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Level 1 Biology AME Workbook 2020 MCAT Biology Review 2019-2020 Edrolo VCE Biology Units 3&4 - 2020 Edition The COVID-19 Pandemic: Epidemiology, Molecular Biology and Therapy Data Driven Science for Clinically Actionable Knowledge in Diseases Nucleic Acids in Medicinal Chemistry and Chemical Biology OMICs-based Techniques for Global Food Security Proteomics and Systems Biology An Introduction to Conservation Biology Applications of Genome Engineering in Plants Application of Quantum Dots in Biology and Medicine Biology of Sharks and Their Relatives Synthetic Biology and iGEM: Techniques, Development and Safety Concerns Acoustic Technologies in Biology and Medicine Artificial Intelligence and Its Discontents Fostering Understanding of Complex Systems in Biology Education Natural Product Experiments in Drug Discovery Jasmonates and Brassinosteroids in Plants Biology and Integrated Management of Turfgrass Diseases Carbon Dots in Biology Advanced Methods in Structural Biology Seed Biology - New Advances Emerging Threats of Synthetic Biology and Biotechnology Syngnathid Fishes: Biology, Ecology, Physiology, Conservation and Innovative Rearing Techniques Latest Advances on Excitatory Synapse Biology Integrating Racial Justice Into Your High-School samsung washer service 2023-02-17 1/36

Biology Classroom Tumor Microenvironment Signaling Networks in Pathophysiology and Therapeutics Cancer Systems and Integrative Biology Next-generation Sequencing and Agriculture Molecular Links Between Mitochondrial Damage and Parkinson's Disease and Related Disorders Metalloenzymes Green Nanoremediation Cognitive Computing for Internet of Medical Things COVID and Emerging Infectious Diseases Machine Learning and Systems Biology in Genomics and Health Beyond Becquerel and Biology to Precision Radiomolecular Oncology: Festschrift in Honor of Richard P. Baum Evolution, Emerging Functions and Structure of Actin-Binding Proteins Biology and Pharmacological Effects of Extracellular Vesicles in Cancer Stomatal Biology and Beyond

Level 1 Biology AME Workbook 2020 2020-08-03

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MCAT Biology Review 2019-2020 2018-06-26

the coronavirus disease 2019 covid 19 pandemic has affected almost every part of the globe with millions of cases and over a million deaths the pandemic has had a significant global economic impact and addressing it systematically requires significant efforts from researchers healthcare workers and governments the covid 19 pandemic covers relevant aspects of this viral pandemic including information about the sars cov 2 pathogen morphology genome proteins structural protein genes replication global epidemiology transmission risk factors clinical manifestation management host immune response pathogenesis diagnosis and therapeutic agents antivirals natural compounds and vaccines readers will find basic and advanced knowledge about the disease organized into simple and easy to read chapters about the disease making this book a handy and comprehensive reference for general readers academics and biology students alike

Edrolo VCE Biology Units 3&4 - 2020 Edition 2020

data driven science has become a major decision making aid for the diagnosis and treatment of disease computational and visual analytics enables effective exploration and sense making of large and complex data through the deployment of appropriate data science methods meaningful visualisation and human information interaction this edited volume covers state of the art theory method models design evaluation and applications in computational and visual analytics in desktop mobile and immersive environments for analysing biomedical and health data the book is focused on data driven integral analysis including computational methods and visual analytics practices and solutions for discovering actionable knowledge in support of clinical actions in real environments by studying how data and visual analytics have been implemented into the healthcare domain the book demonstrates how analytics influences the domain through improving decision making specifying diagnostics selecting the best treatments and generating clinical certainty

