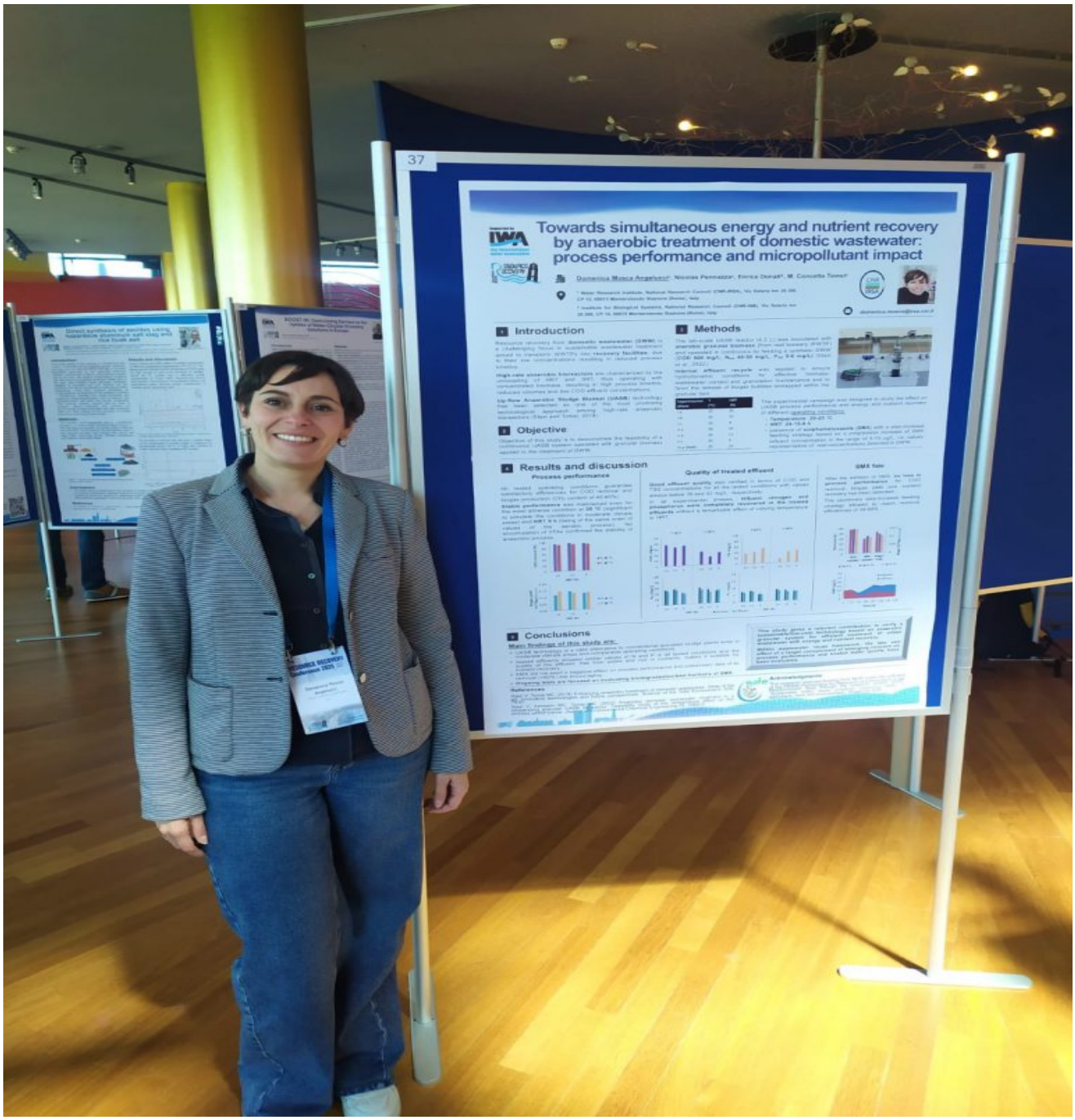
PRIMA-SAFE at IWA Resource Recovery Conference 2025: Advancing Sustainable Wastewater Treatment and Resource Recovery

Description

From **May 19 to 23, 2025**, the **IRSA-CNR research group**, a key partner in the **PRIMA-SAFE project**, took part in the prestigious **IWA Resource Recovery Conference 2025**, held in **Leeuwarden, The Netherlands**. This international event, hosted by the **International Water Association (IWA)** in collaboration with **Wetsus – the European Centre of Excellence for Sustainable Water Technology** , is a leading platform for showcasing the latest advancements in resource recovery from water and wastewater systems.

Bringing together top researchers, engineers, industrial innovators, and policymakers from around the world, the conference focused on building connections between **cutting-edge scientific research** and **real-world application** within the framework of the **circular economy**. The 2025 edition emphasized the integrated recovery of **water, energy, and valuable materials**, while highlighting practical strategies to move from wastewater treatment to full resource valorization.



