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A Dragonfly's Purpose Elsevier

Life was almost perfect for Sujata Sharma, a professor in AIIMS, with every best-laid plan in place. She had been deeply involved with research and teaching, with an active family and social life, pursuing physical fitness. In just seven days, she found herself away from home, checked into a hospital, facing an uncertain future with a rare autoimmune disease, Guillain Barre Syndrome, which rendered her almost paralyzed. The road back towards recovery was long and uphill. With the help of her doctors, family and colleagues, she started her journey from the grip of the deadly disease, which ended spectacularly with her finally winning a trophy with her departmental team in the first-ever 'AIIMS Got talent'. In her quest towards discovering inner strength, she found her life's purpose to be similar to a dragonfly's purpose, which is to live fully in the moment and perform to its best ability despite the limitations that are imposed by destiny.

New and Future Developments in Microbial Biotechnology and Bioengineering Notion Press

The increased demand due to anthropogenic activity leads to emerging contaminants, resulting in a substantial environmental hazard. The long-term presence and exposure of contaminants lead to severe negative impacts on the environment, humans, and other life forms. Hence, emerging contaminants in the environment is a worldwide concern, and new technologies to mitigate these contaminants are being developed. This book covers the source, occurrence, toxicity, and detection techniques of a wide range of emerging contaminants. This collection also discusses the scope and applications of diverse techniques, including Bio/Phyto and Nano-remediation technologies, to mitigate the emerging contaminants; along with their sustainability issue and prospects. As a result, this book appears to provide insight into several modern and environmentally friendly waste management options, the possibility to minimize and lessen the effects of contaminants, and striving to lower toxicological endpoints to assure environmental safety. This book delivers the most recent advancements by prominent specialists in environmental sciences to academics, researchers, students, and practitioners interested in the identification and eradication of emerging pollutants from the environment.

Biotechnology at USDA. Cambridge University Press

This book has been written to provide an introduction to key experimental techniques from across the biosciences. The upcoming global challenges for organisms demand a lot of researches to increase our knowledge to cope up with any adverse environmental situation. The basic research in life sciences needs to understand the biological techniques properly. Considering these requirements, the book uniquely integrates the theories and practices that drive the field of molecular biology, cell biology, biochemistry, biotechnology etc. It comprehensively

covers both the methods student will encounter in lab classes and those that underpin recent advances and discoveries. The older technical details like Gel-electrophoresis, Chromatography, Centrifugation, Spectroscopy etc will be helpful to grow the initial basic concepts for all type of biological researches while the modern techniques like CRISPRs, Biosensors, DNA sequencing etc will be helpful to develop skills about these upcoming technologies. Our goal is to develop the skills at degree level students in basic biological research that they will be able to plan successfully their own experiments and examine the results obtained.

Biotechnology in Canada CRC Press

The over-riding premise for biotechnology in this book is bringing novel products to market to substantially advance patient care and disease mitigation. Biotechnology, over its relatively brief existence of 40 years, has experienced a mercurial growth. The vast educational need for biotechnology information in this rapidly burgeoning field is a basic rationale here. However a more prominent underpinning is that, bringing biotech products to market for patient care involves success in the following four areas of engagement simultaneously - scientific advances for healthcare technologies, novel and varied products for untreated diseases, regulatory authorities, and biotech companies. Features Comprehensive coverage of biotechnology science topics used in development and manufacturing Addresses all the scientific technologies within biotechnology responsible for products on the market and the pipeline Presents business issues such as marketing and sales of the products, as well as companies engaged, and how biotech business has evolved

Bioinformatics in Agriculture Walter de Gruyter GmbH & Co KG

This book reviews the current concepts in biofilm formation and its implications in human health and disease. The initial chapters introduce the mechanisms of biofilm formation and its composition. Subsequently, the chapters discuss the role of biofilm in acute and chronic infections. It also explores the pivotal role of both innate and adaptive immunity on the course of biofilm infection. In addition, the book elucidates the bacterial biofilm formation on implantable devices and the current approaches to its treatment and prevention. It analyzes the possible relationship between antimicrobial resistance and biofilm formation. Finally, the book also summarizes the current state-of-the-art therapeutic approaches for preventing and treating biofilms. This book is a useful resource for researchers in the field of microbiology, clinical microbiology, and also medical practitioners.