The COVID-19 Pandemic: Epidemiology, Molecular

Biology and Therapy 2021-02-01

Data Driven Science for Clinically Actionable Knowledge in Diseases 2023-12-06

nucleic acids in medicinal chemistry and chemical biology an up to date and comprehensive exploration of nucleic acid medicinal chemistry and its applications in nucleic acids in medicinal chemistry and chemical biology drug development and clinical applications a team of distinguished researchers delivers a comprehensive overview of the chemistry and biology of nucleic acids and their therapeutic applications the book emphasizes the latest research in the field including new technologies like crispr that create novel possibilities to edit mutated genes at the genomic dna level and to treat inherited diseases and cancers the authors explore the application of modified nucleosides and nucleotides in medicinal chemistry a variety of current topics on nucleic acid chemistry and biology nucleic acid drugs used to treat disease and more they also probe new domains of pharmaceutical research offering the reader a wealth of new drug discovery opportunities emerging in this dynamic field readers will also find a thorough introduction to the basic terminology and

knowledge of the field of nucleic acid medicinal chemistry comprehensive explorations of the methods used to determine the development of nucleic acid drugs practical discussions of new technologies like crispr nanotechnology based delivery systems synthetic biology and dna encoded chemical libraries in depth examinations of the latest cutting edge developments in nucleic acid medicinal chemistry perfect for medicinal and nucleic acid chemists nucleic acids in medicinal chemistry and chemical biology will also earn a place in the libraries of biochemists chemical biologists and pharmaceutical researchers



omics based techniques for global food security forward thinking resource discussing how to integrate omics and novel genome editing technologies for sustainable crop production omics based techniques for global food security provides an in depth understanding of the mechanisms of omics techniques for crop improvement details how omics techniques can contribute to identifying genes and traits with economic benefits and explains how to develop crop plants with improved yield quality and resistance to stresses through genome editing technologies providing evidence on the developments of climate resilient crops via applications of genome editing techniques throughout the text covers the application of omics in crop plants the integration of bioinformatics and multi omics for precision breeding de novo domestication crispr cas system for crop improvement hybrid seed production

transgene free breeding regulation for genome edit crops bioinformatics and genome editing and other topics related to omics and genome editing the text also includes a chapter on global regulations for genome edited crops and explains how these regulations influence novel plant breeding techniques in their adopted countries edited by two highly qualified academics omics based techniques for global food security covers topics such as crops genome sequencing and their application for crop improvement and functional characterization of cereal genome the role of omics based technologies in plant sciences and utilization of different multi omics approaches for crop improvement genomic database and genetic resource of cereals speed breeding for rapid crop improvement and evolution of genome editing technologies crispr system discovery history and future perspective and crispr cas system for biotic and abiotic stress resistance in cereals providing a collection of recent literature focusing on developments and applications of omics based technologies for crop improvement omics based techniques for global food security is an important read for plant breeders molecular biologists researchers postdoctoral fellows and students in disciplines for developing crops with high yield and nutritional potential

Nucleic Acids in Medicinal Chemistry and Chemical

Biology 2022-12-15

proteomics and systems biology volume 127 in the advances in protein chemistry and structural biology series outlines current proteomic methodologies and discuss the challenges in future applications of systems biology in a number of biomedical bioscience subjects in last few decades advances in genomics proteomics metabolomics glycomics venomics etc have produced vast large scale datasets that need to be analyzed with a single main objective of understanding biological systems as a whole such understanding will allow us to predict and characterize the dynamic properties of biological systems integrates experimental and computational methods for understanding biological systems as a whole contains timely chapters written by well renowned authorities in their field includes well supported content that is accompanied by a number of high quality illustrations figures and tables hence it targets a wide audience of specialists researchers and students

OMICs-based Techniques for Global Food Security 2024-03-20

an introduction to conservation biology is well suited for a wide range of undergraduate courses as both a primary text for conservation biology courses and a supplement for

ecological and environmental science courses this new edition focuses on engaging students through videos and activities and includes new pedagogy to scaffold students learning coverage of recent conservation biology events in the news such as global climate change and sustainable development keeps the content fresh and current

