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AMY WHITEHEAD

Translational Genomics for Crop Breeding, Volume 2 Royal Society of Chemistry
This book introduces the latest methods for the controlled growth of nanomaterial systems. The coverage includes simple and complex nanomaterial systems, ordered nanostructures and complex nanostructure arrays, and the essential conditions for the controlled growth of nanostructures with different morphologies, sizes, compositions, and microstructures. The book also discusses the dynamics of controlled growth and thermodynamic characteristics of two-dimensional nanorestricted systems. The authors introduce various novel synthesis methods for nanomaterials and nanostructures, such as hierarchical growth, heterostructures growth, doping growth and some developing template synthesis methods. In addition to discussing applications, the book reviews developing trends in nanomaterials and nanostructures.
Bioinformatics in Human Health and Heredity Elsevier
The old Village Head's new, charming daughter-in-law knocked on his door in the middle of the night, saying that if the Village Head wasn't home today, she would show him what kind of illness he had!
All-carbon Composites and Hybrids Royal Society of Chemistry
This book gives a survey of the physics and fabrication of carbon nanotubes and their applications in optics, electronics, chemistry and biotechnology. It focuses on the structural characterization of various carbon nanotubes, fabrication of vertically or parallel aligned carbon nanotubes on substrates or in composites, physical properties for their alignment, and applications of aligned carbon nanotubes in field emission, optical antennas, light transmission, solar cells, chemical devices, bio-devices, and many others. Major fabrication methods are illustrated in detail, particularly the most widely used PECVD growth technique on which various device integration schemes are based, followed by applications such as electrical interconnects, nanodiodes, optical antennas, and nanocoax solar cells, whereas current limitations and challenges are also be discussed to lay the foundation for future developments.
Photothermal Nanomaterials CRC Press
In recent years the Japanese have funded a comprehensive study of carbon materials which incorporate other elements including boron, nitrogen and fluorine, hence the title of the project "Carbon Alloys". Coined in 1992, the phrase "Carbon Alloys" can be applied to those materials mainly composed of carbon materials in multi-component systems. The carbon atoms of each component have a physical and/or chemical interactive relationship with other atoms or compounds. The carbon atoms of the components may have different hybrid bonding orbitals to create quite different carbon components. Eiichi Yasuda and his team consider the definition of Carbon Alloys, present the results of the Carbon Alloys projects, describe typical Carbon Alloys and their uses, discuss recent techniques for their characterization, and finally, illustrate potential applications and future developments for Carbon Alloy science. The book contains over thirty chapters on these studies from as many researchers. The most modern of techniques, particularly in the area of spectroscopy, were used as diagnostic tools, and many of these are applicable to pure carbons also. Porosity in carbons received considerable attention.
Operation, Construction, and Functionality of Direct Current Machines Elsevier
This book brings together the insights and practical experience of some of the most experienced Data Plane Development Kit (DPDK) technical experts, detailing the trend of DPDK, data packet processing, hardware acceleration, packet processing and virtualization, as well as the practical application of DPDK in the fields of SDN, NFV, and network storage. The book also devotes many chunks to exploring various core software algorithms, the advanced optimization methods adopted in DPDK, detailed practical experience, and the guides on how to use DPDK.
Carefree Little Magic Doctor Funstory
The central theme, which threads through the entire book, concerns computational modeling methods for water. Modeling results for pure liquid water, water near ions, water at interfaces, water in biological microsystems, and water under other types of perturbations such as laser fields are described. Connections are made throughout the book with statistical mechanical theoretical methods on the one hand and with experimental data on the other. The book is expected to be useful not only for theorists and computer analysts interested in the physical, chemical, biological and geophysical aspects of water, but also for experimentalists in these fields.
Construction Incentivization Oxford University Press
In 1974 the editors of the present volume published a well-received book entitled ``Latin Squares and their Applications''. It included a list of 73 unsolved problems of which about 20 have been completely solved in the intervening period and about 10 more have been partially solved. The present work comprises six contributed chapters and also six further chapters written by the editors themselves. As well as discussing the advances which have been made in the subject matter of most of the chapters of the earlier book, this new book contains one chapter which deals with a subject (r-orthogonal latin squares) which did not exist when the earlier book was written. The success of the former book is shown by the two or three hundred published papers which deal with questions raised by it.
Cancer: New Insights for the Healthcare Professional: 2012 Edition Academic Press
Diagnostic Molecular Biology, Second Edition describes the fundamentals of molecular biology in a clear, concise manner with each technique explained within its conceptual framework and current applications of clinical laboratory techniques comprehensively covered. This targeted approach covers the principles of molecular biology, including basic knowledge of nucleic acids, proteins and chromosomes; the basic techniques and instrumentations commonly used in the field of molecular biology, including detailed procedures and explanations; and the

applications of the principles and techniques currently employed in the clinical laboratory. Topics such as whole exome sequencing, whole genome sequencing, RNA-seq, and ChIP-seq round out the discussion. Fully updated, this new edition adds recent advances in the detection of respiratory virus infections in humans, like influenza, RSV, hAdV, hRV but also corona. This book expands the discussion on NGS application and its role in future precision medicine. Provides explanations on how techniques are used to diagnosis at the molecular level Explains how to use information technology to communicate and assess results in the lab Enhances our understanding of fundamental molecular biology and places techniques in context Places protocols into context with practical applications Includes extra chapters on respiratory viruses (Corona)

