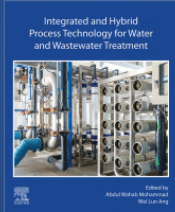


Integrated and Hybrid Process Technology for Water and Wastewater Treatment

Book • 2021



Edited by:
Abdul Wahab Mohammad and Wei Lun Ang

↓ About the book

Browse this book

Share this book

↓ By table of contents

Book description

Tackling the issue of water and wastewater treatment nowadays requires novel approaches to ensure that sustainable development can be achieved. Water and wastewater treatment shoul ... [read full description](#)

Search in this book



FEEDBACK

Table of contents

Actions for selected chapters

Select all / Deselect all

Download PDFs

Export citations

- Full text access
Title page, Copyright, Contents, List of contributors
- Book chapter ○ Abstract only
Chapter 1 - Integrated and hybrid process technology
Wei Lun Ang and Abdul Wahab Mohammad
Pages 1-15
[Purchase](#) [View abstract](#) ▼
- Book chapter ○ Abstract only
Chapter 2 - Design approach and sustainability of advanced integrated treatment
Wei Lun Ang and Abdul Wahab Mohammad
Pages 17-34
[Purchase](#) [View abstract](#) ▼
- Book chapter ○ Abstract only
Chapter 3 - Integrated water and resource recovery network for combined domestic and industrial wastewater
Mohd Arif Misrol, Sharifah Rafidah Wan Alwi, ... Zainuddin Abd Manan
Pages 35-59
[Purchase](#) [View abstract](#) ▼
- Book chapter ○ Abstract only
Chapter 4 - From molecular to large-scale phosphorous recovery from wastewater using cost-effective adsorbents: an integrated approach
Sabolc Pap, Maja Turk Sekulic, ... Mark A. Taggart
Pages 61-85
[Purchase](#) [View abstract](#) ▼
- Book chapter ○ Abstract only
Chapter 5 - Biological polishing of liquid and biogas effluents from wastewater treatment systems
Michael Cohen, Christine Kubota, ... Mami Kainuma
Pages 87-98
[Purchase](#) [View abstract](#) ▼
- Book chapter ○ Abstract only

Chapter 6 - Utilization of low-cost waste materials in wastewater treatments

Anabella C. Vilando, Rugi Vicente DC Rubi and Florence Joie F. Lacs
Pages 99-119

 [Purchase](#) [View abstract](#) 

FEEDBACK 

Book chapter Abstract only

Chapter 7 - Forward osmosis-based hybrid processes for water and wastewater treatment


Wei Jie Lee, Pei Sean Goh and Ahmad Fauzi Ismail
Pages 121-144

 [Purchase](#) [View abstract](#) 

Book chapter Abstract only

Chapter 8 - The integrated/hybrid membrane systems for membrane desalination



Mohammad Y. Ashfaq, Dana A. Da'na, ... Mohammad A. Al-Ghouthi
Pages 145-170

 [Purchase](#) [View abstract](#) 

Book chapter Abstract only

Chapter 9 - Integrated/hybrid treatment processes for potable water production from surface and ground water



Abdullah Alkhudhiri
Pages 171-198

 [Purchase](#) [View abstract](#) 

Book chapter Abstract only

Chapter 10 - Clean water reclamation from tannery industrial wastewater in integrated treatment schemes: a substantial review toward a viable solution



Jayato Nayak, Sankha Chakraborty, ... Siddhartha Pandey
Pages 199-232

 [Purchase](#) [View abstract](#) 

Book chapter Abstract only

Chapter 11 - Hazardous and industrial wastewaters: from cutting-edge treatment strategies or layouts to micropollutant removal



Mohammad Mehdi Golbini Mofrad, Iman Parseh and Mokhtar Mahdavi
Pages 233-251

 [Purchase](#) [View abstract](#) 

Book chapter Abstract only

Chapter 12 - Current advances in coal chemical wastewater treatment technology



Yongjun Sun, Yuanyuan Yu, ... Kinjal J. Shah
Pages 253-271

 [Purchase](#) [View abstract](#) 

Book chapter Abstract only

Chapter 13 - Anammox process: role of reactor systems for its application and implementation in wastewater treatment plants

Shelly Verma and Achlesh Daverey
Pages 273-292



 [Purchase](#) [View abstract](#) 

FEEDBACK 

Book chapter Abstract only

Chapter 14 - Industrial wastewater recovery for integrated water reuse management



Siti Fatimah Saad, Lim Shiun, ... SharifahRafidah Wan Alwi
Pages 293-311

 [Purchase](#) [View abstract](#) 

Book chapter Abstract only

Chapter 15 - Integrated and hybrid processes for oily wastewater treatment


Omar Khalifa, Fawzi Banat and Shadi W. Hasan
Pages 313-337

 [Purchase](#) [View abstract](#) 

Book chapter Abstract only

Chapter 16 - Hybrid membrane processes for treating oil and gas produced water

Mahmood Jebur and S. Ranil Wickramasinghe
Pages 339-369

 [Purchase](#) [View abstract](#) 

