

Waste Water Engineering By S K Garg

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A Study of Hazardous Waste Materials, Hazardous Effects and Disposal Methods - Booz, Allen Applied Research Inc 1973

Waste Management - Gunjan Mukherjee 2022-10-27
Solid and liquid wastes generated as a result of various agricultural, municipal, industrial and several other processes have become a global concern. This book provides detailed information on eco-friendly approaches and

low-cost strategies for solid and liquid waste management. It emphasizes how these wastes can be utilized as alternatives to expensive raw materials thus encouraging sustainable development. This book will be useful to all those who have a keen interest in waste management processes.
Bioremediation - Sanjay K. Sharma 2019-10-24
Bioremediation: A Sustainable Approach to Preserving Earth's Water discusses the latest research in green chemistry

practices and principles that are involved in water remediation and the quality improvement of water. The presence of heavy metals, dyes, fluoride, dissolved solids and many other pollutants are responsible for water pollution and poor water quality. The removal of these pollutants in water resources is necessary, yet challenging. Water preservation is of great importance globally and researchers are making significant progress in ensuring this precious commodity is safe and potable. This volume illustrates how bioremediation in particular is a promising green technique globally.

Features: Addresses bioremediation of all the major water pollutants Approaches the chemistry of water and the concept of water as a renewable resource from a green chemistry aspect Discusses environmental chemistry and the practice of industrial ecology Explains the global concern of adequate high quality water supplies, and how bioremediation can

resolve this Explores sustainable development through green engineering ERDA. - 1976

Environmental Pollutants and their Bioremediation Approaches - Ram Naresh

Bharagava 2017-07-06

This book is a compilation of detailed and latest knowledge on the various types of environmental pollutants released from various natural as well as anthropogenic sources, their toxicological effects in environments, humans, animals and plants as well as various bioremediation approaches for their safe disposal into the environments. In this book, an extensive focus has been made on the various types of environmental pollutants discharged from various sources, their toxicological effects in environments, humans, animals and plants as well as their biodegradation and bioremediation approaches for environmental cleanup.

Microbes in Agriculture and Environmental Development

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- Chhatarpal Singh 2020-10-28

The collection of essays in *Microbes in Agriculture and Environmental Development* explores the applications of microbes for the improvement of environmental quality and agricultural productivity through inoculants and enzymes. These are useful for the conservation and restoration of degraded natural and agricultural ecosystems, crop yield extension, soil health improvement, and other aspects of agriculture and the environment. It discusses the effective use of microbial technology, wastewater treatment, and recycling of agricultural and industrial wastes. It provides detailed accounts of recent trends in microbial application in plant growth promotion, soil fertility, microbial biomass and diversity, and environmental sustainability through bioremediation, biodegradation, and biosorption processes. Features: Discusses microbes and their applications for sustainable agriculture and

environmental protection in agro-environmental circumstances. Presents innovative and eco-friendly approaches for the remediation of contaminated soil and wastewater. Focuses on green technologies and sustainability. Includes chapters on sustainable agriculture development through increasing soil fertility, physico-chemical properties and soil microbial biomass in nutrient-deprived soils. Defines the role of microbial bioformulation-based consortia in the productivity improvement of agricultural crops. It will be an invaluable addition to the bookshelves of researchers and graduate students in agriculture and environmental engineering, soil science; microbiology, sustainable agriculture, and ecosystems. Dr. Chhatarpal Singh is presently the President of Agro Environmental Development Society (AEDS), Majhra Ghat, Rampur, Uttar Pradesh, India. Dr. Tiwari is currently working in the field of methanotrophs ecology (methane oxidizing

bacteria), which is sole entity responsible for the oxidation of potent greenhouse gas CH₄.

Dr. Jay Shankar Singh is presently working as a faculty member in the Department of Environmental Microbiology at Babasaheb Bhimrao Ambedkar University in Lucknow, India.

Dr. Ajar Nath Yadav is currently serving as an assistant professor in the Department of Biotechnology, Akal College of Agriculture, Eternal University, Baru Sahib, Himachal Pradesh, India.

