



policies.

*This book discusses different strategies that can be adopted by agriculture and industry to enhance CO2 sequestration and reduce the impacts of global warming and climate change. Written by researchers from different fields, chapters cover such topics as the management of agricultural systems with the implementation of agronomic practices that can reduce greenhouse gas emissions and increase soil carbon stocks, the technology of adsorption on activated carbon from low-cost raw material, and the effective methods of carbon capture and storage, among others. This volume is a useful reference for the general public, undergraduate and graduate students, and researchers who aim to deepen their knowledge of those topics. Efficient Management of Wastewater from Manufacturing is an accessible research compendium, highly useful for anyone involved with the phytosanitaries, food and beverage, pharmaceutical, or textile industries. The editor, Victor Monsalvo, is a well-respected expert in the field who has included many of his own studies. He has also enlisted articles from other researchers from around the world. Together, they offer a range of treatment methodologies for manufacturing wastewater, including anaerobic processes and catalyzation. They focus on advanced treatment processes that would improve current efficiency and reduced energy costs. Feasibility and potential problems are also thoroughly discussed, creating a realistic and practical research collection. Included within the book are chapters on the following topics: An overview of pesticide toxicity More efficient anaerobic treatments for agricultural wastewater Wastewater treatment methodologies for specific sectors of the food-production industry, including slaughterhouses, fish processing plants, dairies, fruit canning factories, and wineries Biological treatment systems for wastewater containing cosmetic and pharmaceutical chemicals and byproducts Improved methodologies for removing dye from textile wastewater The range of topics will be of practical use to chemical, civil, and environmental engineers. Researchers at the graduate level will find here a wealth of studies that will prove fruitful for future investigation.*

*Intense research has been started all around the world in the past few decades to exploit different agents from natural products as eco-friendly alternative to synthetic and toxic chemicals. Natural products and their derivatives have received increasing attention for their use in many everyday applications ranging from food, medicine, textiles, and healthcare. This new book presents significant research advances about the use of natural products, mainly plant colorants, bioactive compounds and other plant extracts in the textile coloration, food, bioremediation and environmental applications. There are total eight chapters contributed by leading researchers covering the topics such as potential resurgence of natural dyes in applied fields, natural colorants from indigoid plants, phytochemistry of dye yielding plants, irradiation as novel pretreatment methods, dyeing studies with henna plant, phytoremediation of arsenic, and synthesis of curcumin complexes for medicinal and other industrial uses.*

*Emerging Techniques for Treatment of Toxic Metals from Wastewater explores the different physical and chemical methods that can be used to remove toxins from wastewater, including adsorption, solvent extraction, ion exchange, precipitation, filtration and photocatalytic degradation. Bringing together contributions from leading experts in the field, the book covers each of the different techniques in detail, combining emergent research outcomes with fundamental theoretical concepts to provide a clear appraisal of the different techniques available, along with their applications. It is an essential recourse for researchers, industrialists and students concerned with the remediation of toxic metals from water and wastewater. Covers the various techniques for metal removal and their applications in a single source Addresses emerging technologies; chemical, physical, and biological including nanotechnology Brings together novel techniques and their applications for enhancing large scale industrial production signposting opportunities for significant enhancements*

*Proceedings of Euro-Mediterranean Conference for Environmental Integration (EMCEI-1), Tunisia 2017*

*Advanced Water Treatment*

*Nanomaterials in Bionanotechnology*

*Recent Advances in Environmental Science from the Euro-Mediterranean and Surrounding Regions*

*New Treatment Technologies*

*New Perspectives*

The recovery of solid wastes for the preparation of innovative composite materials not only represents an economic advantage, but also offers an ecological opportunity for the utilization of by-products which would otherwise be landfilled. Specifically, the reuse and recycling of waste lead to important savings of raw materials and energy, since these by-products, generally deriv from agricultural or industrial activities, are abundant in nature. Moreover, a reduction of the environmental and related sanitary impacts can be also achieved. For this reason, a recycling operation is fundamental for the improvement of the environmental sustainability, because these secondary raw materials become a resource that can be easily reused without the modification of the peculiar characteristics, in order to obtain new and performing composites, with a low specific weight, high durability, and long life cycle.

Acrylates: Advances in Research and Application: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Acrylates. The editors have built Acrylates: Advances in Research and Application: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Acrylates in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Acrylates: Advances in Research and Application: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

Advanced Water Treatment: Adsorption discusses the application of adsorption in water purification. The book reviews research findings on the preparation of five different nano/microcellulose-based adsorbents, their characterization, the study of adsorption kinetics and isotherms, the determination of adsorption mechanisms, and an evaluation of adsorbents' regeneration properties. The book describes modification microfibrillated cellulose (MFC), the use of succinic anhydride modified mercerized nanocellulose, and aminosilane and hydroxyapatite modified nanostructured MFC for the removal of heavy metals from aqueous solutions. Final sections describe the use of aminosilane, epoxy and hydroxyapatite modified MFC as a promising alternative for H2S removal from aqueous solutions, along with new findings on the adsorption properties of carbonated hydroxyapatite modified MFC as multifunctional adsorbent for the removal of both cations and anions ions from water. Includes the most recent research on advanced water treatment by adsorption Provides the latest updates on novel adsorbents for water purification Describes REE removal using various adsorbents Covers a wide range of methods and their integration