Integrated Distributed Intelligent Systems for Engineering Design World Scientific

Properties and Functionalization of Graphene: Computational Chemistry Approaches, Volume 21 shows how computational chemistry can be used to explore molecular interactions when modeling and manipulating graphene's properties for varied applications. Sections compare results and experimental evidence, cover the experimental techniques employed in the functionalization of graphene and associated challenges, and delve into the properties of functionalized graphene. Under the guidance of its expert editor, this book shares insights from a global team of specialists, making it an authoritative, practical guide for all those studying, developing or applying graphene across a whole range of fields. Provides practical insights into the latest computational approaches used in modeling the properties of functionalized graphene Includes detailed methods and step-by-step guidance on key processes that are supported throughout with examples Highlights the electronic properties of functionalized graphene

Mineral Deposit Research: Meeting the Global Challenge CRC Press

Advances in Molecular Toxicology features the latest advances in all of the subspecialties of the broad area of molecular toxicology. Toxicology is the study of poisons, and this series details the study of the molecular basis by which a vast array of agents encountered in the human environment and produced by the human body itself manifest themselves as toxins. Not strictly limited to documenting these examples, the series is also concerned with the complex web of chemical and biological events that give rise to toxin-induced symptoms and disease. The new technologies that are being harnessed to analyze and understand these events will also be reviewed by leading workers in the field. Advances in Molecular Toxicology will report progress in all aspects of these rapidly evolving molecular aspects of toxicology with a view toward detailed elucidation of both progress on the molecular level and on advances in technological approaches employed. * Cutting-edge reviews by leading workers in the discipline * In-depth dissection of molecular aspects of interest to a broad range of scientists, physicians and any student in the allied disciplines * Leading edge applications of technological innovations in chemistry, biochemistry and molecular medicine

Atomically-Precise Methods for Synthesis of Solid Catalysts Springer Nature

Cancer: New Insights for the Healthcare Professional / 2012 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Cancer. The editors have built Cancer: New Insights for the Healthcare Professional / 2012 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Cancer in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Cancer: New Insights for the Healthcare Professional / 2012 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

Diagnostic Molecular Biology Materials Research Forum LLC

The efficient synthesis of heterocycles has become one of the main branches in organic chemistry due to their use in the synthesis of natural products and pharmaceuticals. Current sythentic strategies based on C-H activation methodologies are met with many problems like harsh reaction conditions and low reaction efficiency. Double functionalized chemicals offer a perfect alternative for the synthesis of heterocycles. Heterocycles from Double-Functionalized Arenes starts with a short discussion on the importance of heterocycles and a brief introduction on the preparation of double-functionalized arenes. Specific chapters then look at five-membered heterocycles synthesis, six-membered heterocycles synthesis and macroheterocycles synthesis. This is the first book dedicated to the topic of transition metal catalyzed coupling reactions of double functionalized arenes in heterocycle synthesis and can be used as a handbook for senior researchers and as an introduction for organic chemistry students.

Data Plane Development Kit (DPDK) World Scientific

This book provides a contemporary research-led overview of the applications of inorganic materials in biomedicine. It begins with a short introduction summarising key concepts in inorganic materials (layered materials, framework materials etc.), and explaining the need for new materials in medicine. It then discusses the key areas in which inorganic materials have been applied, considering: drug delivery; imaging; diagnostics and theranostics; hard matter restoration; and vaccines. Each chapter gives an overview of the major extant challenges in the research area, before presenting a systematic review of how inorganic materials have been applied to gain traction in the field. A clear focus is maintained on the fate of the applied materials in vivo, clinical considerations, and the path to translation from lab to clinic. With contributions from leading researchers, Biomedical Applications of Inorganic Materials will provide a comprehensive introduction for advanced undergraduates, postgraduates and researchers wishing to learn about the topic.

Advanced Coatings for the Corrosion Protection of Metals John Wiley & Sons

With techniques bridging the gap between surface science and heterogeneous catalysis the book presents a tool-kit for anyone wishing to prepare and define solid catalysts.