Beneficial Microbes for Sustainable Agriculture and Environmental Management

- Jeyabalan Sangeetha

2020-03-27

Microbes are the most abundant organisms in the biosphere and regulate many critical elemental and biogeochemical phenomena. Because microbes are the key players in the carbon cycle and in related biological reactions, microbial ecology is a vital research area for understanding the contribution of the biosphere in global warming and the response of

the natural environment to climate variations. The beneficial uses of microbes have enabled constructive and cost-effective responses that have not been possible through physical or chemical methods. This new volume reviews the multifaceted interactions among microbes, ecosystems, and their pivotal role in maintaining a more balanced environment, in order to help facilitate living organisms coexisting with the natural environment. With extensive references, tables, and illustrations, this book provides valuable information on microbial utilization for environmental sustainability and provides fascinating insights into microbial diversity. Key features include: Looks at enhancing plant production through growth-promoting arbuscular mycorrhizae, endophytic bacteria, and microbiome networks Considers microbial degradation and environmental management of e-wastes and azo dyes Explores soil-plant microbe interactions in metal-

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contaminated soils Examines radiation-resistant thermophiles for engineered bioremediation Describes potential indigenous/effective microbes for wastewater treatment processes Presents research on earthworms and microbes for organic farming

An Innovative Role of Biofiltration in Wastewater Treatment Plants (WWTPs) - Maulin P. Shah 2021-12-15

Many physico-chemical and operational factors influence the performance, treatment costs, and longterm stability of biofilters for the treatment of wastewater. An innovative role of biofiltration in wastewater treatment plants (WWTPs) focuses on identifying the factors that affect biofiltration, such as the hydraulic retention time of the biofiltration system, the type and characteristics of the filter, and the attached biomass, explains their influence and provides guidelines on how to control these factors to optimize better operation with respect to pollutant control present in (WWTPs). The fundamental

basis of the treatment in biofilters is the action of pollutant-degrading microorganisms and consequently the book also discusses in depth about the microbial ecology of biofiltration. In addition, it explores the applications of biofiltration including the removal of emerging pollutants. Describes the microbial ecology of biofiltration Includes modeling of biofiltration Describes the designing of biofilters, start-up, and monitoring Discusses the mechanism of biofiltration Describes the controlling and operational factors of biofiltration

Floating Nuclear Power Plants, Manufacture, Offshore Power Systems, Jacksonville - 1975

Environmental Waste Management - Ram Chandra 2016-04-19

Rapid industrialization has resulted in the generation of huge quantities of hazardous waste, both solid and liquid. Despite regulatory guidelines

and pollution control measures, industrial waste is being dumped on land and discharged into water bodies without adequate treatment. This gross misconduct creates serious environmental and public health

MANAGEMENT OF SALINE & WASTE WATER IN AGRICULTURE - Gupta, I.C.
2015-03-02

The current book compiles and puts together information on extent and distribution of poor quality waters in various states of India, their characteristics highlighting the problems likely to be encountered and principles and practices of using poor quality waters in agriculture. Special emphasis has been placed on the use of domestic and industrial wastewaters.

HYDROLOGY AND WATERSHED MANAGEMENT - K. Ramamohan Reddy
2014-10-20

The Proceeding contains the following sections: i) Groundwater Exploration and Exploitation; (ii) RS&GIS Applications in Water

Resources; (iii) Watershed Management: Hydrological, Socio-Economic and Cultural Models; (iv) Water and Wastewater Treatment Technologies; (v) Rainwater Harvesting and Rural and Urban Water Supplies; (vi) Floods, Reservoir Sedimentation and Seawater Intrusion; (vii) Water Quality, Pollution and Environment; (viii) Irrigation Management; (ix) Water Logging and Water Productivity in Agriculture; (x) Groundwater Quality; (xi) Hydrologic Parameter Estimation and Modelling; (xii) Climate Change, Water, Food and Environmental Security; (xiii) Groundwater Recharge and Modelling; (xiv) Computational Methods in Hydrology; (xv) Soil and Water Conservation Technologies. *Wastewater Treatment by Reverse Osmosis Process* - Mudhar Al-Obaidi 2020-02-25 *Wastewater Treatment by Reverse Osmosis Process* provides a one-stop-shop for reverse osmosis (RO), outlining its scope and limitations for the removal of organic compounds

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from wastewater. This book covers the state-of-the-art on RO processes and describes ten RO process models of different features and complexities. It also covers the advanced model-based techniques for RO process operations, including various rigorous methods for process modelling, simulation, and optimization at the lowest energy cost, as well as advanced tools such as genetic algorithms for achieving the same. • Highlights different types of physico-chemical and biological wastewater treatment methods including hybrid systems • Provides an overview of membrane processes, focuses on different types of membrane processes for water treatment and explains characteristics of membrane modules • Introduces the importance and challenges of process modelling for simulation, design, and optimization and offers examples across various industries • Describes the concept of different types of genetic algorithms for process

optimisation and provides the state-of-the-art of the GA method in terms of its application in water desalination and wastewater treatment • Emphasizes economic aspects of RO processes for wastewater treatment With its focus on the challenges posed by an increasing demand for fresh water and the urgent need to recycle wastewater at minimum cost, this work is an invaluable resource for engineers and scientists working within the field of wastewater treatment.