Proteomics and Systems Biology 2021-07-30

applications of genome engineering in plants understand the keys to creating the food of the future genome engineering in plants is a field that has made enormous strides in recent years in particular the crispr cas system has been used in a number of crop species to make significant leaps forward in nutritional improvement stress tolerance crop yield and more as scientists work to meet global food needs and foster sustainable agriculture in a changing world genome engineering promises only to become more important applications of genome engineering in plants details the history of and recent developments in this essential area of biotechnology it describes advances enabling nutritional improvement nutraceuticals improvement flavonoid enrichment and many more crop enhancements as well as subjects such as biosafety and regulatory mechanisms the result is a thorough and essential overview for researchers and biotech professionals applications of genome engineering in plants readers will also find chapters on trans gene free editing or non transgenic approaches to plant genomes detailed discussion of topics including nanotechnology

facilitated genome editing engineering for virus resistance in plants and more applications of genome editing in oil seed crops vegetables ornamental plants and many others applications of genome engineering in plants is ideal for academics scientists and industry professionals working in biotechnology agriculture food science and related subjects

An Introduction to Conservation Biology 2022

this book illustrates various applications of quantum dots qds in the biomedical field and future perspectives it first introduces the synthesis procedures and fundamental properties of qds in addition the optical detection techniques and toxicologic reviews of qds are presented a focus of the book is also on the applications of qds in cancer therapy drug delivery bio sensing and targeted molecular therapy this book is exciting and valuable to a wide variety of readership communities students early stage researchers and scientists in the various fields of biology and medicine

Applications of Genome Engineering in Plants 2023-12-18

biology of sharks and their relatives is an award winning and groundbreaking exploration of

the fundamental elements of the taxonomy systematics physiology and ecology of sharks skates rays and chimera this edition presents current research as well as traditional models to provide future researchers with solid historical foundations in shark research as well as presenting current trends from which to develop new frontiers in their own work traditional areas of study such as age and growth reproduction taxonomy and systematics sensory biology and ecology are updated with contemporary research that incorporates emerging techniques including molecular genetics exploratory techniques in artificial insemination and the rapidly expanding fields of satellite tracking remote sensing accelerometry and imaging with two new editors and 90 contributors from the us uk south africa portugal france canada new zealand australia india palau united arab emirates micronesia sweden argentina indonesia cameroon and the netherlands this third edition is the most global and comprehensive yet it adds six new chapters representing extensive studies of health stress disease and pathology and social structure and continues to explore elasmobranch ecological roles and interactions with their habitats the book concludes with a comprehensive review of conservation policies management and strategies as well as consideration of the potential effects of impending climate change presenting cohesive and integrated coverage of key topics and discussing technological advances used in modern shark research this revised edition offers a well rounded picture for students and researchers

Application of Quantum Dots in Biology and Medicine 2022-10-03

this book focuses on biological engineering techniques multi omics big data integration and data mining techniques as well as cutting edge researches in principles and applications of several synthetic biology applications synthetic biology is a new research area while it has been rooted from the long established area including biological engineering metabolite engineering and systems biology this book will discuss the following aspects 1 introduction to synthetic biology and igem especially focusing on the systematic design rational engineering and sustainability of design in the omics ages 2 synthetic biology related multi omics data integration and data mining techniques 3 the technical issues development issues and safety issues of synthetic biology 4 data resources web services and visualizations for synthetic biology and 5 advancement in concrete research on synthetic biology with several case studies shown devised as a book on synthetic biology research and education in the omics age this book has put focuses on systematic design rational engineering and sustainability of design for synthetic biology which will explain in detail and with supportive examples the what why and how of the topic it is an attempt to bridge the gap between synthetic biology s research and education side for best practice of synthetic biology and in depth insights for the related questions

