Intraperitoneal Therapy for Ovarian Cancer

D. S. Alberts, M. Clouser, L. M. Hess, Arizona Cancer Center, Tuscon, AZ, USA (Eds.)

Features

- State of the art
- A focused text on a major treatment problem in gynecologic cancer
- Written by experts in the field

Intraperitoneal chemotherapy is increasingly being used as first-line treatment for ovarian cancer. Nevertheless, it is difficult for the oncologist to find a definitive text that documents both the fundamental methods required to optimize therapy and the up-to-date results of phase I, II, and III clinical trials. With this in mind, the editors of Intraperitoneal Chemotherapy have assembled a team of highly experienced clinicians and researchers to cover every aspect of the subject. The topics addressed include treatment principles, patient, drug, and catheter selection, administration guidelines, the role of hyperthermia, supportive care requirements, novel drugs, and the most recent results of clinical trials. This book will be an invaluable source of information for both practicing clinical oncologists and oncologists in training.

Ascorbate-Glutathione Pathway and Stress Tolerance in Plants

N. A. Anjum, M. Chan, Academia Sinica, Agricultural Biotechnology Research Center, Taiwan; S. Umar, Hamdard University, New Delhi, India (Eds.)

Features

► Discusses significant strategies for averting stress-induced oxidative damage and for improving stress tolerance in plants
► Includes numerous relevant illustrations/figures to help understand the response of components of AsA-GSH pathway under the changing environment
► Includes information gained through cross-talks and inter-relationship studies

Plants are sessile organisms that live under a constant barrage of biotic and abiotic insults. Both biotic and abiotic stress factors have been shown to affect various aspects of plant system including the acceleration in the formation of reactive oxygen species (ROS). The ascorbate (AsA)-glutathione (GSH) pathway is a key part of the network of reactions involving enzymes and metabolites with redox properties for the detoxification of ROS, and thus to avert the ROS-accrued oxidative damage in plants.

The present book mainly deals with the information gained through the cross-talks and inter-relationship studies on the physiological, biochemical and molecular aspects of the cumulative response of various components of AsA-GSH pathway to stress factors and their significance in plant stress tolerance.

Plant Adaptation and Phytoremediation

M. Ashraf, University of Agriculture, Faisalabad, Pakistan; M. Ozturk, Ege University Bornova, Izmir, Turkey; M. S. Ahmad, University of Agriculture, Faisalabad, Pakistan (Eds.)

Features

► International authorship including European countries, Turkey, Malaysia, China, South American Countries, India, Pakistan
► Summarises approaches for use of phytoremediation as a potential source for amelioration of contaminated soils
► Comprised of review articles allowing greater accessibility and wider geographical relevance

The problems engendered by the conflicting imperatives of development and ecology show no sign of ending, and every day more locations are added to the list of landscapes poisoned by human activity. This vital book, featuring an international set of authors, is a key reference for researchers and environmental managers, as well as anyone involved in the mining industry or landscape remediation.

The comprehensive coverage of current approaches to phytoremediation begins by examining the problem. It looks at natural and human-induced toxins, and their effects on natural vegetation as well as agricultural crops. Particular attention is paid to the two largest challenges to remediation – heavy metals, and the salt stress that is impeding agricultural productivity worldwide. The text moves on to focus on the efficacy of different plant species in removing toxic pollutants from the environment. Along with analysis of a number of case studies, this section includes new and updated information on the mechanism of toxin tolerance in plants.

Structures for Nuclear Facilities
Analysis, Design, Construction, Monitoring, Inspection & Demolition
M. Bangash, London, UK

Features
► Covers the whole spectrum of extreme load which must be considered for structures of reactor buildings
► Gives a complete picture of a project from planning, design, and construction

This book provides a general introduction to the topic of buildings for resistance to the effects of abnormal loadings. The structural design requirements for nuclear facilities are very unique. In no other structural system are extreme loads such as tornadoes, missile and loud interaction, earthquake effects typical in excess of any recorded historical data at a site, and postulated system accident at very low probability range explicitly, considered in design. This book covers the whole spectrum of extreme load which have to be considered in the structural design of nuclear facilities and reactor buildings, the safety criteria, the structural design, the analysis of containment. Test case studies are given in a comprehensive treatment.

