

Biogas Technology By Nijaguna

As recognized, adventure as well as experience not quite lesson, amusement, as without difficulty as harmony can be gotten by just checking out a books **Biogas Technology By Nijaguna** plus it is not directly done, you could resign yourself to even more in the region of this life, around the world.

We present you this proper as without difficulty as easy mannerism to acquire those all. We find the money for Biogas Technology By Nijaguna and numerous ebook collections from fictions to scientific research in any way. in the middle of them is this Biogas Technology By Nijaguna that can be your partner.

Advanced Organic Waste Management - Chaudhery Mustansar Hussain
2022-01-19

Advanced Organic Waste Management: Sustainable Practices and Approaches provides an integrated holistic approach to the challenges associated with organic waste management, particularly related to sustainability, lifecycle assessment, emerging regulations, and novel approaches for resource and energy recovery. In addition to traditional techniques, such as anaerobic digestion, composting, innovative and emerging techniques of waste recycling like hydrothermal carbonization and vermicomposting are included. The book combines the fundamentals and practices of sustainable organic waste management with successful case studies from developed and developing countries, highlighting practical applications and challenges. Sections cover global organic waste generation, encompassing sources and types, composition and characteristics, focus on technical aspects related to various resource recovery techniques like composting and vermicomposting, cover various waste-to-energy technologies, illustrate various environmental management tools for organic waste, present innovative organic waste management practices and strategies complemented by detailed case studies, introduce the circular bioeconomy approach, and more. Presents the fundamentals and practices of sustainable, organic waste management, with emerging regulations and up-to-date analysis on environmental management tools such as lifecycle assessment in a comprehensive manner Offers the latest information on novel concepts and strategies for organic waste management, particularly zero waste and the circular bioeconomy Includes the latest research findings and future perspectives of innovative and emerging techniques of waste recycling, such as hydrothermal carbonization and vermicomposting

Roadmap for Global Sustainability – Rise of the Green

Communities - Salah El-Haggar 2019-05-08

Progressive increases in consumer demands along with aggressive industrial consumption led the world to proximate resource depletion, weather changes, soil and air degradation and water quality deterioration. We now know that the paradigm of production at the expense of human condition is not sustainable. This book briefly explains how we reached this situation and offers suggestions as to what can be done to overcome it. It invites the best entrepreneurial talent and scientific and technological know-how to develop a sustainable economy around sustainable communities, services, and sectors. A major obstacle previously identified by involved parties was the ability of accommodating for the emerging economic growth without causing harm to the environment, especially with resource depletion. This book provides the solution by creating a need to bring on a new revolution that preserves the rights of next generations to live in a healthy environment This Sustainability Revolution requires the integration of economic, environmental, and social factor as well as the practical aspects of implementing sustainability through green activities, which are discussed throughout the book. In this book, a globalization is proposed that encourages creativity and innovation towards sustainability. With this global sustainability approach (real globalization) both rich and poor will benefit from the global sustainability approach. This will close the gap between rich and poor. Developing countries could reap the benefit of current technology without undergoing many of the growing pains associated with development of these technologies. Governments are able to better work together towards common goals now that there is an advantage in cooperation, an improved ability to interact and coordinate, and a global awareness of issues. The book presents a sustainability roadmap to bring together various concepts, that have been dealt with independently by previous authors, and link them to establish the fundamental practical steps. The flow path and the direction for successful implementation of a sustainability roadmap are also discussed in detail in the book. For the

first time, the authors use sustainable communities to create a better quality of life for residents while minimizing the use of the resources to meet current needs and ensure adequate resources for future generations. These green communities create new industries for the local economy and improve public health, which offers more hope for their citizens. Sustainable transportation, renewable energy, recycling, clean water, and urban forests help to make a more livable community and help to control the global climate change. They involve all citizens and incorporate local values into decision-making.

Renewable Energy and Environment - Prof. Sagar Sankpal
2014-09-10

Athalye Sapre Pitre College Devrukh has always been on the forefront in organizing different academic, co-curricular and administrative activities to nurture the student's minds and equip them with skills to face the challenges of the real world situations with academic excellence. UGC sponsored Three Day National Conference on "Renewable Energy and Environment" was jointly organized by the Department of Chemistry and Physics during 25th to 27th September, 2014. The main objective of this conference was to provide platform to researches in the field of Physics, Chemistry, Technology, Economics, Commerce, Geography and Environmental sciences to share problems and prospects in the field of energy and environment and to compile intellectual inputs for the sustainable development of our country. Protection of the Environment and Climate, and their preservation is a demanding social, scientific and economical task. Utilization of renewable energy, efficient conversions of fossil fuel are not only environmentally and climatically beneficial, they also preserve the finite energy sources. Awareness of this global issue at the grass root level is the need of the hour. Renewable energy and environment is the subject of global attention. The present scenario between energy generation, consumption and depletion of sources of conventional energy has various impacts on Environment. Conservation of renewable energy sources and protection of environment are the burning issues at the global level. Unless a long term planning is done to handle these issues and make them commercially viable and environment friendly; alternative technologies are developed. The potential of renewable energy sources is enormous as they can in principle meet many times the world's energy demand. Renewable energy sources such as small hydropower, wind, solar, biomass, and geothermal can provide sustainable energy services, based on the use of routinely available, indigenous resources. I am sure such platforms through national conference will definitely help to promote various academicians, scientist and research students to share and absorb various new ideas which will help our country to overcome fuel crisis and environmental problems.