Biology of Sharks and Their Relatives 2022-06-08

acoustic technologies in biology and medicine complete balanced resource encompassing all required technical theoretical and applied multidisciplinary knowledge related to acoustics taking a multidisciplinary approach involving fluid mechanics physics chemistry electronics and the life sciences to provide a unified and competent overview of the field acoustic technologies in biology and medicine covers the fundamental principles of acoustic wave generation and propagation different acoustic systems and technologies with the interplay of physical forces theoretical foundations and the state of the art biomedical applications of acoustics state of the art applications of acoustics in biology and medicine are presented including single cell and organism manipulation acoustic biosensing cancer cell isolation liquid biopsy cell tissue stimulation and ablation micro robot actuation acoustic imaging and drug delivery contributed to and edited by highly qualified professionals with significant experience in the field acoustic technologies in biology and medicine covers sample topics such as materials for acoustic wave generation and modulation ultrasound imaging and photoacoustic imaging and sensing for biomedical applications therapeutic ultrasound application of ultrasound responsive reagents for drug delivery systems and acoustic levitation and acoustic holograms application of ultrasonic waves in bioparticle manipulation and separation acoustic biosensors and acoustic micro and nanorobots in medicine different technologies of acoustic systems including bulk and surface acoustic

wave based platforms acoustic imaging acoustic sensors and acoustic levitators a cornerstone reference bridging the gap between rapidly advancing acoustic technologies with state of the art applications in biology and medicine acoustic technologies in biology and medicine is an essential resource on the subject for biophysicists materials scientists biotechnologists bioengineers sensor developers electronics engineers and all professionals in the greater biotechnological industry

Synthetic Biology and iGEM: Techniques, Development and Safety Concerns 2023-06-19

on what basis can we challenge artificial intelligence ai its infusion investment and implementation across the globe this book answers this question by drawing on a range of critical approaches from the social sciences and humanities including posthumanism ethics and human values surveillance studies black feminism and other strategies for social and political resistance the authors analyse timely topics including bias and language processing responsibility and machine learning covid 19 and ai in health technologies bio ai and nanotechnology digital ethics ai and the gig economy representations of ai in literature and culture and many more this book is for those who are currently working in the field of ai critique and disruption as well as in ai development and programming it is also for those

who want to learn more about how to doubt question challenge reject reform and otherwise reprise ai as it been practiced and promoted

Acoustic Technologies in Biology and Medicine 2023-10-10

this book synthesizes a wealth of international research on the critical topic of fostering understanding of complex systems in biology education complex systems are prevalent in many scientific fields and at all scales from the micro scale of a single cell or molecule to complex systems at the macro scale such as ecosystems understanding the complexity of natural systems can be extremely challenging though crucial for an adequate understanding of what they are and how they work the term systems thinking has become synonymous with developing a coherent understanding of complex biological processes and phenomena for researchers and educators alike understanding how students systems thinking develops is an essential prerequisite to develop and maintain pedagogical scaffolding that facilitates students ability to fully understand the system's complexity to that end this book provides researchers and teachers with key insights from the current research community on how to support learners systems thinking in secondary and higher education each chapter in the book elaborates on different theoretical and methodological frameworks pertaining to

complexity in biology education and a variety of biological topics are included from genetics photosynthesis and the carbon cycle to ecology and climate change specific attention is paid to design elements of computer based learning environments to understand complexity in biology education

Artificial Intelligence and Its Discontents 2022-02-01

this detailed volume explores a wide range of evidence based complementary medicine and various bio analytical techniques used to define botanical products collecting recent work and current developments in the field of contemporary phytomedicine as well as their future possibilities in human health care the book includes unique contributions in the form of chapters on phytomedicine and screening biological activities explained with diverse hyphenated techniques as well as issues related to herbal medications such as efficacy adulteration safety toxicity regulations and drug delivery written for the springer protocols handbooks series chapters feature advice from experts on how to best conduct future experiments extensive and practical natural product experiments in drug discovery serves as an ideal reference for students professors and researchers in universities r d institutes pharmaceutical and herbal enterprises and health organizations

