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Principles of Gene Manipulation and Genomics - Sandy B. Primrose 2013-05-28
The increasing integration between gene manipulation and genomics is embraced in this new book, Principles of Gene Manipulation and Genomics, which brings together for the first time the subjects covered by the best-selling books Principles of Gene Manipulation and Principles of Genome Analysis & Genomics. Comprehensively revised, updated and rewritten to encompass within one volume, basic and advanced gene manipulation techniques, genome analysis, genomics, transcriptomics, proteomics and metabolomics Includes two new chapters on the applications of genomics An accompanying website - www.blackwellpublishing.com/primrose - provides instructional materials for both student and lecturer use, including multiple choice questions, related websites, and all the artwork in a downloadable format. An essential reference for upper level undergraduate and graduate students of genetics, genomics, molecular biology and recombinant DNA technology.

Engineering Chemistry - R. V. Gadag 2010-09-30
Some chapters in the book deal with the basic principles of chemistry while others are focused on its applied aspects, providing the correct interphase between the principles of chemistry and engineering. KEY FEATURES * Chapters cover both basic principles of chemistry as also its applied aspects. * Written in easy self-explanatory language and in depth at the same time. * Review questions provided at the end of each chapter. * A separate section 'Laboratory Manual' in Engineering Chemistry comprising 12 experiments is appended at the end of the book.

Application of Biofilms in Applied Microbiology - Maulin P. Shah 2022-08-15
Application of Biofilms in Applied Microbiology gives a complete overview on the structure, physiology and application of biofilms produced by microbes, along with their potential application in biotechnology. Sections cover new technologies for biofilm study, physiology of microorganisms in biofilms, bacterial biofilms, biofilm development, and fungal biofilms, summarizing various technologies available for biofilm study. Subsequent chapters describe biofilm developments with Bacillus subtillis, Escherichia coli, and Pseudomonas putida, along with several chapters on the study of microbial biofilm and their advantages and disadvantages in the area of environmental biotechnology. The book closes with a chapter on the rapid development of new sequencing technologies and the use of metagenomics, thus revealing the great diversity of microbial life and enabling the

emergence of a new perspective on population dynamics. Summarizes various technologies available for biofilm study Describes the physiological study of bacteria, fungi and algae present in biofilms Provides the potential parameters on biofilm development Gives insights on the ability to construct and maintain a structured multicellular bacterial community that critically depends on the production of extracellular matrix components Reveals the rapid development of new sequencing technologies and the use of metagenomics, the great diversity of microbial life, and the emergence of a new perspective on population dynamics

OMICS-Based Approaches in Plant Biotechnology - Rintu Banerjee 2019-02-28

Burgeoning world population, decreased water supply and land resources, coupled with climate change, result in severe stress conditions and a great threat to the global food supply. To meet these challenges, exploring Omics Technologies could lead to improved yields of cereals, tubers and grasses that may ensure food security. Improvement of yields through crop improvement and biotechnological means are the need-of-the-hour, and the current book “OMICS-Based Approaches in Plant Biotechnology”, reviews the advanced concepts on breeding strategies, OMICS technologies (genomics, transcriptomics and metabolomics) and bioinformatics that help to glean the potential candidate genes/molecules to address unsolved problems related to plant and agricultural crops. The first six chapters of the book are focused on genomics and cover sequencing, functional genomics with examples on insecticide resistant genes, mutation breeding and miRNA technologies. Recent advances in metabolomics studies are elucidated in the next 3 chapters followed by 5 chapters on bioinformatics and advanced techniques in plant biotechnology and crop breeding. The information contained in the volume will help plant breeders, plant biotechnologists, plant biochemists, agriculture scientists and researchers in using this applied research to focus on better crop breeding and stress adaptation strategies.

