

## Seminar:

Friday 13 March 2026 at 9:30 am, room U1-11

# Antimicrobial Resistance in wastewater: a new source for epidemiological data and a pressing environmental issue

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*Antimicrobial Resistance (AMR) occurs when pathogenic microorganisms evolve to withstand antimicrobial drugs, making infections more difficult to treat and can be regarded as a "silent pandemic" that may cause up to 10 million deaths annually by 2050. Wastewater-based epidemiology (WBE) offers a highly valuable, non-invasive, and cost-effective tool for public health, and can be used to track AMR trends at the community level or to pinpoint high-risk resistance hotspots, such as hospitals. While wastewater treatment plants are essential infrastructure designed to treat waste, they can promote the proliferation of antibiotic-resistant bacteria (ARB) and the horizontal transfer of antibiotic resistance genes (ARGs), fostering their dissemination into the environment.*

*Data regarding the abundance of ARB and ARGs in urban and hospital sewages will be presented and discussed in the frame of wastewater-based surveillance of AMR within the general population and the clinical setting, respectively. Further, evidence about these resistance indicators in treated wastewater and in the receiving freshwater bodies will be shown to demonstrate the potential dissemination of AMR in the environment.*

The seminar is open to students, PhD students,  
Postdocs, and all the interested colleagues