Waste Biorefinery - Thallada Bhaskar 2020-03-13

Waste Biorefinery: Integrating Biorefineries for Waste Valorisation provides the various options available for several renewable waste streams. The book includes scientific and technical information pertaining to the most advanced and innovative processing technologies used for the conversion of biogenic waste to biofuels, energy products and biochemicals. In addition, the book reports on recent developments and new achievements in the field of biochemical and thermo-chemical methods and the necessities and potential generated by different kinds of biomass in presumably more decentralized biorefineries. The book presents an assortment of case-studies from developing and developed countries pertaining to the use of sustainable technologies for energy recovery from different waste matrices. Advantages and limitations of different technologies are also discussed by considering the local energy demands, government policies, environmental impacts, and education in bioenergy. Provides information on the most advanced and innovative processes for biomass conversion Covers information on biochemical and thermo-chemical processes and products development on the principles of biorefinery Includes information on the integration of processes and

technologies for the production of biofuels, energy products and biochemicals Demonstrates the application of various processes with proven case studies

Recent Technologies for Enhancing Performance and Reducing Emissions in Diesel Engines - Basha, J. Sathik 2020-02-21

In today's global context, there has been extensive research conducted in reducing harmful emissions to conserve and protect our environment. In the automobile and power generation industries, diesel engines are being utilized due to their high level of performance and fuel economy. However, these engines are producing harmful pollutants that contribute to several global threats including greenhouse gases and ozone layer depletion. Professionals have begun developing techniques to improve the performance and reduce emissions of diesel engines, but significant research is lacking in this area. Recent Technologies for Enhancing Performance and Reducing Emissions in Diesel Engines is a pivotal reference source that provides vital research on technical and environmental enhancements to the emission and combustion characteristics of diesel engines. While highlighting topics such as biodiesel emulsions, nanoparticle additives, and mathematical modeling, this publication explores the potential additives that have been incorporated into the performance of diesel engines in order to positively affect the environment. This book is ideally designed for chemical and electrical engineers, developers, researchers, power generation professionals, mechanical practitioners, scholars, ecologists, scientists, graduate students, and academicians seeking current research on modern innovations in fuel processing and environmental pollution control.

Unep 2010 Annual Report - United Nations Environment Programme 2011-03-08

The 2010 Annual Report catalogues the beginning of a new, strategic and transformational direction for UNEP as it began implementing its Medium Term Strategy (MTS) for 2010-2013 across six areas: Climate change; Disasters and conflicts; Ecosystem management; Environmental governance; Harmful substances and hazardous waste; Resource efficiency, Sustainable consumption and production. 2010 was important for many reasons, a year of on-going financial instability set against an increase in the frequency and intensity of natural disasters and shifting weather patterns. UNEP's broad response is catalogued in this 2010 Annual Report report - from global assessments to rapid mechanisms in Haiti in response to the January earthquake and advisory services to countries interested in transitioning to greener economies. This report attempts to set UNEP's work over the last year in context and show its future relevance in meeting the emerging challenges of the coming years. The core objective of the United Nations Environment Programme (UNEP) is to serve as an authoritative advocate for the global environment, To help governments set the global environmental agenda, and to promote the coherent implementation of the environmental dimension of sustainable development within the United Nations system.

Renewable Energy for Unleashing Sustainable Development - Emanuela Colombo 2013-11-26

The book analyzes energy technologies, business models and policies to promote sustainable development. It proposes a set of recommendations for further activities and networking on access to energy and renewable energies and promotes an integrated approach to sustainable resource management. The book discusses access to energy, as a precondition for socio-economic progress. It depicts the global dimension of the challenge in terms of access to electricity and other forms of energy in developing countries. The three main interlinked topics related to energy and sustainable growth are separately discussed: appropriate technologies for modern energy services, business models for the development of new energy markets, and policies to support new energy systems. The description of activities and programmes of some public and private Italian stakeholders is also included.

Engineering Design and Mathematical Modelling - Nnamdi Nwulu 2020-12-17

Engineering Design and Mathematical Modelling: Concepts and Applications consists of chapters that span the Engineering design and mathematical modelling domains. Engineering design and mathematical modelling are key tools/techniques in the Science, Technology and Innovation spheres. Whilst engineering design is concerned with the creation of functional innovative products and processes, mathematical modelling seeks to utilize mathematical principles and concepts to describe and control real world phenomena. Both of these can be useful tools for spurring and hastening progress in developing countries. They are also areas where Africa needs to 'skill-up' in order to build a

technological base. The chapters in this book cover the relevant research trends in the fields of both engineering design and mathematical modelling. This book was originally published as a special issue of the African Journal of Science, Technology, Innovation and Development.

