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Collana	Sustainable Energy Developments ; ; Volume 9
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Disciplina	628.3/5
Soggetti	Sewage - Purification - Oxidation Oxidation - Environmental aspects Sustainable engineering Environmental chemistry - Technique
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"A Balkema book."
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
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 <sub>2</sub> -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 <sub>2</sub> O <sub>3</sub> catalyst in a recirculating batch reactor 6. Degradation of a mixture of glyphosate and 2,4-D in water solution employing the UV/H <sub>2</sub> O <sub>2</sub>

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/H<sub>2</sub>O<sub>2</sub> 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 TiO<sub>2</sub> 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 TiO<sub>2</sub>-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 Er<sup>3+</sup>-TiO<sub>2</sub> system by means of up-conversion and electronic cooperative mechanism; 18. Stabilized TiO<sub>2</sub> nanoparticles on clay minerals for air and water treatment; 19. Photodegradation of beta-blockers in water; 20. Final conclusions; Book series page

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### 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 TiO<sub>2</sub> 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--

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