- Book chapter Abstract only
Chapter 17 - Electro-bioremediation strategies for sustainable and ecofriendly depollution of textile industrial wastewater
Priyadharshini Aravind and Maruthamuthu Sundaram
Pages 371-405
[Purchase](#) [View abstract](#) ▼
- Book chapter Abstract only
Chapter 18 - Integrated processes and anaerobic granular sludge bioreactors for synthetic-fiber manufacturing wastewater treatment
Justin Chun-Te Lin
Pages 407-429
[Purchase](#) [View abstract](#) ▼
- Book chapter Abstract only
Chapter 19 - Sulfate radical-based advanced oxidation processes for industrial wastewater treatment
Huiyu Dong, Shule Duan, ... Zhimin Qiang
Pages 431-462
[Purchase](#) [View abstract](#) ▼
- Book chapter Abstract only
Chapter 20 - Phosphorus recovery from nutrient-rich streams at wastewater treatment plants
Sina Shaddel, Rana Shaddel and Stein W. Østerhus
Pages 463-486
[Purchase](#) [View abstract](#) ▼
- Book chapter Abstract only
Chapter 21 - Emerging micropollutants in municipal wastewater: occurrence and treatment options
Roberta Hofman and Chuan Jiet Teo
Pages 487-516
[Purchase](#) [View abstract](#) ▼
- Book chapter Abstract only
Chapter 22 - Municipal wastewater treatment processes for sustainable development
Suthida Theepharaksapan, Suda Ittisupornrat, ... Jarungwit Boonnorat
Pages 517-535
[Purchase](#) [View abstract](#) ▼
- Book chapter Abstract only
Chapter 23 - Low-cost technologies for the treatment of municipal and domestic wastewater
M.A. El-Khateeb, F.A. El-Gohary, ... A.A. Nayl
Pages 537-564
[Purchase](#) [View abstract](#) ▼
- Book chapter Abstract only
Chapter 24 - Hybrid membrane technology for waste treatment and resource recovery from aquaculture effluent
Koe Zhen Yao Aaron, Abdul Latif Ahmad, ... Boon Seng Ooi
Pages 565-594
[Purchase](#) [View abstract](#) ▼
- Book chapter Abstract only
Chapter 25 - Treatment of piggery wastewater with an integrated microalgae-nitrifiers process: current status and prospects
Shinichi Akizuki, Shinjiro Sato, ... Germán Cuevas-Rodríguez
Pages 595-616
[Purchase](#) [View abstract](#) ▼
- Book chapter Abstract only
Chapter 26 - Olive-mill wastewater: a paradigm shift toward its sustainable management
Ekta Singh, Aman Kumar, ... Sunil Kumar
Pages 617-639
[Purchase](#) [View abstract](#) ▼
- Book chapter Abstract only
Chapter 27 - Approaching zero liquid discharge concept using high-rate integrated pilot-scale bioreactor in the palm oil mill effluent (POME) treatment
Cheau Chin Yap and Yi Jing Chan

[FEEDBACK](#) [FEEDBACK](#) 

Book chapter Full text access

Index

Pages 669-683

[Download PDF](#)

About the book

Description

Tackling the issue of water and wastewater treatment nowadays requires novel approaches to ensure that sustainable development can be achieved. Water and wastewater treatment should not be seen only as an end-of-pipe solution but instead the approach should be more holistic and lead to a more sustainable process. This requires the integration of various methods/processes to obtain the most optimized design.

Integrated and Hybrid Process Technology for Water and Wastewater Treatment discusses the state-of-the-art development in integrated and hybrid treatment processes and their applications to the treatment of a vast variety of water and wastewater sources. The approaches taken in this book are categorized as (i) resources recovery and consumption, (ii) optimal performance, (iii) physical and environmental footprints, (iv) zero liquid discharge concept and are (v) regulation-driven. Through these categories, readers will see how such an approach could benefit the water and wastewater industry. Each chapter discusses challenges and prospects of an integrated treatment process in achieving sustainable development. This book serves as a platform to provide ideas and to bridge the gap between laboratory-scale research and practical industry application.

Key Features

- Includes comprehensive coverage on integrated and hybrid technology for water and wastewater treatment
- Takes a new approach in looking at how water and wastewater treatment contributes to sustainable development
- Provides future direction of research in sustainable water and wastewater treatment

Details

[FEEDBACK](#) 

ISBN

978-0-12-823031-2

Language

English

Published

2021

Copyright

Copyright © 2021 Elsevier Inc. All rights reserved.


Imprint

Elsevier

DOI

<https://doi.org/10.1016/C2019-0-04696-1>

You currently don't have access to this book, however you can purchase separate chapters directly from the table of contents or buy the full version.

[Purchase the book](#) 

Editors

Abdul Wahab Mohammad

Centre for Sustainable Process Technology (CESPRO), Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia, Bangi, Malaysia

Department of Chemical and Process Engineering, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia, Bangi, Malaysia

Wei Lun Ang

Centre for Sustainable Process Technology (CESPRO), Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia, Bangi, Malaysia

Department of Chemical and Process Engineering, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia, Bangi, Malaysia

