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Handbook of Carbon, Graphite, Diamonds and FullerenesCoal Combustion and GasificationThe Frontal Lobes and Neuropsychiatric IllnessRiseLab-on-a-Chip Devices and Micro-Total Analysis SystemsComputational IntelligenceSecurity Infrastructure Technology for Integrated Utilization of Big DataMagnetism in MedicineThe VLSI HandbookPulverized-Coal Combustion and GasificationArtificial Intelligence and Soft ComputingHandbook of Atopic EczemaBiosensors: EssentialsFuzzy ControlPolystyreneSecure Integrated Circuits and SystemsThe Properties of Gases and LiquidsInnovative Superhard Materials and Sustainable Coatings for Advanced ManufacturingThioredoxin and Glutaredoxin SystemsThe Chemistry of the FullerenesInclusions in ProkaryotesHandbook of VitaminsFPGA-based Implementation of Signal Processing SystemsA Handbook for DNA-Encoded ChemistryProceedings of the Ninth International Symposium on CyclodextrinsPlant Molecular Biology ManualProgress in Scale ModelingNeutron Scattering from Magnetic MaterialsHandbook of Chemical Vapor DepositionThe Journal of ImmunologyAdvanced Biofuels and BioproductsAdvances in Swarm IntelligenceGastrointestinal Endoscopy in the Cancer PatientStochastic Processes with ApplicationsBiomaterials Fabrication and Processing HandbookHigh-Performance Computing Using FPGAsCancer ImmunologyNonlinear Approaches in Engineering ApplicationsChemically-Induced DNA Damage, Mutagenesis, and CancerTechnical Reference Guide

Handbook of Carbon, Graphite, Diamonds and Fullerenes

Polystyrene represents one of the oldest and the most widespread polymers in the world. Its starts as far back as 1839 when a German apothecary Edmon Simon distilled an oily liquid named styrol from the resin of Turkish sweet gum trees. In several days, the sterol converted into a jelly product that he thought resulted from the oxidation process. For that reason, the jelly product received the name styroloxide. This book discusses the synthesis of polystyrene, as well as the characteristics and applications of this polymer.

Coal Combustion and Gasification

Computational Intelligence: An Introduction, Second Edition offers an in-depth exploration into the adaptive mechanisms that enable intelligent behaviour in complex and changing environments. The main focus of this text is centred on the computational modelling of biological and natural intelligent systems, encompassing swarm intelligence, fuzzy systems, artificial neutral networks, artificial immune systems and evolutionary computation. Engelbrecht provides readers with a wide knowledge of Computational Intelligence (CI) paradigms and algorithms; inviting readers to implement and problem solve real-world, complex

problems within the CI development framework. This implementation framework will enable readers to tackle new problems without any difficulty through a single Java class as part of the CI library. Key features of this second edition include: A tutorial, hands-on based presentation of the material. State-of-the-art coverage of the most recent developments in computational intelligence with more elaborate discussions on intelligence and artificial intelligence (AI). New discussion of Darwinian evolution versus Lamarckian evolution, also including swarm robotics, hybrid systems and artificial immune systems. A section on how to perform empirical studies; topics including statistical analysis of stochastic algorithms, and an open source library of CI algorithms. Tables, illustrations, graphs, examples, assignments, Java code implementing the algorithms, and a complete CI implementation and experimental framework. Computational Intelligence: An Introduction, Second Edition is essential reading for third and fourth year undergraduate and postgraduate students studying CI. The first edition has been prescribed by a number of overseas universities and is thus a valuable teaching tool. In addition, it will also be a useful resource for researchers in Computational Intelligence and Artificial Intelligence, as well as engineers, statisticians, operational researchers, and bioinformaticians with an interest in applying AI or CI to solve problems in their domains. Check out http://www.ci.cs.up.ac.za for examples, assignments and Java code implementing the algorithms.

