

Advanced Materials for Sustainable Environmental Remediation

Terrestrial and Aquatic Environments

Edited by Dimitrios Giannakoudakis, Lucas Meili and Ioannis Anastopoulos

Advanced Materials for Sustainable Environmental Remediation presents a detailed and comprehensive coverage of novel and advanced materials that can be assumed as prosperous candidates towards remediation of (waste)water, soil and air. It provides up-to-date, fundamental knowledge of the available modern materials and treatment processes, with emphasis on adsorptive and catalytic remediation applications. Organized clearly by type of material, this book utilizes a consistent structure for each chapter, including routes of synthesis, physicochemical characteristics which play a key role towards utilization for environmental remediation applications, recent advances and mechanistic insights, and future perspectives. It offers an interdisciplinary and practical examination of novel materials and the processes for environmental remediation applications, valuable to environmental and materials scientists.

Key Features

- Highlights a wide range of synthetic methodologies, physicochemical and engineered features of novel materials and composites/hybrids for environmental purposes
- Provides comprehensive, consolidated coverage of advanced materials for environmental remediation applications for researchers in environmental science, materials science, and industry to identify in-depth solutions to pollution
- Presents up-to-date details of advanced materials, including descriptions and characteristics that impact their applications in environmental remediation processes

About the Editors

Dr. Dimitrios Giannakoudakis defended his PhD thesis at the City University of New York (CUNY) with focus on "Nanotechnology and Materials Chemistry" in February 2017. He continued as a postdoctoral researcher and adjunct tutor at the City College of New York, Aristotle University of Thessaloniki (AUTH), and Institute of Physical Chemistry Sciences in Warsaw (IChF). Afterwards, he served at IChF as adj. Assistant Professor. Currently, he is research associate at AUTH. His research interests focus on designing novel (nano)materials for diverse environmental and energy applications. For more details: www.DaGChem.com

Dr. Lucas Meili is working as Full Professor in the Center of Technology at Federal University of Alagoas (UFAL), Maceió, Alagoas, Brazil. Prof. Meili graduated in Chemical Engineering at Federal University of Rio Grande (Brazil) and obtained his Doctor degree in Chemical Engineering at Federal University of São Carlos (Brazil) in 2009. He is a permanent member of Chemical Engineering post-graduation program and also of Materials post-graduation program.

Prof. Dr. Ioannis Anastopoulos is an Assistant Professor at the Department of Agriculture, University of Ioannina, Arta, Greece. He received his Ph.D. (Soil Science and Agricultural Chemistry) in 2015, M.Sc. degree in 2009 (Soil Science-Soil Resources management), and B.Sc. (Agricultural Science) from the Department of Natural Resources Management and Agricultural Engineering of Agriculture University of Athens. His research is focused on the following areas: the estimation of greenhouse gas emissions from agricultural soils after receiving organic and inorganic materials, the fabrication of different adsorbents for wastewater treatment, and the use of organic amendments for soil remediation.



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