Acoustic monitoring of suspended solids in natural and engineered systems

Webinar, 16 May 2023, 13:00-16:30 CEST

The Co-Udlabs project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101008626.

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Hosted by
Spain Water
and IWHR, China

Building collaborative Urban Drainage Laboratories (Co-UDlabs)

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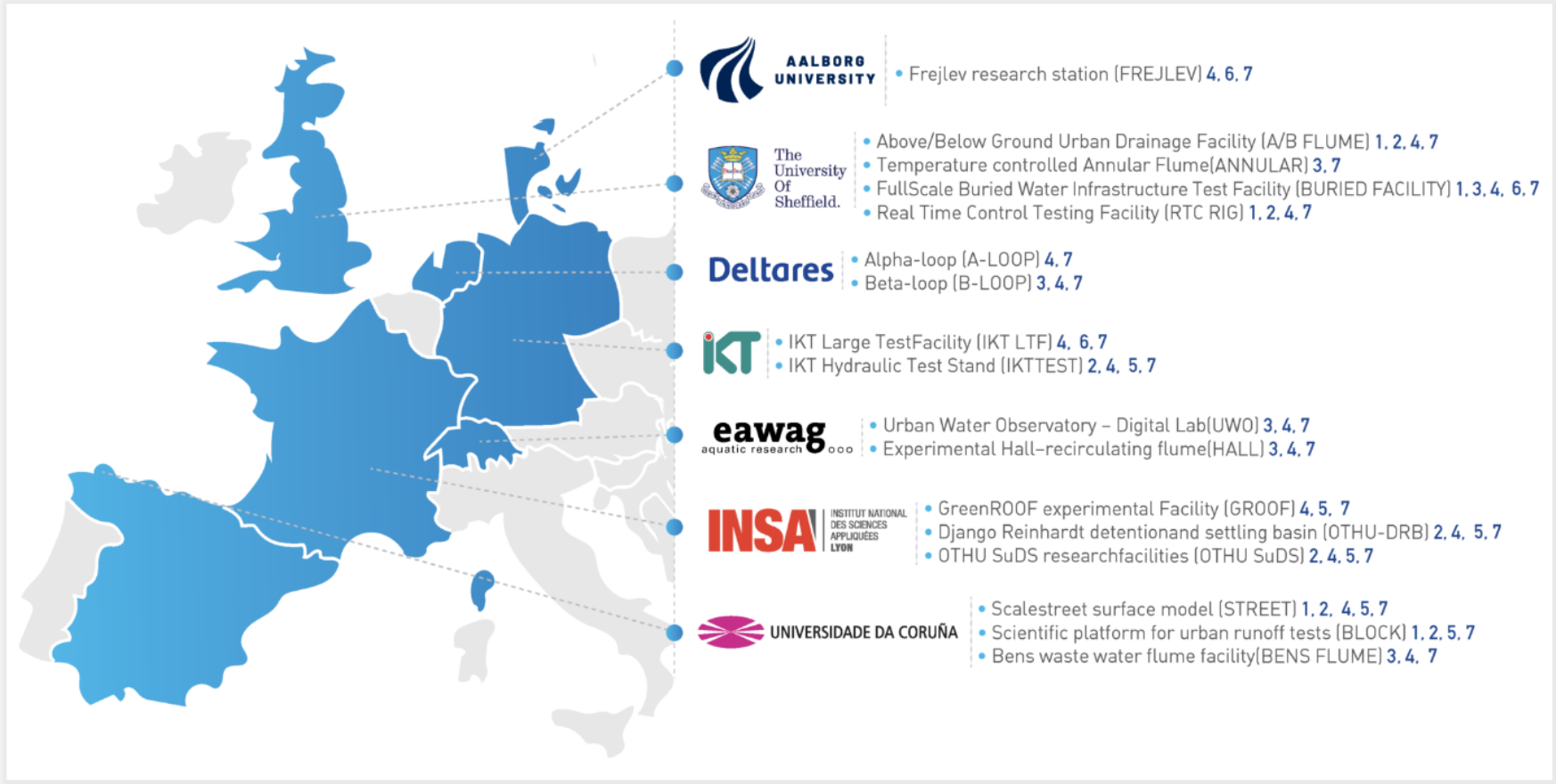
Objectives

The overall aim of the Co-UDlabs project is to integrate research and innovation activities in the field of Urban Drainage Systems (UDS) and address pressing public health, flood risks and environmental challenges.

A total of 7 partners are offering access to the 17 research facilities, that are designed for research across 7 fields of expertise.



1 Urban flooding
2 Runoff pollution
3 In-sewer process
4 Performance of urban assets
5 SuDS solutions
6 Assets deterioration
7 Digital water solutions

Find out more

Future events

MAY 16

Co-UDlabs webinar on Acoustic monitoring of suspended solids in natural and engineered systems

JUN 12

Co-UDlabs webinar on Routine Uncertainty Assessment

SEP 18

Co-UDlabs PhD course on Sewer Processes

JUL 03

Co-UDlabs workshop at Novatech 2023

Training

Co-UDlabs supports education and training in UDS through seminars, advanced workshops, PhD courses, webinars and online videos.