The Frontal Lobes and Neuropsychiatric Illness

High-Performance Computing using FPGA covers the area of high performance reconfigurable computing (HPRC). This book provides an overview of architectures, tools and applications for High-Performance Reconfigurable Computing (HPRC). FPGAs offer very high I/O bandwidth and fine-grained, custom and flexible parallelism and with the ever-increasing computational needs coupled with the frequency/power wall, the increasing maturity and capabilities of FPGAs, and the advent of multicore processors which has caused the acceptance of parallel computational models. The Part on architectures will introduce different FPGA-based HPC platforms: attached co-processor HPRC architectures such as the CHREC's Novo-G and EPCC's Maxwell systems; tightly coupled HRPC architectures, e.g. the Convey hybrid-core computer; reconfigurably networked HPRC architectures, e.g. the QPACE system, and standalone HPRC architectures such as EPFL's CONFETTI system. The Part on Tools will focus on high-level programming approaches for HPRC, with chapters on C-to-Gate tools (such as Impulse-C, AutoESL, Handel-C, MORA-C++); Graphical tools (MATLAB-Simulink, NI LabVIEW); Domain-specific languages, languages for heterogeneous computing(for example OpenCL, Microsoft's Kiwi and Alchemy projects). The part on Applications will present case from several application domains where HPRC has been used successfully, such as Bioinformatics and Computational Biology; Financial Computing; Stencil computations; Information retrieval; Lattice QCD; Astrophysics simulations; Weather and climate modeling.

Rise

Focusing on a lucrative and increasingly important area of biomedicine, the Biomaterials Fabrication and Processing Handbook brings together various biomaterials production and processing aspects, including tissue engineering scaffold materials, drug delivery systems, nanobiomaterials, and biosensors. With contributions from renowned international experts and extensive reference lists in each chapter, the volume provides detailed, practical information to produce and use biomaterials. The different facets of biomaterials technology are split into four sections in the book— Part I The development of new materials and devices capable of interacting specifically with biological tissues and the preparation of scaffolds using materials with appropriate composition and structure Part II The necessary materials to create a drug delivery system capable of controlled release and the incorporation of drug reservoirs into implantable devices for sustained controlled release Part III The significant role nanotechnology plays in the biomedical and biotechnology fields Part IV More biomaterials, including synthetic and natural degradable polymeric biomaterials, electroactive polymers as smart materials, and biomaterials for gastrointestinal and cartilage repair and reconstruction

Lab-on-a-Chip Devices and Micro-Total Analysis Systems

The two-volume set of LNCS 10385 and 10386, constitutes the proceedings of the 8th International Conference on Advances in Swarm Intelligence, ICSI 2017, held in Fukuoka, Japan, in July/August 2017. The total of 133 papers presented in these volumes was carefully reviewed and selected from 267 submissions. The paper were organized in topical sections as follows: Part I: theories and models of swarm intelligence; novel swarm-based optimization algorithms; particle swarm optimization; applications of particle swarm optimization; ant colony optimization; artificial bee colony algorithms; genetic algorithms; differential evolution; fireworks algorithm; brain storm optimization algorithm; cuckoo searh; and firefly algorithm. Part II: multi-objective optimization; portfolio optimization; community detection; multi-agent systems and swarm robotics; hybrid optimization algorithms and applications; fuzzy and swarm approach; clustering and forecast; classification and detection; planning and routing problems; dialog system applications; robotic control; and other applications.

Computational Intelligence

Within the last few years, knowledge about vitamins has increased dramatically, resulting in improved understanding of human requirements for many vitamins. This new edition of a bestseller presents comprehensive summaries that analyze the chemical, physiological, and nutritional relationships, as well as highlight newly identified functions, for a

Security Infrastructure Technology for Integrated Utilization of Big Data

This book comprehensively describes the development and practice of DNA-encoded library synthesis technology. Together, the chapters detail an approach to drug discovery that offers an attractive addition to the portfolio of existing hit generation technologies such as high-throughput screening, structure-based drug discovery and fragment-based screening. The book: Provides a valuable guide for understanding and applying DNA-encoded combinatorial chemistry Helps chemists generate and screen novel chemical libraries of large size and quality Bridges interdisciplinary areas of DNA-encoded combinatorial chemistry – synthetic and analytical chemistry, molecular biology, informatics, and biochemistry Shows medicinal and pharmaceutical chemists how to efficiently broaden available "chemical space" for drug discovery Provides expert and up-to-date summary of reported literature for DNA-encoded and DNA-directed chemistry technology and methods