Pocket Oncology - Alexander Drilon 2018-02-07

Written and edited by leading cancer experts at Memorial Sloan Kettering Cancer Center, Pocket Oncology, Second Edition, is a practical, high-yield reference for trainees and practitioners of medical oncology and hematology. This easy-to-use, loose-leaf resource contains up-to-date information essential to caring for patients with cancer, from cancer biology, prevention, screening, treatment and supportive care to new advances in immuno-oncology and precision medicine.

Principles of Gene Manipulation - R. W. Old 1981

Odysseys in the Pursuit of Enlightenment - Arun S. Wagh 2023-01-10

This book takes the reader on an enchanting journey into the lives of fourteen genius scientists who lived during the enlightenment period to the mid-twentieth century. They suffered ethnic, gender, sexual prejudices, cultural and religious taboos, poverty, and epidemics. Most lived a very short life. And yet, their intuition and perseverance prevailed, and their pioneering discoveries changed the world. Their tragic lives faded away over time. However, the fruits of their work, including computer and nuclear technologies, space science, artificial intelligence, and genetic engineering, have shaped our lives. When we look back, their inspirational life stories appear more fictional than real. Each story takes the reader into varying times, places, customs, and environments. The book should interest not only a science nerd but also an armchair reader who loves fiction.

Red Beet Biotechnology - Bhagyalakshmi Neelwarne 2012-07-26

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.

Genetic Engineering - Smita Rastogi 2009

Designed to serve as a textbook for students of biotechnology, life sciences, genetics, microbiology, biochemistry, and other related areas.

Evolutionary Computing and Mobile Sustainable Networks - V. Suma 2020-07-31

This book features selected research papers presented at the International Conference on Evolutionary Computing and Mobile Sustainable Networks (ICECMSN 2020), held at the Sir M. Visvesvaraya Institute of Technology on 20–21 February 2020. Discussing advances in evolutionary computing technologies, including swarm intelligence algorithms and other evolutionary algorithm paradigms which are emerging as widely accepted descriptors for mobile sustainable networks virtualization, optimization and automation, this book is a valuable resource for researchers in the field of evolutionary computing and mobile sustainable networks.

International Journal of Social Ecology and Sustainable Development (IJSESD). - IGI Global 2014

New Frontiers in Stress Management for Durable Agriculture - Amitava Rakshit 2020-03-23

Using accessible farming practices to meet the growing demands on agriculture is likely to result in more intense competition for natural resources, increased greenhouse gas emissions, and further deforestation and land degradation, which will in turn produce additional stress in the soil-water-plant-animal continuum. Stress refers to any unfavorable force or condition that inhibits customary functioning in plants. Concurrent manifestations of different stresses (biotic and abiotic) are very frequent in the environment of plants, which consequently reduces yield. Better understanding stress not only changes our perspective on the current environment, but can also bring a wealth of benefits, like improving sustainable agriculture and human beings' living standards. Innovative systems are called for that protect and enhance the natural resource base, while increasing productivity via 'holistic' approaches, such as agroecology, agro-forestry, climate-smart agriculture and conservation agriculture, which also incorporate indigenous and traditional knowledge. The book 'New Frontiers in Stress Management for Durable Agriculture' details the current state of knowledge and highlights scientific advances concerning novel aspects of plant biology research on stress, biotic and abiotic stress responses, as well as emergent amelioration and reclamation technologies to restore normal functioning in agroecology.

Exome Sequence Analysis and Interpretation - Vinod Scaria 2015-02-11

A concise handbook on exome sequencing for clinicians and clinical geneticists.