New and Future Developments in Microbial Biotechnology and Bioengineering: Microbial Biofilms National Academies Press

The extensive safety restrictions imposed globally due to the COVID-19 pandemic have brought significant changes to almost all environmental parameters. The largest pandemic of the century has left an indelible mark on all aspects of human life and the environment. This book revolves around COVID-19 and its influence on all biotic and abiotic components on earth, with a focus on the regulatory role of air quality during the pandemic,

environmental toxicity and susceptibility to COVID-19, and the impact of the lockdown on different ecosystems. The book fundamentally explains the biology of SARS-CoV-2 and the pathophysiology and epidemiology of COVID-19. Dedicated chapters highlight the ongoing global cutting-edge research on COVID-19, control and safety measures, and public health concerns. COVID-19 and Emerging Environmental Trends: A Way Forward is aimed at graduate and postgraduate students as well as researchers in environmental and medical science, health and safety, and ecology. This book offers a multiperspective and multidisciplinary approach to the discussion of the pandemic as well as emerging environmental issues, current trends, and a way forward. As humanity stands face-to-face with the largest global crisis in recent times, this book helps readers to easily understand its various aspects from a beginner's perspective, without going into the intricate technicalities of medical science or environmental science, and beautifully juxtaposes critical issues with lucid language and flexible scientific explanations.

New and Future Developments in Microbial Biotechnology and Bioengineering Elsevier

Biotechnology is a rapidly growing research area which is immediately translated into industrial applications. Although over 1000 research papers have emerged on various aspects of red beet and the chemistry of betalaines pigments, surprisingly no comprehensive book is available. The proposed Red Beet book encompasses a scholarly compilation of recent biotechnological research developments made in basic science, biochemistry of the chief components, technological developments in augmenting and recovery of such useful compounds and value-added products with discussions on future perspectives. The book will provide detailed information of the chemistry of the main components of normal and genetically engineered beetroot.

Biofilm-Mediated Diseases: Causes and Controls Elsevier
New and Future Developments in Microbial Biotechnology and Bioengineering: Sustainable Agriculture: Advances in Microbe-Based Biostimulants describes advances in microbial mechanisms involved in crop production and stress alleviation. Recent developments in our understanding of the role of microbes in sustainable agriculture and disease management have created a highly potential research area. The plant holobiont has a significant role in stress signaling, nutrient use efficiency, and soil health and fertility for sustainable developments. The mycorrhizosphere, hyphosphere, phyllosphere, rhizosphere and endosphere are critical interfaces for the exchange of signaling and resources between plants and soil environment. This book is an ideal reference source for microbiologists, agrochemists, biotechnologists, biochemists, industrialists, researchers and scientists working on agriculturally important microorganisms and their exploitation in sustainable future applications. Gives insights into mechanisms of plant-microbe interaction Introduces new aspects and advances in plant-microbe interaction for disease management Includes descriptions and modern practices on how to harness the potential of microbes in sustainable agriculture applications

Concepts and Techniques in Genomics and Proteomics Elsevier

Current Developments in Biotechnology and Bioengineering: Functional Genomics and Metabolic Engineering provides extensive coverage of new developments, state-of-the-art technologies, and potential future trends in the field, compiling the latest ideas from across the entire arena of biotechnology and bioengineering. This volume provides data-based scientific knowledge and state-of-art information on functional genomics and metabolic engineering. It covers the core subjects of functional genomics, such as epigenomics, metagenomics, genomics of extremophiles, genomics studies in nutrient

transport, genomics of miRNA, and genomics of pathogenesis. An overview of metabolic engineering theories and approaches is supported with specific important examples of secondary metabolites, including Streptomyces, pentose utilization in E. coli, bacterial ethanol fermentation, yeast mediated benzaldehyde biotransformation, carotenoid production, acetic acid production by E. coli, and NADH regeneration.