Educational Infrastructure for Biotechnology in India - R. K. Mishra 2006

Faecal Sludge Management - Linda Strande 2014-08-15

It is estimated that literally billions of residents in urban and peri-urban areas of Africa, Asia, and Latin America are served by onsite sanitation systems (e.g. various types of latrines and septic tanks). Until recently, the management of faecal sludge from these onsite systems has been grossly neglected, partially as a result of them being considered temporary solutions until sewer-based systems could be implemented. However, the perception of onsite or decentralized sanitation technologies for urban areas is gradually changing, and is increasingly being considered as long-term, sustainable options in urban areas, especially in low- and middle-income countries that lack sewer infrastructures. This is the first book dedicated to faecal sludge management. It compiles the current state of knowledge of the rapidly evolving field of faecal sludge management, and presents an integrated approach that includes technology, management, and planning based on Sandecs 20 years of experience in the field. Faecal Sludge Management: Systems Approach for Implementation and Operation addresses the organization of the entire faecal sludge management service chain, from the collection and transport of sludge, and the current state of knowledge of treatment options, to the final end use or disposal of treated sludge. The book also presents important factors to consider when evaluating and upscaling new treatment technology options. The book is designed for undergraduate and graduate students, and engineers and practitioners in the field who have some basic knowledge of environmental and/or wastewater engineering.

Anaerobic Biodigesters for Human Waste Treatment - Mukesh Kumar Meghvansi 2022-08-21

The edited book brings out a comprehensive synthesis of latest scientific literature covering various important aspects of anaerobic biodigesters for human waste management that ranges from latest understanding on fundamental concepts/mechanisms of anaerobic biodigestion, modern tools and techniques used in process evaluation, current strategies being recruited for the performance enhancement, and case studies/ success stories across the world on applications of biodigesters used in human waste treatment. The anaerobic biodigestion is a process of break-down of organic waste by anaerobic microorganisms in absence of the oxygen. This process has been conventionally used for treating various types of organic waste including sewage sludge. After optimizing various process parameters, researchers have developed anaerobic biodigesters that have been successfully used for human waste (nigh soil) treatment. The topic of human waste treatment assumes global significance in the wake of UN sustainable Development Goals (SDG) wherein SDG-6 specifically highlights the Sanitation for all by 2030. The anaerobic Biodigester technology has the potential to manage the human waste as well and can contribute immensely in achieving targets of UN-SDG-6. This book is of interest to researchers, academicians, scientists, policy officials and capacity builders. Also the book serves as additional reading material for undergraduate and graduate students of environmental Biotechnology. National and international biotechnologists, environmental engineers and sanitation experts also find this to be a useful read.

The Microbiology of Anaerobic Digesters - Michael H. Gerardi 2003-09-19

Anaerobic digestion is a biochemical degradation process that converts complex organic material, such as animal manure, into methane and other byproducts. Part of the author's Wastewater Microbiology series, Microbiology of Anareboic Digesters eschews technical jargon to deliver a practical, how-to guide for wastewater plant operators.

INTERNATIONAL CONFERENCE on FRONTIERS of ENVIRONMENT, ENERGY and BIOSCIENCE - Dawei Zheng 2013-12-18

We cordially invite you to attend 2013 International Conference on Frontiers of Environment, Energy and Bioscience (ICFEEB 2013), which will be held in Beijing, China during October 24-25, 2013. The main objective of ICFEEB 2013 is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in Environment, Energy and Bioscience. This conference provides opportunities for the delegates to exchange new ideas and experiences

face to face, to establish business or research relations and to find global partners for future collaboration. ICFEEB 2013 received over 400 submissions which were all reviewed by at least two reviewers. As a result of our highly selective review process four hundred papers have been retained for inclusion in the ICFEEB 2013 proceedings, less than 40% of the submitted papers. The program of ICFEEB 2013 consists of invited sessions, and technical workshops and discussions covering a wide range of topics. This rich program provides all attendees with the opportunities to meet and interact with one another. We hope your experience is a fruitful and long lasting one. With your support and participation, the conference will continue its success for a long time. The conference is supported by many universities and research institutes. Many professors play an important role in the successful holding of the conference, so we would like to take this opportunity to express our sincere gratitude and highest respects to them. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra help in the review process, and to the authors for contributing their research result to the conference. Special thanks go to our publisher DEStech Publications. At the same time, we also express our sincere thanks for the understanding and support of every author. Owing to time constraints, imperfection is inevitable, and any constructive criticism is welcome. We hope you will have a technically rewarding experience, and use this occasion to meet old friends and make many new ones. Do not miss the opportunity to explore in Beijing, China. And do not forget to take a sample of the many and diverse attractions in the rest of the China. We wish all attendees an enjoyable scientific gathering in Beijing, China. We look forward to seeing all of you next year at the conference. The Conference Organizing Committees October 24-25, 2013 Beijing, China