Light Metals 2013 - Barry Sadler 2017-08-18

Advanced Design of Wastewater Treatment Plants: Emerging Research and Opportunities - Hussain, Athar 2019-05-31

With the advancement of new technologies, existing wastewater treatment units need to be reexamined to make them more efficient and to release the load currently placed on them. Thus, there is an urgent need to develop and

adopt the latest design methodology to determine and remove harmful impurities from water sources. Advanced Design of Wastewater Treatment Plants: Emerging Research and Opportunities is a critical scholarly resource that explores the design of various units of wastewater treatment plants and treatment technologies that can produce reusable quality water from wastewater. The book covers topics that include the basic philosophy of wastewater treatment, designing principles of various wastewater treatment units, conventional treatment systems, and advanced treatment processes. It is an integral reference source for engineers, environmentalists, waste authorities, solid waste management companies, landfill operators, legislators, researchers, and academicians.

Removal of Refractory Pollutants from Wastewater Treatment Plants - Maulin P. Shah 2021-10-08

This book discusses new and innovative trends and

techniques in the removal of toxic and or refractory pollutants through various environmental biotechnological processes from wastewater, both at the laboratory and industrial scale. It focuses primarily on environmentally-friendly technologies which respect the principles of sustainable development, including the advanced trends in remediation through an approach of environmental biotechnological processes from either industrial or sewage wastewater. Features: Examines the fate and occurrence of refractory pollutants in wastewater treatment plants (WWTPs) and the potential approaches for their removal. Highlights advanced remediation procedures involving various microbiological and biochemical processes. Assesses and compares the potential application of numerous existing treatment techniques and introduces new, emerging technologies. Removal of Refractory Pollutants from Wastewater

Treatment Plants is suitable for practicing engineers, researchers, water utility managers, and students who seek an excellent introduction and basic knowledge in the principles of environmental bioremediation technologies.

Pulp and Paper Industry -

Pratima Bajpai 2017-02-25

Pulp and Paper Industry:

Emerging Waste Water

Treatment Technologies is the

first book which

comprehensively reviews this

topic. Over the past decade,

pulp and paper companies have

continued to focus on

minimizing fresh water use and

effluent discharges as part of

their move towards sustainable

operating practices. Three

stages—basic conservation,

water reuse and water

recycling—provide a systematic

approach to water resource

management. Implementing

these stages requires increased

financial investment and better

utilization of water resources.

The ultimate goal for pulp and

paper companies is to have

effluent-free factories with no

negative environmental impact.

The traditional water treatment technologies that are used in paper mills are not able to

remove recalcitrant

contaminants. Therefore,

advanced water treatment

technologies are being

included in industrial

wastewater treatment chains

aiming to either improve water

biodegradability or its final

quality. This book discusses

various measures being

adopted by the pulp and paper

industry to reduce water

consumption and treatment

techniques to treat wastewater

to recover it for reuse. The

book also examines the

emerging technologies for

treatment of effluents and

presents examples of full-scale

installations. Provides

thorough and in-depth

coverage of advanced

treatment technologies which

will benefit the industry

personnel, pulp manufacturers,

researchers and advanced

students Presents new

treatment strategies to

improve water reuse and fulfill

the legislation in force

regarding wastewater

discharge Presents viable solutions for pulp and paper manufacturers in terms of wastewater treatment Presents examples of full-scale installations to help motivate mill personnel to incorporate new technologies

Treatment of Industrial Effluents - Mihir Kumar Purkait
2019-09-06

To address the issue of discharge of untreated industrial effluent in the water body causing pollution, adoption of cleaner production technologies and waste minimization initiatives are being encouraged. The book explains each related technology elaborately and critically analyses the same from practical application point of view. In-depth characterization, environmental and health effects and treatment of various industrial effluents are discussed with case studies. Limitations, challenges and remedial actions to be taken are included at the end of each chapter. Chapters are arranged as per specific type of effluents

from various industries like textile, tannery/leather plant, and oil refinery.

