
Ishida Ccs 3000 Scales Manual

The Art of High Performance Computing for Computational Science, Vol. 2

The First Global Integrated Marine Assessment

Informatics for Health: Connected Citizen-Led Wellness and Population Health

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The Art of High Performance Computing for Computational Science, Vol. 2 Springer Nature

Silicon (Si) is by far the most widely used semiconductor material for power devices. On the other hand, Si-based power devices are approaching their material limits, which has provoked a lot of efforts to find alternatives to Si-based power devices for better performance. With the rapid innovations and developments in the semiconductor industry, Silicon Carbide (SiC) power devices have progressed from immature prototypes in laboratories to a viable alternative to Si-based power devices in high-efficiency and high-

power density applications. SiC devices have numerous persuasive advantages--high-breakdown voltage, high-operating electric field, high-operating temperature, high-switching frequency and low losses. Silicon Carbide (SiC) devices belong to the so-called wide band gap semiconductor group, which offers a number of attractive characteristics for high voltage power semiconductors when compared to commonly used silicon (Si). Recently, some SiC power devices, for example, Schottky-barrier diodes (SBDs), metal-oxide-semiconductor field-effect transistors (MOSFETs), junction FETs (JFETs), and their integrated modules have come onto the market. Physics and Technology of Silicon Carbide Devices abundantly describes recent technologies on manufacturing, processing, characterization, modeling, etc. for SiC devices.

The First Global Integrated Marine Assessment Gulf Professional Publishing

Combustion technology has traditionally been dominated by air/fuel combustion. However, two developments have increased the significance of oxygen-enhanced combustion—new technologies that produce oxygen less expensively and the increased importance of environmental regulations. Advantages of oxygen-enhanced combustion include less pollutant emissions as well as increased energy efficiency and productivity. *Oxygen-Enhanced Combustion, Second Edition* compiles information about using oxygen to enhance industrial heating and melting processes. It integrates fundamental principles, applications, and equipment design in one volume, making it a unique resource for specialists implementing the use of oxygen in combustion systems. This second edition of the bestselling book has more than doubled in size. Extensively updated and expanded, it covers significant advances in the technology that have occurred since the publication of the first edition. What's New in This Edition Expanded from 11 chapters to 30, with most of the existing chapters revised A broader view of oxygen-enhanced combustion, with more than 50 contributors from over 20 organizations around the world More coverage of fundamentals, including fluid flow, heat transfer, noise, flame impingement, CFD modeling, soot formation, burner design, and burner testing New chapters on applications such as flameless combustion, steel reheating, iron production, cement production, power generation, fluidized bed combustion, chemicals and petrochemicals, and diesel engines This book offers a unified, up-to-date look at important commercialized uses of oxygen-enhanced combustion

in a wide range of industries. It brings together the latest knowledge to assist those researching, engineering, and implementing combustion in power plants, engines, and other applications.

Informatics for Health: Connected Citizen-Led Wellness and Population Health World Scientific

Gas separation membranes offer a number of benefits over other separation technologies, and they play an increasingly important role in reducing the environmental impacts and costs of many industrial processes. This book describes recent and emerging results in membrane gas separation, including highlights of nanoscience and technology, novel polymeric and inorganic membrane materials, new membrane approaches to solve environmental problems e.g. greenhouse gases, aspects of membrane engineering, and recent achievements in industrial gas separation. It includes: Hyperbranched polyimides, amorphous glassy polymers and perfluorinated copolymers Nanocomposite (mixed matrix) membranes Polymeric magnetic membranes Sequestration of CO₂ to reduce global warming Industrial applications of gas separation Developed from sessions of the most recent International Congress on Membranes and Membrane Processes, *Membrane Gas Separation* gives a snapshot of the current situation, and presents both fundamental results and applied achievements.

Membrane Gas Separation Springer Science & Business Media

The Intergovernmental Panel on Climate Change 4th Assessment Report (AR4) concluded that climate change will have significant impacts on many aspects of biological diversity: On ecosystems, species, genetic diversity within species, and on ecological

interactions. The implications of these impacts are significant For The long-term stability of the natural world and For The many benefits and services that humans derive from it. This report reviews the literature since the AR4. it draws on recent research to summarise advances in our understanding of the impacts of climate change on biodiversity. The evidence For The impacts on biodiversity comes from three principal sources. First, from direct observation of changes in components of biodiversity in nature that can be clearly related to changes in climatic variables. Second, experimental studies using manipulations to elucidate responses to climate change. Finally, and most widely, from modelling studies where our current understanding of the requirements and constraints on the distribution of species and ecosystems are combined with modelled changes in climatic variables to project the impacts of climate change and predict future distributions and changes in populations.