Educational Infrastructure for Biotechnology in India Concept Publishing Company

Nanotechnology for Drug Delivery and Pharmaceutical Sciences presents various drug-delivery techniques that utilize nanotechnology for the biomedical domain, highlighting both therapeutic and diagnostic applications. The book provides important facts and detailed studies on different promising nanocarriers like liposomes, exosomes and virus-based nanocarriers. Moreover, it explores these nanocarriers' utilization in the therapeutic applications of various diseases such as cancer, inflammation, neurodegenerative disorders like Huntington's disease, Alzheimer's disease, human immunodeficiency virus (HIV), and inflammatory bowel disease. In addition, the book describes how nanotechnology has efficiently overtaken conventional dosage forms and provided comfort and ease to patients. Relevant information regarding market trends, patents and social-economic factors are also provided, making this the perfect reference for doctors, researchers and scientists working in the fields of medicine, biochemistry, biotechnology, nanobiotechnology and the pharmaceutical sciences. Gives a brief description of the utilization of nanotechnology in the drug-delivery domain Highlights the properties of nanocarriers, their diagnostic and imaging applications, and their potential role in clinical diagnosis Focuses on future developments and possibilities, allowing readers to enhance and explore the remaining gaps

Preparing for Future Products of Biotechnology Springer Science & Business Media

Advances in Biological Science Research: A Practical Approach provides discussions on diverse research topics and methods in the biological sciences in a single platform. This book provides the latest technologies, advanced methods, and untapped research areas involved in diverse fields of biological science research such as bioinformatics, proteomics, microbiology, medicinal chemistry, and marine science. Each chapter is written by renowned researchers in their respective fields of biosciences and includes future advancements in life science research. Discusses various research topics and methods in the biological sciences in a single platform Comprises the latest updates in advanced research techniques, protocols, and methods in biological sciences Incorporates the fundamentals, advanced instruments, and applications of life science experiments Offers troubleshooting for many common problems faced while performing research experiments

Statement of Brian P. Crowley, Senior Associate Director, Resources, Community, and Economic Development Division, Before the Subcommittee on Investigations and Oversight of the House Committee on Science and Technology on the General Accounting Office's Review of the Department of Agriculture's Role in Regulating Biotechnology CRC Press

New and Future Developments in Microbial Biotechnology and Bioengineering: Phytomicrobiome for Sustainable Agriculture provides a comprehensive overview of the phytomicrobiome and a holistic approach for its various mechanisms, including plant growth, nutrient content, crop yield improvement, soil fertility, and health management. This book explores the genus- and species-specific endophytic microbes for developing an efficient

indigenous microbial consortium for enhancing the productivity of sustainable agriculture. An essential resource for students, researchers, and scientists in the fields of biotechnology, microbiology, agronomy, and the plant protection sciences, *New and Future Developments in Microbial Biotechnology and Bioengineering: Phytomicrobiome for Sustainable Agriculture* highlights the plant growth-promoting activities of the phytomicrobiome and focuses on both its basic and applied aspects and the significant role they play in plant protection. Emphasizes up-to-date research on sustainability, proteomics and genomics, and functional and molecular mechanisms of plant-microbe-soil interactions Covers multidisciplinary features of plant microbiology, plant physiology, soil science, and sustainable agriculture Includes the significance of microbial secondary metabolites for enhancing plant growth attributes Focuses on the most recent developments in biotechnology to enhance the action of the phytomicrobiome as an alternative to chemical fertilizers for agriculture and forestry

Biotechnology in Western Europe National Academies Press
How can we explain a proliferation of alliances when the probability of failure is higher than success? And why have we emphasized their order, manageability and predictability whilst acknowledging that they tend to be experienced as messy, politically charged and unpredictable? Mark de Rond, in this provocative book, sets out to address such paradoxes. Based on in-depth case studies of three major biotechnology alliances, he suggests that we need theories to explain idiosyncrasy as well as social order. He argues that such theories must allow for social conduct to be active and self-directed but simultaneously inert and constrained, thus permitting voluntarism, determinism, and serendipity alike to explain causation in alliance life. The book offers a highly original combination of insights from social theory and intellectual history with more mainstream strategic management and organizations literature. It is a refreshing and thought-provoking analysis that will appeal to practitioner and academic researcher alike.

