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Faculty of Applied Sciences
Radiation Science & Technology

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Postdoc position

A hybrid digital breast PET/MRI device for enhanced diagnosis of breast cancer

Positron emission tomography (PET) and magnetic resonance imaging (MRI) are key medical imaging modalities in oncology. The HYPMED project aims at the development of a hybrid PET/MRI system optimized for the early diagnosis and targeted treatment of breast cancer. The HYPMED consortium consists of European universities, companies, and academic hospitals, who will jointly develop and clinically test this unique device.

Breast cancer remains the most lethal form of cancer in women. The new HYPMED PET/RF insert will enable transforming any clinical MRI system into a dedicated PET/MRI device that detects even the smallest changes and provides better estimates on the biological aggressiveness of a tumor. Such information is crucial to improve the outcomes of current and new breast cancer therapies.

For this project we are looking for an enthusiastic and creative physicist who is motivated to push the limits in medical imaging technology. You will be working on a novel, highly compact, MR-compatible time-of-flight (TOF) PET detector module based on fast scintillation crystals, fully digital solid-state single-photon sensor technology, and digital signal processing, which will form the TOF-PET component of the HYPMED device. You will be based at the Radiation Science & Technology department of the Faculty of Applied Sciences of TU Delft and work in close collaboration with colleagues from TU Delft's Electronic and Mechanical Support Division as well as with scientists from the other HYPMED partners.

Requirements include a PhD in (Applied) Physics and affinity with experimental physics, instrumentation development, data acquisition, and digital signal processing. Excellent English and communication skills are requested. Experience in relevant areas of physics and technology, such as ionizing radiation physics, radiation detection technology, electronics, signal processing etc., are a plus. You should possess a pro-active, independent, problem-solving, and result-oriented work attitude. The successful candidate is expected to publish results in peer-reviewed scientific journals and to participate in international conferences.

Applications must include a cover letter, CV, list of publications, scans of diplomas, and the names and contact details of three referees. Please send your application by email to Dr. D.R. Schaart: d.r.schaart@tudelft.nl.

Screening will start as soon as applications are received and will continue until the position has been filled.