Shotcreting in Australia Springer Nature

This book systematically examines and quantifies industrial problems by assessing the complexity and safety of large systems. It includes chapters on system performance management, software reliability assessment, testing, quality management, analysis using soft computing techniques, management analytics, and business analytics, with a clear focus on exploring real-world business issues. Through contributions from researchers working in the area of performance, management, and business analytics, it explores the development of new methods and approaches to improve business by gaining knowledge from bulk data. With system performance analytics, companies are now able to drive

performance and provide actionable insights for each level and for every role using key indicators, generate mobile-enabled scorecards, time series-based analysis using charts, and dashboards. In the current dynamic environment, a viable tool known as multi-criteria decision analysis (MCDA) is increasingly being adopted to deal with complex business decisions. MCDA is an important decision support tool for analyzing goals and providing optimal solutions and alternatives. It comprises several distinct techniques, which are implemented by specialized decision-making packages. This book addresses a number of important MCDA methods, such as DEMATEL, TOPSIS, AHP, MAUT, and Intuitionistic Fuzzy MCDM, which make it possible to derive maximum utility in the area of analytics. As such, it is a valuable resource for researchers and academicians, as well as practitioners and business experts.

Oxygen-Enhanced Combustion, Second Edition Organisation for Economic Co-operation and Development

The sections in this book are devoted to new approaches and usages of stainless steels, the influence of the environments on the behavior of certain classes of steels, new structural concepts to understand some fatigue processes, new insight on strengthening mechanisms, and toughness in microalloyed steels. The kinetics during tempering in low-alloy steels is also discussed through a new set-up that uses a modified Avrami formalism.

Molecular Approaches in Plant Biology and Environmental Challenges Springer Science & Business Media

Lasso peptides form a growing family of fascinating ribosomally-synthesized and post-translationally modified peptides produced

by bacteria. They contain 15 to 24 residues and share a unique interlocked topology that involves an N-terminal 7 to 9-residue macrolactam ring where the C-terminal tail is threaded and irreversibly trapped. The ring results from the condensation of the N-terminal amino group with a side-chain carboxylate of a glutamate at position 8 or 9, or an aspartate at position 7, 8 or 9. The trapping of the tail involves bulky amino acids located in the tail below and above the ring and/or disulfide bridges connecting the ring and the tail. Lasso peptides are subdivided into three subtypes depending on the absence (class II) or presence of one (class III) or two (class I) disulfide bridges. The lasso topology results in highly compact structures that give to lasso peptides an extraordinary stability towards both protease degradation and denaturing conditions. Lasso peptides are generally receptor antagonists, enzyme inhibitors and/or antibacterial or antiviral (anti-HIV) agents. The lasso scaffold and the associated biological activities shown by lasso peptides on different key targets make them promising molecules with high therapeutic potential. Their application in drug design has been exemplified by the development of an integrin antagonist based on a lasso peptide scaffold. The biosynthesis machinery of lasso peptides is therefore of high biotechnological interest, especially since such highly compact and stable structures have to date revealed inaccessible by peptide synthesis. Lasso peptides are produced from a linear precursor LasA, which undergoes a maturation process involving several steps, in particular cleavage of the leader peptide and cyclization. The post-translational modifications are ensured by a dedicated enzymatic machinery, which is composed of an ATP-dependent cysteine protease (LasB)

and a lactam synthetase (LasC) that form an enzymatic complex called lasso synthetase. Microcin J25, produced by *Escherichia coli* AY25, is the archetype of lasso peptides and the most extensively studied. To date only around forty lasso peptides have been isolated, but genome mining approaches have revealed that they are widely distributed among Proteobacteria and Actinobacteria, particularly in *Streptomyces*, making available a rich resource of novel lasso peptides and enzyme machineries towards lasso topologies.

Proceedings of the 9th International Symposium on Superalloy 718 & Derivatives: Energy, Aerospace, and Industrial Applications
Princeton University Press

This book describes how surface tension effects can be used by engineers to provide mechanical functions in miniaturized products (1 mm). Even if precursors of this field such as Jurin or Laplace already date back to the 18th century, describing surface tension effects from a mechanical perspective is very recent. The originality of this book is to consider the effects of capillary bridges on solids, including forces and torques exerted both statically and dynamically by the liquid along the 6 degrees-of-freedom. It provides a comprehensive approach to various applications, such as capillary adhesion (axial force), centering force in packaging and micro-assembly (lateral force) and recent developments such as a capillary motor (torque).