A Select Bibliography on the Environment of Karnataka - Cecil J. Saldanha 1993

ICESSD 2019 - Halvina Grasela Saiya 2019-10-22

We are delighted to introduce The Proceedings of the International Conference on Environmental Science and Sustainable Development in 2019. This conference has taken place with the theme "The Strengthening of Sustainable Development Goals (SDGs) in Southeast Asia". Environmental problems are dynamics and complex that needs the analytical and decision making instruments which can accommodate these characteristics. Environmental science is an interdisciplinary science that delivered to understand complex and dynamic interactions in environmental systems. Studies in Environmental Sciences involves various fields of science which enable the formulation of efforts to solve environmental problems in a holistic and comprehensive way for its sustainability. Sustainable development is a dynamic process in environmental science that includes the process of utilizing natural resources, the direction of investment, the orientation of technological development and institutional change to address the environmental problems. The conference brought together a number of environmental experts from various disciplines, as well as practitioners, students and lecturers. Meanwhile, with a total of 38 papers, then all papers in this proceeding are divided into several sub-topics, i.e.: Ecosystem And Biodiversity Conservation; Environmental Planning And Management; Water And Waste Management; Governance, Culture, and Politics; Sustainable Energy And Renewable Energy; Spatial Planning And Regional Analysis; Community Engagement; Social Movement And Environmental; and Strengthening Of Sustainable Development Goals. We hope that the valuable work and discussion during this proceedings will lead to the initiatives and innovations in getting the Strengthening sustainable development goals, especially in solving environmental problems.

Selected Papers from 27th European Biomass Conference & Exhibition (EUBCE 2019) - David Baxter 2021-09-02

This book draws together a small selection of full-length papers based on presentations given at the 27th European Biomass Conference and Exhibition held in Lisbon, Portugal in 2019. The topics covered, which reflect the breadth of the program of the EUBCE conference itself, include biomass sources, various aspects of technologies used for the conversion of biomass to bioproducts and bioenergy, as well as different approaches to assessing environmental impacts, which include case studies based on different technologies in use in a range of countries.

Rural Electrification Through Decentralised Off-grid Systems in Developing Countries - Subhes Bhattacharyya 2012-11-06

More than 1.3 billion people worldwide lack access to electricity.

Although extension of the electricity grid remains the preferred mode of electrification, off-grid electrification can offer a solution to such cases. Rural Electrification through Decentralised Off-grid Systems in Developing Countries provides a review of rural electrification experiences with an emphasis on off-grid electrification and presents business-related aspects including participatory arrangements, financing, and regulatory governance. Organized in three parts, Rural Electrification through Decentralised Off-grid Systems in Developing Countries provides comprehensive coverage and state-of-the art reviews which appraise the reader of the latest trend in the thinking. The first part presents the background information on electricity access, discusses the developmental implications of lack of electricity infrastructure and provides a review of alternative off-grid technologies. The second part presents a review of experiences from various regions (South Asia, China, Africa, South East Asia and South America). Finally, the third part deals with business dimensions and covers participatory business models, funding challenges for electrification and regulatory and governance issues. Based on the research carried out under the EPSRC/DfID funded research grant for off-grid electrification in South Asia, Rural Electrification through Decentralised Off-grid Systems in Developing Countries provides a multi-disciplinary perspective of the rural electrification challenge through off-grid systems. Providing a practical introduction for students, this is also a key reference for engineers and governing bodies working with off-grid electrification. The Coconut Palm (Cocos nucifera L.) - Research and Development Perspectives - V. Krishnakumar 2019-02-15

Since the publication of "The coconut palm - A monograph" in 1960, considerable information has been accrued on the crop through work at research institutes, international organisations and development agencies. Although coconut cultivation is spread over 93 countries, providing employment and creating livelihood opportunities to 64 million families around the globe, smallholder coconut farmers are now facing numerous challenges. The wide gap between the potential and actual yield is a major concern, and as such it is necessary to disseminate knowledge in order to implement research findings. Coconut research in India, one of the leading coconut producing countries, is celebrating its centenary, making this an opportune time to review the research and development advances and the relevant technologies. This detailed, comprehensive book covers all aspects of coconut, from the origins to cultivation, breeding, physiology and value addition, as well as subjects of topical interest like nutrition and health, biotechnology, and climate change and carbon sequestration. Written by leading experts in the fields it emphasises that the livelihood of the small coconut landholders is the ultimate aim of scientists and developmental agencies, and outlines various important strategies to make coconut farming more remunerative globally. It discusses work in all the major coconut growing countries and outlines suggestions for international cooperation. Research work on the crop is comparatively difficult because of its perennial nature, longevity, height, long juvenile phase, large sized nuts, cross pollination and seed propagation. As these special features necessitate greater investment of resources, time and land, it is all the more imperative that research is not duplicated and the information and experience becoming available around the world is shared so that it can be fully utilised. In this context periodic publications, compiling all the available information on coconut assume greater significance. This book is therefore of great value to researchers, students, extension workers, developmental agencies and progressive farmers.

Solar Energy Update - 1983-04

Biogas Technology - R. S. Khoiyangbam 2011-01-01

The global demand for energy is met mainly by fossil fuels. Their excessive and indiscriminate use, coupled with increasing demand for energy, will soon deplete their existing reserves. Therefore, it is extremely important to find alternative, environment-friendly, and ecologically sound sources of energy for meeting the present and future energy requirements. Biogas Technology: Towards Sustainable Development makes an attempt to explore the potential of utilizing biodegradable biomass as fuel and manure.