Synthetic Biology — A Primer - 2015-08-24

Synthetic Biology — A Primer (Revised Edition) presents an updated overview of the field of synthetic biology and the foundational concepts on which it is built. This revised edition includes new literature references, working and updated URL links, plus some new figures and text where progress in the field has been made. The book introduces readers to fundamental concepts in molecular biology and engineering and then explores the two major themes for synthetic biology, namely 'bottom-up' and 'top-down' engineering approaches. 'Top-down' engineering uses a conceptual framework of systematic design and engineering principles focused around the Design-Build-Test cycle and mathematical modelling. The 'bottom-up' approach involves the design and building of synthetic protocells using basic chemical and biochemical building blocks from scratch exploring the fundamental basis of living systems. Examples of cutting-edge applications designed using synthetic biology principles are presented, including: the production of novel, microbial synthesis of pharmaceuticals and fine chemicalsthe design and implementation of biosensors to detect infections and environmental waste. The book also describes the Internationally Genetically Engineered Machine (iGEM) competition, which brings together students and young researchers from around the world to carry out summer projects in synthetic biology. Finally, the primer includes a chapter on the ethical, legal and societal issues surrounding synthetic biology,

illustrating the integration of social sciences into synthetic biology research. Final year undergraduates, postgraduates and established researchers interested in learning about the interdisciplinary field of synthetic biology will benefit from this up-to-date primer on synthetic biology. Contents:List of ContributorsPrefaceIntroduction to BiologyBasic Concepts in Engineering BiologyFoundational TechnologiesMinimal Cells and Synthetic LifeParts, Devices and SystemsModelling Synthetic Biology SystemsApplications of Designed Biological SystemsiGEMThe Societal Impact of Synthetic BiologyAppendices:Proforma of Common Laboratory TechniquesGlossaryIndex Readership: Students, professionals, researchers in biotechnology and bioengineering. Keywords:Synthetic Biology;Engineering Principles;Biosociety;Biological Engineering;BiotechnologyKey Features:The book is written in a way that is accessible to students and researchers from different disciplinesThe authors are part of the internationally recognised Centre for Synthetic Biology and Innovation and are among the leaders in this field

Principles of Development - Lewis Wolpert 2015

Lignin in Polymer Composites - Omar Faruk 2015-10-24

Lignin in Polymer Composites presents the latest information on lignin, a natural polymer derived from renewable resources that has great potential as a reinforcement material in composites because it is non-toxic, inexpensive, available in large amounts, and is starting to be deployed in various materials applications due to its advantages over more traditional oil-based materials. This book reviews the state-of-the-art on the topic and their applications to composites, including thermoplastic, thermosets, rubber, foams, bioplastics, nanocomposites, and lignin-based carbon fiber composites. In addition, the book covers critical assessments on the economics of lignin, including a cost-performance analysis that discusses its strengths and weaknesses as a reinforcement material. Finally, the huge potential applications of lignin in industry are explored with respect to its low cost, recyclable properties, and fully biodegradable composites, and the way they apply to the automotive, construction, and packaging industries. Reviews the state-of-the-art on the topic and their applications to composites, including thermoplastic, thermosets, rubber, foams, bioplastics, nanocomposites, and lignin-based carbon fiber composites Presents the essential processing and properties information for engineers and materials scientists, enabling the use of lignin in composites Provides critical insight into the applications and future trends of lignin-based composites, including advantages, shortcomings, and economics Includes a thorough coverage of extraction, modification, processing, and applications of the material

The Old Way - Elizabeth Marshall Thomas 2007-10-30

One of our most influential anthropologists reevaluates her long and illustrious career by returning to her roots—and the roots of life as we know it When Elizabeth Marshall Thomas first arrived in Africa to live among the Kalahari San, or bushmen, it was 1950, she was nineteen years old, and these last surviving hunter-gatherers were living as humans had lived for 15,000 centuries. Thomas wound up writing about their world in a seminal work, The Harmless People (1959). It has never gone out of print. Back then, this was uncharted territory and little was known about our human origins. Today, our beginnings are better understood. And after a lifetime of interest in the bushmen, Thomas has come to see that their lifestyle reveals great, hidden truths about human evolution. As she displayed in her bestseller, The Hidden Life of Dogs, Thomas has a rare gift for giving voice to the voices we don't usually listen to, and helps us see the path that we have taken in our human journey. In The Old Way, she shows how the skills and customs of the hunter-gatherer share much in common with the survival tactics of our animal predecessors. And since it is "knowledge, not objects, that endure" over time, Thomas vividly brings us to see how linked we are to our origins in the animal kingdom. The Old Way is a rare and remarkable achievement, sure to stir up controversy, and worthy of celebration.

