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Toxic Plant Proteins
Host-Fungus Interactions
Engineering Design Handbook
Nucleosynthesis and Chemical Evolution of Galaxies
Corrosion Inspection and Monitoring
Surveying Antimicrobial Resistance: The New Complexity of the Problem
Advances in Enzyme Biotechnology
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The Development of Wireless to 1920
The Detection of Gravitational Waves
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Machining Data Handbook
Agrobacterium biology and its application to transgenic plant production
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Institute of Materials Science and Engineering
Graphene-Based Polymer Nanocomposites in Electronics
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Industrial Biotransformations
Genetics and Breeding for Productivity Traits in Forage and Bioenergy Grasses
Fundamentals of Galaxy Dynamics, Formation and Evolution

Nematode Pathogenesis of Insects and Other Pests
Source Book on Maraging Steels
Recombinant Protein Production in Yeast

ZIMMERMAN RICHARD

Thermionic Phenomena
Humana Press
Galaxies, along with their underlying dark matter halos, constitute the building blocks of structure in the Universe. Of all fundamental forces, gravity is the dominant one that drives the evolution of structures from small density seeds at early times to the galaxies we see today. The interactions among myriads of stars, or dark matter particles, in a gravitating structure produce a system with fascinating connotations to thermodynamics, with some analogies and some fundamental differences. Ignacio Ferreras presents a concise introduction to extragalactic astrophysics, with emphasis on stellar dynamics, and the growth of density fluctuations in an expanding Universe. Additional chapters are devoted to smaller systems (stellar clusters) and larger ones (galaxy clusters). Fundamentals of Galaxy Dynamics, Formation and Evolution is written for advanced undergraduates and beginning postgraduate students, providing a useful tool to get up to

speed in a starting research career. Some of the derivations for the most important results are presented in detail to enable students appreciate the beauty of maths as a tool to understand the workings of galaxies. Each chapter includes a set of problems to help the student advance with the material.

Toxic Plant Proteins Springer Science & Business Media Annotation The Special Issue to provide a forum for contemporary studies of the genetics, genomics and phenomics of productivity traits in forage and bioenergy grasses, along with the application of such data to breeding practices and cultivar development.

Host-Fungus Interactions Springer "Provide starting recommendations for important machining situations." Pref. Consists of tables giving recommended speeds for cutting and drilling various types and thicknesses of materials, type of equipment to use, etc. Indexed.

Engineering Design Handbook Springer Science & Business Media Your comprehensive knowledge base when it comes to the formulation of paints and coatings: already in its 3rd edition, this book imparts the composition of coatings clearly, placing special emphasis on the base binder in each type. Advice on specific formulations is then given before formulation guidelines are analysed. Examples of how to develop a real-life paint

formulation round off this useful standard work. **Nucleosynthesis and Chemical Evolution of Galaxies** UCL Press Recent developments in genetic engineering and protein chemistry are bringing ever more powerful means of analysis to bear on the study of enzyme structure. This volume reviews the most important types of industrial enzymes. In a balanced manner it covers three interrelated aspects of paramount importance for enzyme performance: three-dimensional protein structure, physicochemical and catalytic properties, and the range of both classical and novel applications. Corrosion Inspection and Monitoring Elsevier Microbiologists, medical mycologists, immunologists, and biochemists are increasingly working together to focus on the processes involved in the progression and treatment of fungal disease. Host-Fungus Interactions: Methods and Protocols is designed for research scientists who are involved in this work and interested in undertaking new or comparative studies of interactions between the mammalian host and clinically important fungal pathogens. Aiming to combine approaches for reverse genetics in pathogenic fungi with methods for their application in in vitro and in vivo models of disease, the book includes methods for the culture and genetic manipulation of the primary fungal

pathogens and the opportunistic pathogens, as well as methods for investigating host-fungus interactions in model systems. Written in the highly successful Methods in Molecular BiologyTM 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. Comprehensive and practical, Host-Fungus Interactions: Methods and Protocols describes available molecular methods and fungal infection models in great detail in order to encourage researchers to try new approaches to investigating host-fungus interactions with added levels of confidence.

