Sustainable manufacturing of superhydrophobic membranes for the decarbonization of dissolved methane emissions from anaerobic digesters

METHBRANE

[MATS MATERIALS TECHNOLOGY SUSTAINABILITY]n

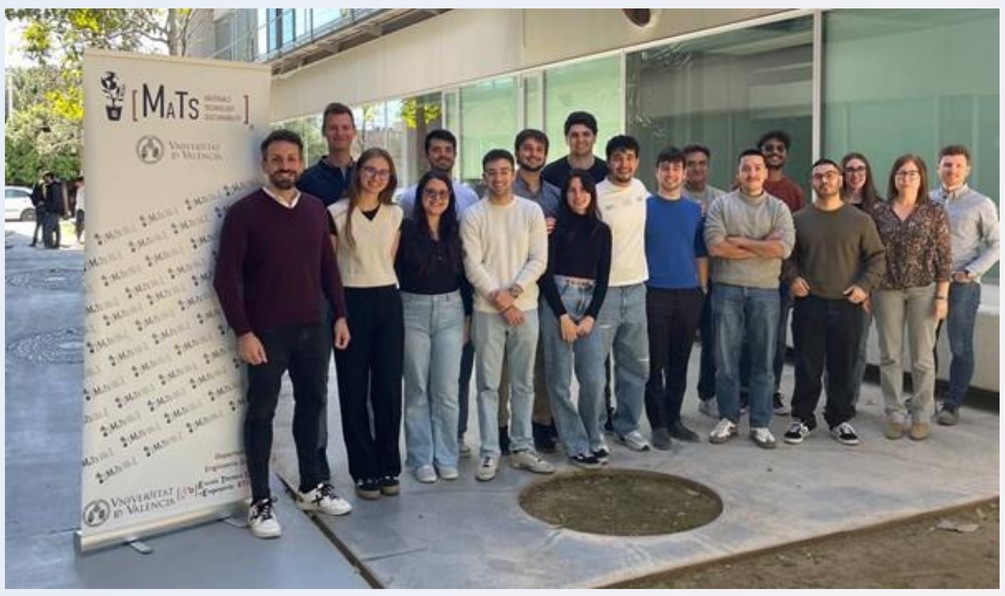
VNIVERSITAT DE VALÈNCIA

Newsletter Year 2

Publication on dissolved methane in collaboration with Global Omnium

March 1st, 2025

New scientific article on the recovery of methane dissolved in anaerobic effluents titled "*Membrane contactor performance for the dissolved methane recovery from the liquid effluent of a desulphurisation reactor for biogas purification: Evaluation of operating conditions, fouling and cleaning strategies*." in collaboration with **Global Omnium** and funded by IVACE+i an the Spanish Ministry of Science and Innovation.



VI Seminar on Polymer Membrane Design for Environmental Technologies

March 31st, 2025

MATS (Material Technology and Sustainability) research group organized their **VI seminar** titled "*Innovative Approaches in Greener Membrane Design for Environmental Applications*" at the School of Engineering. The event presented the latest advances in membrane preparation and application techniques for environmental protection and decarbonization.

New Publication on the Development of Polymeric Membranes with Deep Eutectic Solvent Additives

April 4th, 2025

The study, titled "*Effect of Choline Chloride-Based DES on the Pore-Forming Ability and Properties of PVDF Membranes Prepared with Triethyl Phosphate as Green Solvent*", presents an **extensive characterization of PVDF polymer membranes** prepared using green solvents and incorporating choline chloride-based deep eutectic solvents, analyzing their effect on pore formation and the final membrane properties.

New Publication on Hydrophobic Electrospun Membranes

September 23rd, 2025

The project named "*Hydrophobic PVDF-Based Electrospun Membranes: Design Criteria Fabrication and Resistance to Long-Term Hydrodynamic Operation*" presents an **optimisation of electropinning parameters and thermic treatment** to produce highly hydrophobic and stable electrospun membranes based on PVDF. Membranes operated for over 1000 hours under hydrodynamic stress.

Acknowledgments

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