

EMERGING MATERIALS AND TECHNOLOGIES

# ADVANCED MATERIALS FOR WASTEWATER TREATMENT AND DESALINATION

Fundamentals to Applications

EDITED BY

Ahmad Fauzi Ismail • Pei Sean Goh Hasrinah Hasbullah • Farhana Aziz



# Advanced Materials for Wastewater Treatment and Desalination

Advanced Materials for Wastewater Treatment and Desalination: Fundamentals to Applications offers a comprehensive overview of current progress in the development of advanced materials used in wastewater treatment and desalination. The book is divided into two major sections, covering both fundamentals and applications.

#### This book:

- Describes the synthesis and modification of advanced materials, including metal oxides, carbonaceous materials, perovskite-based materials, polymer-based materials, and advanced nanocomposites
- Examines relevant synthesis routes and mechanisms as well as correlates materials properties with their characterization
- Details new fabrication techniques including green synthesis, solvent-free, and energy-saving synthesis approaches
- Highlights various applications, such as removal of organic contaminants, discoloration of dye wastewater, petrochemical wastewater treatment, and electrochemically-enhanced water treatment.

With chapters written by leading researchers from around the world, this book will be of interest to chemical, materials, and environmental engineers working on progressing materials applications to improve water treatment technologies.

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