Mineral Nutrition of Higher Plants CRC Press

This handbook is an authoritative, comprehensive reference on optical networks, the backbone of today's communication and information society. The book reviews the many underlying technologies that enable the global optical communications

infrastructure, but also explains current research trends targeted towards continued capacity scaling and enhanced networking flexibility in support of an unabated traffic growth fueled by ever-emerging new applications. The book is divided into four parts: Optical Subsystems for Transmission and Switching, Core Networks, Datacenter and Super-Computer Networking, and Optical Access and Wireless Networks. Each chapter is written by world-renown experts that represent academia, industry, and international government and regulatory agencies. Every chapter provides a complete picture of its field, from entry-level information to a snapshot of the respective state-of-the-art technologies to emerging research trends, providing something useful for the novice who wants to get familiar with the field to the expert who wants to get a concise view of future trends.

Hands-On Mathematics for Deep Learning John Wiley & Sons

Over recent years there has been major investment in research infrastructure to harness the potential of routinely collected health data. In 2013, The Farr Institute for Health Informatics Research was established in the UK, undertaking health informatics research to enhance patient and public health by the analysis of data from multiple sources and unleashing the value of vast sources of clinical, biological, population and environmental data for public benefit. The Medical Informatics Europe (MIE) conference is already established as a key event in the calendar of the European Federation of Medical Informatics (EFMI); The Farr Institute has been establishing a conference series. For 2017, the decision was made to combine the power and established reputational excellence of EFMI with the emerging and innovative research of The Farr Institute

community to create 'Informatics for Health 2017', a joint conference that creates a scientific forum allowing these two communities to share knowledge, insights and experience, advance cross-disciplinary thinking, and stimulate creativity. This book presents the 116 full papers presented at that conference, held in Manchester, UK in April 2017. The papers are grouped under five headings: connected and digital health; health data science; human, organisational, and social aspects; knowledge management; and quality, safety, and patient outcomes, and the book will be of interest to all those whose work involves the analysis and use of data to support more effective delivery of healthcare.

Review of the Literature on the Links Between Biodiversity and Climate Change Springer Science & Business Media

A comprehensive guide to getting well-versed with the mathematical techniques for building modern deep learning architectures

Key Features Understand linear algebra, calculus, gradient algorithms, and other concepts essential for training deep neural networks

Learn the mathematical concepts needed to understand how deep learning models function

Use deep learning for solving problems related to vision, image, text, and sequence applications

Book Description Most programmers and data scientists struggle with mathematics, having either overlooked or forgotten core mathematical concepts. This book uses Python libraries to help you understand the math required to build deep learning (DL) models. You'll begin by learning about core mathematical and modern computational techniques used to design and implement DL algorithms. This book will cover essential topics, such as linear algebra, eigenvalues and

eigenvectors, the singular value decomposition concept, and gradient algorithms, to help you understand how to train deep neural networks. Later chapters focus on important neural networks, such as the linear neural network and multilayer perceptrons, with a primary focus on helping you learn how each model works. As you advance, you will delve into the math used for regularization, multi-layered DL, forward propagation, optimization, and backpropagation techniques to understand what it takes to build full-fledged DL models. Finally, you'll explore CNN, recurrent neural network (RNN), and GAN models and their application. By the end of this book, you'll have built a strong foundation in neural networks and DL mathematical concepts, which will help you to confidently research and build custom models in DL. What you will learn Understand the key mathematical concepts for building neural network models Discover core multivariable calculus concepts Improve the performance of deep learning models using optimization techniques Cover optimization algorithms, from basic stochastic gradient descent (SGD) to the advanced Adam optimizer Understand computational graphs and their importance in DL Explore the backpropagation algorithm to reduce output error Cover DL algorithms such as convolutional neural networks (CNNs), sequence models, and generative adversarial networks (GANs) Who this book is for This book is for data scientists, machine learning developers, aspiring deep learning developers, or anyone who wants to understand the foundation of deep learning by learning the math behind it. Working knowledge of the Python programming language and machine learning basics is required.

Physics and Technology of Silicon Carbide Devices IOS Press

IPCC Report on sources, capture, transport, and storage of CO₂, for researchers, policy-makers and engineers.

Handbook of Computational Chemistry CRC Press

This volume covers protocols on techniques ranging from MAMP isolations from diverse microorganisms, PRR identifications from different plant species, MAMP-PRR binding, and a series of signaling responses and events revealed by various biochemical, cellular, genetic and bioinformatic tools. 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 practical, *Plant Pattern Recognition Receptors: Methods and Protocols* aims to ensure successful results in the further study of this vital field.

Natural Bioactive Products in Sustainable Agriculture CRC Press

This is the fifth study in a series on the future costs of generating electricity. It reviews cost estimates for power plants using nuclear, coal, gas and renewable energy sources.