Fostering Understanding of Complex Systems in Biology Education 2022-05-25

this book provides a comprehensive update on recent developments of jasmonates jas and brassinosteroids brs in plant signalling and biotechnological applications over the last few decades an enormous amount of research data has been generated on these two signalling molecules this valuable compilation will enhance the basic understanding of jas and brs mechanism of actions ensuing tolerance mechanism of crops under climate changes for sustainable agriculture and human welfare this book covers topics regarding the occurrence of jas and brs in plants biosynthesis role in plant growth and development role of these pgrs during various abiotic stress tolerance in plants crosstalk of reactive oxygen species ros and plant stress mitigation regulation of jas and brs signaling pathways by microrna along with physiological and anatomical roles of jas and brs as wound healing regeneration and cell fate decisions the cross talk of jas and brs with neurotransmitters in plant growth and development bio fortification of crop plants with brs in managing in human health issues chapter enlightened new role of brs in human wellbeing this book will be beneficial to scientists researchers agriculturists horticulturists industries related to the crop and food production key features reviews the global scientific literature and experimental data of the authors on the occurrence of jas and brs in various plants update information on recent

developments of jas and brs signalling and biotechnological applications in plants highlights the physiological metabolic and molecular mechanism of jas and brs under variable climates addresses the abiotic and biotic tolerance management by jas and brs describes the role of jas and brs in sustainable agriculture and human welfare in eco friendly manner

Natural Product Experiments in Drug Discovery 2022-09-20

cultivated turfgrass is an assemblage of mown perennial grasses or prostrate growing forb plants and a suite of microbes all competing with each other in a common environment this book approaches turfgrass diseases from an ecological perspective and explains with examples how wild plants and microbes have co evolved it addresses the identification biology and integrated management of both common turfgrass diseases and newly emergent diseases it includes the common and lesser known turfgrass species their surrounding environment and the range of beneficial and pathogenic microbes which in combination explain why disease occurs for disease identification purposes fungal diseases are arranged according to their predominantly cool season and warm season occurrence turfgrass bacterial and viral diseases and plant parasitic nematodes are also covered written by a team of international authors it combines technical expertise and practical experience

essential for anyone involved in managing turfgrass this book provides the know how to identify the early warning signs of diseases in order to manipulate the environment and minimise the damage

Jasmonates and Brassinosteroids in Plants 2022-09-27

the research on carbon dots is evolving and expanding very rapidly a high tech overview for academia and industry is needed to modernize carbon dots in biological applications this book covers the use of carbon dots in biology medicine and pharmacy synthesis properties and applications obstacles in exploiting these materials and future research prospects the reader is able to explore the wide scope of carbon dots in the global market

Biology and Integrated Management of Turfgrass Diseases 2024-02-21

this volume explores the latest integrated bioprocesses and technologies used to study the production of the target recombinant protein of therapeutic or diagnostic interest its isolation purification and stabilization and the bio interaction and structural analyses the chapters in this book are organized into four parts part one covers production methods of

soluble and membrane proteins in prokaryotic and eukaryotic expression systems such as lactococcus lactis and escherichia coli part two describes traditional and novel approaches for recombinant protein purification and stabilization and buffers and additives part three discusses automated methods in structural biology based on in silico approaches and part four provides examples of advanced protein investigation methodologies to assess structural analysis such as high throughput protein crystallization and time resolved serial crystallography 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 cutting edge and comprehensive advanced methods in structural biology is a valuable resource to those in academia i e graduate students and postdoctoral researchers and researchers in the pharmaceutical industry who wish to learn more about this developing field chapter 5 is available open access under a creative commons attribution 4 0 international license via link springer com

Carbon Dots in Biology 2023-04-27

seeds are important reproductive materials that enable the continued existence of plants they are the first step of life and the key to production sufficiency and nutrition in other words existence this book provides a comprehensive overview of seed biology with chapters

on seed morphology physiology metabolomics ecology dormancy storage germination and viability