AKASHVANI - All India Radio (AIR), New Delhi 1983-01-23

"Akashvani" (English) is a programme journal of ALL INDIA RADIO, it was formerly known as The Indian Listener. It used to serve the listener as a bradshaw of broadcasting, and give listener the useful information in an interesting manner about programmes, who writes them, take part in them and produce them along with photographs of performing artists. It also contains the information of major changes in the policy and

service of the organisation. The Indian Listener (fortnightly programme journal of AIR in English) published by The Indian State Broadcasting Service, Bombay, started on 22 December, 1935 and was the successor to the Indian Radio Times in English, which was published beginning in July 16 of 1927. From 22 August, 1937 onwards, it used to be published by All India Radio, New Delhi. From 1950, it was turned into a weekly journal. Later, The Indian listener became "Akashvani" (English) w.e.f. January 5, 1958. It was made a fortnightly journal again w.e.f. July 1, 1983. NAME OF THE JOURNAL: AKASHVANI LANGUAGE OF THE JOURNAL: English DATE, MONTH & YEAR OF PUBLICATION: 23 JANUARY, 1983 PERIODICITY OF THE JOURNAL: Weekly NUMBER OF PAGES: 68 VOLUME NUMBER: Vol. LIV. No. 4 BROADCAST PROGRAMME SCHEDULE PUBLISHED (PAGE NOS): 34-66 ARTICLE: 1. Priorities of Rural Development 2. Technology for Rural Development 3. National Rural Employment Programme 4. Psycho-Social Aspects of the Rural Disadvantage 5. Meeting the Organisational Challenges 6. Agriculture Research: Recent Achievements 7. Khadi and Village Industries 8. The Role of Voluntary Agencies 9. Production Vs. Pollution 10. Mixed Economy In a Democracy 11. Health Education 12. Arms Race And Nuclear Energy 13. Penguins greet Second Antarctica Expedition 14. Asiad 82 in Retrospect AUTHOR: 1. R. V. Swaminathan 2. Dr. B. T. Nijaguna 3. S. C. Varma 4. Dr. D. C. Muthayya 5. A. Raghotham Rao 6. Prof. L. N. Mondal 7. A. M. Thomas 8. Dr. John Augustine 9. M. Thirunavukkarasu 10. Dr. Raghuvir S. Mehta 11. V. N. Kakar 12. R. Raina 13. Dr. S. Z. Qasim and K. S. Jayaraman 14. M. K. Dharma Raja And V. V. Prasad Prasar Bharati Archives has the copyright in all matters published in this "AKASHVANI" and other AIR journals. For reproduction previous permission is essential.

Chemical Reactor Modeling - Hugo A. Jakobsen 2014-04-02

Chemical Reactor Modeling closes the gap between Chemical Reaction Engineering and Fluid Mechanics. The second edition consists of two volumes: Volume 1: Fundamentals. Volume 2: Chemical Engineering Applications In volume 1 most of the fundamental theory is presented. A few numerical model simulation application examples are given to elucidate the link between theory and applications. In volume 2 the chemical reactor equipment to be modeled are described. Several engineering models are introduced and discussed. A survey of the frequently used numerical methods, algorithms and schemes is provided. A few practical engineering applications of the modeling tools are presented and discussed. The working principles of several experimental techniques employed in order to get data for model validation are outlined. The monograph is based on lectures regularly taught in the fourth and fifth years graduate courses in transport phenomena and chemical reactor modeling and in a post graduate course in modern reactor modeling at the Norwegian University of Science and Technology, Department of Chemical Engineering, Trondheim, Norway. The objective of the book is to present the fundamentals of the single-fluid and multi-fluid models for the analysis of single and multiphase reactive flows in chemical reactors with a chemical reactor engineering rather than mathematical bias. Organized into 13 chapters, it combines theoretical aspects and practical applications and covers some of the recent research in several areas of chemical reactor engineering. This book contains a survey of the modern literature in the field of chemical reactor modeling.

Extremophilic Microbial Processing of Lignocellulosic Feedstocks to Biofuels, Value-Added Products, and Usable Power - Rajesh K. Sani 2018-07-02

This book presents a review and in-depth analyses of improved biotechnological processes emphasizing critical aspects and challenges of lignocellulosic biomass conversion into biofuels and value-added products especially using extremophiles and recombinant microorganisms. The book specifically comprises extremophilic production of liquid and gaseous biofuels (bioethanol, biobutanol, biodiesel, biohydrogen, and biogas) as well as value added products (e.g. single cell protein, hydrocarbons, lipids, exopolysaccharides, and polyhydroxyalkanoates). The book also provides the knowledge on how to develop safe, more efficient, sustainable, and economical integrated processes for enhanced conversion of lignocellulosic feedstocks to liquid and gaseous biofuels. Finally the book describes how to perform the techno-economical and life-cycle assessments of new integrated processes involving extremophiles. These modeling exercises are critical in addressing any deficiencies associated with the demonstration of an integrated biofuels and value-added products production process at pilot scale as well as demonstration on the commercialization scale.

