Postdoctoral Fellowship in MRI Physics

Department of Radiology and Nuclear Medicine, St. Olav’s University Hospital, Trondheim, Norway

About the position

One postdoctoral fellowship is available at the Department of Radiology and Nuclear Medicine at St. Olav’s University Hospital in Trondheim, Norway, to start in the autumn of 2021. The position is full time (100%), and has a fixed term of two years. The postdoc will join the project “Deep learning cancer diagnostics from diffusion-weighted magnetic resonance imaging”, funded by the Research Council of Norway.

This project will open up new, non-invasive means for assessing cancer. The approaches developed will combine highly efficient, novel imaging strategies with artificial intelligence, to permit fast, contrast-free and robust cancer diagnostics.

We seek a highly motivated researcher with a strong background in MRI physics. The postdoc will contribute to work exploring the use of non-Cartesian k-space trajectories for diffusion-weighted imaging, novel under-sampling strategies and image reconstruction involving deep learning, pulse sequence development, and diffusion modelling and parameter estimation.

The project is led by Dr. Peter T. While, physicist and researcher at the Department of Radiology and Nuclear Medicine at St. Olav’s University Hospital, and adjunct associate professor at the Department of Circulation and Medical Imaging at the Norwegian University of Science and Technology (NTNU).

Main duties and responsibilities

- Perform research towards the fulfilment of the project objectives
- Disseminate results through the publication of scientific papers and the delivery of seminars and conference presentations
- Keep abreast with current developments in the research field through regular literature surveys
- Initiate and/or participate in new research projects in collaboration with the research group
- Assist with the supervision of research fellows and/or students

Selection criteria

Eligibility requires the completion of a doctoral degree in physics, applied mathematics, computer science or a similar discipline, which is recognized as equivalent to a Norwegian doctoral degree. Applicants who expect to complete their doctoral degree by autumn 2021 may also apply.

Desired criteria:
• Strong background in MRI physics and image processing
• Experience in non-Cartesian k-space trajectories and image reconstruction
• Experience in pulse sequence programming, ideally within IDEA (Siemens)
• Experience in diffusion modelling and parameter estimation
• Experience in deep/machine learning
• Good computer programming skills in Matlab, Python or similar
• Excellent written and oral English language skills
• Good publication record relative to career stage

Personal characteristics

• Strong motivation for the position
• Takes initiative and excels in problem solving
• Professional independence
• Actively participates in teams
• Good communication skills
• Contributes to a supportive and friendly working environment

We offer

• Stimulating tasks of international relevance in a strong academic environment
• An open and inclusive work environment based on mutual respect and goodwill
• Favourable salary and pension scheme by international standards

Salary and conditions

Postdoctoral fellows are placed in code 1352, and are normally remunerated at gross from NOK 545 300 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.

About the application

The application must contain:

• The applicant’s CV, including contact information for at least 2 references
• A complete list of publications and other scientific work; in cases where the applicant is not the primary author, a short summary outlining the applicant’s contribution is requested
• Copies of academic diplomas and transcripts; applicants from universities outside Norway are requested to send a diploma supplement (or a similar document) which describes in detail the study and grading system

Applicants may optionally provide a brief research statement outlining a possible additional project that could be undertaken in collaboration with the research group during the employment period.
For further information or to apply for the position, please contact Dr. Peter T. While, email: Peter.Thomas.While@stolav.no, phone: +47 728 36627

Application deadline: 15.08.2021

*Note that this announcement is an extension to a previous posting entitled “Postdoc position in deep learning applied to magnetic resonance imaging/physics”, in order to broaden the pool of applicants. Applications submitted to the previous posting will be carried forward, and hence those applicants need not reapply.

General information

Norway provides all residents universal healthcare, free schooling, subsidized child-care and overall equality. Trondheim is the innovation capital of Norway, with a population of 200,000. It 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. St. Olav’s University Hospital in Trondheim is one of Europe's most modern hospital facilities. It is closely integrated with the Faculty of Medicine and Health Sciences at NTNU, where clinicians, researchers and students work side by side. The hospital has approximately 10,500 employees and a gross budget of NOK 10 billion. The Department of Radiology and Nuclear Medicine currently operates nine MRI scanners, including a hybrid PET-MRI (3T) scanner and PET cyclotron, and an ultra-high field 7T scanner.