

Sustainable Separation Engineering

Materials, Techniques and Process Development, 2 Volumes Set

Edited by Gyorgy Szekely and Dan Zhao

Chemical Engineering | Process Engineering

Explore an insightful collection of resources exploring conventional and emerging materials and techniques for separations

In *Sustainable Separation Engineering*, a team of distinguished chemical engineers delivers a comprehensive discussion of the latest trends in sustainable separation engineering, designed to facilitate understanding and knowledge transfer between materials scientists and chemical engineers.

Written from a sustainability perspective, the status and need for more emphasis on sustainable separations in the chemical engineering curriculum is highlighted. Case studies round out the included material, discussing a broad range of separation applications, like battery recycling, carbon sequestration, and biofuel production. This edited volume provides:

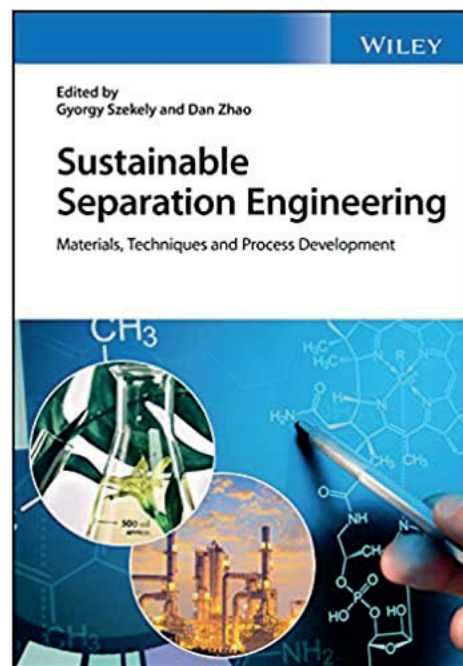
- Thorough introductions to green materials for sustainable separations, as well as advanced materials for sustainable oil and water separation
- Comprehensive explorations of the recycling of lithium batteries and ionic liquids for sustainable separation processes
- Practical discussions of carbon sequestration, the recycling of polymer materials, and AI for the development of separation materials and processes
- In-depth examinations of membranes for sustainable separations, green extraction processes, and adsorption processes for sustainable separations

Perfect for academic and industrial researchers interested in the green and sustainable aspects of separation science, *Sustainable Separation Engineering* is an indispensable resource for chemical engineers, materials scientists, polymer scientists, technologists, industrial managers and renewable energy professionals.

The Editors

Gyorgy Szekely is currently an Assistant Professor in Chemical Engineering at the Advanced Membranes & Porous Materials Center at King Abdullah University of Science and Technology (KAUST), and a Visiting Academic at The University of Manchester. His multidisciplinary professional background covers molecular imprinting, nanofiltration, and green process engineering. He mainly focuses on adsorbent and membrane based sustainable separations.

Dan Zhao joined the Department of Chemical & Biomolecular Engineering at National University of Singapore (NUS) in July 2012 as an Assistant Professor and was promoted to Associate Professor with tenure in July 2018. His research interests include advanced porous materials and membranes with the applications in clean energy and environmental sustainability.



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