

MARTA SOFIA FERREIRA MARTINS MOTA CABRAL

Condition assessment of urban water assets – integrating fundamental and applied research

PUBLIC PRESENTATION TO DECIVIL

19 May 2025, 12h00 - 13h00, Civil Engineering Building, IST (room 4.41)

Synopsis of CV: Marta Cabral obtained her MSc at IST in 2014. She concluded her PhD in 2021 in Civil Engineering, with a specialization in hydraulics, at IST. She was awarded the best PhD thesis 2020-2021 (*ex-aequo*) from the Portuguese Water Resources Association (APRH). She was the principal investigator of 1 R&D project and participated actively in 6 other projects. She is a co-author of 15 papers in international peer-reviewed journals, 31 communications in national and international conferences, 2 book chapters and 1 book. In 2025, Marta Cabral was honoured to ingress in the IST as an Assistant Professor in Hydraulics, Water Resources and Environment. Her main research interests lie in the field of infrastructure asset management, including condition assessment, service life prediction, investment optimization, cost modelling and the study of maintenance and rehabilitation strategies of urban water assets.



Summary of the Seminar:

The seminar will focus on methodologies for condition assessment of urban water assets to detect, classify, locate and size different anomalies, combining experimental, numerical and field test analyses. A visual inspection-based methodology for condition assessment supported by computer vision will be presented to quantify the deterioration of storage tanks and pumping stations. Additionally, a condition assessment methodology based on hydraulic transient analyses will be presented to detect, locate and quantify water leaks and air pockets in pipes. This seminar will offer a comprehensive overview of how fundamental research and practical applications combined with cutting-edge technologies can enhance the resilience and sustainability of urban water infrastructures.

The session will also be streamed live on YouTube.

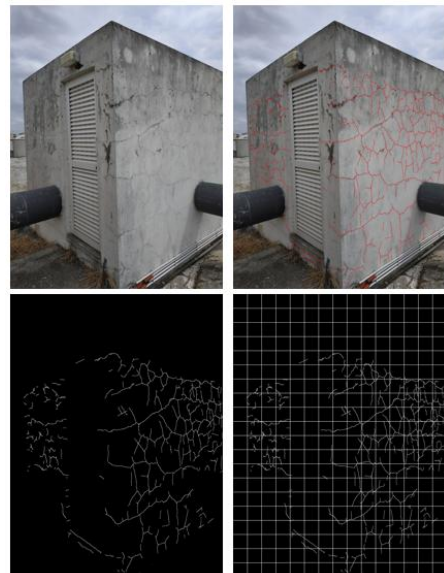


Image processing to identify cracks
in the building of a storage tanks.