PhD vacancy on fibre-reinforced 3D printed composites, based on recycled polyethylene terephthalate (PET)

Where

The Department **Mechanics of Materials and Constructions** of the Vrije Universiteit Brussel invites candidates to apply for a vacancy as PhD Researcher (M/F).

Our research environment is situated in the capital of Europe, Brussels Humanities, Sciences & Engineering Campus, Pleinlaan 2, Brussels (http://www.vub.ac.be/english/infoabout/campuses/index.html).


Duration

A full-time job position for 4 years.

Job content

The PhD researcher will contribute in a large research project RELFICOM ‘Reliability of fibre-reinforced composites: materials design and variability’ part of the program NANOFORCE ‘Next generation nano-engineered polymer hybrids’, that is funded by the Flemish funding organization SIM (Strategic Initiative Materials – http://www.sim-flanders.be/). This project addresses the reliability of fibre-reinforced composites, through improved material design and through better understanding and controlling variability. This will lead to reductions in safety factors, and hence lighter and safer composite structures.

The department of Materials Engineering (MTM), Composite Materials Group (CMG) of KU Leuven (Dr. Y. Swolfs, Dr. L. Gorbatikh and Prof. S. Lomov) is the project coordinator. Other research partners are the department of Mechanical Engineering, Production engineering, Machine design and Automation group (PMA) of KU Leuven (Prof. D. Vandepitte), the Department of Organic and Macromolecular Chemistry, Polymer Chemistry & Biomaterials group (PBM) of UGent (Prof. S. Van Vlierberghe) and our Department of Mechanics of Materials and Constructions (MeMC) (Prof. L. Pyl and Prof. D. Van Hemelrijck). The project has six industrial partners (REIN4CED, Tridea, TWE, Toyota Motor Europe, Optimum CPV and Siemens Industry Software).

Our VUB-MeMC research group in close collaboration with the UGent-PBM group will focus on aspects of improved recyclability of composites by using/developing fibre-reinforced filaments in 3D printing based on recycled polyethylene terephthalate (PET).

The candidate should have a strong background in materials (mechanics, chemistry, characterization).
Research Environment

The Mechanics of Materials and Constructions Department consists of 4 full-time professors and 0.5 part-time professors, 5 postdoctoral researchers and 25 PhD students. The successful candidate can benefit from strong collaborative links with other universities (UGent, KU Leuven,...). Besides, 15 PhD students have successfully obtained their PhD degree in the last five years. The PhD student will also be assisted by a postdoctoral research fellow.

IF...

You hold a Master degree in Mechanical Engineering, Material science or a related field and want to contribute to innovations in fibre-reinforced 3D printed composites. A solid background in mechanics of materials, composite materials, and polymers is strongly recommended. Former experience with experimental material characterization is an advantage. You are interested to interact and collaborate closely with academic and industrial partners during the PhD study. You are a team-player and can work in an international environment using English as a scientific communication tool. You will be encouraged to publish in peer-reviewed international journals.

Timing

The PhD vacancy is a full-time job position for 4 years starting January 2018. Candidates should be highly motivated and have a Master degree. Deadline for application is 15 December 2017.

Application procedure

Your application should contain:
- A motivation letter with a concise statement of the reason for applying including an explanation why you want to do research
- A curriculum vitae in Dutch or English
- The title and abstract of your master thesis
- A transcript of records (Bachelor and Master degrees), course titles, number of credits and marks
- A copy of diplomas
- A proof of proficiency in English (TOEFL or IELTS certificate) for non-Dutch speaking applicants
- Contact details (name, affiliation, phone number and e-mail address) of two persons who can provide a reference on our request

You send the C.V. by post or e-mail to the following person:

LINCY PYL
Prof. dr. ir.
Vrije Universiteit Brussel
Faculty of Engineering Sciences
Dept. Mechanics of Materials and Constructions (MeMC)
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