Call for Incentive Research Collaboration 2024

Project MIMIC

Transport and Adsorption Behaviours of Microplastic Fibres in Membrane Biofilm Reactors

AURORA

Co-funded by the European Union

University of Iceland

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Universität Duisburg Essen

Universitat Rovira i Virgili

universität innsbruck

Università degli Studi di Napoli Federico II

PROJECT IDENTIFICATION

Project title:
Transport and Adsorption Behaviours of **Mi**croplastic Fibres in **M**embrane B**i**ofilm Rea**c**tors

Project acronym: MIMIC

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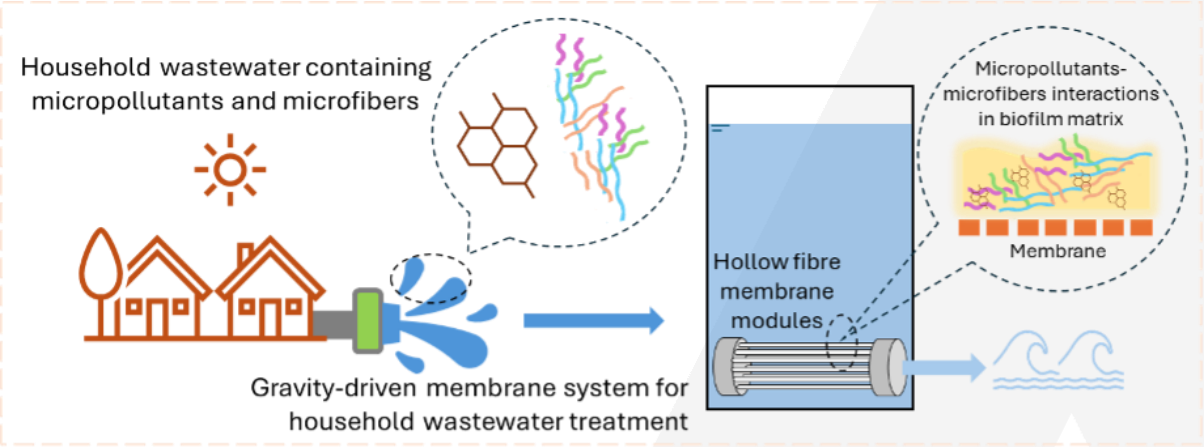
OBJECTIVE

Membrane technology has emerged as an alternative solution for advanced wastewater treatment because the excellent physical separation roles of membranes allow achieving superior treated water quality. In this collaboration, we aim to perform a joint project on investigating the mitigation of micropollutants/additives, and transport behaviour of microplastic fibres in a decentralized membrane-based wastewater treatment process.

ILLUSTRATION OF THE PROJECT



SOCIAL IMPACTS AND TARGETED SDG

This project (1) provides a new approach to investigate the transport behaviour of microfiber in a GDM process for real wastewater treatment by both in-situ observation via microscope and modelling simulation; and (2) adds advanced knowledge on the interactions of microfibers-micropollutants-membrane and identification method of microfibers in a complex biofilm matrix, which could offer new perspectives on improvement of membrane-based wastewater treatment processes for micropollutant and microplastics mitigation.

This research emphasizes the targets in the UN SGD 6 (6.3: improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials) and 14 (14.1: prevent and significantly reduce marine pollution of all kinds).

AURORA ADDED VALUE

The knowledge obtained from this collaboration will allow the teams to develop joint research proposals for EU funding and establish a strong scientific network focused on wastewater and micropollutant mitigation research.