Magnetism in Medicine

viii and approaches could be adapted to other coal conversion and combustion problems, we have not considered combustion or gasification in fluidized or fixed

beds or in situ processes. In addition, we have not considered other fossil-fuel combustion problems associated with oil shale, tar sands, etc., even though many aspects of pulverized-coal combustion would relate to these problems. For the case of pulverized-coal models, we have attempted to provide a detailed description of the model foundations. Parts I and II of this book emphasize general principles for describing reacting, turbulent or laminar, multiphase systems. General conservation equations are developed and summarized. The basis for computing thermochemical equilibrium in complex, heterogeneous mixtures is presented, together with techniques for rapid computation and reference to required input data. Rate processes are then discussed, including pertinent aspects of turbulence, chemical kinetics, radiative heat transfer, and gas-particle convective-diffusive interactions. Much of Part II deals with parameters and coefficients for describing these complex rate processes. This part of the book provides recommended values of coefficients and parameters for treating complex reacting flows. Parts I and II may well be suitable for use in an advanced course in reacting flows, and have been written partly with that in mind. Part III deals with more specific aspects of pulverized-coal characteristics and rate processes. Following a general description of coal structure and constitution, coal pyrolysis and char oxidation processes are considered.

The VLSI Handbook

This book covers all the steps in order to fabricate a lab-on-a-chip device starting from the idea, the design, simulation, fabrication and final evaluation. Additionally, it includes basic theory on microfluidics essential to understand how fluids behave at such reduced scale. Examples of successful histories of lab-on-a-chip systems that made an impact in fields like biomedicine and life sciences are also provided. This book also: · Provides readers with a unique approach and toolset for lab-on-a-chip development in terms of materials, fabrication techniques, and components · Discusses novel materials and techniques, such as paper-based devices and synthesis of chemical compounds on-chip · Covers the four key aspects of development: basic theory, design, fabrication, and testing · Provides readers with a comprehensive list of the most important journals, blogs, forums, and conferences where microfluidics and lab-on-a-chip news, methods, techniques and challenges are presented and discussed, as well as a list of companies providing design and simulation support, components, and/or developing lab-on-a-chip and microfluidic devices.

Pulverized-Coal Combustion and Gasification

Must-have reference for processes involving liquids, gases, and mixtures Reap the time-saving, mistake-avoiding benefits enjoyed by thousands of chemical and process design engineers, research scientists, and educators. Properties of Gases and Liquids, Fifth Edition, is an all-inclusive, critical survey of the most reliable

estimating methods in use today --now completely rewritten and reorganized by Bruce Poling, John Prausnitz, and John O'Connell to reflect every late-breaking development. You get on-the-spot information for estimating both physical and thermodynamic properties in the absence of experimental data with this property data bank of 600+ compound constants. Bridge the gap between theory and practice with this trusted, irreplaceable, and expert-authored expert guide -- the only book that includes a critical analysis of existing methods as well as hands-on practical recommendations. Areas covered include pure component constants; thermodynamic properties of ideal gases, pure components and mixtures; pressure-volume-temperature relationships; vapor pressures and enthalpies of vaporization of pure fluids; fluid phase equilibria in multicomponent systems; viscosity; thermal conductivity; diffusion coefficients; and surface tension.

Artificial Intelligence and Soft Computing

Scale modeling can play an important role in R&D. When engineers receive some ideas in new product development, they can test how the new design looks by bui-ing scale models and they can get an actual feeling with the prototype through their imagination. Professor Emori often said: "When children play with a toy airplane, their mind is wondering about the prototype airplane which they haven't ridden. " Children can use the scale model airplane as a means to enter into an imagi- tive world of wonder by testing in their own way how the actual airplane

might function, how the actual airplane can maneuver aerodynamically, what might be the actual sound of a jet engine, how to safely land the actual airplane, and so on. This imagination that scale models can provide for children will help them later develop professional intuition. Physical scale models can never be entirely succe- fully replaced by computer screens where virtual models are displayed and fancy functions are demonstrated. Not only children but also adults can learn things by actually touching things only offered by physical models, helping all of us develop imagination and feeling eventually leading toward Kufu. Einstein's famous "thought experiments [11]," which helped him to restructure modern physics may possibly and effectively be taught by letting researchers play with scale models!? References 1. I. Emori, K. Saito, and K. Sekimoto, Mokei Jikken no Riron to Ouyou (Scale Models in Engineering: Its Theory and Application), Gihodo, Tokyo, Third Edition, 2000.

