

FULL-TIME ACADEMIC POSITION

FACULTY OF APPLIED SCIENCES

FIELD: "POWER-TO-FUEL"

START DATE: 01/09/2024

JOB DESCRIPTION

A **full-time academic position**, indivisible position, in the field of "Power-to-fuel" within the Department of Chemical Engineering of the Faculty of Applied Sciences. This position includes teaching and research activities as well as services to the community.

TEACHING ACTIVITIES

As an example, the skills of the future teacher (M/F/X) could naturally and usefully be expressed in the following courses:

- ▶ Power-to-fuel systems
- ▶ CO₂ capture, utilisation and storage
- ▶ Energy and sustainable development

Participation in the supervision of integrated projects for master students in chemical engineering and energy engineering is also expected.

Candidates may also propose to develop specific teaching(s) exploiting synergies with his/her specific research.

He/She will also participate in the supervision of internships and graduate work in his/her field of research.

The teaching load may not exceed 250 hours per year (including practical work and seminars).

RESEARCH ACTIVITIES

The successful candidate (M/F/X) will develop research in the field of " Power-to-fuel " and supervise doctoral research work in this field.

- ▶ The energy revolution is one of the greatest challenges of our generation, and the long-term storage of renewable energy is clearly one of the missing building blocks of energy systems. For this long-term storage, the most appropriate vector is the chemical molecule, given the fantastic energy density of fuels. These "defossilized" fuels play a significant role in the vast majority of studies and energy scenarios for the future, both in Belgium and worldwide. In particular, power-to-fuel studies the synthesis of efuels - synthetic fuels - in three stages: (i) the production of hydrogen from renewable electricity, (ii) the use of CO₂ as a carbon source, and finally (iii) the chemical reaction to produce these molecules (natural gas, methanol, diesel or synthetic gasoline, etc.).
- ▶ To answer the scientific and technical questions that arise, a multilateral approach drawing on broad expertise in the above-mentioned fields is a must. Among the research topics identified are: (i) the experimental study and design of power-to-fuel processes, (ii) the integration of power-to-fuel processes within multi-vector systems and (iii) the use of the university campus as a large-scale laboratory.

SERVICES TO THE COMMUNITY

Candidate will participate in service activities to ensure the outreach of the activities developed within the department of Chemical Engineering. He/She will:

- ▶ Ensure the valorization of his/her work within research networks, companies and public institutions active in his/her field of expertise,
- ▶ Contribute to the smooth running of the Department, the Faculty of Applied Sciences and the University of Liège through its various bodies.

Active participation in the Energy section of EFCE (European Federation of Chemical Engineering) is also expected.

QUALIFICATIONS REQUIRED / PROFILE

- ▶ Hold a PhD with thesis in a field directly related to the expected research activities;
- ▶ Have international research experience and publications in established journals;
- ▶ Be able to teach in English.

SELECTION PROCEDURE

Applications will be pre-selected on the basis of the candidate's file by a selection committee created by the Faculty of Applied Sciences. Successful candidates will then be invited to an audition that will include a sample lesson, a presentation of their research project and a general discussion with the selection committee.

In line with the University of Liège's institutional policy of diversity and equal opportunity, applicants are selected on the basis of their qualities, regardless of age, sexual orientation, origin, beliefs, disability or nationality.

APPLICATIONS

To be eligible, applications must be submitted via the online form available on the website [www.uliege.be/...\(*\)](http://www.uliege.be/...(*)). Complete applications must be submitted **by 15/02/2024 at 23:59 (Belgian time)**.

DOCUMENTS REQUIRED

The following documents, written in French or English, must be provided in electronic format (pdf) in support of the application:

- ▶ Motivation letter
- ▶ Curriculum vitae
- ▶ A copy of diplomas and certificates
- ▶ A list of the 5 main publications and a description of their contribution to the state of the art ;
- ▶ A report on previous and current research activities, as well as a research project, including the envisaged insertion within the University of Liege ;
- ▶ A teaching dossier including a report on any previous teaching activities and a teaching project ;

CONDITIONS OF EMPLOYMENT

The position is awarded either for a fixed term of four years, or immediately on a permanent basis.

If a fixed term contract is awarded, an evaluation will be carried out at the end of the third year. If the evaluation is negative, the appointment will be terminated at the end of the four-year period. If the evaluation is positive, the appointment becomes permanent.

INFORMATION

Any information concerning academic activities can be obtained from the Professor **Benoît HEINRICHS** – Phone: +32 (0)4 366 35 05 – B.Heinrichs@uliege.be

Additional information may be obtained from: **Ms Aurélie LECCA**, Administrative Director of the Faculty of Applied Sciences – Phone: +32 (0)4 366 94 68 – Aurelie.Lecca@uliege.be

REMUNERATION

The salary grids and their rules of application are available from the Human Resources department of the University: **Ms Ludivine DEPAS** – Phone: +32 4 366 52 04 – Ludivine.Depas@uliege.be

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(*) : complété par le service des Affaires académiques