The Hidden Energy Crisis - Teodoro Sanchez 2010

This book will appeal to those interested in Graeco-Roman historiography, and those with an interest in the Arabic, Early Christian and modern reception of ancient historiography. --

Biomethane through Resource Circularity - Sadhan Kumar Ghosh 2021-12-31

Biomethane through resource circularity: Research, Technology and Practices is an invaluable resource for researchers, policy makers, implementers and PhD and Masters level students in universities analyzing the present status, waste biomass including agro wastes, success in experimentation & commercial production, future needs and other relevant areas. While huge biomass is wasted by open burning, there is potential of energy generation that can be extracted from the biomass preventing GHG emission and creating business opportunities. Abundance and renewable bioenergy can contribute to a more secure, sustainable, and economically sound future through biomethanation process by selecting followings: Supply chain sustainability of clean energy sources Appropriate Anaerobic Digestion technology with different feedstock Processes Parameter Optimization and best fit conditions, Productivity, Purification of biogas and end use Economic feasibility as business case, Commercialization, generating employment and Revitalizing rural economies This book addresses most of the above issues in lucid manner by experts in the field from different countries which are helpful for the related stakeholders edited by experts in the field.

Innovations in Sustainable Energy and Cleaner Environment - Ashwani K. Gupta 2019-07-19

This book covers the state-of-the-art advances in several areas of energy, combustion, power, propulsion, and environment, focusing on the use of conventional and alternative fuels. It presents novel developments in the areas of biofuels and value added products from various feedstock materials, along with thermal management, emission control and environmental issues from energy conversion. Written by internationally renowned experts, the chapters in this volume cover the latest fundamental and applied research innovations on cleaner energy utilization for a wide range of devices extending from micro scale energy conversion to hypersonic propulsion using hydrocarbon fuels. The book will be useful as a ready reference for managers and practicing and research engineers, as well as graduate students and research organizations and institutions.

Biomethanization of the Organic Fraction of Municipal Solid Wastes - J. Mata-Alvarez 2002-08-31

Biomethanization of the Organic Fraction of Municipal Solid Wastes is a comprehensive introduction to both the fundamentals and the more practical aspects of the anaerobic digestion of organic solid wastes, particularly those derived from households, that is, the organic fraction of municipal solid wastes (OFMSW). It can be used as a textbook for specialized courses and also as a guide for practitioners. In the first part, the book covers the relevant aspects of anaerobic digestion (AD) of organic wastes. The fundamentals and kinetic aspects of AD are reviewed with particular emphasis on the aspects related to solid wastes. This introduction is necessary to have a comprehensive view of the AD process and to understand the practical principles as well as the origin of possible problems arising from the management of the process. Chapter 2 emphasizes the role of kinetics in designing the reactor, paying special attention to existing models, particularly the dynamic ones. Through this introduction, it is intended to facilitate the technology transfer from laboratory or pilot plant experiences to full-scale process, in order to implement improvements in current digesters. Laboratory methods are described for the analysis and optimization of reactor performance, such as methanogenic activity tests or experimental evaluation of the biodegradation kinetics of solid organic waste. The different reaction patterns applied to industrial reactors are outlined. Industrial reactors are classified in accordance with the system they use, pointing out advantages and limitations. Co-digestion, enabling the co-treatment of organic wastes of different origin in a more economically feasible way, is described in detail. Examples of co-digestion are given, with OFMSW as a base-substrate. Finally, full-scale co-digestion plants are discussed. Various types (mechanical, biological, physico-chemical) of pre-treatment to increase the biodegradability, and thus the yields of the process, are reviewed in detail. The use of the fermentation products of anaerobic digesters for biological nutrient removal processes in wastewater treatment plants is described. This constitutes an example of integrated waste management, a field in which both economic and technical advances can be achieved. Balances are given to justify the approach, and a full-scale case study is presented. The important topic of

economics and the ecological advantages of the process are emphasized. The use of compost, the integration with composting technology, and advantages over other technologies are detailed in the framework of an environmental impact assessment of biowaste treatment. Finally, the anaerobic digestion of MSW in landfills is reviewed in detail, with emphasis on landfill process enhancement and strategies for its application.

Current Advances in Anaerobic Digestion Technology - Marcell Nikolausz
2021-03-17

Anaerobic digestion (AD) is one of the oldest biotechnological processes and originally referred to biomass degradation under anoxic conditions in both natural and engineered systems. It has been used for decades to treat various waste streams and to produce methane-rich biogas as an important energy carrier, and it has become a major player in electrical power production. AD is a popular, mature technology, and our knowledge about the influencing process parameters as well as about the diverse microbial communities involved in the process has increased dramatically over the last few decades. To avoid competition with food and feed production, the AD feedstock spectrum has constantly been extended to waste products either rich in recalcitrant lignocellulose or containing inhibitory substances such as ammonia, which requires application of various pre-treatments or specific management of the microbial resources. Extending the definition of AD, it can also convert gases rich in hydrogen and carbon dioxide into methane that can substitute natural gas, which opens new opportunities by a direct link to traditional petrochemistry. Furthermore, AD can be coupled with emerging biotechnological applications, such as microbial electrochemical technologies or the production of medium-chain fatty acids by anaerobic fermentation. Ultimately, because of the wide range of applications, AD is still a very vital field in science. This Special Issue highlights some key topics of this research field.