Handbook of Atopic Eczema

Designed as a text not only for students and researchers, but anyone interested in green technology, Advanced Biofuels and Bioproducts offers the reader a vast overview of the state-of-the-art in renewable energies. The typical chapter sets out to explain the fundamentals of a new technology as well as providing its context in the greater field. With contributions from nearly 100 leading researchers across the globe, the text serves as an important and timely look into this rapidly

expanding field. The 40 chapters that comprise Advanced Biofuels and Bioproducts are handily organized into the following 8 sections: · Introduction and Brazil's biofuel success · Smokeless biomass pyrolysis for advanced biofuels production and global biochar carbon sequestration · Cellulosic Biofuels · Photobiological production of advanced biofuels with synthetic biology · Lipids-based biodiesels · Life-cycle energy and economics analysis · High-value algal products and biomethane · Electrofuels

Biosensors: Essentials

For the new millenium, Wai-Kai Chen introduced a monumental reference for the design, analysis, and prediction of VLSI circuits: The VLSI Handbook. Still a valuable tool for dealing with the most dynamic field in engineering, this second edition includes 13 sections comprising nearly 100 chapters focused on the key concepts, models, and equations. Written by a stellar international panel of expert contributors, this handbook is a reliable, comprehensive resource for real answers to practical problems. It emphasizes fundamental theory underlying professional applications and also reflects key areas of industrial and research focus. WHAT'S IN THE SECOND EDITION? Sections on Low-power electronics and design VLSI signal processing Chapters on CMOS fabrication Content-addressable memory Compound semiconductor RF circuits High-speed circuit design principles SiGe HBT technology Bipolar junction transistor amplifiers Performance modeling and analysis using

SystemC Design languages, expanded from two chapters to twelve Testing of digital systems Structured for convenient navigation and loaded with practical solutions, The VLSI Handbook, Second Edition remains the first choice for answers to the problems and challenges faced daily in engineering practice.

Fuzzy Control

This book is a full colour, highly clinical multi-media atlas focusing on the role diagnostic and therapeutic endoscopy plays in the management of patients with cancer. Conveniently split into sections for each part of the GI tract, each section will follow a consistent structure. With 400 high-quality images and in addition, 21 high-definition videos showing endoscopy from the experts, this book is the perfect consultation and learning tool for all gastroenterologists, endoscopists, GI surgeons and oncologists.

Polystyrene

The use of coal is required to help satisfy the world's energy needs. Yet coal is a difficult fossil fuel to consume efficiently and cleanly. We believe that its clean and efficient use can be increased through improved technology based on a thorough understanding of fundamental physical and chemical processes that occur during

consumption. The principal objective of this book is to provide a current summary of this technology. The past technology for describing and analyzing coal furnaces and combus tors has relied largely on empirical inputs for the complex flow and chemical reactions that occur while more formally treating the heat-transfer effects. GrOWing concern over control of combustion-generated air pollutants revealed a lack of understanding of the relevant fundamental physical and chemical mechanisms. Recent technical advances in computer speed and storage capacity, and in numerical prediction of recirculating turbulent flows, two-phase flows, and flows with chemical reaction have opened new opportunities for describing and modeling such complex combustion systems in greater detail. We believe that most of the requisite component models to permit a more fundamental description of coal combustion processes are available. At the same time there is worldwide interest in the use of coal, and progress in modeling of coal reaction processes has been steady.

Secure Integrated Circuits and Systems

Handbook of Chemical Vapor Deposition: Principles, Technology and Applications provides information pertinent to the fundamental aspects of chemical vapor deposition. This book discusses the applications of chemical vapor deposition, which is a relatively flexible technology that can accommodate many variations. Organized into 12 chapters, this book begins with an overview of the theoretical

examination of the chemical vapor deposition process. This text then describes the major chemical reactions and reviews the chemical vapor deposition systems and equipment used in research and production. Other chapters consider the materials deposited by chemical vapor deposition. This book discusses as well the potential applications of chemical vapor deposition in semiconductors and electronics. The final chapter deals with ion implantation as a major process in the fabrication of semiconductors. This book is a valuable resource for scientists, engineers, and students. Production and marketing managers and suppliers of equipment, materials, and services will also find this book useful.

