

Professional Presentation Title: The challenge of technological innovation introduced by smart meters from the perspective of a water utility

Abstract: Smart meters are changing the way water utilities operate, offering enormous potential to improve efficiency and service. But with opportunities come challenges. Companies must learn to handle vast amounts of data, separate what's useful from what isn't, and set up alarm systems that make sense in markets where consumption shifts with the seasons, such as water. Just as important are people: staff need the right digital skills, and organisations must be ready to respond quickly when situations demand it. Another key challenge is how to manage information: Who really owns the data? How do we balance access, protection, and availability for clients? These are the questions that will shape how successfully we turn technology into value for the industry.

Name: Regina Casimiro, Chefe de Gabinete de Eficiência Hídrica (Head of the Water Efficiency Office) at Câmara Municipal de Loulé (Loulé Municipal Council) in Portugal

Short Bio: Regina Casimiro is a water and wastewater expert with an MBA from Warwick Business School (UK) and an Advanced Diploma in Data and Systems Analysis from the University of Oxford (UK). She has held senior roles, including Director of Planning and Asset Management at INFRAQUINTA (Portugal), Independent Consultant and Municipal Engineer at Câmara Municipal de Loulé (Portugal), and Regulatory Engineer at ERSAR, the Portuguese Water and Waste Services Regulation Authority.

A professional with 20+ years' international experience in regulation, asset management, and infrastructure delivery, she is an expert in data-driven decision-making, leak detection, and water quality modelling. She has a proven record of leading award-winning strategies, delivering EU/World Bank-funded projects, and driving measurable improvements in regulatory compliance. Recognised for developing technical guidelines and representing Portugal at the European expert level.

Student Presentation Title: Tracking pharmaceutical contamination in coastal aquifers: An integrated modeling framework for source identification and risk management in the *Campina de Faro* aquifer system (Portugal)

Abstract

Pharmaceutical compounds are increasingly detected in groundwater worldwide, representing a growing health risk for communities that rely on it. This study develops a modeling framework able to forecast pharmaceutical transport and identify potential sources in the *Campina de Faro* aquifer system, southern Portugal. By integrating numerical simulations with field observations, transport of pharmaceuticals under different contamination scenarios was assessed; and their likely sources identified. The results showed that the approach successfully delineates areas of contamination; enabling water managers to forecast contamination trajectories, identify zones requiring preventive action, and evaluate the effectiveness of different intervention strategies. The methodology is transferable to other vulnerable aquifers, providing a replicable tool for anticipating and mitigating groundwater contamination risks.

Keywords: Numerical modeling; Emerging contaminant; Groundwater management

Name: Paolo Tufoni, PhD student in Marine, Earth and Environmental Sciences at the University of Algarve, Portugal

Short Bio: “I completed the Master in Marine and Coastal System in 2020 at the University of Algarve; and Bachelor in Geological Sciences concluded in 2017 at the University Roma Tre. I am attending a doctoral program in Marine, Earth, and Environmental Sciences at the University of Algarve (Faculty of Sciences and Technology) since 2022. I work in the areas of Earth and Environmental Sciences with emphasis on modeling groundwater contamination.”