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Current Advances in Polymer Composite and Nanocomposite Membranes

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Message from the Guest Editors

In order to promote a scenario of sustainable growth, a more efficient use of natural resources is strongly recommended. Membranes, capable of facing the requirements of a circular economy by virtue of their intrinsic eco-friendly characteristics and low energy requirements, have a growing role to perform separation processes. For the membrane development, a single material, could not fully express its potential if not combined to an adequate support. Thus, composite and nanocomposite membranes are the highest expression of this innovative technology.

Composite membranes are obtained as multiple overlapped thin layers, where the active one performs the "separative" tasks, while the others provide mechanical resistance to the structure. Extremely thin films can be practically applied only by using this approach, by separately optimizing the preparation of each layer. Nanocomposite membranes embrace nanofillers dispersed within polymeric matrices that offer the possibility to the former to express their superior properties.

This volume seeks representative examples of the most recent developments achieved in the field of composite and nanocomposite membranes.



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Special Issue



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Message from the Editor-in-Chief

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