FULL-TIME ACADEMIC POSITION IN DESIGN FOR SUSTAINABILITY

École Polytechnique de Bruxelles

Reference: 2027/A015
Application deadline: 04/01/2027 12:00 PM
Start date: 01/10/2027

Job description

Occupancy: 100% Professorship.

Tenure Track: The starting contract is 3 years. After the first 3-year period, an evaluation of the scientific and teaching activities will be carried out. Following a positive evaluation, the position will become tenured.

Area of Research: sustainable design and manufacture of products and systems, preferably applied to medical devices

Design for Sustainability covers design practices that contribute to sustainable development along its three pillars: environmental, social and economic. It includes and goes beyond sustainable product design, and relates to a number of neighbouring fields: ecodesign, circular design, frugal innovation and low-tech approaches. It mobilises assessment methodologies, such as life-cycle assessment, and design methodologies, such as design for disassembly, design for repair and design for end of life, to analyse and reduce the impact of a product or service over its entire life cycle. The field is recent, rapidly evolving and intrinsically multidisciplinary.

The candidate will develop activities in the design and manufacturing of electromechanical systems, articulating sustainable design methodologies with the practice of design, from concept to functional prototype. Application domains related to medical devices are particularly welcome.

The recruited candidate will join the BEAMS department's Biomechatronics research unit, which develops medical devices from idea to patient and has launched an ecodesign activity. The methodologies developed in the position also apply to the Faculty's other design-oriented departments[1].

Prototyping, software and testing equipment are available at BEAMS and more widely across the Faculty, as well as within ULB-wide platforms such as the ULB Fablab (including Frugal Lab and JurisLab) and the micro-milli experimental platform. In addition to leading innovative research in the sustainable design and prototyping of (medical) devices, the candidate will establish new cross-unit collaborations within the Faculty.

Design for Sustainability is gaining strong momentum, particularly with the European Ecodesign for Sustainable Products Regulation, which opens funding opportunities, from fundamental to applied research,

[1] The list of the fields of research and laboratories associated with the École polytechnique de Bruxelles is available at: https://polytech.ulb.be/fr/recherche/fields-of-research

at the regional and European level, as well as with industrial partners. The successful candidate must demonstrate a capacity to build a research programme able to attract such funding.

Educational and scientific goals: The successful candidate will teach design methodology across three programmes, the common core of the Bachelor in Engineering, the Electromechanical Engineering programme and the Biomedical Engineering programme, with a focus on sustainable design and manufacturing methodologies, in line with the sustainability competence of the Bachelor teaching profile. The biomedical dimension is part of the profile: contributions are expected to teaching activities and student projects dealing with the design of medical devices.

Beyond core teaching duties, the candidate will propose and supervise student projects at all levels of the curriculum, including transdisciplinary Bachelor projects, Master projects and Master's theses. The candidate will also be expected to play an active role in the life of the programmes, contributing to curriculum development, taking part in programme committees, and supporting broader educational initiatives within the faculty.

Courses to be delivered during the first year in post:

- MECA-H409: Design Methodology (5 ECTS), centred on design methodologies, to be steered towards sustainable design and manufacturing methodologies[2].
- Triaxes, an interfaculty project centred on design methodology and entrepreneurship, in which multidisciplinary teams of master's students in engineering, management, law and industrial design take a product idea from concept to pre-industrial prototype and business plan. Three to five teams run each year, each of four students who carry out their master's thesis within the project. The candidate will sit on the panel of supervising professors (engineering, management, law and industrial design) as the engineering representative. Each team is followed by the full panel.

In the years following the appointment, the candidate is expected to build up a full teaching load. This may involve taking over existing courses, contributing to them, or proposing new ones in agreement with the programme committees. Courses to which the profile could naturally contribute include:

- Mécanique rationnelle I and II (MECA-H100, MECA-H200), Cinématique et dynamique des machines (MECA-H303), Méthode d'ingénierie durable (MECA-H2000), Systèmes énergétiques : principes de bases et technologies durables (MECA-H301);
- Biomedical Engineering: Active medical devices (ELEC-H424) and Development cooperation project (PROJ-H417).

Information related to these courses (e.g., course content, teaching language and load) can be found at: https://www.ulb.be/en/programme/ba-ircib, https://www.ulb.be/en/programme/ma-ircb and https://www.ulb.be/en/programme/m-iremr.

Qualifications required

PhD Degree (with doctoral thesis) in Engineering.

Applicants should have a strong background in the mechanical design of products and systems, demonstrated through doctoral or postdoctoral research, or through equivalent experience in industry.

