

POST-DOC POSITION:

SMART SENSING AND MONITORING IN URBAN DRAINAGE

Project context

Co-UDlabs project – 2021/2025

We urgently need innovation to tackle challenges posed on Urban Drainage Systems (UDS) by the climate emergency, urbanization, deterioration and economic sustainability. Knowledge on their state and processes is limited, leading to potential public health threats caused by untreated stormwater releases, emerging pollutants and pathogens. Large-scale laboratory facilities are important to investigate and validate innovations, and provide confidence in their effectiveness and safety. The H2020 European project CO-UDlabs seeks to integrate 17 key large scale research facilities at a European scale into an exciting program aiming to offer the R&D community, water infrastructure operators and their supply chain access to high quality laboratory and field facilities. Human resources, high level training opportunities and improved data sharing platforms will also be provided through the project.

The Co-UDlabs consortium comprises 4 Universities (University of A Coruña (Spain), University of Sheffield (UK), INSA Lyon (France) and Aalborg University (Denmark), all with world-class urban water research groups, combined with 3 leading national research institutes (Deltares (Netherlands), EAWAG (Switzerland) and IKT (Germany)). The consortium also includes GRAIE, a non-profit organization with proven abilities in creating partnerships between industry, water utilities, policy-makers and the researchers from public institutions, and the specialized multi-sectorial SME EURONOVIA.

Co-UDlabs is funded by the EC Horizon 2020 Research and Innovation Programme (contract No 101008626).

Job description

Interested in contributing to Co-UDlabs, developing your skills and extending your collaborative network across Europe?

The recruited person will mainly work on two Joint Research Activities:

- Smart sensing and monitoring in urban drainage. This involves field and laboratory work on evaluation of sensors and new data sources for hydraulics, pollutant load monitoring and asset inspection. Smart methods and tools will be developed to improve the evidence base for reliable and validated monitoring data. This includes space distributed monitoring and data interpretation.
- Improving resilience and sustainability through development of consensus on measurement of hydraulic and water quality performance of urban drainage technologies. This involves improved sensor calibration, data validation and uncertainty assessment.

In collaboration with INSA and Co-UDlabs partners, the recruited person will define detailed objectives and build a workplan, as well as launch and coordinate internal and external user groups of tested sensors and developed codes. It will also include the coordination of partners, the organisation of meetings and the production of project reports.

Required diploma

PhD degree, or Master of Science / Engineer diploma with experience, or equivalent work experience.

Expected experience and skills	<ul style="list-style-type: none">- Experience in metrology and monitoring of urban drainage and stormwater management systems, in particular sensors for discharge and water quality monitoring.- Experience in uncertainty assessment, sensor calibration and maintenance, data validation, data processing and analysis, time series analysis.- Experience in performance assessment.- Practice of Matlab (or similar language).- Interest and motivation for experimental field work.- Interest in multi-disciplinary work.- Ability to work in collaboration and in a team.- Good written and oral presentation skills.
Duration	37 months (June 2021 – June 2024) – with possible extension
Location	The position will be based at INSA, Lyon, France with visits to other Co-UDlabs partners during the project for meetings and collaborative work.
Salary	Net salary 2000 € per month.
Language	Project working language will be English. Skills in French are appreciated as local language at INSA Lyon.
Contact	Prof. Jean-Luc Bertrand-Krajewski (jean-luc.bertrand-krajewski@insa-lyon.fr)
Recruitment process	Candidates must provide a CV and a motivation letter, sent to the above contact. After pre-selection based on received documents, interviews will be organised.

Deadline for applications: 15 May 2021.
