

FULL-TIME ACADEMIC POSITION IN Materials Engineering: Eco-Design and Recycling

ÉCOLE POLYTECHNIQUE DE BRUXELLES – BRUSSELS SCHOOL OF ENGINEERING

Reference : 2019/A013

Application deadline: September 30th, 2019

Start date: 01/02/2020

Job description

The School of Engineering (EPB) and the School of Bio-Engineering (EIB) of the Université libre de Bruxelles (ULB) wish to develop competencies in the field of materials engineering where the (eco)design of materials and products enhances their recycling and reduces waste. They are seeking to hire a high-level full-time experimental scientist able to integrate various facets of the field and to develop research projects at the cross point of materials engineering, bio-technology and technical aspects of circular economy. The candidate should have a general view of life cycle thinking and waste management including but not exclusively eco-design, waste as a resource, environmental impacts and up-scaling of technologies, with the intention to close the material loop. The type of waste materials to be considered is not defined and will depend on the candidate's experience: inorganic materials (metals, rare earths) and the issue of urban mining, organic materials such as (bio)polymers and their bio-degradability or composite materials with critical technological challenges. An integrative approach taking into account the environmental cost of the newly developed processes and technologies will be an asset.

The candidate will be integrated in the 4MAT laboratory that is well equipped for synthesizing, processing and characterizing materials and which has already activities in the field. He/she could also benefit of collaborations with teams of the School of Engineering and of the School of Bio-Engineering. Interaction with teams of the Institute for Environmental Management and Land-use Planning (IGEAT), and the Chemistry department of the Faculty of Sciences is also encouraged to develop integrative research projects.

In addition to the development of research projects, the candidate will be requested to teach classes at the bachelor and master's level.

Area of Research : Materials Engineering

Educational and scientific goals :

Scientific goals : The successful applicant will develop research activities in his/her domain of expertise in collaboration with the other members of the 4MAT laboratory as well as with other teams of the University. The research should contribute to the priority research topic of the Schools of Engineering and Bio-Engineering "Engineering and Sustainable Development".

The successful candidate will be invited to apply for a grant from the European Research Council (ERC) and for any sources of outside funding (Fonds National de la Recherche Scientifique, European Commission,

Regional funds including the GREENWIN competitiveness cluster which is specifically dedicated to this topic, ...) enabling him/her to develop their research. The ULB Research Department will assist with her/his applications.

Educational goals : The successful applicant will be active at the Bachelor's level and in Master's programs of the Schools of Engineering and Bio-Engineering. The teaching duties include lectures, exercise and laboratory sessions as well as industrial visits. Proposing and supervising students' projects and master theses are part of the position.

Courses covered at the time of recruitment :

The successful applicant will be expected to have sufficient expertise to participate in the following courses (lectures and/or practical sessions)

- CHIM-H-522: Recycling of Materials (5 ECTS) (MA block2 Materials and Chemical Engineering), Bruface
- CHIM-H-XXX: Engineering aspects of circular economy (5 ECTS) (MA block2 Materials and Chemical Engineering), Bruface
- ENVI-F-438: "Economie circulaire" (3 ECTS) (MA block1 Science et Gestion de l'Environnement).

In the framework of the ULB-VUB Bruface Master in Chemical and Materials Science Engineering, several courses are taught in English.

The successful applicant will have the opportunity to adapt courses in agreement with her/his domain of research.

Teaching duties may be reviewed periodically and are subject to modification over time.

Qualifications required :

PhD degree (with doctoral thesis) in Engineering (Chemistry or Materials Science), in Bio-Engineering, or in Chemistry

Skills required

- Required Research Experience:
 - Chemical or Materials Engineering, Bio-Engineering, Chemistry, minimum 4 years of experience
 - Doctoral or post-doctoral stay outside of the institution in which the Master or PhD was awarded during at least 12 months
- Exchange periods outside of the applicants' home institution (during or after their PhD) will be taken into consideration when evaluating applications.
- Applicants who do not speak French (level C1) may be granted a period of adaptation, but they must be able to teach in French at the end of the third year following their appointment.
- Required languages:
 - English: Minimum good to Excellent

Interested?

For more information, please contact Professor Stéphane GODET (phone: +32 2 6503648, email: sgodet@ulb.ac.be) or Professor Marie-Paule DELPLANCKE (phone: +32 2 6502902, email: mpdelpla@ulb.ac.be), 4MAT Laboratory.

Applications must be sent by e-mail to the rectorate of the Université Libre de Bruxelles (recteur@ulb.ac.be) and to the faculty deanship (le-doyen-polytech@admin.ulb.ac.be).

They must include the following:

- an application letter
- a Curriculum vitae including a list of publications (a template can be downloaded at <http://www.ulb.ac.be/tools/CV-type.rtf>)
- any relevant documents showing 4 years of research experience
- a 7,000-character report (4 pages) presenting the applicant's research activities and a research project, including how these will integrate into ULB's research teams
- a teaching dossier including a 7,000-character report (4 pages) on the applicant's previous teaching activities and a teaching project for the first five years in this position; these must be relevant to the faculty and to the teaching profiles for the programs to which the applicant is to contribute
- a note on the applicant's international achievements and projects (no more than 4 pages)
- the names and e-mail addresses of five referees (respecting the gender balance) who may be contacted by those in charge of evaluating applications. These referees should not have conflicts of interest because of family or emotional ties.

The appointment to the academic staff of ULB is made at "Premier Assistant" level, if the candidate has had a PhD for less than eight years (on 1 October of the year of appointment). If the candidate has had a PhD for eight or more years, on 1 October of the year of appointment, then the appointment is made at "Chargé de Cours" level. As of their appointment, members of academic staff are authorised to use the honorary title of "Professeur".

By sending in their application, applicants acknowledge they have read and understood the additional information and the regulations relevant to research staff, available at the following address <http://www.ulb.ac.be/emploi/academique.html>.