Actinobacteria: Diversity and Biotechnological Applications CRC Press

Translational Biotechnology: A Journey from Laboratory to Clinics presents an integrative and multidisciplinary approach to biotechnology to help readers bridge the gaps between fundamental and functional research. The book provides state-of-the-art and integrative views of translational biotechnology by covering topics from basic concepts to novel methodologies. Topics discussed include biotechnology-based therapeutics, pathway and target discovery, biological therapeutic modalities, translational bioinformatics, and system and synthetic biology. Additional sections cover drug discovery, precision medicine and the socioeconomic impact of translational biotechnology. This book is valuable for bioinformaticians, biotechnologists, and members of the biomedical field who are interested in learning more about this promising field. Explains biotechnology in a different light by using an application-oriented approach Discusses practical approaches in the development of precision medicine tools, systems and dynamical medicine approaches Promotes research in the field of biotechnology that is translational in nature, cost-effective and readily available to the community

Zebrafish- A Model Organism for Regeneration Studies DARSHAN PUBLISHERS

Biotechnology is a multidisciplinary subject which is now solving important scientific and societal problems for the benefit of mankind and environment. This discipline has gained lot of momentum once the genome has been sequenced. Molecular biology, bioinformatics, microbiology, proteomics, genomics, cell

biology, drug designing, cloning, stem cell research are some major fields of biotechnology which gained more importance in now a days. This book will be highly useful for students, teachers and researchers in all disciplines of life sciences, medicine, agricultural sciences and biotechnology in colleges, universities and research institutions. Multiple choice questions will help the students for preparation of CSIR-UGC-NET and other competitive entrance examinations. Suresh Kumar Gahlawat, Ph.D. is Professor, Department of Biotechnology, Chaudhary Devi Lal University (CDLU), Sirsa, India. He also worked in various capacities such as Dean Research, Dean, Faculty of Life Sciences, Dean of Colleges, Dean Student's Welfare and Chairperson, Department of Biotechnology in the same university. He received postdoctoral BOYSCAST fellowship and DBT Overseas Associateship from the Ministry of Science & Technology, Government of India for carrying out research at FRS Marine Laboratory, Aberdeen, UK. His research interests include the development of molecular diagnostic methods for bacterial and viral diseases. He published more than 70 research papers in journals of national and international repute, authored more than 06 books and supervised M.Phil and Ph.D research work of 14 students. He is active member of various international scientific organizations and societies including Association Microbiologist of India.

Biovalorisation of Wastes to Renewable Chemicals and Biofuels Elsevier

Bioinformatics in Agriculture: Next Generation Sequencing Era is a comprehensive volume presenting an integrated research and development approach to the practical application of genomics to improve agricultural crops. Exploring both the theoretical and applied aspects of computational biology, and focusing on the innovation processes, the book highlights the increased productivity of a translational approach. Presented in four sections and including insights from experts from around the world, the book includes: Section I: Bioinformatics and Next Generation Sequencing Technologies; Section II: Omics Application; Section III: Data mining and Markers Discovery; Section IV: Artificial Intelligence and Agribots. *Bioinformatics in Agriculture: Next Generation Sequencing Era* explores deep sequencing, NGS, genomic, transcriptome analysis and multiplexing, highlighting practices for reducing time, cost, and effort for the analysis of gene as they are pooled, and sequenced. Readers will gain real-world information on computational biology, genomics, applied data mining, machine learning, and artificial intelligence. This book serves as a complete package for advanced undergraduate students, researchers, and scientists with an interest in bioinformatics. Discusses integral aspects of molecular biology and pivotal tool for molecular breeding Enables breeders to design cost-effective and efficient breeding strategies Provides examples of innovative genome-wide marker (SSR, SNP) discovery Explores both the theoretical and practical aspects of computational biology with focus on innovation processes Covers recent trends of bioinformatics and different tools and techniques

Advances in Biological Science Research BFC Publications
Biovalorisation of Wastes to Renewable Chemicals and Biofuels addresses advanced technologies for converting waste to biofuels and value-added products. Biovalorisation has several advantages over conventional bioremediation processes as it helps reduce the costs of bioprocesses. Examples are provided of several successfully commercialized technologies, giving insight into developing, potential processes for biovalorisation of different wastes. Different bioprocess strategies are discussed for valorising the wastes coming from the leather industry, olive oil industry, pulp and paper, winery, textile, and food industries, as

well as aquaculture. A section on biorefinery for hydrocarbons and emerging contaminants is included to cover concepts on biodesulfurization of petroleum wastes, leaching of heavy metals from E - waste, and bioelectrochemical processes for CO₂.