Advanced Methods in Structural Biology 2023-04-24

synthetic biology is a field of biotechnology that is rapidly growing in various applications such as in medicine environmental sustainability and energy production however these technologies also have unforeseen risks and applications to humans and the environment this open access book presents discussions on risks and mitigation strategies for these technologies including biosecurity or the potential of synthetic biology technologies and processes to be deliberately misused for nefarious purposes the book presents strategies to prevent mitigate and recover from dual use concern biosecurity challenges that may be raised by individuals rogue states or non state actors several key topics are explored including opportunities to develop more coherent and scalable approaches to govern biosecurity from a laboratory perspective up to the international scale and strategies to prevent potential health and environmental hazards posed by deliberate misuse of synthetic biology without stifling innovation the book brings together the expertise of top scholars in synthetic biology and biotechnology risk assessment management and communication to discuss potential biosecurity governing strategies and offer perspectives for collaboration in oversight and future regulatory guidance

Seed Biology - New Advances 2024-01-17

syngnathids are a large and diverse group of fishes including seahorses pipefishes seadragons and pipehorses these iconic and vulnerable fishes are distributed worldwide in warm temperate to tropical environments usually in coastal shallow water most species are marine and strongly associated with vegetal communities or coral reefs which provide shelter and the necessary dietary resources syngnathids have a unique reproductive mode with parental care diverse brooding structures and other special characteristics that make them highly vulnerable these iconic fishes are facing several threats namely environmental disturbances and habitat regression however many of their biological ecological and physiological characteristics have been poorly investigated and limited to a few species despite their vulnerability to date a large number of species are listed as data deficient meaning they could potentially be threatened by iuch due to inadequate or insufficient information mainly on distribution and or population status due to the progressive regression of wild populations long term monitoring programs are necessary to evaluate population dynamics fisheries and habitat quality on the other hand these charismatic fishes especially seahorses are excellent flagship species for marine biodiversity conservation unfortunately illegal harvesting and traffic of seahorses and other syngnathids is a fact despite cites controls hence the development of new tools for fish traceability and updated policies are also necessary to reduce the threats to these fishes

Emerging Threats of Synthetic Biology and Biotechnology 2021

in this guide educators and authors david upegui and david e fastovsky offer a pedagogical prescription for how you can integrate the study of racial justice with evolutionary biology in your existing high school biology curriculum designed as a practical manual for teaching the chapters focus on teaching concepts of equity through evolutionary biology modules a cornerstone for building students scientific understanding of biotic diversity the book provides pedagogical components alongside historical and scientific components with contextual chapters that give teachers the background knowledge to understand the historical relationship between science and racism for topics such as natural selection social justice and american slavery and colonization ready to use lesson plans are situated in a historical and theoretical context of science as it relates to racial oppression and demonstrate how rigorous science education can lead to your students liberation and personal empowerment despite the historically problematic history of some applications of science these lesson plans and classroom exercises are presented in a way that introduces the timely extra dimension of anti-racism into the existing biology curricula without significantly increasing teaching loads the contextual material provided allows the lessons to be implemented across a variety of classrooms regardless of initial familiarity with dei

ideal for secondary biology teachers and their students particularly in grades 10 12 this book synthesizes timely ideas for high school educators harnessing the power of rigorous science to combat marginalization lessons and activities have been classroom tested and are aligned with three different standards next generation science standards ngss college board ap biology vision and change and use the 5e format

Syngnathid Fishes: Biology, Ecology, Physiology, Conservation and Innovative Rearing Techniques 2023-11-27

this thorough volume explores recent advances that have revolutionized the field of precision oncology the chapters contributed by experts in the areas of cancer systems and integrative biology provide hands on guidance toward developing tools to monitor spatial and temporal changes in tumors tracking tumor markers in blood and ultimately developing precision medicine to combat cancer in real time written for the highly successful methods in molecular biology series chapters include the kind of detailed implementation advice that ensures successful results authoritative and informative cancer systems and integrative biology serves as an invaluable resource for researchers pharmaceutical scientists and oncologists interested in expanding their knowledge base in the current developments in

cancer research

Latest Advances on Excitatory Synapse Biology 2021-11-25

genome sequencing has become a basic tool of plant and animal breeding reduced costs have allowed the sequencing of thousands of plant lines or cultivars leading to previously unobtainable insights into genetic impacts during breeding and generating large numbers of novel candidate breeding genes this book summarizes the impacts that the genome sequencing revolution has had on agriculture with reference to applications across species and locations it explains new techniques and their use in understanding epigenetics breeding and conservation it is a useful resource for scientists wanting to learn how different fields of agriculture have adapted novel genome sequencing technologies to their requirements and for those wanting to transfer technologies and lessons learned from one field of agriculture to another this book is a useful resource for students and researchers in biotechnology genetics genomics and breeding

