



PhD position within Horizon Europe MSCA Doctoral Network “BEYOND”: Impact of low flows and intermittency on nutrient and carbon processing in fluvial networks

This fully funded PhD position is available under the recently launched Horizon Europe Marie Skłodowska-Curie Action (MSCA) Doctoral Networks (DN) project “**BEYOND**” Beyond the current: Improving European flowing waters in an era of global change. BEYOND will train the next generation of water professionals who will deliver scientific and technological innovation across disciplines, institutions and countries needed to solve European water quality problems in an era of global change.

This PhD position aims to investigate the impact of low flows and intermittency on stream metabolic activity, water chemistry and the capacity of streams to process carbon and nutrients. The research involves evaluating the spatiotemporal extent of low-flow conditions and the variability of stream water chemistry across different intermittent fluvial networks. You will use a combination of field and laboratory empirical approaches to measure in-stream carbon and nutrient cycling and associated greenhouse gas emissions. These measurements will help to assess how in-stream bioreactive capacity changes with varying land uses and hydrological conditions. You will run hydrochemical models to explore changes in stream water quantity and quality under future scenarios of water scarcity. The insights gained from this work will contribute to design more effective water monitoring strategies for intermittent fluvial networks and provide recommendations to water stakeholders for ensuring water quality in these highly vulnerable aquatic systems.

As part of this PhD position, you will have an opportunity to take part in short visits and secondments to BEYOND partners (Institut Agro Agrocampus Ouest Rennes, France; Teagasc-Agriculture and Food Development Authority, Ireland; and others) for additional training and knowledge exchange.

The project will be supervised by Susana Bernal (Center of Advanced Studies of Blanes from the Spanish Research Council, CEAB-CSIC) and co-supervised by Per-Erik Mellander (Teagasc-Agriculture and Food Development Authority, Ireland) and Ophélie Fovet (French Research Institute for Agriculture, Food and the Environment, INRAE, Rennes, France).

The position duration is three years. You will be based at the Center of Advanced Studies of Blanes (CEAB-CSIC) (<https://www.ceab.csic.es/es/>) located in Blanes, Spain.

More information on BEYOND project and PhD selection process can be found at the following websites: <https://cordis.europa.eu/project/id/101169293> and <https://www.slu.se/en/departments/soil-environment/research/research-projects/beyond/>

Qualifications

The candidates must have an MSc (or an equivalent) degree in environmental sciences, stream ecology, hydrochemistry or related disciplines. A solid background in GIS and statistical data analysis is an important asset.

- Have potential for conducting outstanding research, as demonstrated by scientific accomplishments (in particular quality of MSc thesis, but also e.g. code repositories, conference presentations, outreach activities, or publications).
- Be interested in working in a multidisciplinary and international research environment.
- Have excellent communication skills in English, verbally as well as in scientific writing.
- Be willing to undertake international travel for training and research activities of BEYOND and project-specific short-visits and secondments at partner institutions.

Eligibility criteria

Candidates must also meet the following criteria:

- 1) be of any nationality, but must not have resided or carried out main activity in Spain, for more than 12 months in the last 36 months;
- 2) have not yet been awarded a PhD degree.

All interested candidates irrespective of age, nationality, gender, race, disability, religion or ethnic background are encouraged to apply. The work language will be English.

Selection process

The applications must be received by 15th of March 2025 including the following documents (all strictly in PDF format):

- Curriculum vitae,
- Master [alternatively, the expected graduation date of Master degree] and Bachelor diplomas (in a single PDF file),
- Master and Bachelor grades' transcripts (in a single PDF file),
- Motivation letter stating your specific interest, motivation and qualifications for the project in question (max 1 A4 page),
- A research statement describing how your expertise and previous experience align with the PhD project objectives (200 words),
- The names of at least two reference persons (provide names and contact details) who can provide information on your research performance.

The applicants must fill the BEYOND application form following the URL below

<https://forms.gle/rKrwomLcZr7Dwm9L9>

The applicants are encouraged to apply for up to three different BEYOND PhD positions but please note that you have to apply for them separately via relevant institutional websites. Please check the details at <https://www.slu.se/en/departments/soil-environment/research/research-projects/beyond/>

Salary

The monthly gross salary consists of a country-dependent living allowance, a mobility allowance, and, if applicable, a family allowance. Long-term leave allowance and special needs allowance are offered if applicable. In Spain, monthly living allowance is 3100€.

Timeline

The expected start date for this position is between 1st of July and 30th of September 2025.

Candidates selected for interviews will be contacted within 1 month from the closing date.