

Post-doc position

“Improving clinical PET imaging for non-optimal positron emitters”

The Center for Medical Physics and Biomedical Engineering (CMPBME) at the Medical University of Vienna (MedUniWien) is looking for a Post-Doc candidate with a serious interest in medical imaging and image reconstruction and data correction techniques. He/She shall join a multi-disciplinary international research project (Siemens/Vienna/Madrid) focused on the *Clinical PET imaging using non-standard positron emitters*”. The candidate shall engage in the improvement of the image quality of PET images acquired with non-conventional radionuclides. These improvements will be achieved:

- The inclusion, within the image reconstruction algorithm, of a spatially-variant and material-dependent positron range correction.
- The correction of the spurious coincidences caused by prompt gamma emissions of non-pure PET radionuclides.
- The implementation of triple coincidences reconstruction and their use to differentiate standard positron emitters from positron-gamma emitters, which may enable dual-tracer PET (mPET).

The successful candidate will be offered a 2-years Post-Doc position at the Medical University of Vienna. He/she will benefit from the opportunity to join recently established Quantitative Imaging and Medical Physics Group (QIMP) at the CMPBME. This group engages in a number of multi-disciplinary imaging projects, with a particular focus on quantitative imaging in the realms of PET, PET/MRI, PET/CT and SPECT/CT. The QIMP Group is well integrated into joint projects with several clinical departments, incl. the Dept. of Biomedical Imaging and Image-Guided Therapy, the Dept. of Radiation Oncology and the MR Centre of Excellence.

Qualifications

- Successfully completed PhD in Medical Physics or Biomedical Engineering.
- At least 3 or 4 years of previous experience in one of the following fields: PET, SPECT, radiation physics, nuclear physics or related field.
- Experience with Monte Carlo simulations and image reconstruction techniques.
- Strong programming skills e.g., C++, MATLAB, FORTRAN, Linux O.S.
- Solid mathematical background for the development of image reconstruction and data correction algorithms.
- Excellent communication skills and command of the English language
- Willingness to travel to internal project meetings and International Conferences.

About the Center of Medical Physics and Biomedical Engineering

The CMPBME is a multi-disciplinary research center and service provider at the Medical University of Vienna. The center employs over 40 full staff members and about the same number of Master and Graduate students. The main objectives of the CMPBME include the development of advanced technology and physical methods for

medical diagnosis and therapy, the support of multi-disciplinary translational research and teaching activities within the Curricula of the Medical University of Vienna. For further information: <http://www.zmpbmt.meduniwien.ac.at/>.

To apply, please email a cover letter, research interests, CV, and names of three references to:

Jacobo Cal-Gonzalez, PhD

T: +43.1.40 400-19880

email: jacobo.calgonzalez@meduniwien.ac.at

Deadline for applications: 22 December 2017

Incorporation date: February 2018