Molecular Biology and Genetic Engineering - P. K. Gupta 2008

PART I Molecular Biology 1. Molecular Biology and Genetic Engineering

Definition, History and Scope 2. Chemistry of the Cell: 1. Micromolecules (Sugars, Fatty Acids, Amino Acids, Nucleotides and Lipids) Sugars (Carbohydrates) 3. Chemistry of the Cell . 2. Macromolecules (Nucleic Acids; Proteins and Polysaccharides) Covalent and Weak Non-covalent Bonds 4. Chemistry of the Gene: Synthesis, Modification and Repair of DNA DNA Replication: General Features 5. Organisation of Genetic Material 1. Packaging of DNA as Nucleosomes in Eukaryotes Techniques Leading to Nucleosome Discovery 6. Organization of Genetic Material 2. Repetitive and Unique DNA Sequences 7. Organization of Genetic Material: 3. Split Genes, Overlapping Genes, Pseudogenes and Cryptic Genes Split Genes or .Interrupted Genes 8. Multigene Families in Eukaryotes 9. Organization of Mitochondrial and Chloroplast Genomes 10. The Genetic Code 11. Protein Synthesis Apparatus Ribosome, Transfer RNA and Aminoacyl-tRNA Synthetases Ribosome 12. Expression of Gene . Protein Synthesis 1. Transcription in Prokaryotes and Eukaryotes 13. Expression of Gene: Protein Synthesis: 2. RNA Processing (RNA Splicing, RNA Editing and Ribozymes) Polyadenylation of mRNA in Prokaryotes Addition of Cap (m7G) and Tail (Poly A) for mRNA in Eukaryotes 14. Expression of Gene: Protein Synthesis: 3. Synthesis and Transport of Proteins (Prokaryotes and Eukaryotes) Formation of Aminoacyl tRNA 15. Regulation of Gene Expression: 1. Operon Circuits in Bacteria and Other Prokaryotes 16. Regulation of Gene Expression . 2. Circuits for Lytic Cycle and Lysogeny in Bacteriophages 17. Regulation of Gene Expression 3. A Variety of Mechanisms in Eukaryotes (Including Cell Receptors and Cell Signalling) PART II Genetic Engineering 18. Recombinant DNA and Gene Cloning 1. Cloning and Expression Vectors 19. Recombinant DNA and Gene Cloning 2. Chimeric DNA, Molecular Probes and Gene Libraries 20. Polymerase Chain Reaction (PCR) and Gene Amplification 21. Isolation, Sequencing and Synthesis of Genes 22. Proteins: Separation, Purification and Identification 23. Immunotechnology 1. B-Cells, Antibodies, Interferons and Vaccines 24. Immunotechnology 2. T-Cell Receptors and MHC Restriction 25. Immunotechnology 3. Hybridoma and Monoclonal Antibodies (mAbs) Hybridoma Technology and the Production of Monoclonal Antibodies 26. Transfection Methods and Transgenic Animals 27. Animal and Human Genomics: Molecular Maps and Genome Sequences Molecular Markers 28. Biotechnology in Medicine: l.Vaccines, Diagnostics and Forensics Animal and Human Health Care 29. Biotechnology in Medicine 2. Gene Therapy Human Diseases Targeted for Gene Therapy Vectors and Other Delivery Systems for Gene Therapy 30. Biotechnology in Medicine: 3. Pharmacogenetics / Pharmacogenomics and Personalized Medicine Phannacogenetics and Personalized 31. Plant Cell and Tissue Culture' Production and Uses of Haploids 32. Gene Transfer Methods in Plants 33. Transgenic Plants . Genetically Modified (GM) Crops and Floricultural Plants 34. Plant Genomics: 35. Genetically Engineered Microbes (GEMs) and Microbial Genomics References