Synthesis of Nanostructured Materials in Near and/or Supercritical Fluids: Methods, Fundamentals and Modeling offers a comprehensive review of the current status of research, development and insights on promising future directions, covering the synthesis of nanostructured materials using supercritical fluid-based processes. The book presents fundamental aspects such as high-pressure phase behavior of complex mixtures, thermodynamics and kinetics of adsorption from supercritical solutions, mechanisms of particle formation phenomena in supercritical fluid-based processes, and models for further development. It bridges the gap between theory and application, and is a valuable resource for scientists, researchers and students alike. Includes thermodynamic and mass transfer data necessary for industrial plant design Explains the mechanisms of reactions in a supercritical fluid environment Lists numerous industrial processes for the production of many consumer products

Surfactants play a critical role in Tribology controlling friction, wear, and lubricant properties such as emulsification, demulsification, bioresistance, oxidation resistance, rust prevention and corrosion resistance. This is a critical topic for new materials and devices particularly those built at the nanoscale. This newest volume will address tribological properties of cutting fluids, lubricant performance related to steel surfaces, biolubricants, and novel materials and ways to reduce friction and wear. Scientists from industrial research and development (R&D) organizations and academic research teams in Asia, Europe, the Middle East and North America will participate in the work.

Methods, Fundamentals and Modeling

Sustainable Bio-nano Materials and Macromolecules, Volume 2

Recent Developments in Waste Management

Sustainable Design in Construction, Materials and Processes

Advances in Marine Chitin and Chitosan

Textile Wastewater Treatment

*This book reviews adsorption techniques to clean wastewater, with focus on pollution by dyes and heavy metals. Advanced adsorbents include carbon nanomaterials, biomass, cellulose, polymers, clay, composites and chelating materials.*

*This book presents a picture of the advances in the research of theoretical and practical frameworks of wastewater problems and solutions. The book deals with a basic concept and principles of modern biological, chemical and technical approaches to remediate various hazardous pollutants from wastewater. The latest empirical research findings in wastewater treatment are comprehensively discussed. Examples of low-cost technologies are also included. The book is written for professionals, researchers, academics and students wanting to improve their understanding of the strategic role of environmental protection and advanced applied technologies.*

*The use of biological sources such as microbes and plants can help in synthesizing nanoparticles in a reliable and eco-friendly way. The synthesis of nanoparticles by these natural sources is characterized by processes that take place near to ambient temperature and pressures and also near neutral pH. This edited volume authored by subject specialists, provides all the latest research and builds a database of bioreduction agents to various metal nanoparticles using different precursor systems. The book also highlights the different strategies such as simplicity, cost-effectiveness, environment-friendly and easily scalable, and includes parameters for controlling the size and shape of the materials developed from the various greener methods. In order to exploit the utmost potential metal nanoparticles synthesis from the different sources such as agricultural waste, flora and fauna, food waste, microbes and biopolymer systems, it is also crucial to recognize the biochemical and molecular mechanisms of production of nanoparticles and their characterization.*

*Offers an overview of the recent theoretical and practical results achieved in gas-solid (G/S), liquid-solid (L/S), and gas-liquid (G/L) adsorption research.*

*This volume of the journal presents readers with the collection of papers by results of the 4th International Conference on Global Sustainability and Chemical Engineering (ICGSCE 2018) which was successfully held during 5-6 September 2018 in Kuala Lumpur, Malaysia. The topics mentioned in this collection cover a wide range of modern materials science and chemical engineering in the aspect of clean and sustainable development.*

*Advances in Materials Science for Environmental and Energy Technologies V*

*Eco-friendly and Smart Polymer Systems*

*Advances in In Situ Biological and Chemical Groundwater Treatment*

*Sustainable Biochar for Water and Wastewater Treatment*

*Downstream Processing*

*Novel Bioderived Composites from Wastes*

*This proceedings book presents the main findings of the 13th International Seminar on Polymer Science and Technology (ISPST 2018), which was held at Amirkabir University of Technology, Tehran, on November 10–22, 2018. This forum was the culmination of more than three decades of academic and industrial activities of Iranian scholars and professionals, and the participation of many notable international scientists, in covering various important polymer-related subjects of concern to Iran and the world at large, including polymer synthesis, processing and properties, as well as issues concerning polymer degradation, stability, and environmental aspects. For the past half a century, the growing concern for advancing human health, quality of life, and – especially in the last few decades – avoiding and combating environmental pollution have shaped and driven scientific activities geared toward the creation of smart materials that are compatible with the human body, and have prompted scientists and technologists to pursue research using natural and sustainable sources. This book highlights efforts to responsibly address the problems caused by, and which can potentially be solved by, polymers and plastics.*

*Current Trends in Chromatographic Research Technology and Techniques*

*Efficient Management of Wastewater from Manufacturing*

*Advanced Materials for Wastewater Treatment*

*Bioreduction of Selenite and Tellurite by Phanerochaete Chrysosporium*

*Surfactants in Tribology, Volume 5*

*Select Proceedings of Recycle 2018*