Image Sciences Institute

PROVIDI Lab
PROcessing & VIsualization in Diffusion Imaging

University Medical Center Utrecht

Postdoc position in diffusion MRI

PROVIDI Lab, Image Science Institute, UMC Utrecht – The Netherlands

A 3-year postdoc research position is available at the PROVIDI Lab, which is part of the Image Sciences Institute (ISI), University Medical Center Utrecht (UMCU) – the Netherlands. The research will be carried out under supervision of Alexander Leemans. Starting date of the post-doc position is March 2017 at the latest.

The UMCU has access to 1.5T, 3T and 7T human MRI clinical and research scanners, and 4.7T and 9.4T small-animal MRI scanners. The post-doc candidate will work in a highly interdisciplinary environment and will have the opportunity to collaborate with other researchers in Medical Physics, Computer Science, Radiology, and Neuroscience.

The post-doc candidate must have a PhD degree in computer science, (applied) physics, mathematics, biomedical engineering, medical imaging or a related field from an approved program, with skills/experience in scientific reporting/presenting, image processing, and computer programming (preferably with Matlab). Knowledge of (diffusion) MRI and/or medical image processing/analysis are a distinct advantage. The candidate should be highly motivated and should be able to work in a team. Responsibilities will include publishing and presenting of the candidate's research results, and co-supervising PhD students where appropriate.

The monthly salary will be in accordance with standard salary scale for a post-doc candidate, which is maximally € 4840 (gross) on the basis of full-time employment (working week of 36 hours). This is a temporary appointment for 3 years. For more information feel free to contact Alexander Leemans by e-mail (A.Leemans@umcutrecht.nl).

Applicants should send a letter of intent outlining their special interest in the position, overall related qualifications, experience and career goals, and their curriculum vitae, including a list of publications, to the application website (see: "Postdoc in diffusion MRI").

Project synopsis:

With its unique ability to investigate tissue microstructure in vivo, diffusion MRI (dMRI) is the preferred approach for investigating the brain's structural connectivity. While dMRI plays a key role in connectomics, it suffers from limitations and imperfections which, if not adequately addressed, will have a profound impact on the validity of neuroscientific findings. Notorious pitfalls in dMRI are its high sensitivity to data acquisition artifacts, its low specificity in characterizing microstructural tissue properties, and its inability to compute the robust and accurate fiber networks that are required in connectomics. The post-doc candidate will take part in tackling these issues by developing new dMRI methods.