



Fully-funded PhD position at the Faculty of Biomedical Engineering, Technion

Background: The Vandoorne laboratory, at the Faculty of Biomedical Engineering of the Technion, has an open PhD position available at its Technion campus, located in Haifa, Israel. The Technion is the leading technical university in Israel and Haifa hosts a vibrant, cutting-edge high-tech industry, with strong ties to the research fields of the faculty. The Technion is the home of Nobel prize laureates, groundbreaking research and fundamental intellectual contributions, and is recognized as a prime contributor to the Israeli start-up industry. The Vandoorne lab is a home for multidisciplinary research activities, largely focused on the fields of multimodal imaging and cardiovascular biology, immunology, medical sciences and image processing.

In the fully-funded PhD project, we aim at a breakthrough in the understanding of the immune status in cardiovascular disease by developing novel multi-scale imaging techniques, ranging from intravital microscopy towards PET/MRI/CT imaging including immunological and genetic approaches, and developing imaging techniques for picking up vascular-immune changes. The project will be led in close collaboration between experts in nuclear medicine at the Rambam Health Care Campus, in regenerative medicine at Eindhoven University, as well as in immunology, image processing and artificial intelligence.

Description of the project: Ischemic heart injury is among the most frequent and lethal wounds worldwide. The ischemic core of the infarction becomes necrotic and exacerbated inflammation induces tissue damage and halts repair. In situ immunomodulating approaches can be used to balance inflammatory responses. To characterize these modulated immune responses, we will develop multi-scale imaging methods (PET/CT/MRI) to serially evaluate this immunomodulating regenerative treatments focusing on immune responses.

The candidate will be expected to develop and implement new image acquisition, and image analysis, alongside with biological work. He/she will present at conferences and in journal publications, collaborate with Israeli and international researchers, and advice MSc students. This project will take place under the supervision of Dr. Katrien Vandoorne. The group has access to state-of-the-art preclinical MRI / CT / PET scanners, and a multi-photon microscope.

Your profile:

- An MSc degree in engineering, medicine, biology or equivalent qualification
- At ease with immunology, biology, small animal research, imaging techniques and/or artificial intelligence
- English proficiency necessary

This project will require creative person with excellent communication and inter-personal skills. You will collaborate very closely with a postdoctoral fellow and several MSc students.

Info and contact: The PhD position is available per October 1st, 2021; a PhD program will typically be completed in about 4 years. For further information or to apply (including a CV and two references), please contact **Dr. Katrien Vandoorne** (k.vandoorne@technion.ac.il) or visit our website at <https://vandoornelab.net.technion.ac.il/>.

