# Special Issue

# Potential Advances in the Manufacturing and Modifications of Thin-Film Composite (TFC) Membranes

### Message from the Guest Editor

Thin-film composites (TFCs) are the dominant membrane format used in water desalination but can arguably be extended to other applications. Additionally, the overwhelming amount of chemistries and materials introduced into the scientific literature over recent decades has not been commercialized for multiple reasons, including manufacturing (cost) hurdles within state-of-the-art production methods. This Special Issue invites contributions examining new TFC membranes created by exploratory manufacturing and/or modification approaches. Contextual examples include coating and formation approaches such as molecular layer deposition, electrospray, and 3D printing, as well as modification approaches, such as additives, thermal or mechanical treatment, and new monomers. Research on new composite structures obtained by other means, such as the design and fabrication of new support membranes, is also welcome, encompassing, for example, hollow fibers and ultrahigh-pressure polymeric macroporous membranes. TFC development to enable further applications, such as organic solvent hyperfiltration or gas/vapor separation, will also be considered.

### Guest Editor

Prof. Dr. John Pellegrino

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### Deadline for manuscript submissions

closed (31 March 2025)

**Membranes**

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Impact Factor 3.6
CiteScore 7.9
Indexed in PubMed

mdpi.com/si/218057

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# About the Journal

## Message from the Editor-in-Chief

You are cordially invited to contribute a research article or a comprehensive review for consideration and publication in *Membranes* (ISSN 2077-0375). *Membranes* is an international, peer-reviewed open accessjournal of membrane technology published monthly online by MDPI. The journal covers the broad aspects of the science and technology of both biological and non-biological membranes, including membrane dynamics and the preparation and characterization of membranes and their applications in water, environment, energy, and food industries. Articles contributing to better understanding of transport processes in all types of membranes are also welcome. The scientific community and the general public have unlimited and free access to the content as soon as it is published. We would be pleased to welcome you as one of our authors.

## Editor-in-Chief

Prof. Dr. Spas D. Kolev
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