Wastewater to Water -
Makarand M. Ghangrekar
2022-11-21

This textbook offers a complete comprehensive coverage of wastewater engineering from pollutant classification, design of collection systems and treatment systems including operational guidelines for the treatment plants. Apart from the primary and conventional secondary wastewater treatment, this book covers the details and design of advanced biological treatment systems such as sequencing batch reactor (SBR), up-flow anaerobic sludge blanket (UASB) reactors and hybrid reactor, with design examples and photographs of actual working reactors which is useful for students and practicing engineers. This textbook is designed to provide complete solution for the wastewater engineering for easy reference to the users. This textbook is an ideal reference for courses taught at

the university undergraduate and postgraduate level in the field of civil/environmental engineering, chemical engineering, water management and environmental science. It should also appeal to practicing engineers in the wastewater engineering and effluent treatment plant designers.

Progress in Slow Sand and Alternative Biofiltration

Processes - Nobutada Nakamoto 2014-05-14

This book provides a state-of-the-art assessment on a variety of biofiltration water treatment systems from studies conducted around the world.

The authors collectively represent a perspective from 23 countries and include academics/researchers, biofiltration system users, designers, and manufacturers.

Progress in Slow Sand and Alternative Biofiltration Processes - Further Developments and Applications offers technical information and discussion to provide perspective on the biological

and physical factors affecting the performance of slow sand filtration and biological filtration processes. Chapters were submitted from the 5th International Slow Sand and Alternative Biological Filtration Conference, Nagoya, Japan in June 2014. Authors: Nobutada Nakamoto, Shinshu University, Japan, Nigel Graham, Imperial College London, UK, M. Robin Collins, University of New Hampshire, Durham, NH, USA and Rolf Gimbel, Universität Duisburg, Essen, Germany.

6th International R&D Conference, Sustainable Development of Water and Energy Resources, Needs and Challenges, 13-16 February 2007, Lucknow, India : Proceedings: Water resources - 2007

Contributed articles presented at the Conference.

Reviews of Environmental Contamination and Toxicology Volume 240 - Pim de Voogt 2016-10-31

Reviews of Environmental Contamination and Toxicology attempts to provide concise, critical reviews of timely

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advances, philosophy and significant areas of accomplished or needed endeavor in the total field of xenobiotics, in any segment of the environment, as well as toxicological implications.

Handbook of Environment and Waste Management - Yung-Tse Hung 2012

This is a compilation of topics that are at the forefront of many technical advances and practices in air and water control. These include air pollution control, water pollution control, water treatment, wastewater treatment, industrial waste treatment and small scale wastewater treatment.

Irrigation Engineering (Including Hydrology) - Sharma R.K. & Sharma T.K. 2008

The First Edition of this treatise on Irrigation Engineering duly subsidised by national Book trust, Government of India, published in 1984. was highly acclaimed by the engineering teachers and taughts and its revised edition

appeared in 1990. The dynamism inherent in the subject necessitated drastic changes in the text, prompted by the overwhelming response of irrigation and agriculture engineering students and practising engineers in the country and abroad duly patronised by the publications, Shri Ravindra Kumar Gupta, Managing Director, S.Chand & Company Ltd., New Delhi

Current Trends and Future Developments on (Bio-) Membranes - Angelo Basile 2020-05-08

Water is the most valuable resource for all human development. With increasing global population the demand for water increases whereas the sources of clean water are decreasing. recycling and reuse of wastewater has become an imperative which demands the development of new, efficient and environmentally friendly treatment methods. Current Trends and Future Developments in (Bio-) Membranes: Recent

Achievements in Wastewater and Water Treatments provides a comprehensive coverage of the existing wastewater treatment including, but not exclusively, membrane-based methods. The book presents most common used methods compares and evaluates them depending on their particular application. It illustrates many aspects of the various treatment systems used in water and wastewater purification and lists the advantages of membrane-based methods to non-membrane based technologies. This book focuses on introducing, applications, advantages/disadvantages, evaluating of membrane-based technologies and comparing it with other non-membrane based systems. It also analyses the various limitations of each method. Hence, the book is a key reference text for R&D managers in industry interested in the development of water/waste treatment technologies as well as academic researchers and postgraduate students working

in the wider area of the strategic treatment, separation and purification processes. Provides the state-of-the-art of water and wastewater treatments by various technologies Describes novel and emerging technologies for waste/water treatment Discusses a number of case studies of popular applications Offers an economic evaluation of various technologies
[Draft Environmental Statement by the Directorate of Licensing, United States Atomic Energy Commission Related to the Proposed Manufacture of Floating Nuclear Power Plants, Offshore Power Systems, Docket No. STN 50-437 - U.S. Atomic Energy Commission. Directorate of Licensing 1974](#)