Biogas from Waste and Renewable Resources - Dieter Deublein
2008-04-18

Written as a practical introduction to biogas plant design and operation, this book fills a huge gap by presenting a systematic guide to this emerging technology -- information otherwise only available in poorly intelligible reports by US governmental and other official agencies. The author draws on teaching material from a university course as well as a wide variety of industrial biogas projects he has been involved with, thus combining didactical skill with real-life examples. Alongside biological and technical aspects of biogas generation, this timely work also looks at safety and legal aspects as well as environmental considerations.

Advances in Eco-Fuels for a Sustainable Environment - Kalam Azad
2018-11-30

Advances in Eco-fuels for Sustainable Environment presents the most recent developments in the field of environmentally friendly eco-fuels. Dr. Kalad Azad and his team of contributors analyze the latest bio-energy technologies and emission control strategies, while also considering other important factors, such as environmental sustainability and energy efficiency improvement. Coverage includes biofuel extraction and conversion technologies, the implementation of biotechnologies and system improvement methods in the process industries. This book will help readers develop a deeper understanding of the relevant concepts and solutions to global sustainability issues with the goal of achieving cleaner, more efficient energy. Energy industry practitioners, energy policymakers and government organizations, renewables researchers and academics will find this book extremely useful. Focuses on recent developments in the field of eco-fuels, applying concepts to various medium-large scale industries Considers the societal and environmental benefits, along with an analysis of technologies and research Includes contributions from industry experts and global case studies to demonstrate the application of the research and technologies discussed

A Textbook of Municipal Solid Waste Analysis - Suneel Pandey
2022-01-05

Municipal solid waste (MSW) has become a tenacious problem, mainly due to the absence of adequate expertise and experience, thereby leading to its improper handling and management. This results in considerable environmental pollution and health hazards. Looking towards the pathetic situation of solid waste management, it can be established that the MSW has become a major challenge for the cities across the globe. A Textbook of Municipal Solid Waste Analysis covers the analysis techniques, methods, guidelines, standards, and protocols aimed at effective management and reduction of MSW. To facilitate understanding, both theoretical and practical approaches of MSW analysis are extensively covered. Contents are supplemented by

questions for the readers to realize better comprehension of each chapter. The book is intended to provide students, teachers, scientists, and field practitioners with comprehensive analysis techniques and strategies for reducing MSW generation, and in applying the concept of resource recovery and waste-to-energy. A Textbook of Municipal Solid Waste Analysis would be a valuable resource not only to academic and industry professionals, engaged in treatment and analysis of MSW but also as a complete, solution-oriented enchiridion to the scientific community. Key Features: · A better understanding of MSW analysis will contribute to safe and economical MSW management. · Exhaustive collection of MSW analysis techniques and help the readers to understand experimental procedures in a concise manner. · The book addresses various MSW treatment processes involved and the parameters to be considered prior to selecting a particular process. · A must-have book in the context of both Indian and global conditions for arriving at practical solutions pertaining to MSW analysis and treatment.

· Comprehensive discussion on MSW analysis methods and techniques and thus will serve as a guide and inspiration for future researches into the realm of MSW analysis. Short Contents: Preface Acknowledgements From the Experts' Desk Laboratory Safety Rules 1. Sampling and Analysis of Municipal Solid Waste 2. Physical Analysis of Municipal Solid Waste 3. Chemical Analysis of Municipal Solid Waste 4. Biological Analysis of Municipal Solid Waste 5. Identification and Selection of Municipal Solid Waste Treatment Technologies Appendices Bibliography Index About the Authors Audience: Undergraduate and Post Graduate student of environmental science and engineering courses, environmental scientists, engineers and planners, government officials and landfill operators in municipalities, planning and development authorities, pollution control boards Shelving: Environmental Science/Engineering / Civil Engineering / Chemical Engineering / Chemical Sciences / Industrial Chemistry / Chemistry

Biogas Technology - B. T. Nijaguna 2006

The Distinguishing Feature Of The Book Is Its Exhaustive Coverage Encompassing Theory And Practical Aspects On Items Like The Status Of Biogas Technology, Different Types Of Biogas Plants And Their Suitability For A Given Situation, Their Design Aspects, Sizing And Scaling Of Biogas Plants Which Are Illustrated With Calculations And Working Drawings. In Addition, Constructional Aspects, Cost Aspects, Diagnosis And Cure Of Faults During Operation And Details Of Utilisation Devices Are Detailed.

South Asia Bibliography and Documentation: Science and technology - B. M. Gupta 1994

Anaerobic Municipal Wastewater Treatment: Comparison and Assessment of Different Design Approaches for UASB-Reactors - Felipe Teixeira de Carvalho 2014-04-11

Inhaltsangabe:Introduction: It is well known that freshwater is finite and an indispensable resource for any living organism on Earth.