Surveying Antimicrobial Resistance: The New Complexity of the Problem

Frontiers Media SA

This book provides a comparative analysis of both diesel and gasoline engine particulates, and also of the emissions resulting from the use of alternative fuels. Written by respected experts, it offers comprehensive insights into motor vehicle particulates, their formation, composition, location, measurement, characterisation and toxicology. It also addresses exhaust-gas treatment and legal, measurement-related and technological advancements concerning emissions. The book will serve as a valuable resource for academic researchers and professional automotive

engineers alike. .
Advances in Enzyme Biotechnology Frontiers Media SA
Many plants produce enzymes collectively known as ribosome-inactivating proteins (RIPs). RIPs catalyze the removal of an adenine residue from a conserved loop in the large ribosomal RNA. The adenine residue removed by this depurination is crucial for the binding of elongation factors. Ribosomes modified in this way are no longer able to carry out protein synthesis. Most RIPs exist as single polypeptides (Type 1 RIPs) which are largely non-toxic to mammalian cells because they are unable to enter them and thus cannot reach their ribosomal substrate. In some instances, however, the RIP forms part of a heterodimer where its partner polypeptide is a lectin (Type 2 RIPs). These heterodimeric RIPs are able to bind to and enter mammalian cells. Their ability to reach and modify ribosomes in target cells means these proteins are some of the most potently cytotoxic poisons found in nature, and are widely assumed to play a protective role as part of the host plant's defenses. RIPs are able to further damage target cells by inducing apoptosis. In addition, certain plants produce lectins lacking an RIP component but which are also cytotoxic. This book focuses on the structure/function and some potential applications of these toxic plant proteins.
Furniture Design Springer

This monograph reviews all relevant technologies based on mass spectrometry that are used to study or screen biological interactions in general. Arranged in three parts, the text begins by reviewing techniques nowadays almost considered classical, such as affinity chromatography and ultrafiltration, as well as the latest techniques. The second part focusses on all MS-based methods for the study of interactions of proteins with all classes of biomolecules. Besides pull down-based approaches, this section also emphasizes the use of ion mobility MS, capture-compound approaches, chemical proteomics and interactomics. The third and final part discusses other important technologies frequently employed in interaction studies, such as biosensors and microarrays. For pharmaceutical, analytical, protein, environmental and biochemists, as well as those working in pharmaceutical and analytical laboratories.

Engine Exhaust Particulates Humana Press

Cell culture methodologies have become standard procedures in most plant laboratories. Currently, facilities for in vitro cell cultures are found in practically every plant biology laboratory, serving different purposes since tissue culture has turned into a basic asset for modern biotechnology, from the fundamental biochemical aspects to

the massive propagation of selected individuals. “Plant Cell Culture Protocols, Third Edition is divided into five convenient sections that cover topics from general methodologies, such as culture induction, growth and viability evaluation, statistical analysis and contamination control, to highly specialized techniques, such as clonal propagation, haploid production, somatic embryogenesis, organelle transformation. The volume concludes with a section on the laborious process of measuring the epigenetics changes in tissue cultures.”Written in the successful Methods in Molecular BiologyTM series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible protocols, and notes on troubleshooting and avoiding known pitfalls. Authoritative and easily accessible, Plant Cell Culture Protocols, Third Edition seeks to serve both professionals and novices with its guide to the most common and applicable techniques and methods for plant tissue and cell culture.

The Development of Wireless to 1920 Springer Science & Business Media

Maximizing reader insights into the principles of designing furniture as wooden structures, this book discusses issues related to the history of furniture structures, their classification and characteristics, ergonomic approaches to anthropometric requirements and safety

of use. It presents key methods and highlights common errors in designing the characteristics of the materials, components, joints and structures, as well as looking at the challenges regarding developing associated design documentation. Including analysis of how designers may go about calculating the stiffness and endurance of parts, joints and whole structures, the book analyzes questions regarding the loss of furniture stability and the resulting threats to health of the user, putting forward a concept of furniture design as an engineering processes. Creating an attractive, functional, ergonomic and safe piece of furniture is not only the fruit of the work of individual architects and artists, but requires an effort of many people working in interdisciplinary teams, this book is designed to add important knowledge to the literature for engineer approaches in furniture design.

The Detection of Gravitational Waves

Springer Science & Business Media

This second edition volume expands on the previous edition with a discussion of new and updated methods used to study the Herpes Simplex Virus (HSV), along with a look at the latest developing technologies such as next generation sequencing, CRISPR/Cas9 engineering, and the use of BioID to identify protein-protein interactions. Chapters cover topics such as the biology, life cycle, and

current state of antiviral and vaccine development for HSV-1; protocols on growing viruses in cell culture and manipulating viral DNA; design and application of HSV-1 vectors for cancer- and gene-therapy; and structural analyses, microscopy, proteomics, and testing of antivirals. 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, Herpes Simplex Virus: Methods and Protocols, Second Edition is a valuable resource for immunologists, and molecular and cell biologists. This book will also be useful for researchers who wish to initiate molecular and/or cellular-based approaches to study HSV. .

