POSTDOCTORAL POSITION (M/F/X)

NOVEL APPROACHES FOR MODELLING FLOOD RISK AND CASCADING EFFECTS

START DATE: FROM NOVEMBER 2025 TO JANUARY 2026
DEADLINE: POSITION WILL REMAIN OPEN UNTIL FILLED

Located in the French-speaking part of Belgium, the University of Liège welcomes nearly 27,000 students of 123 different nationalities in a dynamic, multicultural city less than an hour away from Brussels and Cologne, two hours from Paris and three hours from London and Amsterdam. ULiège is spread across 4 campuses and boasts over 5,700 staff members, including 3,600 teachers and researchers active in all areas of the humanities and social sciences, science and technology, and health sciences.

As a key player in social change and environmental awareness, ULiège promotes ethical, transdisciplinary and open science. It contributes to the socio-economic development of its region through numerous partnerships with several institutions, including the university hospital (CHU). Given its international orientation, the University participates in the European University of Post-Industrial Cities (UNIC) initiative and has one of the most extensive collaborative networks in the world.

ULiège offers attractive career prospects in a high-quality working environment where well-being, diversity and equality of opportunity are promoted. Since 2011, ULiège has been proud to display the European *Human resources strategy for researchers* (HRS4R) label, which reflects its commitment to open, transparent and merit-based procedures. In addition, it upholds quality and diversity in line with the recommendations of the *Coalition for Advancing Research Assessment* (CoARA). ULiège encourages its academic staff to travel internationally and welcomes international researchers through its EURAXESS center.

ABOUT THE RESEARCH PROJECT

The group HECE leads basic and applied research in the fields of hydrology, flood risk management, hydraulic engineering as well as fluvial hydrodynamics. The research builds upon a tight coupling between computational modelling and laboratory experiments.

The group develops the modelling system WOLF, which includes rainfall-runoff models as well as 1D and 2D flow and transport models. It is based on an in-house finite volume numerical scheme (GPU accelerated) and is equipped with a dedicated GIS-type user interface. WOLF is routinely used for education, consultancy, and research (link). The group also operates a unique experimental facility, equipped with state-of-the-art measurement techniques.

The group HECE is part of the Research unit Urban & Environmental Engineering (link), with 25 faculty staff and 100+ researchers.

JOB DESCRIPTION

The research position primarily focuses on the following topics.

- **Modelling the hydrodynamic effects of bridge clogging by floating debris**: designing novel laboratory experiments enabling the observation of how inundation flows are altered by the occurrence of bridge clogging due to floating debris, development of process-based models, models testing and coupling with an operational 2D hydrodynamic model, application to real-world case studies.
- **Stress testing temporary flood storage systems**: design and implementation of surveys with stakeholders about current practices and guidelines, end-to-end modelling of the performance of temporary flood storage systems (from rainfall to flood damage and risk), assessment and analysis of residual risk, procedures for semi-automatic optimal positioning of temporary flood storage systems based on multi-criteria analysis.

SPECIFIC DUTIES AND ACTIVITIES

MAIN TASKS

- Research on modelling flood risk and cascading effects
- Writing publications and scientific reports
- Participation in scientific events (e.g., project meetings, conferences)

OCCASIONAL TASKS

- Contribution to teaching
- Supervision of master projects and internships related to the research
- For postdoctoral researchers: co-supervision of PhD students
- Assistance/collaboration in organizational and administrative tasks
- Writing proposals
- Contribution to applied engineering projects

PROFILE

- **REQUIRED SKILLS :**
  - Candidates must have completed their PhD within the last 6 years
  - Background in civil engineering, environmental engineering, geosciences, environmental physics, applied physics, data sciences or a related field.
  - Proficiency in computer programming (e.g., Python …)
- **LANGUAGES :**
  - Fluency in English
  - Basic knowledge of French is an asset but is not compulsory

OUR OFFER

Fully funded position for two years (annual contract renewal, after a trial period of three to six months). Basic gross monthly salary for full-time work equivalent to about 5,500 EUR.

Based on your career path and personal details, ULiège Human Resources Department will determine the exact gross monthly salary. Employment benefits such as reimbursement of public transportation fees and access to a variety of training opportunities are also included.

For more information about training, you may refer to this link.

Dynamic working environment, with stimulating scientific support, state-of-the-art facilities, and advanced computational modelling tools.

▶ WORK ENVIRONMENT

University of Liège complies with the European HR Strategy for Researchers (HRS4R), creating an inclusive and supportive research environment through a free assistance offered to incoming researchers and their families. For more details about what ULiège can offer you as a foreign researcher, please see https://www.recherche.uliege.be/cms/c_9281209/en/mobilite-euraxess or contact: euraxess@uliege.be.

HOW TO APPLY?

Interested candidates should apply by filling in this online form :
https://forms.office.com/e/bP5s1aSWvy

Short-listed candidates will be invited to take part in an interview at the University of Liege.

Position will remain open until filled; but the selection will start from September 30th, 2025. Starting date is expected in the period from November 2025 to January 2026.

Our corporate policy is based on diversity and equal opportunity. We select candidates on the basis of their skills and do not discriminate on grounds of age, sexual orientation, origin, beliefs, disability or nationality.

CONTACT DETAILS

Informal inquiries about the project are welcome. Please feel free to contact prof. Benjamin Dewals by email (b.dewals@uliege.be) or phone (+3243669283).

Release date: 11/09/2025

Privacy policy

The personal data collected follow your application will be processed by the research unit Urban & Environmental Engineering of the University of Liege for the purpose of organizing the selection and recruitment.

These data will be processed based on the execution of pre-contractual measures (art. 6-1, b. of the RGPD)

These data will be kept for the duration of the selection procedure and, at the most, 9 months after the publication of the job offer. This data will not be passed on to third parties.

In accordance with the provisions of the General Data Protection Regulation (EU 2016/679), you may exercise your rights relating to this personal data (right of access, rectification, deletion, limitation, and portability) by contacting the ULiège Data Protection Officer (dpo@uliege.be - Mr. Data Protection Officer, Bât. B9 Cellule "GDPR", Quartier Village 3, Boulevard de Colonster 2, 4000 Liège, Belgium). You also have the right to lodge a complaint with the Data Protection Authority (https://www.autoriteprotectiondonnees.be , contact@apd-gba.be).