Biocatalysis and Agricultural Biotechnology - Ching T. Hou 2009-04-27

Worldwide energy and food crises are spotlighting the importance of bio-based products – an area many are calling on for solutions to these shortages. Biocatalysis and Agricultural Biotechnology encapsulates the cutting-edge advances in the field with contributions from more than 50 international experts comprising sectors of academia, industry, and government research institutes, a virtual Who’s Who among biocatalysis scientists. Created Under the Editorial Guidance of Leading Biotechnology Experts With the aid of numerous graphs and illustrations, this authoritative reference documents such important advances as: Cloning and characterization of Kennedy pathway acyltransferases Engineering of plants for industrial uses New approaches from acquired tolerance to the biotic and abiotic stress of economically important crops This comprehensive text also explores a variety of bio-based industrial products, including: The modification of enzyme character through gene manipulation The biocatalytic synthesis of chiral intermediates for drug development The use of Omega-3 phospholipid nano capsules as effective forms for transporting immune response modifiers Providing in-depth reviews of this ancient field and its modern-day advances, Biocatalysis and Agricultural Biotechnology is an invaluable lab reference for teachers, graduate students, and industrial scientists conducting research in the biosciences.

Plant Bioproducts - Guanqun Chen 2018-07-18
Among the major challenges facing society today, seeking renewable alternatives to petroleum-based fuels and manufactured goods is critically important to reducing society's dependency on petroleum and tackling environmental issues associated with petroleum use. In recent years there has been considerable research targeted toward the development of plant-derived bioproducts to replace petrochemical feedstocks for both fuel and manufacturing. Plants not only provide a large amount of renewable biomass, but their biochemical diversity also offers many chemical and molecular tools for the production of new products through biotechnology. Plant Bioproducts is an introduction to the production and application of plant bioproducts, including biofuels, bioplastics, and biochemicals for the manufacturing sector. Contributing authors examine various bioproducts with respect to their basic chemistry, relationship to current petrochemical-based products, and strategies for their production in plants. Chapters cover the integrated roles of agronomy, plant breeding, biotechnology, and biorefining in the context of bioproduct development. Environmental, economic, ethical, and social issues surrounding bioproducts, including the use of genetically modified crops, challenges to food security, and consumer acceptance, are also covered.
Applied Genetics of Leguminosae Biotechnology - Pawan K. Jaiwal 2013-06-29
Legumes include many very important crop plants that contribute very critical protein to the diets of both humans and animals around the world. Their unique ability to fix atmospheric nitrogen in association with Rhizobia enriches soil fertility, and establishes the importance of their niche in agriculture. Divided into two volumes, this work presents an up-to-date analysis of in vitro and recombinant DNA technologies for the improvement of grain, forage and tree legumes. Volume 10B presents the current state and future prospects of in vitro regeneration and genetic transformation expression and stability of transgenes modification of traits in almost all the important legumes, for example: soybean; peanut; pea; french bean; chick pea; pigeon pea; cowpea; mung bean; black gram; azuki bean; lentil; Lathyrus; lupinus; Lotus spp; Medicago spp; Trifolium spp; Winged bean; Guar; and tree legumes for their improvement.
PCR - Lucília Domingues 2017-05-25
This volume details PCR technique with focus on its application specificities to the biotechnology and bioengineering field. Chapters are broken into five sections covering sgeneral PCR protocols, different applied examples to molecular and synthetic biotechnology, food science and technology, environmental microbiology and molecular ecology, and healthcare. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and cutting-edge, PCR: Methods and Protocols hopes to be a valuable and useful resource for wet lab researchers, particularly within the biotechnology and bioengineering field.
An Introduction to Genetic Engineering - Desmond S. T. Nicholl 2002-02-07
The author presents a basic introduction to the world of genetic engineering. Copyright © Libri GmbH. All rights reserved.
Principles of Genetic Engineering - Debnath Mousumi 2008-01-01
Genetic Engineering is the deliberate manipulation of an organism s genetic makeup to achieve a planned and desired result. Genetic engineering techniques provide pure DNA in amounts sufficient for mapping, sequencing, and direct structural analyses. Fur
Biotechnology and Genetic Engineering - Kathy Wilson Peacock 2010
Explains why biotechnology is a relevant and volatile issues. Begins with a history of biotechnology and its effect on agriculture, medicine, and the environment. Equal space is devoted to discussing the efforts of human-rights advocates, animal-rights advocates, and environmentalists to create definitive governmental regulations for this budding industry.
Redesigning Life? - Brian Tokar 2001-02-14
New discoveries in biotechnology are often touted as the answer to many