The Properties of Gases and Liquids

With all the material available in the field of artificial intelligence (AI) and soft computing-texts, monographs, and journal articles-there remains a serious gap in the literature. Until now, there has been no comprehensive resource accessible to a broad audience yet containing a depth and breadth of information that enables the reader to fully understand and readily apply AI and soft computing concepts. Artificial Intelligence and Soft Computing fills this gap. It presents both the traditional and the modern aspects of AI and soft computing in a clear, insightful, and highly comprehensive style. It provides an in-depth analysis of mathematical models and algorithms and demonstrates their applications in real world problems. Beginning with the behavioral perspective of "human cognition," the text covers

the tools and techniques required for its intelligent realization on machines. The author addresses the classical aspects-search, symbolic logic, planning, and machine learning-in detail and includes the latest research in these areas. He introduces the modern aspects of soft computing from first principles and discusses them in a manner that enables a beginner to grasp the subject. He also covers a number of other leading aspects of AI research, including nonmonotonic and spatio-temporal reasoning, knowledge acquisition, and much more. Artificial Intelligence and Soft Computing: Behavioral and Cognitive Modeling of the Human Brain is unique for its diverse content, clear presentation, and overall completeness. It provides a practical, detailed introduction that will prove valuable to computer science practitioners and students as well as to researchers migrating to the subject from other disciplines.

Innovative Superhard Materials and Sustainable Coatings for Advanced Manufacturing

This book focusing on the immunopathology of cancers is published as part of the three-volume Springer series Cancer Immunology, which aims to provide an up-to-date, clinically relevant review of cancer immunology and immunotherapy. Readers will find detailed descriptions of the interactions between cancerous cells and various components of the innate and adaptive immune system. The principal

focus, however, is very much on clinical aspects, the aim being to educate clinicians in the clinical implications of the latest research and novel developments in the field. In the new edition of this very well received book, first published in 2015, the original chapters have been significantly updated and additional chapters included on, for example, current knowledge on the roles of T-helper cells and NK cells in tumor immunity, the part played by oncoviruses in the development of various cancers, and the applications of fluorescent in situ hybridization, bioluminescence, and cancer molecular and functional imaging. Cancer Immunology: A Translational Medicine Context will be of special value to clinical immunologists, hematologists, and oncologists.

Thioredoxin and Glutaredoxin Systems

This book is a review of the science and technology of the element carbon and its allotropes: graphite, diamond and the fullerenes. This field has expanded greatly in the last three decades stimulated by many major discoveries such as carbon fibers, low-pressure diamond and the fullerenes. These carbon materials are very different in structure and properties. Some are very old (charcoal), others new (the fullerenes). They have different applications and markets and are produced by different segments of the industry.

The Chemistry of the Fullerenes

Stochastic processes have wide relevance in mathematics both for theoretical aspects and for their numerous real-world applications in various domains. They represent a very active research field which is attracting the growing interest of scientists from a range of disciplines. This Special Issue aims to present a collection of current contributions concerning various topics related to stochastic processes and their applications. In particular, the focus here is on applications of stochastic processes as models of dynamic phenomena in research areas certain to be of interest, such as economics, statistical physics, queuing theory, biology, theoretical neurobiology, and reliability theory. Various contributions dealing with theoretical issues on stochastic processes are also included.

Inclusions in Prokaryotes

This volume contains the proceedings of the Ninth International Symposium on Cyclodextrins, held in Santiago de Compostela, Spain, May 31 - June 3, 1998. The papers collected represent a summary of the last two years' achievements in the application of cyclodextrins in such diverse fields as pharmaceuticals, biotechnology, textiles, chromatography and environmental sciences. Highlights: Chiral selection of chemicals, nuclear waste management, cyclodextrins in nasal

drug delivery, cyclodextrins in pulmonary drug delivery, cyclodextrins as pharmaceutical excipients, pharmacokinetics, stabilization of drugs by cyclodextrins, structural characterization of cyclodextrin complexes by nuclear magnetic resonance and molecular modeling, artificial receptors, large cyclodextrins, cyclodextrins as enzyme models, new cyclodextrin derivatives and potentials. Audience: This book will be of interest to researchers whose work involves biotechnology, pharmaceuticals, food and chemicals and chromatographic methods, as well as fundamental cyclodextrin research.

