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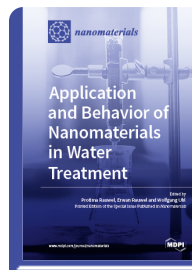
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*Special Issue Reprint*

## Application and Behavior of Nanomaterials in Water Treatment

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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  $^{137}\text{Cs}$  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.



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