Springer Handbook of Optical Networks Humana Press

Primitive Meteorites and Asteroids: Physical, Chemical, and Spectroscopic Observations Paving the Way to Exploration covers the physical, chemical and spectroscopic aspects of asteroids, providing important data and research on carbonaceous chondrites and primitive meteorites. This information is crucial to the success of missions to parent bodies, thus contributing to an

understanding of the early solar system. The book offers an interdisciplinary perspective relevant to many fields of planetary science, as well as cosmochemistry, planetary astronomy, astrobiology, geology and space engineering. Including contributions from planetary and missions scientists worldwide, the book collects the fundamental knowledge and cutting-edge research on carbonaceous chondrites and their parent bodies into one accessible resource, thus contributing to the future of space exploration. Presents the most current data and information on the mission-relevant characteristics of primitive asteroids Addresses the physical, chemical and spectral characteristics of carbonaceous chondritic meteorites and the bearings on successful exploration of their parent asteroids Includes chapters on geotechnical properties and resource extraction

Bone Pathology Springer

This book discusses molecular approaches in plant as response to environmental factors, such as variations in temperature, water availability, salinity, and metal stress. The book also covers the impact of increasing global population, urbanization, and industrialization on these molecular behaviors. It covers the natural tolerance mechanism which plants adopt to cope with adverse environments, as well as the novel molecular strategies for engineering the plants in human interest. This book will be of interest to researchers working on the impact of the changing environment on plant ecology, issues of crop yield, and nutrient quantity and quality in agricultural crops. The book will be of interest to researchers as well as policy makers in the environmental and agricultural domains.

Strategic System Assurance and Business Analytics ANU E Press

Mass peaceful protests in Myanmar/Burma in 2007 drew the world's attention to the ongoing problems faced by this country and its oppressed people. In this publication, experts from around the world analyse the reasons for these recent political upheavals, explain how the country's economy, education and health sectors are in perceptible decline, and identify the underlying authoritarian pressures that characterise Myanmar/Burma's military regime.

Lasso Peptides BoD - Books on Demand

Ecologists have always believed, at least to a certain extent, that physiological mechanisms serve to underpin ecological patterns. However, their importance has traditionally been at best underestimated and at worst ignored, with physiological variation being dismissed as either an irrelevance or as random noise/error. Spicer and Gaston make a convincing argument that the precise physiology does matter! In contrast to previous works which have attempted to integrate ecology and physiology, *Physiological Diversity* adopts a completely different and more controversial approach in tackling the physiology first before moving on to consider the implications for ecology. This is timely given the recent and considerable interest in the mechanisms underlying ecological patterns. Indeed, many of these mechanisms are physiological. This textbook provides a contemporary summary of physiological diversity as it occurs at different hierarchical levels (individual, population, species etc.), and the implications of such diversity for ecology and, by implication, evolution. It reviews what is known of physiological diversity and in doing so exposes the reader to all the key works in the field. It also portrays many of these studies in a completely

new light, thereby serving as an agenda for, and impetus to, the future study of physiological variation. *Physiological Diversity* will be of relevance to senior undergraduates, postgraduates and professional researchers in the fields of ecology, ecological physiology, ecotoxicology, environmental biology and conservation. The book spans both terrestrial and marine systems.

Plant Pattern Recognition Receptors UNEP/Earthprint

Focusing on a variety of coatings, this book provides detailed discussion on preparation, novel techniques, recent developments, and design theories to present the advantages of each function and provide the tools for better product performance and properties. • Presents advantages and benefits of properties and applications of the novel coating types • Includes chapters on specific and novel coatings, like nanocomposite, surface wettability tunable, stimuli-responsive, anti-fouling, antibacterial, self-healing, and structural coloring • Provides detailed discussion on recent developments in the field as well as current and future perspectives • Acts as a guide for polymer and materials researchers in optimizing polymer coating properties and increasing product performance

Handbook on Metalloproteins Elsevier

Over the last decade, scientific and engineering interests have

been shifting from conventional ion mobility spectrometry (IMS) to field asymmetric waveform ion mobility spectrometry (FAIMS). *Differential Ion Mobility Spectrometry: Nonlinear Ion Transport and Fundamentals of FAIMS* explores this new analytical technology that separates and characterizes ions by the difference between their mobility in gases at high and low electric fields. It also covers the novel topics of higher-order differential IMS and IMS with alignment of dipole direction. The book relates the fundamentals of FAIMS and other nonlinear IMS methods to the physics of gas-phase ion transport. It begins with the basics of ion diffusion and mobility in gases, covering the main attributes of conventional IMS that are relevant to all IMS approaches. Building on this foundation, the author reviews diverse high-field transport phenomena that underlie differential IMS. He discusses the conceptual implementation and first-principles optimization of FAIMS as a filtering technique, emphasizing the dependence of FAIMS performance metrics on instrumental parameters and properties of ion species. He also explores ion reactions in FAIMS caused by field heating and the effects of inhomogeneous electric field in curved FAIMS gaps. Written by an accomplished scientist in the field, this state-of-the-art book supplies the foundation to understand the new technology of nonlinear IMS methods.