**Biomaterials Development for an In Vitro Hematopoietic Stem Cell Niche (Ref. BAP-2016-56)**

For an interdisciplinary research project among the Surface and Interface Engineered Materials division, the Stem Cell Institute, and the Biomechanics section at the KU Leuven, we are looking for a PhD student in the area of biomaterials, specifically the development of hydrogel-based and/or biofunctional materials. Candidates at the postdoctoral level may also be considered for this position.

**Project**

This position is part of an interdisciplinary project involving biomedical researchers, material scientists, and mechanical engineers to understand mechanisms that will allow us to generate proliferating, repopulating, and differentiating hematopoietic stem cells (HSCs). Combining data from transcriptome-interactome studies performed in the lab of Prof. Catherine Verfaillie with information on the biophysical characteristics of the in vivo HSC niche coming from the groups of Profs. Hans Van Oosterwyck and Herman Ramon, the PhD student will work in the research group of Prof. Jennifer Patterson to develop an in vitro HSC niche, using hydrogels as a cell encapsulation matrix. These 3D networks of polymers will be manipulated to control their mechanical properties as well as the incorporation of bio-molecules to mimic the in vivo niche. The goal is to allow immature HSC-like cells to fully mature and to allow control over HSC proliferation vs. differentiation. Specifically, the researcher will perform materials modification and functionalization, characterize the mechanical and morphological properties of the created hydrogels, and develop a platform for in vitro screening of HSC proliferation.

**Profile**

We are looking for a highly qualified and motivated PhD candidate (4 year position) with:

- a master’s degree in materials engineering, biomedical engineering, or a related domain
- good communication skills (oral and written) in English
- a collaborative attitude and interest in multidisciplinary research
- experience with biomaterials development and characterization and/or (stem) cell culture

We will also consider an enthusiastic, creative and independent postdoctoral researcher with a PhD in materials engineering, biomedical engineering, biomedical sciences, or a related domain; good communication skills (oral and written) in English; a collaborative attitude and interest in multidisciplinary research; and expertise in biomaterials development and characterization. For postdocs, preferred skills also include familiarity with (stem) cell culture and/or biochemical assays.

Applicants should use the online application tool to submit:

- An academic CV
- A short statement of research interests and career goals
- At least two references with their full names and contact information

If selected, the applicant will be asked to provide proof of English language proficiency test results if the candidate's mother tongue is other than Dutch or English.

**Offer**

The successful candidate will receive:

- A full-time PhD student position at an internationally renowned research university for 4 years (initial contract for 1 year, renewed annually)
- A competitive salary according to the relevant university salary scales
- Benefits including health insurance, access to university infrastructure and sports facilities, etc.
- The opportunity to attend conferences and participate in other training courses and teaching activities
- The opportunity to collaborate with top research groups, including the Stem Cell Institute

The expected start date for the position is April 1, 2016; however, this is flexible. The selected candidate will also be encouraged to apply for a personal fellowship/mandate, but this is not strictly necessary.

**Interested?**

For more information please contact Prof. dr. ir. Jennifer Patterson, tel.: +32 16 37 36 29, email: jennifer.patterson@mtm.kuleuven.be.


You can apply for this job no later than March 15, 2016 via the online application tool:

http://www.kuleuven.be/eapplyingforjobs/light/53633403