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Nota di contenuto	Front Cover; About the book series; Editorial board; Table of contents; Contributors; Editors' foreword; About the editors; Acknowledgements; 1. Decontamination of water by solar irradiation; 2. Reduction of pentavalent and trivalent arsenic by TiO ₂ -photocatalysis: An innovative way of arsenic removal; 3. Synthesis, characterization and catalytic evaluation of tungstophosphoric acid immobilized on Y zeolite; 4. Kinetic aspects of the photodegradation of phenolic and lactonic biocides under natural and artificial conditions 5. Fenton-like oxidation of phenol with a Cu-chitosan/Al ₂ O ₃ catalyst in a recirculating batch reactor 6. Degradation of a mixture of glyphosate and 2,4-D in water solution employing the UV/H ₂ O ₂

process, including toxicity evaluation; 7. Degradation of perchlorate dissolved in water by a combined application of ion exchange resin and zerovalent iron nanoparticles; 8. Eco-friendly approach for Direct Blue 273 removal from an aqueous medium; 9. Decontamination of commercial chlorpyrifos in water using the UV/H₂O₂ process 10. Abatement of nitrate in drinking water. A comparative study of photocatalytic and conventional catalytic technologies 11. Photocatalytic inactivation of airborne microorganisms. Performance of different TiO₂ coatings; 12. Water decontamination by heterogeneous photo-Fenton processes over iron, iron minerals and iron-modified clays; 13. Modified montmorillonite in photo-Fenton and adsorption processes; 14. Photocatalytic degradation of dichlorvos solution using TiO₂-supported ZSM-11 zeolite 15. Water disinfection with UVC and/or chemical inactivation. Mechanistic differences, implications and consequences 16. Ag/AgCl composite material: synthesis, characterization and application in treating wastewater; 17. Highly photoactive Er³⁺-TiO₂ system by means of up-conversion and electronic cooperative mechanism; 18. Stabilized TiO₂ nanoparticles on clay minerals for air and water treatment; 19. Photodegradation of beta-blockers in water; 20. Final conclusions; Book series page

Sommario/riassunto

Providing a state-of-the-art overview on environmental applications of Advanced Oxidation Technologies (AOTs) as sustainable, low-cost and low-energy consuming treatments of water, air, and soil. It includes information on innovative research and development on TiO₂ photocatalytic redox processes, Fenton, Photo-Fenton processes, zerovalent iron technology, etc highlighting possible applications of ATOs in developing and industrialized countries around the world in the framework of a crosscutting and comprehensive look at environmental problems. Advanced Oxidation Technologies (AOTs) or Processes (AOPs) are relatively new and innovative technologies to remove harmful and toxic pollutants--