contemporary problems. Genetic engineering, animal cloning, and reproductive technologies are promoted as the keys to a brighter future, while genetic engineers promise more productive agriculture, medical miracles, and solutions to environmental problems. But increasing numbers of farmers, scientists, and concerned citizens disagree. There is growing evidence that genetically engineered foods are hazardous to our health and to the environment. Farmers all over the world are encountering an increasingly monopolized seed and agrichemical industry. Animal cloning and human genetic engineering raise troubling ethical questions and genes from plants, animals, and humans have become objects to be bought, sold, and patented by private interests. Worldwide resistance to genetic engineering and other biotechnologies has brought these issues to the forefront of public controversy. Contributors include Beth Burrows (Edmonds Institute), Mitchel Cohen (freelance writer and activist, US), Martha Crouch (formerly of Indiana University), Marcy Darnovsky (Sonoma State University), Michael Dorsey (environmental justice activist), Steve Emmott (Green delegation to the European Parliament), Alix Fano (Campaign for Responsible Transplantation, NY), Jennifer Ferrara (freelance writer, CA), Chaia Heller (Institute for Social Ecology, VT), David King (GenEthics News, UK), Jack Kloppenburg (University of Wisconsin), Orin Langelle (Native Forest Network), Zoë C. Meleo-Erwin (activist and researcher, PA), Barbara Katz Rothman (City University of New York), Sonja Schmitz (doctoral candidate, University of Vermont), Thomas G. Schweiger (Greenpeace International), Sarah Sexton (The Corner House, UK), Robin Seydel (La Montañita Food Co-op, NM), Hope Shand (Rural Advancement Foundation International, Canada), Lucy Sharratt (Sierra Club of Canada), Vandana Shiva (Research Foundation for Science, Technology and Ecology, India), Ricarda Steinbrecher (Econexus, UK), Victoria Tauli-Corpuz (Tebtebba Foundation, Philippines), Jim Thomas (Greenpeace UK), Brian Tokar, Kimberly Wilson (Greenpeace USA).

Genetically Modified Pest-Protected Plants - National Research Council 2000-08-23

This book explores the risks and benefits of crops that are genetically modified for pest resistance, the urgency of establishing an appropriate regulatory framework for these products, and the importance of public understanding of the issues. The committee critically reviews federal policies toward transgenic products, the 1986 coordinated framework among the key federal agencies in the field, and rules proposed by the Environmental Protection Agency for regulation of plant pesticides. This book provides detailed analyses of: Mechanisms and results of genetic engineering compared to conventional breeding for pest resistance. Review of scientific issues associated with transgenic pest-protected plants, such as allergenicity, impact on nontarget plants, evolution of the pest species, and other concerns. Overview of regulatory framework and its use of scientific information with suggestions for improvements.

