



nanomaterials

IMPACT
FACTOR
4.4

Indexed in:
PubMed

CITESCORE
8.5

Special Issue Reprint

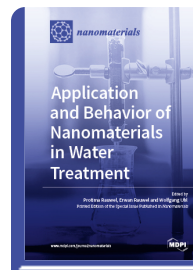
Application and Behavior of Nanomaterials in Water Treatment

www.mdpi.com/books/reprint/1524

Edited by
Protima Rauwel
Erwan Rauwel
Wolfgang Uhl

ISBN 978-3-03921-171-5 (Softback)

ISBN 978-3-03921-172-2 (PDF)



The book compiles scientific articles describing advances in nanomaterial synthesis and their application in water remediation. The publications treat diverse problems such as dye degradation, heavy metal ion, as well as radioactive element capture and sequestration. There are 10 original research articles and one review article. The latter proposes graphene/CNT and Prussian blue nanocomposites for radioactive ^{137}Cs extraction from aqueous media. All reports thoroughly characterize the nanomaterials post-synthesis and describe their catalytic, photocatalytic, or ion exchange activities in contaminated water. The dyes studied in the collection are azo dyes, i.e. methylene blue and orange, rhodamine B, phenolic dyes viz. bromophenol blue, and other dyes with sulfonyl groups. Extraction of radioactive elements, including cationic $^{137}\text{Cs}^+$ and anionic $^{125}\text{I}^-$, is also investigated. The omnipresence of ZnO nanoparticles in everyday products and their effects in wastewater are also evaluated. Layered double hydroxide are capable of capturing Ag ions, which then has a catalytic effect on dye degradation. The nanomaterials considered are varied, viz., graphene, CNT, Prussian blue, nanoporous carbon, layered double hydroxides, magnetite, ferrites, organic powders, polymer membranes, bacteria, and inorganic nanomaterials such as MnO and Ag. The book targets an interdisciplinary readership.



Order Your Print Copy
You can order print copies at
www.mdpi.com/books/reprint/1524

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.