Emergency Response Guidebook John Wiley & Sons

Carbon Dioxide Utilisation: Closing the Carbon Cycle explores areas of application such as conversion to fuels, mineralization, conversion to polymers, and artificial photosynthesis as well as assesses the potential industrial suitability of the various processes. After an introduction to the thermodynamics, basic reactions, and physical chemistry of carbon dioxide, the book proceeds to examine current commercial and industrial processes, and

the potential for carbon dioxide as a green and sustainable resource. While carbon dioxide is generally portrayed as a "bad" gas, a waste product, and a major contributor to global warming, a new branch of science is developing to convert this "bad" gas into useful products. This book explores the science behind converting CO2 into fuels for our cars and planes, and for use in plastics and foams for our homes and cars, pharmaceuticals, building materials, and many more useful products. Carbon dioxide utilization is a rapidly expanding area of research that holds a potential key to sustainable, petrochemical-free chemical production and energy integration. Accessible and balanced between chemistry, engineering, and industrial applications Informed by blue-sky thinking and realistic possibilities for future technology and applications Encompasses supply chain sustainability and economics, processes, and energy integration

Machining Data Handbook John Wiley & Sons

In January of 2015, under the 1st International Caparica Conference in Antibiotic Resistance, a Research Topic entitled: “Surveying Antimicrobial Resistance: Approaches, Issues, and Challenges to overcome”, was published (http://journal.frontiersin.org/researchtopic/3763/surveying-antimicrobial-resistanceapproaches-issues-and-challenges-to-overcome). The problem

of antimicrobial resistance (AMR), caused by excessive and inappropriate use of antibiotics, is a public health issue that concerns us all. The introduction of penicillin in the 1940s, the start of the antibiotics era, has been recognized as one of the greatest advances in therapeutic medicine. However, according to the World Health Organization (WHO), AMR infections are now an increasing worldwide public health threat and a post-antibiotic era is imminent, where common infections and minor injuries could be fatal. AMR is a typical 'One Health' problem, in which livestock animals and the environment constitute AMR reservoirs and transmission routes to and from the human population. Without effective antimicrobials to counter and prevent infections, other major achievements in modern medicine, such as organ transplantation, cancer chemotherapy and major surgery, risk being compromised. AMR infections in animals have negative outcomes on animal health, welfare, biosecurity and production. In 2006, the ban of growth promoting antibiotics highlighted antibiotic use in animal production as a risk factor in the development of antibiotic resistant bacteria. Bacteria can be transferred to humans via several routes; consumption of animal products, exposure through contact with animals, and the contamination of ground and surface waters by animal waste products.

Therefore, it is of utmost importance that antimicrobial use in animals is reduced to a minimum, without compromising animal health and welfare. Mechanisms of bacterial antibiotic resistance are classified according to the types of antibiotic molecules or their targets in the cell. Environmental antibiotic-resistance genes are spread then acquired by clinically relevant microorganisms. Many resistance genes are conveyed into pathogen genomes via mobile genetic elements such as plasmids, transposons or integrons, increasing the propagation of potential resistant pathogens. Substantial progress has already been made in elucidating the basic regulatory networks that endow bacteria with their extraordinary capacity to adapt to a diversity of lifestyles and external stress factors. So how will we face bacteria in the future?

Agrobacterium biology and its application to transgenic plant production Elsevier

Over the past two decades, spectacular advances have been made in our understanding of the molecular genetics of cancer, leading to the pursuit of identifying genes that, when mutated, result in an increased susceptibility to the disease. In Cancer Susceptibility: Methods and Protocols, experts in the field bring together the most recent technological developments for identifying and screening

cancer susceptibility genes. Divided into two clear sections, the book begins with gene identification, which updates and informs scientists working at identifying novel cancer susceptibility genes, while the second part deals with mutation screening technologies that aid scientists and clinicians working to translate this knowledge into the clinic. Written in the highly successful Methods in Molecular BiologyTM series format, chapters contain introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and notes on troubleshooting and avoiding known pitfalls. Authoritative and cutting-edge, Cancer Susceptibility: Methods and Protocols is a timely collection that seeks to provide researchers with the tools to predict and combat this terrible disease.