[Methods for Bioremediation of Water and Wastewater Pollution](#) - Inamuddin
2020-10-05

This book presents advanced techniques for wastewater treatment and the chapters review the environmental impact of water pollution, the analysis of water quality, and

technologies for the preservation of water resources. Also outlined in this volume is the bioremediation of heavy metals, dyes, bisphenols, phthalates, cyanobacteria in contaminated water and wastewater. Another focus of this book is the use of natural remediation techniques such as bacterial biofilms and enzymes.

Hazardous Waste

Management - Deepak Yadav
2021-11-29

Hazardous Waste Management: An Overview of Advanced and Cost-Effective Solutions includes the latest practical knowledge and theoretical concepts for the treatment of hazardous wastes. The book covers five major themes, namely, ecological impact, waste management hierarchy, hazardous waste characteristics and regulations, hazardous wastes management, and future scope of hazardous waste management. It serves as a comprehensive and advanced reference for undergraduate students, researchers and practitioners in the field of

hazardous wastes and focuses on the latest emerging research in the management of hazardous waste, the direction in which this branch is developing as well as future prospects. The book deals with all these components in-depth, however, particular attention is given to management techniques and cost-effective, economically feasible solutions for hazardous wastes released from various sources.

Comprehensively explores the impact of hazardous wastes on human health and ecosystems Discusses toxicity across solid waste, aquatic food chain and airborne diseases Categorically elaborates waste treatment and management procedures with current challenges Discusses future challenges and the importance of renewing technologies

Environmental Contamination and Bioreclamation - Arvind Kumar 2004

Collects 43 Research Articles Relating To Environmental Pollution And The Steps Required To Be Taken For Their Eradication. Useful For

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Students, Academics,
Researchers Etc. In Short For
All Those Interested In
Conservation Of Non-
Renewable Resources For
Future Generations.

**Principles of Sustainable
Aquaculture** - Stuart W.

Bunting 2013-01-25

Aquaculture is the farming of aquatic organisms, principally fish, molluscs, crustaceans and marine algae. It has seen phenomenal worldwide growth in the past fifty years and many people view it as the best solution for the provision of high quality protein to feed the world's growing population, particularly with the rapid decline in wild marine fish populations. Aquaculture now contributes approximately one third of the world's fish production, and has increased by about eight per cent annually over the last thirty years, while wild capture fishery production has remained static. Focused on developing more sustainable aquaculture practices, this book provides an ideal advanced-level textbook. It is

based on extensive evidence and knowledge of best practices, with guidance on appropriate adaptation and uptake in a variety of environmental, geographic, socio-economic and political settings. The author concentrates on low-impact aquaculture systems and approaches, which have minimal adverse effects on the environment. He also emphasizes socially responsible and equitable aquaculture development; to enhance the natural resource base and livelihoods. Drawing on a range of case-studies from around the world, the objective is to show where progress in terms of developing ecologically sound and socially responsible forms of aquaculture has been made. A tool-box of approaches to support widespread adoption and appropriate adaptation of regenerating aquaculture strategies is provided, ensuring the book will have practical relevance for both students and professionals.

*Wastewater Treatment and
Waste Management* - Vijay P.

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Singh 2003

Wastewater Treatment -

Maulin P. Shah 2022-02-16

Wastewater Treatment: Molecular Tools, Techniques, and Applications provides an insight about the application of different tools and technology for exploring microbial structure-function relationships that involved in WWTPs. From the present day consequence of alarming usable water crisis throughout the globe, an immediate action on water cycle is necessary. Along with other options the waste water recycling is one major opportunity to combat the future scarcity. The book aims to provide a comprehensive view of advanced emerging technologies for wastewater treatment, heavy metal removal, pesticide degradation, dye removal, waste management, microbial transformation of environmental contaminants, etc. It also describes different application of Omic tools in Waste water treatment plants (WWTPs), describes the role of