Handbook of Vitamins

This book focuses on the latest applications of nonlinear approaches in different disciplines of engineering and to a range of scientific problems. For each selected topic, detailed concept development, derivations and relevant knowledge are provided for the convenience of the readers. The topics range from dynamic systems and control to optimal approaches in nonlinear dynamics. The volume further includes invited chapters from world class experts in the field. The selected topics are of great interest in the fields of engineering and physics and this book is ideal for engineers and researchers working in a broad range of practical topics and approaches.

FPGA-based Implementation of Signal Processing Systems

On any advanced integrated circuit or "system-on-chip" there is a need for security. In many applications the actual implementation has become the weakest link in security rather than the algorithms or protocols. The purpose of the book is to give the integrated circuits and systems designer an insight into the basics of security and cryptography from the implementation point of view. As a designer of integrated circuits and systems it is important to know both the state-of-the-art attacks as well as the countermeasures. Optimizing for security is different from optimizations for speed, area, or power consumption. It is therefore difficult to attain the delicate balance between the extra cost of security measures and the added benefits.

A Handbook for DNA-Encoded Chemistry

Introduction; Fuzzy control: the basics; Case studies in design and implementation; nonlinear analysis; Fuzzy identification and estimation; Adaptive fuzzy control; Fuzzy supervisory control; Perspectives on fuzzy control.

Proceedings of the Ninth International Symposium on Cyclodextrins

The new series "Microbiology Monographs" begins with two volumes on intracellular components in prokaryotes. In this first volume, "Inclusions in Prokaryotes", the components, labeled inclusions, are defined as discrete bodies resulting from synthesis of a metabolic product. Research on the biosynthesis and reutilization of the accumulated materials is still in progress, and interest in the inclusions is growing. This comprehensive volume provides historical background and comprehensive reviews of eight well-known prokaryotic inclusions.

Plant Molecular Biology Manual

Modern industry imposes ever increasing requirements upon tools and tool materials as to the provision for performance under the conditions of high cutting speeds and dynamic loads as well as under intensive thermal and chemical interactions with workpiece materials. The industry demands a higher productivity in combination with the accuracy of geometry and dimensions of workpieces and quality of working surfaces of the machined pieces. These requirements are best met by the tool superhard materials (diamond and diamond-like cubic boron nitride). Ceramics based on silicon carbide, aluminum and boron oxides as well as on titanium, silicon and aluminum nitrides offer promise as tool materials. Tungsten-containing cemented carbides are still considered as suitable tool materials. Hi- hardness and high strength composites based on the above

materials fit all the requirements imposed by machining jobs when manufacturing elements of machinery, in particular those operating under the extreme conditions of high temperatures and loads. These elements are produced of difficult-- machine high-alloy steels, nickel refractory alloys, high-tech ceramics, materials with metallic and non-metallic coatings having improved wear resistance, as well as of special polymeric and glass-ceramic materials. Materials science at high pressure deals with the use of high-pressure techniques for the development and production of unique materials whose preparation at ambient pressure is impossible (e. g. , diamond, cubic boron nitride, etc.) or of materials with properties exceeding those of materials produced at ambient pressure (e. g. , high-temperature superconductors).

Progress in Scale Modeling

RISE is a collection of poetry and photography that explores the themes of love, loss, spirituality, living one's truth, and finding a way to triumph over those who try to pull you down.

Neutron Scattering from Magnetic Materials

This exciting volume brings together the latest work of 26 recognized experts in

clinical neuropsychiatry, neuropsychology, neuroscience, and neuroimaging. Its chapters are organized into sections that cover a broad range of topics related to advances in our understanding of normal and abnormal frontal lobe functions. Part 1 introduces frontal lobe dysfunction as a common pathway leading to social and occupational disability, arguing that our aging population with its decline in executive cognitive abilities mandates corresponding eligibility and treatment changes in public and private health disability policies. Part 2 delineates the anatomy and neurochemistry of the extended frontal systems underlying neuropsychiatric illness, including colorful illustrations of three key prefrontal-subcortical circuits; a description of the functional anatomy of the orbitofrontal cortex and its relationship to obsessive-compulsive disorder (OCD); the intricate pharmacology of working memory systems and how they apply to schizophrenia; the lateralization of prefrontal cognitive functions; and a framework for understanding the role played by the prefrontal cortex in consciousness and self-awareness. Part 3 clarifies the overused diagnosis "frontal lobe syndrome" seen in clinical practice, identifying three prefrontal syndromes for further study -- dorsolateral dysexecutive syndrome, orbitofrontal disinhibited syndrome, and mesial frontal apathetic syndrome -- that align with the anatomical systems described in Part 2 of this volume. Also included are common problems -- and suggested solutions -- in diagnosis and treatment, a practical overview of the assessment of frontal lobe functions with guidelines for bedside and formal neuropsychological examination, and comprehensive treatment strategies. Part 4

