

PERMANENT FULL-TIME SCIENTIFIC POSITION

GEMBLOUX AGRO-BIO TECH

FIELD: PRODUCTIVE WATER IN AGRICULTURE

START DATE: 01/10/2023

JOB DESCRIPTION

The job of first assistant in the field of productive water in agriculture within the Department of Gembloux Agro-Bio Tech.

Water is, more than ever, a crucial issue for agriculture. Regardless of the region of the world, it is generally the main factor determining agricultural production. Improving the resilience of agricultural systems to address edaphic drought situations or excess water cover various strategies including the choice of crops or combinations of crops, soil management practices, techniques to arrange plots of land in line with the landscape and reasonable use of efficient irrigation techniques.

Under the general theme of “productive water in agriculture”, research will focus on the effect of agricultural practices on the hydrodynamic operation of soils in different production systems, both in temperate and tropical contexts, taking a systemic approach to soil health (taking into account practices such as (not) working the soil, fertilisation, managing weeds, residues, synergies and competition between mixed crops ...) with the aim of ensuring optimal crop production.

TEACHING ACTIVITIES

Teaching activities consist of contributing to the cours in Edaphology (3 ECTS in the Bachelor of Engineering Sciences, bioengineer speciality, “Environmental Sciences and Technologies) and “Forest and Natural Spaces Management”), pedogenesis, hydrodynamics of soils and international guidance (6ECTS, Masters in Bioengineering in Environmental Sciences and Technologies) and will also aim to develop contributions to programmes other than this Masters which require the theme of productive water in agriculture, in collaboration with the teaching teams.

In addition, the successful applicant will coordinate the technical internship for the Masters in Bioengineering in Environmental Sciences and Technologies.

RESEARCH ACTIVITIES

The research activities specific to the position will focus on the effect of agricultural practices on the hydrodynamic functioning of soils in different production systems, both in temperate and tropical contexts, taking a systemic approach to soil health (taking into account practices such as (non-)working the soil, fertilisation, weed management, residues, synergies and competition between mixed crops, etc.) with the aim of ensuring optimal crop production.

In addition, in collaboration with the "Water-Soil-Plant Exchange" branch of Gembloux Agro-Bio Tech, the research will contribute to the following themes

- Reasonable irrigation techniques including a gradient of technologies, from keyline design type landscape approaches to irrigation networks, including strategies for optimising deficit irrigation;
- interactions between biogeochemical cycles of elements, such as carbon and nitrogen, and the hydrological cycle on different spatial and temporal scales

- the processes and factors determining the ecosystem services provided by soils on the catchment scale, such as water conservation, protection against erosion and flooding, climate regulation through carbon storage
- Interaction between terrestrial and aquatic spheres (surface and groundwater flows, evaporative flows), under a variety of climatic conditions, notably by means of spatial data, such as drone/satellite images (e.g. sentinel) and maps (e.g. digital maps of soil type/land use);
- Interactions between stakeholders and users of water and related resources (e.g. farmers, policy makers, civil servants, etc.).

SERVICES TO THE COMMUNITY

The successful candidate will be actively involved in the Faculty's communication activities, in particular to raise the profile of their field of research but also to promote studies and training.

They will be a contact point for their field in the various research mechanisms set up within the CAREs Teaching and Research Support Units)

They will be available for communication activities, particularly with the press.

Other community service activities will be determined in consultation with management.

QUALIFICATIONS REQUIRED / PROFILE

- ▶ Hold an undergraduate degree in agricultural (or bioengineering) or civil engineering, or an equivalent university master's degree, and also hold a research doctoral degree and have experience in the relevant field.
- ▶ Have a recognised scientific experience, both in the field and through publications of international level, in the relevant field.
- ▶ Be internationally open (having completed a scientific stay abroad of at least six months is an advantage).
- ▶ Good teaching skills (teaching experience is an advantage).
- ▶ Demonstrate an ability to work on interdisciplinary themes.
- ▶ Be able to work independently and as part of a team, with shared human and material resources within the GxABT structures, and have excellent organisational and technical staff coordination skills.
- ▶ Be available for various community service and extension functions.
- ▶ Be fluent in English and French (including writing skills).
- ▶ Be available for missions abroad.
- ▶ Subscribe to the general quality objectives developed by the University and the Faculty.
- ▶ On appointment, sign an agreement on the ownership of research results.

SELECTION PROCEDURE

An ad hoc Faculty committee selects the candidates to be interviewed, giving reasons for its decisions in the light of the vacancy and the candidates' qualifications and merits. It will interview the candidates. The committee submits to the Faculty Council its proposal for appointment on the basis of the evaluation of the application files and the interviews.

On the basis of the information communicated by the committee and a comparison of the candidates' respective qualifications and merits, the Faculty Council adopts a proposal for the appointment or closure of the post, which it forwards to the decision-making bodies of the University of Liège.

Our institutional policy is based on diversity and equal opportunity. We select candidates based on their qualities and regardless of their age, sexual orientation, origin, beliefs, disability or nationality.

APPLICATIONS

Applications should be made using an on-line form available at: https://my.uliege.be/portail/go_xt.do?a=o%7C11004%7Ce%7C529596 specifying the job reference number no later than 31/03/2023 (before midnight Belgian time). Late applications may be refused.

DOCUMENTS REQUIRED

- ▶ Cover letter
- ▶ Curriculum vitae
- ▶ A copy of the most representative publications (maximum 5)
- ▶ A report on prior and current research and teaching activities (maximum 5 pages)
- ▶ A research project including envisaged integration within the University of Liège (maximum 5 pages)
- ▶ Teaching plan (maximum 5 pages)
- ▶ Plan to develop services to the community (maximum 2 pages)

CONDITIONS OF EMPLOYMENT

The position is awarded either for a fixed term of four years maximum, which may lead to a permanent appointment after an evaluation, or immediately on a permanent basis.

INFORMATION

Further information may be obtained from: **Mr Frédéric FRANCIS**, Dean of the Faculty, only at the following e-mail address decanat.gembloux@uliege.be

REMUNERATION

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

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