



**Teaching assistant PhD position in the Electrical Measurement Laboratory
Department of Electrical Engineering & Computer Science, University of Liege (Belgium)**

**“Investigation of non-conventional geometry structures for
low frequency magnetic shielding using superconductors”**

The Department of Electrical Engineering & Computer Science at the University of Liege (Belgium) is seeking a motivated scientist for a teaching assistant PhD position. The work will include both research and teaching. The research part will be carried out in the Measurements and Instrumentation Laboratory in the area of applied superconductivity. The teaching will consist in supervising laboratories and /or exercise sessions for bachelor and/or master engineering students.

Research subject:

The project will concentrate on the development and the optimization of low frequency magnetic shields using superconductors. The work is motivated by today’s rapid emergence of powerful electric motors and engineering devices operating at several teslas, i.e. well above the saturation of ferromagnetic materials. Magnetic shielding in this regime can be achieved with superconductors. The PhD scientific project aims at identifying and understanding the magnetic shielding process within superconducting screens with ‘non-conventional’ geometries, i.e. those differing from the usual slab or hollow tube. The final goal is to be able to screen the high amplitude (> 1 tesla) stray magnetic fields emanating from high field electric motors and engineering devices.

Job description:

➤ For the research part:

- Development of electrical instrumentation for measurement of the magnetic and electric signals,
- Design and development of the cryogenic system for the characterization of the shields,
- Analysis and interpretation of the results,
- Optimization of the shields with ‘non-conventional’ geometries for improved high-field shielding,
- Publishing results in international journals and presenting them at international conferences.

➤ For the teaching part:

- Supervising laboratories and /or exercise sessions for bachelor and/or master engineering students, within the courses organized in the Department of Electrical Engineering & Computer Science.

Qualifications:

- Master of Engineering within electrical engineering, physics engineering, electro-mechanical engineering, mechanical engineering or equivalent;
- Experience and strong interest in instrumentation and practical laboratory work;
- Strong interest for teaching to bachelor and /or master students;
- Ability to work independently and to be a part of a dynamic group;
- Good communication skills in English, both written and spoken.

Application deadline and procedure:

The application deadline is **July 5, 2017**. The starting date is October 1st 2017. The terms of employment will be those of teaching assistant PhD students at the University of Liege. Please send your application including a full CV and contact details of two referees, to Philippe Vanderbemden (Philippe.Vanderbemden@ulg.ac.be). You can also contact him for further information about the position and the research project.