covers the role of the frontal lobes in major neuropsychiatric illnesses, discussing evidence that shows prefrontal and anterior temporal hypometabolism in primary and secondary depression; reviewing anatomical, imaging, and neurochemical studies in schizophrenia; describing the neuropsychological and neuropsychiatric sequelae of closed head injury; summarizing the neurological substrates related to interesting and often dramatic cases of content-specific delusions; and concluding with a report on the stereotactic neurosurgical treatment of refractory OCD and its implications for understanding frontal lobe function. This remarkable work is intended for psychiatrists, neurologists, psychologists, basic and clinical neuroscientists, and trainees from each of these disciplines, who will welcome it as a valuable tool in understanding the complexities of what was once considered the terra incognita of the brain.

Handbook of Chemical Vapor Deposition

Although synthetic fullerenes have only been around for a few years, there are thousands of scientific articles dealing with them. This is the first monograph in the field and thus represents a vital source of information summarizing the most important and fundamental aspects of the organic and organometallic chemistry of the fullerenes. The book is logically arranged so that information is easy to retrieve, and the style lends itself to effortless reading and to learning more about the chemical properties of a family of molecules that constitute new building

blocks for novel architectures in the ever-expanding universe of synthetic chemistry. Belongs on the shelves of university libraries as well as those of chemists interested in the art and science of structure and property manipulation by synthesis.

The Journal of Immunology

State-of-the-art review on atopic eczema, one of the most common skin diseases today. This multi-authored handbook covers all aspects relevant for physicians from various disciplines.

Advanced Biofuels and Bioproducts

This Special Issue features recent data concerning thioredoxins and glutaredoxins from various biological systems, including bacteria, mammals, and plants. Four of the sixteen articles are review papers that deal with the regulation of development of the effect of hydrogen peroxide and the interactions between oxidants and reductants, the description of methionine sulfoxide reductases, detoxification enzymes that require thioredoxin or glutaredoxin, and the response of plants to cold stress, respectively. This is followed by eleven research articles that focus on a reductant of thioredoxin in bacteria, a thioredoxin reductase, and a variety of

plant and bacterial thioredoxins, including the m, f, o, and h isoforms and their targets. Various parameters are studied, including genetic, structural, and physiological properties of these systems. The redox regulation of monodehydroascorbate reductase, aminolevulinic acid dehydratase, and cytosolic isocitrate dehydrogenase could have very important consequences in plant metabolism. Also, the properties of the mitochondrial o-type thioredoxins and their unexpected capacity to bind iron–sulfur center (ISC) structures open new developments concerning the redox mitochondrial function and possibly ISC assembly in mitochondria. The final paper discusses interesting biotechnological applications of thioredoxin for breadmaking.

Advances in Swarm Intelligence

Gastrointestinal Endoscopy in the Cancer Patient

Stochastic Processes with Applications

This second, completely updated and extended edition of the only reference work in this growing field of medical physics focuses on biomagnetic instrumentation as

well as applications in cardiology and neurology. New chapters have been added on fetal magnetography and magnetic field therapy, as well as the safety aspects of magnetic fields. Written by well-known specialists from Germany, USA, Canada, Japan, the Netherlands and Scandinavia, the result is a manual for researchers in this field as well as for those who apply modern methods based on magnetism in medical practice. It equally provides a detailed overview for newcomers to the field as well as for experts familiar with only one part of the area.

Biomaterials Fabrication and Processing Handbook

Today, biosensors are broadly applied in research, clinical diagnosis and monitoring, as well as in pharmaceutical, environmental or food analysis. In this work, the author presents the essentials that advanced students and researchers need to know in order to make full use of this technology. This includes a description of biochemical recognition elements, such as enzymes, antibodies, aptamers or even whole cells. Various signal transducers such as electrochemical and optical transducers, luminescence devices and advanced techniques such as quartz crystal microbalances and MEMS systems are covered as well. Current applications are introduced through various case studies, rounded out by a forward-looking chapter on the prospects for biosensor development offered by nanotechnology, lab-on-a-chip, and biomimetic systems.