Guide to safe handling of compressed gases Simon and Schuster

Does the identification number 60 indicate a toxic substance or a flammable solid, in the molten state at an elevated temperature? Does the identification number 1035 indicate ethane or butane? What is the difference between natural gas transmission pipelines and natural gas distribution pipelines? If you came upon an overturned truck on the highway that was leaking, would you be able to identify if it was hazardous and know what steps to take? Questions

like these and more are answered in the Emergency Response Guidebook. Learn how to identify symbols for and vehicles carrying toxic, flammable, explosive, radioactive, or otherwise harmful substances and how to respond once an incident involving those substances has been identified. Always be prepared in situations that are unfamiliar and dangerous and know how to rectify them. Keeping this guide around at all times will ensure that, if you were to come upon a transportation situation involving hazardous substances or dangerous goods, you will be able to help keep others and yourself out of danger. With color-coded pages for quick and easy reference, this is the official manual used by first responders in the United States and Canada for transportation incidents involving dangerous goods or hazardous materials. Cell-Based Assays for High-Throughput Screening Humana Press This volume provides an overview of the main yeast production platforms currently used and future yeast cell factories for recombinant protein production. Chapters detail approaches of genetic and metabolic engineering, co-factor containing proteins and virus-like particles, glycoproteins, and post-translational modifications of proteins. 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, Recombinant Protein Production in Yeast: Methods and Protocols aims to provide state of the art background and methods for protein producing yeast platforms, as well as case studies for special applications.

Institute of Materials Science and Engineering Humana Press

Whereas the hydrolases such as proteases, esterases and lipases are sufficiently well researched to be applied in every standard laboratory, other types of enzymes are still waiting to be discovered with respect to their applicability in organic-chemistry transformations on a preparative scale. This latter point is stressed here, with the focus on the newcomer-enzymes'which show great synthetic potential.

Graphene-Based Polymer Nanocomposites in Electronics CRC Press

As the use of high-throughput screening expands and creates more interest in the academic community, the need for detailed reference materials becomes ever more pressing. Cell-Based Assays for High-Throughput Screening: Methods and Protocols aims to fill an important part of this need by providing an easily accessible reference volume for cell-based

phenotypic screening. Leading researchers in the field contribute state-of-the-art methods with actionable protocols covering four major areas of study: model biological systems, screening modalities and assay systems, detection technologies, and approaches to data analysis. Written in the highly successful Methods in Molecular BiologyTM series format, each chapter includes a brief introduction to the subject, lists of necessary materials and reagents, step-by-step laboratory protocols, and a Notes section detailing tips on troubleshooting and avoiding known pitfalls. Cutting-edge and easy-to-use, Cell-Based Assays for High-Throughput Screening: Methods and Protocols presents an overview of relevant approaches, enabling the direct application of existing methods to new discoveries while also inspiring researchers to approach their screening projects in a conceptually modular fashion, enhancing the power to discover through new combinations of existing approaches.

DNA Profiling and DNA Fingerprinting Cambridge University Press

The comprehensive reference on modern techniques and methods for monitoring and inspecting corrosion Strategic corrosion inspection and monitoring can improve asset management and life cycle assessment and optimize operational budgets. Advances in computer technologies and electronics have led

to very efficient tools for monitoring and inspecting corrosion, including impedance spectroscopy, electrical field signatures, acoustic emissions, and radiographs. This up-to-date reference explains both intrusive and non-intrusive methods of measuring corrosion rates. It covers: The impact of corrosion on the economy and the safe operation of systems in diverse operational environments The various forms of corrosion, with a focus on the detectability of corrosion damage in the real world The principles of risk-based inspection and various risk assessment methodologies (HAZOP, FMECA, FTA, and ETA), with examples from industry The monitoring of microbiologically induced corrosion (MIC), cathodic protection (CP) systems, and atmospheric corrosion Non-destructive evaluation (NDE) techniques, including visual, ultrasonic, radiographic, electromagnetic, and thermographic inspection Roadmaps used by various industries and organizations for carrying out complex inspection and monitoring schedules Complete with graphics and illustrations, this is the definitive reference for professionals involved in the maintenance of industrial systems and structures, from oil exploration to chemical plants and infrastructures; consultants; property managers; and civil, materials, and construction engineers.