microorganisms in WWTPs, points out the reuse of treated wastewater through emerging technologies, also includes the recovery of resources from wastewater and emphasizes on cutting edge molecular tools for WWTPs. We hope the content of the book will be very much useful for the community who are directly associated in wastewater management research, people who are associated with environmental awareness programme and the students of UG and PG courses. Features: This book highlights the importance of molecular genomics, molecular biology techniques to sort out the problems faced by industrialist who operates wastewater treatment plant with the ever-increasing number of environmental pollutants. Describes application of different Omic tools in Wastewater treatment plants (WWTPs) Describes the role of microorganisms in WWTPs Points out the reuse of treated wastewater through emerging technologies. Includes the

recovery of resources from wastewater Emphasizes on cutting edge molecular tools This book targets engineers, scientists and managers who require an excellent introduction and basic knowledge to the principles of molecular biology or molecular genomics in the area of wastewater treatment.

Different professionals working or interested in the Environmental Microbiology or Bioremediation or Environmental Genomics field. Students on Environmental Biotechnology/Microbiology.

Waste Production and Utilization in the Metal

Extraction Industry -

Sehlielo Ndlovu 2017-06-27

Increasingly stringent environmental regulations and industry adoption of waste minimization guidelines have thus, stimulated the need for the development of recycling and reuse options for metal related waste. This book, therefore, gives an overview of the waste generation, recycle and reuse along the mining, beneficiation, extraction,

manufacturing and post-consumer value chain. This book reviews current status and future trends in the recycling and reuse of mineral and metal waste and also details the policy and legislation regarding the waste management, health and environmental impacts in the mining, beneficiation, metal extraction and manufacturing processes. This book is a useful reference for engineers and researchers in industry, policymakers and legislators in governance, and academics on the current status and future trends in the recycling and reuse of mineral and metal waste. Some of the key features of the book are as follows: Holistic approach to waste generation, recycling and reuse along the minerals and metals extraction. Detailed overview of metallurgical waste generation. Practical examples with complete flow sheets, techniques and interventions on waste management. Integrates the technical issues related to efficient resources utilization

with the policy and regulatory framework. Novel approach to addressing future commodity shortages.

US Nuclear Power Export Activities - 1976

Rhizobiont in Bioremediation of Hazardous Waste - Vivek Kumar 2021-05-22

This book describes many novel approaches of microbial bioremediation including conventional and modern approaches, metagenomics, biosurfactants and nano-based bioremediation. Also presents up-to-date knowledge about biodegradation of solid and liquid contaminants in the rhizospheric zone by plant (rhizo)-microbiome interface. It also illustrates communication pathways based on evolving methodologies, bioinformatic tools which provides insights into the functional dynamics of bioremediation process by the host-microbiome interface. The different chapters explain the mechanism and outcomes during the process of bioremediation. The book

broadly depicts the following: Advances in bioremediation through nanoremediation, rhizo-remediation, bioremediation of different ecosystems like polluted waters, industrial effluents, bioremediation of metal and organic pollutants, toxic dyes etc. The book is very useful for researchers and students in the fields of applied and environmental microbiology. It is also meant for industry experts and professionals working in the field of bioremediation and waste management.

Development in Wastewater Treatment Research and Processes - Susana Rodriguez-Couto 2021-09-11

Removal of Emerging Contaminants from Wastewater through Bio-nanotechnology showcases profiles of the nonregulated contaminants termed as “emerging contaminants, which comprise industrial and household persistent toxic chemicals, pharmaceuticals and personal care products (PPCPs), pesticides, surfactants and

surfactant residues, plasticizers and industrial additives, manufactured nanomaterials and nanoparticles, microplastics, etc. that are used extensively in everyday life. The occurrence of “emerging contaminants in wastewater, and their behavior during wastewater treatment and production of drinking water are key issues in the reuse and recycling of water resources. This book focuses on the exploitation of Nano-biotechnology inclusive of the state-of-the-art remediate strategies to degrade/detoxify/stabilize toxic and hazardous contaminants and restore contaminated sites, which is not as comprehensively discussed in the existing titles on similar topics available in the global market. In addition, it discusses the potential environmental and health hazards and ecotoxicity associated with the widespread distribution of emerging contaminants in the water bodies. It also considers the life

cycle assessment (LCA) of emerging (micro)-pollutants with suitable case studies from various industrial sources. Provides natural and ecofriendly solutions to deal with the problem of pollution Details underlying mechanisms of nanotechnology-associated microbes for the removal of emerging contaminants Describes numerous successful field studies on the application of bio-nanotechnology for eco-restoration of contaminated sites Presents recent advances and challenges in bio-nanotechnology research and applications for sustainable development Provides authoritative contributions on the diverse aspects of bio-nanotechnology by world’s leading experts