IRSA-CNR Presents Research from the PRIMA-SAFE Project

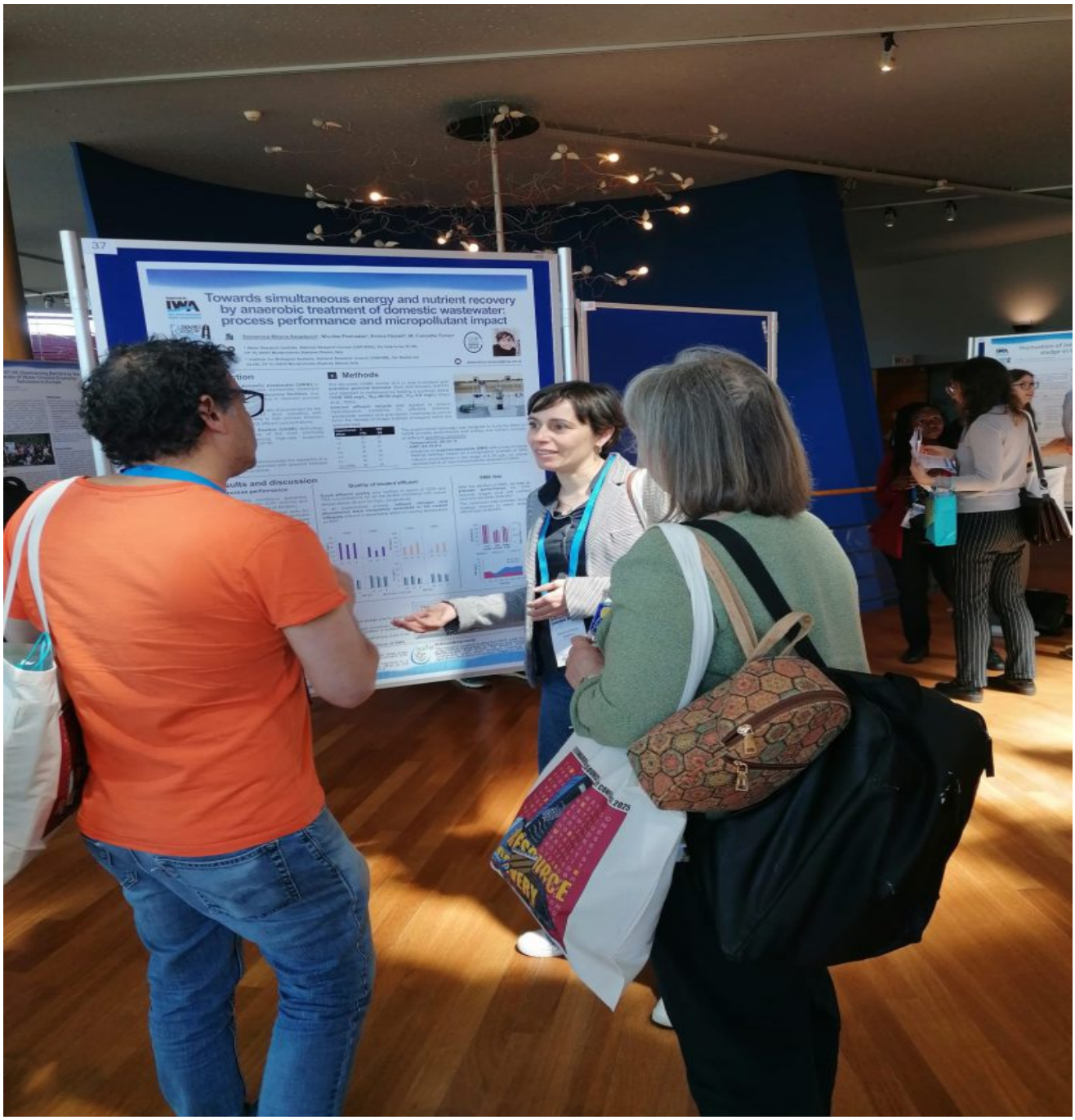
As part of the PRIMA-SAFE initiative, the IRSA-CNR team presented the poster:

> **“Towards simultaneous energy and nutrient recovery by anaerobic treatment of domestic wastewater: process performance and micropollutant impact”**
> *by D. Mosca Angelucci, N. Pennazza, E. Donati, and M.C. Tomei*

The work showcases innovative research on **anaerobic wastewater treatment** as a dual-purpose

strategy for **energy generation and nutrient recovery**. The process, which relies on anaerobic microbial communities to break down organic pollutants, enables the production of **biogas** (a renewable energy source) while simultaneously recovering nutrients such as **nitrogen and phosphorus**, which are essential for agricultural applications.

A critical dimension of the study was the evaluation of **micropollutants**—emerging contaminants including pharmaceuticals and personal care products—on the performance of the anaerobic system. These compounds, often resistant to conventional treatment, pose challenges for both process stability and environmental safety. The study explored how their presence affects **biogas production efficiency** and **nutrient recovery rates**, providing valuable insights for designing systems that are both **sustainable and robust** under real-world conditions.



Supporting Integrated Water and Resource Management

The findings contribute directly to the broader goals of the **PRIMA-SAFE project**, which seeks to promote **safe, sustainable water reuse practices** in Mediterranean agriculture and beyond. By demonstrating the potential for **simultaneous energy and resource recovery** from domestic wastewater, this work supports the transition toward **integrated water management solutions** aligned with the principles of the circular economy.

Participation in the IWA Resource Recovery Conference also allowed the PRIMA-SAFE team to engage with leading global experts and explore collaborative pathways to advance the field of

wastewater valorization. It reaffirmed the importance of connecting laboratory-scale research with scalable applications capable of addressing both environmental and economic challenges.

? More about the IWA RR 2025 Conference: https://www.wetsus.nl/iwa-rr-2025/

Category

1. Senza categoria

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