Skills required

- Applicants should have at least 4 years of research experience at the time of their recruitment.
- Post-doctoral experience and an excellent scientific record are a plus.

[2] https://www.ulb.be/en/programme/meca-h409

- Exchange periods outside of the applicants' home institution (during or after their PhD) will be taken into consideration when evaluating applications.
- Capability to teach in English (C1 level) at the time of appointment. Applicants who do not speak French at C1 level may be granted a period of adaptation, but they must be able to teach in French by the end of the third year following their appointment. A training budget will be made available to the successful candidate; if French is not yet mastered, it will be used to prioritise French language training.
- Good teaching and pedagogical capabilities and commitment to improve and hone teaching skills.
- Excellent scientific record in the field of the position, demonstrating both methodological rigour and practical design experience.
- Good capability to collaborate with colleagues, also from different fields and backgrounds, in line with the multidisciplinary nature of the field.
- Proven ability to obtain or participate in the obtention of research project funding.

Interested ?

For more information, please contact Prof. Antoine Nonclercq (telephone: +32 2 650.30.86 – E-mail: antoine.nonclercq@ulb.be).

Your application will consist of a Curriculum Vitae*(if you wish, a standard CV can be downloaded from the website: https:* //www.ulb.be/fr/documents-officiels/emplois-academiques-et-scientifiques-cv-type) and a document completed using the template available at this URL address https://www.ulb.be/fr/documents-officiels/1e-applic-form-acad-tps-plein-docx.

This template structures your application by including the following elements:

- an application letter;
- 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 and make use of the BEAMS Biomechatronics, micro-milli and FabLab facilities;
- 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 programmes 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.

Incomplete applications or applications that do not use the template provided will not be examined by the selection committee.

The appointment to the academic staff of ULB is made at "Chargé de Cours" level. As of their appointment, members of academic staff are authorised to use the honorary title of "Professeur".

Where to go to apply?

Click here: https://jobs.ulb.be/job-invite/2100/?isInternalUser=true

For any connection problems or questions about our application, consult our FAQ : e-recrut-mode-d-emploi-candidat-en-_1734942996246-pdf

N.B.: SAP complies with European and U.S. regulations and, as a result, does not allow access to its application from the following countries/regions: Crimea, Sevastopol, the Donetsk People's Republic (DNR)

/ Luhansk People's Republic (LNR), areas not controlled by the Ukrainian government in the Kherson and Zaporizhzhia regions, Cuba, Iran, North Korea, Syria, Russia, and Belarus.

Therefore, candidates applying from these countries – and only from these countries – can submit their CV and application to this address: rectrice@ulb.be

Equal opportunities policy

ULB's personnel management policy is geared towards diversity and equal opportunities.

We recruit candidates on the basis of their skills, irrespective of age, gender, sexual orientation, origin, nationality, beliefs, disability, etc.

Would you like to be provided with reasonable accommodation in the selection procedure because of a disability, disorder, or illness? Please contact Marie Botty, the person in charge of diversity aspects for the academic and scientific staff (marie.botty@ulb.be). Be assured of the confidentiality of this information.

More details on the ULB gender and diversity policy are available at Diversity at ULB - ULB.

You will find all the regulations relating to academic careers on our site at http://www.ulb.ac.be/emploi/academique.html.

EURAXESS SPECIFIC INFORMATION

Main Research Field: Engineering

Sub Research Field: Design engineering, Mechanical engineering, Biomedical engineering

Required educational level: PhD degree in Engineering.

Required Languages :

English: Excellent

Type of contract: temporary

Hours per week: 38

Required Research Experiences: Engineering – 4 years
Researcher profile: Experienced researcher - R3 (4 – 10 years)

Additional requirements :

- Applicants should have a strong background in the mechanical design of products and systems, demonstrated through doctoral or postdoctoral research, or through equivalent experience in industry.
- Applicants who do not speak French at C1 level may be granted a period of adaptation, but they must be able to teach in French by the end of the third year following their appointment.

FICHE ADMINISTRATIVE

qui doit impérativement accompagner la vacance

n° de vacance: 2027/A015

Domaine : Sciences de l'ingénieur et technologie

Discipline: Conception soutenable (Design for Sustainability)

Poste au cadre : 27-C-ORD-025 (H) 1.00 ETP (ex Delchambre)

Poste SAP : 41897603

Références CoA : 23/11/26

Rattachement Enseignement : HM020 – UE Systèmes bio et électromécaniques (BEAMS)

Rattachement Recherche : HM015 – UR Bio Mechatronics