Integrating Racial Justice Into Your High-School Biology Classroom 2023-09-12

metalloenzymes from bench to bedside offers a thorough overview of metalloenzymes spanning biochemical and structural features pharmacology and biotechnological applications after a brief overview international experts in the field discuss a wide range of magnesium calcium zinc manganese nickel iron copper cadmium molybdenum and tungsten enzymes along with catalytic roles within their active sites with a uniform approach throughout each chapter includes the structure and function of the enzyme physiologic and pathologic roles inhibitors and activators of the enzyme and their design and clinical agents or compounds applied in medicine and drug discovery this book enables scientists across academia and industry to adopt ongoing metalloenzyme research and continuous discovery of novel metalloenzymes in new life science studies and clinical applications examines a range of metalloenzymes from biochemistry to pharmacology and drug design each chapter examines enzyme structure and function physiologic and pathologic roles inhibitors and activators and clinical application features chapter contributions from international experts in the field

Tumor Microenvironment Signaling Networks in Pathophysiology and Therapeutics 2022-10-19

this book focuses on green nanoremediation addressing aspects related to the use of nanomaterials generated through green synthesis protocols to efficiently restore polluted environs nanomaterials characteristics such as large surface area capacity to easily reach into contaminated sites good reactivity and possibility of being developed to present photocatalytic activity and or to deal with targeted substances by chemical surface modification are useful specially to perform remediation as an alternative to conventional physicochemical methods the green based synthesis protocols reject the use of harmful reagents prevent waste production apply renewable energy source and or materials and consider in first place offering the smallest negative impact possible to living beings and to the ecosystem green synthesis in nanotechnology field involves the use of seaweeds bacteria cyanobacteria yeasts fungi plants living ones biomass extracts and or bio derived products to generate the nanomaterials the introductory chapter will be dedicated to nanomaterials characteristics that enable them to be used in environmental remediation the first part of the book will be dedicated to organic and inorganic pollution and the threats they pose to living forms advantages disadvantages and mechanisms of nanoremediation comparison between conventional strategies of environmental pollution remediation and the green

nanoremediation carbon based and non carbon based green nanomaterials capable of promoting environs remediation cost benefits of using nanomaterials and nanoinformatics to a safe nanotechnology the second part will be dedicated to green nanoremediation of water and soil microbe based algae based and plant based synthesis of nanomaterials to nanoremediation this part will also contain chapters dedicated to relevant nanomaterials for green nanoremediation protocols nano phytoremediation strategies strategies to evaluate the efficiency of protocols related to this kind of remediation main interactions of green nanomaterials and microbes during nanoremediation and as a consequence of it biocompatibility of green nanomaterials this book s main purpose is to offer readers extensive knowledge on green nanoremediation as a feasible strategy to fight pollution s harmful consequences and clean environmental pollution but also present the challenges that should be surpassed

Cancer Systems and Integrative Biology 2023-05-16

cognitive computing for internet of medical things iomt offers a complete assessment of the present scenario role challenges technologies and impact of iomt enabled smart healthcare systems it contains chapters discussing various biomedical applications under the umbrella of the iomt key features exploits the different prospects of cognitive computing techniques for the iomt and smart healthcare applications addresses the significance of iomt and

cognitive computing in the evolution of intelligent medical systems for biomedical applications describes the different computing techniques of cognitive intelligent systems from a practical point of view solving common life problems explores the technologies and tools to utilize iomt for the transformation and growth of healthcare systems focuses on the economic social and environmental impact of iomt enabled smart healthcare systems this book is primarily aimed at graduates researchers and academicians working in the area of development of the application of the application of the iot in smart healthcare industry professionals will also find this book helpful