Inappropriately, during the last decades, anthropogenic activities expansion, in parallel with population growth, has been the main cause of the deterioration of water quality. According to UNESCO the world's population is growing nearby 80 million people each year, which suggests an increasing of freshwater demand of about 64 billion m³ a year. Likewise, the demographic estimations indicate that 90% of the 3 billion people, who are expected to be added to the world population in 2050, will be living in developing countries, mainly in regions that are already by this time in water stress. However, in order to relate the increasing demand for water, not only the demographic aspect should be taken into account but also economic and social aspects must be considered. The economic expansion affects water since there is an increase in the number of consumers as well as modifications in their consumption habits, in a way that services are offered, goods are produced and transported. The social aspect points out to individual rather than collective actions mainly considering poverty, education, culture, lifestyle and consumption patterns. Obviously the demand and the importance for satisfactory sanitation conditions become indispensable. The World Health Organization (WHO) and The United Nations Children's Fund (UNICEF) report that 2.5 billion people still have a lack of access to improved sanitation, including 1.2 billion people who have no facilities at all. While in developed areas the sanitation coverage achieves 99%, in developing regions this number is around 53%. Furthermore, in Latin America and the Caribbean the coverage sanitation is approximately 79%. In Brazil, target area of this study, only 55.2% of the municipalities are covered by a sewage collection system. In this manner, coverage sanitation does not mean necessarily that the

wastewater is treated. Hence, the wastewater must be followed by a treatment system (removal of physical, chemical and biological compounds) in order to achieve pollution mitigation targets for the environmental quality and human health and welfare. According to UNESCO more than 80% of the domestic wastewater in developing countries is discharged untreated, polluting rivers, lakes and coastal areas. Therefore, a large number of technologies have been developed with the intention [...]

Renewable Energy Sources and Conversion Technology - N. K. Bansal 1990

Import Demand for Brazilian Ethanol - Barbara Farinelli 2008

Waste to Energy in the Age of the Circular Economy - Asian Development Bank 2020-11-01

This handbook features best practices for integrating waste to energy and related technologies into the operations of various industries. It discusses current technologies, presents a conceptual example of municipal solid waste planning, and provides commentary on waste-to-energy initiatives. The importance of appropriate infrastructure as well as flexibility and openness to technologies and business models is emphasized. The handbook—and its complementary compendium of 18 projects—aim to support the efforts of developing countries in Asia and the Pacific to deploy and scale up technologies relevant to the circular economy.

Biogas Technology - Taylor & Francis Group 2021-03

Biogas is a renewable energy resource that can be an alternative solution for the world's insatiable energy demands while helping in managing waste and reducing the greenhouse gas (GHG) emissions. It is also regarded as carbon neutral as the carbon in biogas comes from organic matter (feedstock) that captured this carbon from atmospheric CO₂ over a relatively short timescale. This book has been written and compiled to collate latest information on biogas technology to help readers to understand the fruitful exploitation of the process. Note: T&F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. This title is co-published with New India Publishing Agency.

Advanced Technology for the Conversion of Waste into Fuels and Chemicals - Anish Khan 2021-07-27

Advanced Technology for the Conversion of Waste into Fuels and Chemicals: Volume 1: Biological Processes presents advanced and combined techniques that can be used to convert waste to energy, including combustion, gasification, pyrolysis, anaerobic digestion and fermentation. The book focuses on solid waste conversion to fuel and energy and presents the latest advances in the design, manufacture, and application of conversion technologies. Contributors from the fields of physics, chemistry, metallurgy, engineering and manufacturing present a truly trans-disciplinary picture of the field. Chapters cover important aspects surrounding the conversion of solid waste into fuel and chemicals, describing how valuable energy can be recouped from various waste materials. As huge volumes of solid waste are produced globally while huge amounts of energy are produced from fossil fuels, the technologies described in this comprehensive book provide the information necessary to pursue clean, sustainable power from waste material. Presents the latest advances in waste to energy techniques for converting solid waste to valuable fuel and energy Brings together contributors from physics, chemistry, metallurgy, engineering and the manufacturing industry Includes advanced techniques such as combustion, gasification, pyrolysis, anaerobic digestion and fermentation Goes far beyond municipal waste, including discussions on recouping valuable energy from a variety of industrial waste materials Describes how waste to energy technologies present an enormous opportunity for clean, sustainable energy

Frontiers in Bioenergy and Biofuels - Eduardo Jacob-Lopes 2017-01-25

Frontiers in Bioenergy and Biofuels presents an authoritative and comprehensive overview of the possibilities for production and use of bioenergy, biofuels, and coproducts. Issues related to environment, food, and energy present serious challenges to the success and stability of nations. The challenge to provide energy to a rapidly increasing global population has made it imperative to find new technological routes to increase production of energy while also considering the biosphere's ability to regenerate resources. The bioenergy and biofuels are resources that may provide solutions to these critical challenges. Divided into 25 discreet parts, the book covers topics on characterization, production, and uses of bioenergy, biofuels, and coproducts. Frontiers in Bioenergy and Biofuels provides an insight into future developments in each field and extensive bibliography. It will be an essential resource for researchers and academic and industry professionals in the energy field.