

1. Record Nr.	UNINA9910483176703321
Titolo	Membrane Technology Enhancement for Environmental Protection and Sustainable Industrial Growth // edited by Zhien Zhang, Wenxiang Zhang, Mohamed Mehdi Chehimi
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
ISBN	3-030-41295-4
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (V, 195 p. 135 illus., 108 illus. in color.)
Collana	Advances in Science, Technology & Innovation, IEREK Interdisciplinary Series for Sustainable Development, , 2522-8722
Disciplina	660.28424
Soggetti	Environmental engineering Biotechnology Bioremediation Polymers Energy policy Energy and state Pollution Environmental Engineering/Biotechnology Energy Policy, Economics and Management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Membrane definition, characterization and simulations -- High performance membrane for natural gas sweetening plants -- Hydrocarbon separation and removal using membranes -- Hydrodynamic condition in a pressure-driven membrane system and its impact on membrane fouling -- Hydrodynamic enhancement within dynamic filtration for resource recycling -- Treatment of concentrated saline effluent by membrane distillation and pervaporation -- Advanced membrane technology for textile wastewater treatment -- Photocatalytic membrane for micro-polluted wastewater treatment -- Recent trends in membrane processes for water purification of brackish water -- Ageing and degradation of ion-exchange membranes -- Current strategies for the design of antifouling ion-exchange

membranes -- Membrane applications in agriculture and food industry  
-- Membrane applications in fuel cells -- Energy optimization in  
membrane desalination -- Membrane-based energy recovery  
ventilators -- Membrane technology: Recent patents and industrial  
products.

---

### Sommario/riassunto

This book presents a detailed discussion of the fundamentals and practical applications of membrane technology enhancement in a range of industrial processes, energy recovery, and resource recycling. To date, most books on the applications of membrane technology have mainly focused on gas pollution removal or industrial wastewater treatment. In contrast, the enhancement of various membrane processes in the areas of energy and the environment has remained largely overlooked. This book highlights recent works and industrial products using membrane technology, while also discussing experiments and modeling studies on the membrane enhancement process.

---