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Chapter 16 Nanotechnology for Contaminated Subsurface Remediation: Possibilities and Challenges  
Chapter 17 Nanostructured Materials for Improving Water Quality: Potentials and Risks; Chapter 18 Physicochemistry of Polyelectrolyte Coatings that Increase Stability, Mobility, and Contaminant Specificity of Reactive Nanoparticles Used for Groundwater Remediation; Chapter 19 Heterogeneous Catalytic Reduction for Water Purification: Nanoscale Effects on Catalytic Activity, Selectivity, and Sustainability  
Chapter 20 Stabilization of Zero-Valent Iron Nanoparticles for Enhanced In Situ Destruction of Chlorinated Solvents in Soils and Groundwater  
Chapter 21 Enhanced Dechlorination of Trichloroethylene by Membrane-Supported Iron and Bimetallic Nanoparticles; Chapter 22 Synthesis of Nanostructured Bimetallic Particles in Polyligand-Functionalized Membranes for Remediation Applications; Chapter 23 Magnesium-Based Corrosion Nano-Cells for Reductive Transformation of Contaminants; Chapter 24 Water Decontamination Using Iron and Iron Oxide Nanoparticles  
Chapter 25 Reducing Leachability and Bioaccessibility of Toxic Metals in Soils, Sediments, and Solid/Hazardous Wastes Using Stabilized Nanoparticles

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Sommario/riassunto

The World Health Organization in 2004 estimated approximately 1.1 billion people did not have access to clean water and that 35% of Third World residents died from water-borne illnesses. While the situation is grim, recent advances strongly indicate that many of the current water quality problems can be addressed - and potentially resolved - using nanotechnology. Nanotechnology is already having a dramatic impact on research in water quality and Nanotechnology Applications for Clean Water highlights both the challenges and the opportunities for nanotechnology to positively influence thi

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