BioBuilder - Natalie Kuldell PhD. 2015-06-22

Today’s synthetic biologists are in the early stages of engineering living cells to help treat diseases, sense toxic compounds in the environment, and produce valuable drugs. With this manual, you can be part of it. Based on the BioBuilder curriculum, this valuable book provides open-access, modular, hands-on lessons in synthetic biology for secondary and post-secondary classrooms and laboratories. It also serves as an introduction to the field for science and engineering enthusiasts. Developed at MIT in collaboration with award-winning high school teachers, BioBuilder teaches the foundational ideas of the emerging synthetic biology field, as well as key aspects of biological engineering that researchers are exploring in labs throughout the world. These lessons will empower teachers and students to explore and be part of solving persistent real-world challenges. Learn the fundamentals of biodesign and DNA engineering Explore important ethical issues raised by examples of synthetic biology Investigate the BioBuilder labs that probe the design-build-test cycle Test synthetic living systems designed and built by engineers Measure several variants of an enzyme-generating genetic circuit Model "bacterial photography" that changes a strain’s light sensitivity Build living systems to produce purple or green pigment Optimize baker’s yeast to produce ?-carotene

Chronic Liver Failure - Pere Ginès 2010-11-03

Chronic liver failure is a frequent condition in clinical practice that encompasses all manifestations of patients with end-stage liver diseases. Chronic liver failure is a multiorgan syndrome that affects the liver, kidneys, brain, heart, lungs, adrenal glands, and vascular, coagulation, and immune systems. Chronic Liver Failure: Mechanisms and Management covers for the first time all aspects of chronic liver failure in a single book, from pathogenesis to current management. Each chapter is written by a worldwide known expert in their area and all provide the latest state-of-the-art knowledge. This volume is specifically designed to provide answers to clinical questions to all doctors dealing with patients with liver diseases, not only clinical gastroenterologists and hepatologists, but also to internists, nephrologists, intensive care physicians, and transplant surgeons.

Approaches and Applications of Deep Learning in Virtual Medical Care - Noor Zaman 2022

"The book will focus on Innovative approaches for medical sensor/image data analysis, event detection, segmentation, and abnormality detection, object/lesion classification, organ/region/landmark localization, object/lesion detection, organ/substructure segmentation, lesion segmentation, and medical image registration using deep learning"--

Principles and Applications of Molecular Diagnostics - Nader Rifai 2018-06-13

Principles and Applications of Molecular Diagnostics serves as a comprehensive guide for clinical laboratory professionals applying molecular technology to clinical diagnosis. The first half of the book covers principles and analytical concepts in molecular diagnostics such as genomes and variants, nucleic acids isolation and amplification methods, and measurement techniques, circulating tumor cells, and plasma DNA; the second half presents clinical applications of molecular diagnostics in genetic disease, infectious disease, hematopoietic malignancies, solid tumors, prenatal diagnosis, pharmacogenetics, and identity testing. A thorough yet succinct guide to using molecular testing technology, Principles and Applications of Molecular Diagnostics is an essential resource for laboratory professionals, biologists, chemists, pharmaceutical and biotech researchers, and manufacturers of molecular diagnostics kits and instruments. Explains the principles and tools of molecular biology Describes standard and state-of-the-art molecular techniques for obtaining qualitative and quantitative results Provides a detailed description of current molecular applications used to solve diagnostics tasks

Proceedings of International Conference on Innovations in Biotechnology and Life Sciences - Dr. Asmita Das 2020-12-20

The International Conference on Innovations in Biotechnology and Life Sciences (ICIBLS), 2020 was hosted by Delhi Technological University (formerly known as Delhi College of Engineering) virtually between 18th Dec - 20th Dec 2020. The three-day virtual conference witnessed a total of 1200 participants across different parts of the globe. The conference also provided a platform to 20 participants to present their innovative research work covering broad topics like Bioinformatics, Cancer Biology, Cell Biology, Disease Detection, Environmental Biotechnology, Food Technology, Immunology, Microbiology, Nanotechnology, Neuroscience, and Plant Biotechnology. In addition to this,13 national and international speakers and an industry-academia panel discussion enriched the conference with their knowledge and insights of the field. Thus, the conference provided a conducive environment that enabled accomplished scientists and research scholars to share their experiences and scientific knowledge related to novel and fundamental advances in the field of Biotechnology and Life Sciences. The present book is a compilation of the abstracts submitted to the conference on recent advances in the field of biotechnology and life sciences. The innovative ideas and studies of students and researchers from all over the globe are being compiled for upliftment and flourishing of science and research.