In support of its research activities and the establishment of a pan-European Network for Urban Drainage Innovation, Co-UDlabs is organising a series of training activities and initiatives throughout its implementation over the next four years. Our project's training strategy is based on three main pillars:

Public webinars on specific and emerging monitoring techniques in UD

- Fourier transform infrared spectroscopy (FTIR) chemical mapping (21 September 2022)
- Acoustic monitoring of suspended solids in natural and engineered systems (16 May 2023)
- Routine Uncertainty Assessment (UA) in urban drainage data (12 June 2023)
- Optical and computer vision techniques for flow and processes measurements (2023 - date TBC)

Co-UDlabs webinar on Acoustic monitoring of suspended solids in natural and engineered systems

Start	End	Topic	Speaker	Institute
13:00	13:05	Welcome and introduction	Jörg Rieckermann	Eawag, CH
13:05	13:20	Relevance of particles (and Turbidity Monitoring) in Urban drainage systems	Peter Vanrolleghem	Université Laval, CA
13:20	13:35	Acoustic scattering from different particles - theory and scientific instruments	Stephane Fischer	UBERTONE, F
13:35	13:50	Experimental evaluation of hydro-acoustic models and inversion methods in rivers	Celine Berni	INRAE, F
13:50	14:25	Discussion		
14:25	15:00	Coffee break		
15:00	15:15	Monitoring suspended solids with acoustic turbidity in Sewers	Asmorom Kibrom	NIVUS, F
15:15	15:30	Lab-scale characterization of total suspended solids using acoustic backscattering	Manuel Regueiro	Universidad A Coruña, ES
15:30	15:45	Experiences with acoustic monitoring of TSS_fine for stormwater treatment	Daniela Böckmann	Pecher AG, D
15:45	16:00	Time Resolved Optical Turbidity and comparison to existing methods	Anne Pallarès	Univ. Strasbourg, F
16:00	16:30	Discussions		

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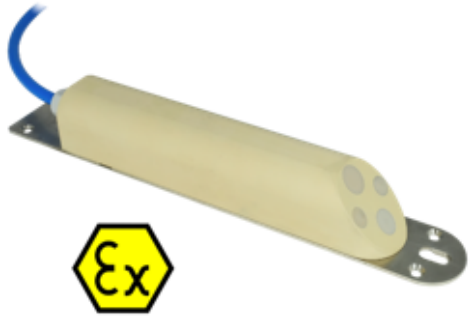
The perfect TSS sensor should…

- [application] For real-time monitoring of particles in urban drainage/wastewater systems

- be easy to install (ATEX certification)
- **require virtually no maintenance**
- be easy to maintain (<10min /week)
- Fast, measurements within seconds
- spatially-resolved signal
- low-power consumption (operate over months)
- easy to calibrate (ideally: no calibration, factory-hardcoded)
- measure particle size distributions, different classes of material
- measure TSS<63um, separately measure « critical » particles
- …



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Co-UDlabs Ideas Marketplace

A flexible tool to find, exchange, and improve ideas on innovative methods and technologies for sustainable urban drainage: seek alliances, synergies, and new partnerships and participate in our Transnational Access call!

What is the Marketplace?

Co-UDlabs offers **free-of-charge Transnational Access (TA) to its 17-facility research infrastructure**. Prepare for the 2nd global call for TA, opening in **July 2023!** You can find all information about the TA call, including all documentation required to submit a proposal, in our **TA call hub**.

The **Co-UDlabs Ideas Marketplace** is a **living, changing 'message board'** in which the people of our community can **exchange propositions, ideas, contacts, methods, and plans**.

Share your idea and team up with other users!

Below you can **browse the ideas** that are currently available on our Marketplace and the information about their authors and their affiliation. You can also share with us **any idea or proposal which you would like to show on the marketplace**! Click on the green button to submit an idea for the board and/or contact other interested TA users. If you want to discuss your idea with our Research Facilities providers and look for support to improve a TA proposal, click on the blue button.

Share your idea with us!

Contact our facilities!

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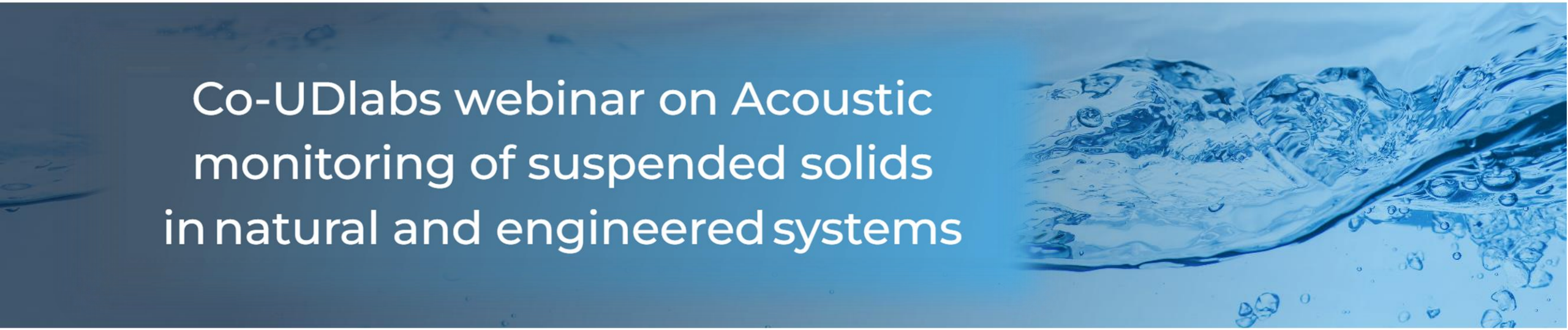

Thank you very much for your participation!

Questions? Write to us at **contact[AT]co-udlabs.eu**

Documentation? **https://www.youtube.com/@coudlabs3583/playlists**

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