Jobbnorge ID: 242441
Deadline: 4/30/2023
Website: http://www.ntnu.no
Scope: Fulltime
Duration: Project

The Faculty of Medicine and Health Sciences has vacancies for two

PhD candidates in Digital Pathology

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

The Department of Clinical and Molecular Medicine and the Department of Circulation and Medical Imaging have vacancies for two PhD candidates in the research group Artificial Intelligence and digital pathology in CANcer (AICAN). AICAN is a cross disciplinary research group involving NTNU, St. Olavs hospital, Levanger hospital and SINTEF. The group uses artificial intelligence in the interpretation of histopathological digital slides from cancer.

The positions are fixed term, full time (100%) positions for three years starting in autumn 2023.

The PhD fellow will develop and validate machine learning techniques for automatic assessment of digital breast and lung cancer tissue sections. The main goal is to achieve more patient specific management through improved prognostic differentiation in breast and lung cancer and to provide a deeper understanding of the pathology of the disease.

The basis of the project will be digitized whole slide images from established, large, well-described cohorts of breast and lung cancer patients and existing software developed as part of the project (see https://github.com/SINTEFMedtek/FAST-Pathology).

The position offers challenging and varied tasks in an environment characterized by active, committed and skilled researchers.

Duties of the position

- Develop and validate machine learning techniques to improve tissue segmentation, prediction of biological properties and prognostic differentiation in breast and lung cancer based on digitized whole slide images. This will include data management, methods development, image analysis, programming, validation and testing in close collaboration with other team members.
- Work in a cross-disciplinary team including clinical and technological faculty and researchers, lab technicians and medical/engineering students.
- Write scientific journal articles and present the results at scientific conferences and in popular media.
- Fulfil the requirements for the degree of PhD at NTNU within the specified time period.

Required selection criteria

The PhD-positions' main objective is to qualify for work in research positions. The qualification requirement is that you have completed a master's degree or equivalent in computer science, statistics, medical technology, biomedical engineering or similar with a grade of B or better in terms of NTNU's grading scale. If you do not have letter grades from previous studies, you must have an equally good academic foundation. Master's students can apply, but the master's degree must be obtained and documented by the end of August, 2023.

You must meet the requirements for admission to the faculty's doctoral program (PhD Programme in Medical Technology).

Other required selection criteria

- basic knowledge in image analysis
- basic knowledge in machine learning/deep learning
- experience with programming in Python
- good written and oral English language skills

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.

Preferred selection criteria

- experience with MATLAB
- experience with C++

Personal characteristics

- Ability to work independently
- Ability to work in a cross-disciplinary team
- A strong interest in medical research

Motivation and personal aptitude for this position will be taken into consideration.

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 501 200 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 Medical technology 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 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 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, certificates and diplomas
- Academic works - published or unpublished - that you would like to be considered in the assessment (up to 15 works)
- Name and address of three referees

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.

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.

Applicants from non-European countries where English is not the official language must present an official language test report. The following tests can be used: TOEFL, IELTS, or Cambridge Certificate in Advanced English (CAE).

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal suitability.

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 Associate Professor/Consultant Pathologist Marit Valla, e-mail: marit.valla@ntnu.no, telephone: +47 40453404 and/or Associate Professor/Consultant Pulmonologist Hanne Sorger, e-mail: hanne.sorger@ntnu.no, telephone: +47 91816787 and/or Senior research scientist / Associate Professor Ingerid Reinertsen, e-mail: ingerid.reinertsen@sintef.no telephone: +47 90212159.

If you have any questions about the recruitment process, please contact HR Consultant Vebjørn F. Andreassen, e-mail: vebjorn.andreassen@ntnu.no, telephone: +47 73412577 and/or HR Consultant Julie Hoff, e-mail: julie.hoff@ntnu.no, telephone: + 47 73598443

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 Bachelor and Master Diploma from China Credentials Verification (CHSI).

Application deadline: 30.04.2023

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.

The Department of Clinical and Molecular Medicine (IKOM) is NTNU's largest department, with 450 employees. Our research and teaching help to improve treatment and health.

IKOM has expertise in basic, clinical and translational research within broad disciplinary areas. We study children's and women's health, cancers, blood disorders and infectious diseases, gastroenterology, inflammation, metabolic disorders, laboratory sciences and medical ethics. The Department offers teaching in medicine at master's and PhD level. We also offer continuing education for employees in the health services.

The Department of Circulation and Imaging (ISB) has 270 employees, and its research units are at the Cardiothoracic Centre at St. Olav's Hospital, integrated with collaborating clinical divisions. ISB includes anaesthesiology, radiology, radiography, ultrasound, magnetic resonance, exercise physiology, pumlonary medicine, cardiology, vascular surgery, thoracic surgery and biomedical engineering.

The department is also responsible for the Centre for innovative Ultrasound Solutions (CIUS). More information about the department is available at https://www.ntnu.edu/isb

Additional information

Place of service:
Erling Skjalgssons gate 7030 Trondheim (Trondheim Municipality)