Chapters on algal biorefinery are also included to focus on the technologies for conversion of CO₂ sequestration and wastewater utilization. Biovalorisation of Wastes to Renewable Chemicals and Biofuels can be used as course material for graduate students in chemical engineering, chemistry, and biotechnology, and as a reference for industrial professionals and researchers who want to gain a basic understanding on the subject. Covers a wide range of topics, from the conversion of wastes to organic acids, biofuels, biopolymers and industrially relevant products Bridges the gap between academics and industry Written in a lucid and self-explanatory style Includes activities/quiz/critical questions
Current Developments in Biotechnology and Bioengineering
Academic Press

This book covers a range of important topics in biotechnology policy, advocacy and education, bioethics, biosafety regulations for genetically modified organisms and gene-edited products and biotechnology manpower development. Throughout the book, the contributors review biosafety and bioethical guidelines that could enhance adoption of biotechnology in alignment with national priorities and research agendas. They also discuss the importance of current biotechnology policy advocacy, enlightenment and public engagement with stakeholders and policy makers. The book will be useful reference material for scientists and researchers working in the fields of food and agricultural biotechnology, biopharmaceuticals and medical biotechnology, environmental biotechnology, biotechnology policy and advocacy, biotechnology communication and manpower development, biosafety and bioethics, etc.

Emphasizes recent advances in biotechnology that could ameliorate the high-level global food insecurity through the deployment of the technology in Nigeria Provides detailed information on how to domesticate biotechnology and boost training of the biotechnology workforce in the universities and research institutes Introduces new frontiers in the area of organizing informal biotechnology capacity building courses and professional certification Reviews biosafety and bioethical guidelines that could enhance adoption of biotechnology in alignment with national priorities and research agendas

Discusses current biotechnology policy advocacy, enlightenment and public engagement with stakeholders and policy makers
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Red Beet Biotechnology Elsevier

Actinobacteria: Diversity and Biotechnological Applications: New and Future Developments in Microbial Biotechnology and Bioengineering, a volume in the series New and Future Developments in Microbial Biotechnology and Bioengineering series, offers the latest on the biotechnology of Kingdom actinobacteria, covering unique niches like their endosphere, rhizospheric soil and contaminated sites, etc. The book also covers the bioactive secondary metabolites obtained from actinobacteria and describes the application of microorganism (Actinobacteria) in plant growth promotion and in environmental cleanup. Finally, the book describes the biocontrol aspects of actinobacteria and how they can control fungal phytopathogens and the production of secondary metabolites. Includes an overview of all types of actinobacteria, source and enzymatic activity Lists various bioengineering methods for the production of these enzymes Reviews numerous industrial applications of actinobacteria, i.e., crop improvement, removal of heavy metals, etc. Offers unique coverage of the application of actinobacteria in bioremediation processes Explores the plant growth promoting potential of endophytic actinobacteria Describes biosynthetic potential genes associated with actinobacterial genome

Directory of Biotechnology Centers, 1989 Elsevier

Current Developments in Biotechnology and Bioengineering: Food and Beverages Industry provides extensive coverage of new developments, state-of-the-art technologies, and potential future trends compiled from the latest ideas across the entire arena of biotechnology and bioengineering. This volume reviews current developments in the application of food biotechnology and engineering for food and beverage production. As there have been significant advances in the areas of food fermentation, processing, and beverage production, this title highlights the advances in specific transformation processes, including those used for alcoholic beverage and fermented food production. Taking a food process and engineering point-of-view, the book also aims to select important bioengineering principles, highlighting how they can be quantitatively applied in the food and beverages industry. Contains comprehensive coverage of food and beverage production Covers all types of fermentation processes and their application in various food products Includes unique coverage of the biochemical processes involved in beverages production