New Frontiers: Extracellular Vesicles CRC Press

The field of extracellular vesicles (EVs) has progressed immensely in recent times with evidences highlighting their importance in physiology and pathology. This book entails extensive reflective literature on many subtypes of EVs including exosomes, exomeres, ectosomes, apoptotic vesicles, bacterial EVs and fungal EVs. The book further discusses the biogenesis and secretion of these EVs, detailing the biological pathways and proteins involved. Research investigating the biological functions of EVs is rapidly increasing and the current knowledge around their role in progression of diseases such as cancer, neurodegeneration and metabolic disorders is discussed in multiple chapters. The implications of EVs in intercellular communication and the significance of biologically active cargo

carried within these EVs are further examined. Moreover, the numerous applications of EVs in diagnostics and treatment of diseases are reviewed in detail, particularly their potential as biomarkers and drug delivery vehicles. Taken together, this book is a compilation of the key implications of EVs that are secreted by virtually all cell types. Readers will gain a perspective into the biology, functions and applications of EVs and their constantly evolving knowledge base.

Computational Methods and GIS Applications in Social Science Springer

This thesis describes the development of iron-catalyzed thienyl C–H/C–H coupling. This is applied to the synthesis of highly conjugated and electron-rich thiophene compounds of interest in materials science by utilization of low redox potential of iron in combination with a mild oxalate oxidant. Transition-metal-catalyzed C(sp2)–H/C(sp2)–H coupling has attracted much attention as one of the most straightforward methods to construct C(sp2)–C(sp2) bonds. However, application of this ideal transformation to the synthesis of redox-sensitive pi-materials was hindered by the requirement of a strong oxidant for catalyst turnover. This limitation originates primarily from the large redox potential of conventional transition-metal catalysts such as palladium and rhodium. This thesis shows that the efficiency of C–H activation was significantly improved by introduction of a new conjugated tridentate phosphine ligand, giving direct access to polymeric thiophene materials from simple thiophene monomers. Considering the importance of environmentally friendly organic synthesis in terms of UN Sustainable Development Goals, the reactions described herein highlight the potential of iron, the most abundant transition-metal on earth, for the direct synthesis of functional small molecules and polymers of importance in energy device applications.

Carbon Alloys Elsevier

Genomic Applications for Crop Breeding: Abiotic Stress, Quality and Yield Improvement is the second of two volumes looking at the latest advances in genomic applications to crop breeding. This volume focuses on advances improving crop resistance to abiotic stresses such as extreme heat, drought, flooding as well as advances made in quality and yield improvement. Chapters examine advances in such key crops as rice, maize, and sugarcane, among others. Genomic Applications for Crop Breeding: Abiotic Stress, Quality and Yield Improvement complements the earlier volume on biotic stressors and will be an essential purchase for those interested in crop science and food production.

Cancer Genomics John Wiley & Sons

This brief explores several adaptive agricultural practices from around the world to fulfill current and future agricultural demands for food security due to the challenges posed by climate change and growing global population. Readers will discover how farmers adapt to environmental changes by adopting various agronomic practices at crop, farm and landscape levels. Particular attention is given to systemic and transformational adaptation strategies employed by farmers such as mulching, organic farming and crop diversification. This is a highly informative and carefully presented book that provides insights on how crops can build up resilience against periods of drought, high salinity, disasters such as floods, and diseases. The policy implications and future prospects of these adaptation strategies are also addressed. Environmental and plant scientists, agronomists and researchers in climate sciences will find this book interesting.

Latin Squares Royal Society of Chemistry

The field of statistics not only affects all areas of scientific activity, but also many other matters such as public policy. It is branching rapidly into so many different subjects that a series of handbooks is the only way of comprehensively presenting the various aspects of statistical methodology, applications, and recent developments. The Handbook of Statistics, a series of self-contained reference books. Each volume is devoted to a particular topic in statistics with Volume 28 dealing with bioinformatics. Every chapter is written by prominent workers in the area to which the volume is devoted. The series is addressed to the entire community of statisticians and scientists in various disciplines who use statistical methodology in their work. At the same time, special emphasis is placed on applications-oriented techniques, with the applied statistician in mind as the primary audience. Comprehensively presents the various aspects of statistical methodology Discusses a wide variety of diverse applications and recent developments Contributors are internationally renowned experts in their respective areas

Nanoparticles in Pharmacotherapy Springer Nature

This book proposes ways to make construction project incentive schemes effective. In this book, construction incentivization is used as a collective term that includes all forms of incentive arrangements aiming to engender extra effort of the contracting parties for the improvement of project performance. This book addresses two questions: i) why so many construction incentive schemes are not delivering the desired outcome? and ii) what will make incentive works under different circumstances? This book contributes to the body of knowledge in construction incentivization by offering conceptualization, showcases and practice suggestions including guidelines for the planning of construction incentive schemes.