utilize recent breakthroughs in CXDI to image biomineralisation mechanisms by studying the progression from theearliest nucleation events to the final mineral phases. The project will be implemented by development of in-situ and liquid-phase CXDI incombination with time resolved small-angle (SAXS) and wide-angle X-ray scattering (WAXS). The candidate will be involved in the developmentand implementation of CXDI in liquid phase to study dynamic processes and establishment of appropriate computational tools for data analysis.

ICONIC is a collaboration between NTNU, Université libre de Bruxelles (ULB) in Belgium, ESRF in France, University of Oslo in Norway andthe University of Le Mans in France.

Starting date early 2022 or as agreed upon.

The position is for two years

Duties of the position

The research work will involve designing, constructing and using state-of-the-art experimental setups. Sophisticated analysis and modelling oflarge datasets, also using statistical and machine learning (artificial intelligence) methods will be important topics. Major emphasis is put ondeveloping sophisticated 4-dimensional (3D + time resolution) microscopy methods based on scattering and phase contrast. The key scientific motivation for the project is to solve imminent and long-standing challenges of huge societal impact through innovative imaging methods. In addition, the candidate is expected to participate actively in the group activities, including mentoring and co-supervision of students

Required selection criteria

- The successful candidate has completed/ is about to complete a Norwegian doctoral degree in Physics or corresponding foreign doctoral degree recognized as equivalent to a Norwegian doctoral degree.
- The position requires a strong interest in experimental physics and data analysis.
- Experience from nanoscale studies using scattering, diffraction or high-resolution microscopy methods is a compulsory requirement.
- The candidate is expected to have experience working in synchrotron facilities and proficiency in analyzing large datasets.
- The position requires spoken and written fluency in English.

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

- Strong computer programming skills (e.g. Matlab, Python or C) and hardware building skills are desired.
- Working knowledge of Norwegian or another Scandinavian language would be evaluated positively.

Personal characteristics

The successful candidate should be creative, ambitious and enthusiastic, with a strong ability to work independently and goal oriented. Excellence in scientific writing and good oral presentation skills are requested. He/she should enjoy interdisciplinary research and take keen interest in learning and working in teams, which is of high importance in this multidisciplinary project.

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 553 500 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:

- Cover letter (statement of motivation, summarizing scientific work and research interest)
- CV (summarizing education, positions, pedagogical experience, administrative experience and other qualifying activity)
- Copies of educational certificates, academic transcript of records and letters of recommendation
- Names and contact details of 2-3 references (name, relation to candidate, e-mail and telephone
- number)

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 Research Scientist DR.Basab Chattopadhyay, telephone +47 73559085, email:basab.chattopadhyay@ntnu.no and Prof. Dag W. Breiby, email: dag.breiby@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 IV 126/21 when applying.

Application deadline: 31.12.2021

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 Physics

Our research and teaching are both experimental and theoretical, covering a wide range of disciplines. Our activities contribute to development of new medical technology and to finding solutions for the next generation's communication technology, energy utilization and development of materials. The Department of Physics is one of eight departments in the Faculty of Natural Sciences.

Additional information

Place of service:

Trondheim Høgskoleringen 1 7491 Trondheim (Trondheim Municipality)