The Department of physics has a vacancy for a

Post.doc. position in machine learning in PET/MR

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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=clqKd1SwGLI

About the position
We have a vacancy for a 100 % post.doc. position on a large project entitled Improved diagnostics and treatment through a state-of-the-art multi-center nuclear medicine approach:

- Applications in cancer and dementia funded by the Mohn Foundation (www.mohnfoundation.no), NTNU and St. Olavs Hospital HF. The overall objective of this project is to facilitate multi-center nuclear medicine research by implementation and development of novel methodology and analyses in the diagnosis, follow-up and treatment of patients and to bring this field beyond state-of-the-art for the betterment of patients across Norway.
- Hybrid PET/MRI will have a central role in this project and the focus is on patient groups where this modality has shown promising potential. The project includes developing new data processing tools using machine learning.
- The position is affiliated with the medical physics group at the Department of Physics, NTNU in close collaboration with St. Olavs hospital and the MR cancer group at the Faculty of Medicine and Health Sciences at NTNU.
- The appointment has a duration of 3 years with start as soon as possible, preferably August 2020.

The position is organized in the Department of Physics, NTNU. Our research spans a broad spectrum of natural sciences and technology. The Department is currently expanding and has activity in astroparticle physics, solid state physics, material physics, soft and complex matter physics, biopolymer physics, medical physics, statistical physics, optics, atmospheric physics and university didactics. The Department recruits the best physics students in Norway and also offers a large number of courses in physics for other study programmes at NTNU. Research staff at the Department makes a special effort to increase the awareness and understanding of the importance and impact of physics in our society.

Further information about the Department can be found at https://www.ntnu.edu/physics

Questions about the position can be directed to:
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Duties of the position
The post.doc will work in the multidisciplinary field of medical imaging, performing research on the cutting edge of computer science, medical physics, and clinical practice. The position will be based in Trondheim but may include short research stays at the consortium partners in Bergen (UiB) and Tromsø (UiT). The post.doc. has the possibility to work with acquired PET/MR images of several cancer types and dementia, and will be responsible for:

- The curation and management of previously and newly acquired PET/MR data at Trondheim, Bergen, and Tromsø
- The development of a data pre-processing pipeline including image standardization, co-registration, and quality assurance of PET and MR images
- The development of a machine learning toolbox for detection, classification and longitudinal follow-up of lesions in PET/MR images
- The application of newly developed techniques to answer clinical questions connected to prostate cancer, lung cancer, lymphoma, head & neck cancer and/or dementia

The candidate will work in an active multidisciplinary research environment with high scientific standards. We are offering training, continuous supervision and opportunities for participation at national and international courses and congresses.

Required selection criteria
A postdoctoral research fellowships is a qualification position in which the main objective is qualification for work in academic positions. You must have completed a Norwegian doctoral degree in Medical Technology or a corresponding foreign doctoral degree recognized as equivalent to a Norwegian doctoral degree is required.

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 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.

Required qualifications

- Hands-on experience with medical image processing and machine learning
- Strong programming skills in Matlab, Python, or similar
- Fluent English language, both written and spoken

Desired qualifications

- Experience with processing and analysis of MR and/or PET images, in particular image co-registration and detection/classification.
- Research competence demonstrated by publications in international peer-reviewed journals

Personal characteristics

- Excellent personal and communicative skills; the project will require ability to both works independently and to interact with other postdocs, PhD candidates, students, experienced scientists, medical physicists and medical doctors
- Strong motivation, scientific creativity and enthusiasm for research, high working and implementation capacity

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

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

The employment period is 3 years.

Postdoctoral candidates are placed in code 1352, and are normally remunerated at gross from NOK 542 400 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 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 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.

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.

General information

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.

NTNU is committed to following evaluation criteria for research quality according to The San Francisco Declaration on Research Assessment - DORA.
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 recruitment process, please contact Torill Elise Ovid, e-mail: torill.e.ovid@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 20/11106 when applying.

Application deadline: 17.05.2020

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.

Jobbnorge ID: 185939, Deadline: 17.05.2020, Customer reference: 20/11106