High-Performance Computing Using FPGAs

Revised edition of: FPGA-based implementation of signal processing systems / Roger Woods [et al.]. 2008.

Cancer Immunology

This book is a printed edition of the Special Issue " Chemically-Induced DNA Damage, Mutagenesis, and Cancer" that was published in IJMS

Nonlinear Approaches in Engineering Applications

Neutron Scattering from Magnetic Materials is a comprehensive account of the present state of the art in the use of the neutron scattering for the study of magnetic materials. The chapters have been written by well-known researchers who are at the forefront of this field and have contributed directly to the development of the techniques described. Neutron scattering probes magnetic phenomena directly. The generalized magnetic susceptibility, which can be expressed as a function of wave vector and energy, contains all the information there is to know about the statics and dynamics of a magnetic system and this quantity is directly related to the neutron scattering cross section. Polarized

neutron scattering techniques raise the sophistication of measurements to even greater levels and gives additional information in many cases. The present book is largely devoted to the application of polarized neutron scattering to the study of magnetic materials. It will be of particular interest to graduate students and researchers who plan to investigate magnetic materials using neutron scattering. · Written by a group of scientist who have contributed directly in developing the techniques described. · A complete treatment of the polarized neutron scattering not available in literature. · Gives practical hits to solve magnetic structure and determine exchange interactions in magnetic solids. · Application of neutron scattering to the study of the novel electronic materials.

Chemically-Induced DNA Damage, Mutagenesis, and Cancer

Five years ago, the first edition of the Plant Molecular Biology Manual appeared. At that time, the editors felt that the field of plant molecular biology had matured to a point that the publication of a series of protocols in plant molecular biology was warranted. During the past five years, the field of plant molecular biology has expanded rapidly. This expansion is, among other things, reflected by the presence of several journals in the plant sciences, as well as by the increasing amount of plant sciences articles that are published in the more general journals. In 1991 approximately 3000 people attended the Third International Congress of Plant Molecular Biology in Tucson, Arizona, where more than 2000 posters were

presented. It is also remarkable to see that nowadays botanical and physiological meetings pay a considerable amount of attention to plant molecular biology. Since the first edition of this manual appeared, we have published, yearly, a series of supplements to the original volume. These supplements covered new subjects and described new methods that had been developed. With time, however, the editors realized that the original manual plus supplements had become cumbersome to use, and we decided to publish a reorganized version of the manual.

Technical Reference Guide

This open access book describes the technologies needed to construct a secure big data infrastructure that connects data owners, analytical institutions, and user institutions in a circle of trust. It begins by discussing the most relevant technical issues involved in creating safe and privacy-preserving big data distribution platforms, and especially focuses on cryptographic primitives and privacy-preserving techniques, which are essential prerequisites. The book also covers elliptic curve cryptosystems, which offer compact public key cryptosystems; and LWE-based cryptosystems, which are a type of post-quantum cryptosystem. Since big data distribution platforms require appropriate data handling, the book also describes a privacy-preserving data integration protocol and privacy-preserving classification protocol for secure computation. Furthermore, it introduces an anonymization technique and privacy risk evaluation technique. This book also

describes the latest related findings in both the living safety and medical fields. In the living safety field, to prevent injuries occurring in everyday life, it is necessary to analyze injury data, find problems, and implement suitable measures. But most cases don't include enough information for injury prevention because the necessary data is spread across multiple organizations, and data integration is difficult from a security standpoint. This book introduces a system for solving this problem by applying a method for integrating distributed data securely and introduces applications concerning childhood injury at home and school injury. In the medical field, privacy protection and patient consent management are crucial for all research. The book describes a medical test bed for the secure collection and analysis of electronic medical records distributed among various medical institutions. The system promotes big-data analysis of medical data with a cloud infrastructure and includes various security measures developed in our project to avoid privacy violations. This work was published by Saint Philip Street Press pursuant to a Creative Commons license permitting commercial use. All rights not granted by the work's license are retained by the author or authors.

ROMANCE ACTION & ADVENTURE MYSTERY & THRILLER BIOGRAPHIES & HISTORY CHILDREN'S YOUNG ADULT FANTASY HISTORICAL FICTION HORROR LITERARY FICTION NON-FICTION SCIENCE FICTION