Proceedings of the Indian Geotechnical Conference

2019 - Satyajit Patel

2021-06-04

This book comprises select proceedings of the annual conference of the Indian Geotechnical Society. The conference brings together research and case histories on

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various aspects of geotechnical and geoenvironmental engineering. The book presents papers on geotechnical applications and case histories, covering topics such as (i) Characterization of Geomaterials and Physical Modelling; (ii) Foundations and Deep Excavations; (iii) Soil Stabilization and Ground Improvement; (iv) Geoenvironmental Engineering and Waste Material Utilization; (v) Soil Dynamics and Earthquake Geotechnical Engineering; (vi) Earth Retaining Structures, Dams and Embankments; (vii) Slope Stability and Landslides; (viii) Transportation Geotechnics; (ix) Geosynthetics Applications; (x) Computational, Analytical and Numerical Modelling; (xi) Rock Engineering, Tunnelling and Underground Constructions; (xii) Forensic Geotechnical Engineering and Case Studies; and (xiii) Others Topics: Behaviour of Unsaturated Soils, Offshore and Marine Geotechnics, Remote Sensing and GIS, Field Investigations, Instrumentation

and Monitoring, Retrofitting of Geotechnical Structures, Reliability in Geotechnical Engineering, Geotechnical Education, Codes and Standards, and other relevant topics. The contents of this book are of interest to researchers and practicing engineers alike.

Risk, Reliability and Sustainable Remediation in the Field of Civil and Environmental Engineering - Thendiyath Roshni 2022-03-22
Risk, Reliability and Sustainable Remediation in the Field of Civil and Environmental Engineering illustrates the concepts of risk, reliability analysis, its estimation, and the decisions leading to sustainable development in the field of civil and environmental engineering. The book provides key ideas on risks in performance failure and structural failures of all processes involved in civil and environmental systems, evaluates reliability, and discusses the implications of measurable indicators of

sustainability in important aspects of multitude of civil engineering projects. It will help practitioners become familiar with tolerances in design parameters, uncertainties in the environment, and applications in civil and environmental systems. Furthermore, the book emphasizes the importance of risks involved in design and planning stages and covers reliability techniques to discover and remove the potential failures to achieve a sustainable development. Contains relevant theory and practice related to risk, reliability and sustainability in the field of civil and environment engineering Gives firsthand experience of new tools to integrate existing artificial intelligence models with large information obtained from different sources Provides engineering solutions that have a positive impact on sustainability

Removal of Toxic Pollutants through Microbiological and Tertiary Treatment - Maulin P. Shah 2020-08-20

Removal of Toxic Pollutants through Microbiological and Tertiary Treatment: New Perspectives offers a current account of existing advanced oxidation strategies - including their limitations, challenges, and potential applications - in removing environmental pollutants through microbiological and tertiary treatment methods. The book introduces new trends and advances in environmental bioremediation technology, with thorough discussion of recent developments in the field. Updated information as well as future research directions in the field of bioremediation of industrial wastes is included. This book is an indispensable guide to students, researchers, scientists, and professionals working in fields such as microbiology, biotechnology, environmental sciences, ecotoxicology, and environmental remediation. The book also serves as a helpful guide for waste management professionals and those working on the biodegradation

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and bioremediation of industrial wastes and environmental pollutants for environmental sustainability. Introduces various treatment schemes, including microbiological and tertiary technologies for bioremediation of environmental pollutants and industrial wastes Includes pharmaceutical wastewater, oil refinery wastewater, distillery wastewater, tannery wastewater, textile wastewater, mine tailing wastes, plastic wastes, and more Describes the role of relatively new treatment

technologies and their approaches in bioremediation, including molecular and protein engineering technologies, microbial enzymes, bio surfactants, plant-microbe interactions, and genetically engineered organisms Provides many advanced technologies in the field of bioremediation and phytoremediation, including electro-bioremediation technology, microbial fuel cell technology, nano-bioremediation technology, and phytotechnologies
Wastewater Engineering -
Dr. B.C. Punmia 1998-05-01