Next-generation Sequencing and Agriculture 2022-07-12

over the last two years with the strain of coronavirus having a devastating effect on the world s healthcare system and triggering a global lockdown one question that has emerged what or which infectious disease is going to hit us next many infectious diseases prevalent in humans and animals are caused by pathogens that once emerged from other animal hosts in addition to these established or re emerging infections new infectious diseases periodically emerge in extreme cases they may lead to pandemics as we currently are seeing the increased urbanization and globalization of the world order with faster

connectivity and traveling has further in creased the risk factors for emerging infections despite this enormous progress has been made in the field of infectious disease in the last few decades the number of deaths and severe infections because of diseases like malaria hiv ebola dengue yellow fever virus yfv zika etc have been significantly reduced and diseases like polio are on the brink of eradication in particular the emergence of the devastating sars cov 2 pandemic has revolutionized the field in an unprecedented way a myriad of vaccine platforms and highly potent therapeutic approaches have been developed by government industry academic and non governmental organizations however the rapid and unparalleled spread of sars cov 2 and its variants and the amount of toll that it has caused to the public health and global economy also underscores the urgent need to develop broadly cross reactive rapidly deployable and scalable therapeutic platforms development of these novel therapeutic modalities also requires a strong emphasis on the functional and mechanistic understanding of how molecular components in a biological process related to emerging infectious diseases work together onset of the out breaks of recent decades including but not limited to sars cov 1 mers ebola virus zika virus nipah virus yellow fever virus lassa virus and the ongoing ever devastating sars cov 2 pandemic also highlight the urgent need to devise a future proof pandemic preparedness strategy and the demand for a fast and early response

Molecular Links Between Mitochondrial Damage and Parkinson's Disease and Related Disorders 2021-09-28

this book discusses the application of machine learning in genomics machine learning offers ample opportunities for big data to be assimilated and comprehended effectively using different frameworks stratification diagnosis classification and survival predictions encompass the different health care regimes representing unique challenges for data pre processing model training refinement of the systems with clinical implications the book discusses different models for in depth analysis of different conditions machine learning techniques have revolutionized genomic analysis different chapters of the book describe the role of artificial intelligence in clinical and genomic diagnostics it discusses how systems biology is exploited in identifying the genetic markers for drug discovery and disease identification myriad number of diseases whether be infectious metabolic cancer can be dealt in effectively which combines the different omics data for precision medicine major breakthroughs in the field would help reflect more new innovations which are at their pinnacle stage this book is useful for researchers in the fields of genomics genetics computational biology and bioinformatics

Metalloenzymes *2023-08-30*

this open access book is written by world renowned experts on radiomolecular precision oncology to celebrate the work life principles and ideology of richard p baum it includes commentaries reviews and some thought provoking novel ideas on radionuclide precision oncology covering topics such as various aspects of theranostics and molecular radiotherapy like radiolabeled peptides radiolabeled antibodies dosimetry and quality control as well as the diagnosis and treatment of specific tumor types featuring contributions by biologists physicists chemists mathematicians geneticists and physicians from a range of specialties this festschrift is highly interdisciplinary and will be a valuable resource for future precision oncologists

Green Nanoremediation 2023-06-22

Cognitive Computing for Internet of Medical Things

2022-12-23

COVID and Emerging Infectious Diseases 2024-02-13

Machine Learning and Systems Biology in Genomics and Health 2022-02-04

Beyond Becquerel and Biology to Precision Radiomolecular Oncology: Festschrift in Honor of Richard P. Baum 2024-01-05 Evolution, Emerging Functions and Structure of Actin-Binding Proteins 2022-02-02

Biology and Pharmacological Effects of Extracellular Vesicles in Cancer 2022-05-09

Stomatal Biology and Beyond 2022-03-08

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