Molecular Genetics of Bacteria - Larry Snyder 2007

Providing the single most comprehensive and authoritative textbook on bacterial molecular genetics, this updated edition provides descriptive background information, detailed experimental methods, examples of genetic analyses, and advanced material relevant to current applications of molecular genetics.

Genes & Signals - Mark Ptashne 2002
P. 103.
Miniatures - John Scalzi 2016-12-31

Unlocked - John Scalzi 2014-05-07
Discover the history of Haden's Syndrome, the virus that created the world of John Scalzi's inventive near-future thrillers Lock In and Head On, in the prequel novella Unlocked. Not long from now, a virus will sweep the globe. Most will suffer no worse than flu-like symptoms, but an unlucky one percent will be changed forever. Hundreds of millions become "locked in", awake, aware, but completely unable to control their bodies. This is the story of the doctors, scientists, engineers, politicians, and heroes who remade the world. It is the story of the chaotic outbreak, the fight for a cure, the changes that followed. It is an oral history, straight from the mouths of those who survived the most dynamic period in human history. At the Publisher's request, this title is being sold without Digital Rights Management Software (DRM) applied.
The Evaluation of Surrogate Endpoints - Tomasz Burzykowski 2006-03-30
Covers the latest research on a sensitive and controversial topic in a professional and well researched manner. Provides practical outlook as well as model guidelines and software tools that should be of interest to people who use the software tools described and those who do not. Related title by Co-author Geert Molenbergh has sold more than 3500 copies world wide. Provides dual viewpoints: from scientists in the industry as well as regulatory authorities.
Polymeric Materials - Marta Fernández-García 2019-05-28
This book collects the articles published in the Special Issue “Polymeric Materials: Surfaces, Interfaces and Bioapplications”. It shows the advances in polymeric materials, which have tremendous applications in agricultural films, food packaging, dental restoration, antimicrobial systems, and tissue engineering. These polymeric materials are presented as films, coatings, particles, fibers, hydrogels, or networks. The potential to modify and modulate their surfaces or their content by different techniques, such as click chemistry, ozonation, breath figures, wrinkle formation, or electrospray, are also explained, taking into account the relationship between the structure and properties in the final application. Moreover, new trends in the development of such materials are presented, using more environmental friendly and safe methods, which, at the same time, have a high impact on our society.
Polymeric Materials with Antimicrobial Activity - Alexandra Muñoz-Bonilla 2013-11
A comprehensive overview of different antimicrobial polymeric materials, their antimicrobial action modes and applications.
Molecular Imaging - Ammasi Periasamy 2011-04-28
The detection and measurement of the dynamic interactions of proteins within the living cell are critical to our understanding of cell physiology and pathophysiology. With FRET microscopy and spectroscopy techniques, basic and clinical scientists can make such measurements at very high spatial and temporal resolution. But sources of background information about these tools are very limited, so this book fills an important gap. It covers both the basic concepts and theory behind the various FRET microscopy and spectroscopy techniques, and the practical aspects of using the techniques and analyzing the results. The critical tricks for obtaining a good FRET image and precisely quantitating the signals from living specimens at the nanomolecular level are explained. Valuable information about the preparation of biological samples used for FRET image analysis is also provided. The methods covered include different types of microscopy systems and detectors (wide-field, confocal, multi-photon) as well as specialized techniques such as photobleaching FRET, FLIM-FRET microscopy, spectral imaging FRET, single molecule FRET, and time and image correlation spectroscopy. Starting from the basics, the chapters guide readers through the choice of probes to be used for FRET experiments and the selection of the most suitable experimental approaches to address specific biological questions. Up-to-date, consistently organized, and well-illustrated, this unique book will be welcomed by all researchers who wish to use FRET microscopy and spectroscopy techniques.