**1 PhD position / Early Stage Researchers (ESR) available in biomedical research and technology**

Do you want to work in the growing sector of biomedical technology? Do you want to start your career in a European network of leading universities, hospitals and industry?

The Bakken Research Center in Maastricht, NL (BRC, Medtronic) is one of the industrial partners in the new EU-project “Personalised In-silico Cardiology” (PIC), with 15 young researchers divided between 10 different European research institutions and companies. We are looking for an excellent candidate to fill our fellowship for 3-year Early Stage Researcher (ESR) positions (PhD-students) at BRC-premises who will work on developing a tracking device for detecting cardiac mechanics which will be validated in a preclinical setting. This PhD project will be part of the PIC project, which is an Innovative Training Network funded through the Marie Skłodowska-Curie actions of the EU.

**The Bakken Research Center** is Medtronic’s international center of excellence dedicated to (clinical) research and innovation. Employing over 30 scientists, engineers and technicians which are working closely with medical innovators in mainly European hospitals and universities to develop, build and study new devices or methods to "alleviate pain, restore health, and extend life". In addition, the CRHF Research & Technology department designs and builds custom-made devices for CRHF as well for the Neuro and Diabetes Divisions, addressing the needs of individual patients according the specifications provided by the physician or our academic partners. Within BRC, Richard Cornelussen is project specialist for Heart Failure research and Mirko De Melis is project specialist for diagnostics. With respect to our preclinical research we are working closely together with different academic centers across Europe but within this project we will be closely working with the Maastricht University (NL) and the Intervention centre in Oslo (NO).

**PIC** will educate young researchers (biomedical engineers) to become international experts in key areas of medical technology through a coordinated plan of individual research projects addressing specific topics in sensor+device technology and cardiac computer models to monitor function, guide therapy and aid in the diagnosing process. Multi-disciplinary dialogue and work between clinicians and biomedical engineers is crucial to address the challenges in this emerging field. By providing researchers with knowledge and training from specific topics in sensor+device technology, computational biology, biomedical engineering, research methodologies, innovation and entrepreneurship, the link between academic research and industry will be strengthened. The scientific and clinical goal of PIC is to improve methods for monitoring heart function and controlling pacemaker devices by miniaturized motion sensors as well as develop better diagnostic methods through personalised computer models incorporating anatomical and electrical data from each patient. For a more information of the PIC-project see: <http://picnet.eu>.

**The ESR position at BRC (Medtronic)**.

The F9 position within PIC has the objective to design the next generation of pacemakers for heart failure and/or arrhythmias. Thereto a new sensor needs to be developed/prototyped and subsequently tested and evaluated in a preclinical setting (together with F6 and F12 fellow) Close collaboration will be expected from the applicant with F2 fellow who will be performing computer simulations for better understanding of the signals derived from the novel cardiac sensors and eventually used for patient specific optimization.

**Qualifications**

* Must have a Master of science degree in one of the following fields: mechanics, electronics, computer science/informatics, physics, mathematics or related disciplines. And affinity with medicine, medical biology or related discipline, biomedical engineering.
* Good programming knowledge/experience with eg Matlab or similar or at least good capability to use spread sheet and/or database software.
* Knowledge and experience with data acquisition, signal processing and analysis is advantageous.
* Strong academic record with a weighted average grade of master’s or equivalent education with a grade of B or higher.
* Advantageous to have a special interest and competence within medicine or medical technology and research methods, in pre-clinical or clinical studies
* Emphasis on teamwork, innovation, being dynamic and enthusiastic as well as collaborating well with other members of a team.
* **Special rule for eligibility of ESR candidates: Early-Stage Researchers (ESRs)** shall, at the time of recruitment by the host organization, be in the first four years (*full-time equivalent research experience*) of their research careers and have not been awarded a doctoral degree. **Mobility Rule**: at the time of recruitment by the host organization, researchers must not have resided or carried out their main activity (work, studies, etc.) in the country of their host organization for more than 12 months in the 3 years immediately before the reference date. Compulsory national service and/or short stays such as holidays are not taken into account. As far as international European interest organizations or international organizations are concerned, this rule does not apply to the hosting of eligible researchers. However, the appointed researcher must not have spent more than 12 months in the 3 years immediately prior to their recruitment at the host organization.

Relevant certificates, including all grades, credits and marks and recommendation letters must be submitted along with the application. Certified copies of study credits with grades will be needed from those called to an interview.

For further information about position F9 please contact Richard Cornelussen ([richard.cornelussen@medtronic.com)](mailto:richard.cornelussen@medtronic.com)) or Mirko De Melis ([Mirko.deMelis@medtronic.com](mailto:Mirko.deMelis@medtronic.com))

Application deadline: 1st October 2017.