Each major section contains a full explanation which allows the book to be used by students and practicing engineers, particularly those facing formidable task of having to design complicated building structures with unusual boundary conditions.

Heterogenized Homogeneous Catalysts for Fine Chemicals Production

Materials and Processes

P. Barbaro, F. Liguori, ICCOM, Sesto Fiorentino, Italy (Eds.)

Features

▶ A reference tool to all scientist interested in the development of sustainable production processes
▶ Provides researchers and scholars in the field of catalysis with a wide revue on the state-of-the-art and future perspective on heterogenized catalysts
▶ An easy-to-read overview of scopes, advantages, limitations, expectations and potential fields of development of the subject systems for both experts and non-experts

This book provides the reader with the latest directions in the field of homogeneous catalysts for fine chemical production. Each theme is introduced from a broad perspective: materials, strategies, techniques and processes are presented both from a theoretical and a practical point of view. The focus is on those catalysts – particularly heterogenized homogeneous catalysts – and applications leading to the production of fine and speciality chemicals in a highly selective manner and with minimal environmental and economic impact. Each topic is treated critically so topics such as factors affecting the catalysts performance, the influence of the support, the catalysts’ deactivation, the metal leaching or the issues on recycling are analyzed. Industrial and academic points of view are integrated and the feasibility and timeliness of industrial applications are illustrated. The reader is also provided with a comparison between parent heterogeneous and homogeneous systems.

Introduction to Modeling for Biosciences

D. J. Barnes, D. Chu, University of Kent, UK

Features

➤ Presents a broad overview of the most important techniques used to model biological systems
➤ Provides a detailed introduction to agent-based models, stochastic modelling techniques and differential equations for the novice modeler
➤ With exercises, and a companion website featuring software and sample programs, as well as downloadable sample code

Mathematical modeling can be a useful tool for researchers in the biological scientists. Yet in biological modeling there is no one modeling technique that is suitable for all problems. Instead, different problems call for different approaches. Furthermore, it can be helpful to analyze the same system using a variety of approaches, to be able to exploit the advantages and drawbacks of each. In practice, it is often unclear which modeling approaches will be most suitable for a particular biological question, a problem which requires researchers to know a reasonable amount about a number of techniques, rather than become experts on a single one.

"Introduction to Modeling for Biosciences" addresses this issue by presenting a broad overview of the most important techniques used to model biological systems. In addition to providing an introduction into the use of a wide range of software tools and modeling environments, this helpful text/reference describes the constraints and difficulties that each modeling technique presents in practice, enabling the researcher to quickly determine which software package would be most useful for their particular problem.

Handbook of Signal Processing Systems

S. S. Bhattacharyya, University of Maryland, College Park, MD, USA; E. F. Deprettere, Leiden University, The Netherlands; R. Leupers, RWTH Aachen University, Germany; J. Takala, Tampere University of Technology, Finland (Eds.)

Features
- A comprehensive overview of signal processing systems
- A standalone, complete reference to signal processing systems
- A comprehensive index for ease of use
- An extensive bibliography for further reading

The Handbook is organized in four parts. The first part motivates representative applications that drive and apply state-of-the-art methods for design and implementation of signal processing systems; the second part discusses architectures for implementing these applications; the third part focuses on compilers and simulation tools; and the fourth part describes models of computation and their associated design tools and methodologies.

This book discusses two of the oldest and hardest problems in both science and philosophy: What is matter?, and What is mind? A reason for tackling both problems in a single book is that two of the most influential views in modern philosophy are that the universe is mental (idealism), and that the everything real is material (materialism).

Most of the thinkers who espouse a materialist view of mind have obsolete ideas about matter, whereas those who claim that science supports idealism have not explained how the universe could have existed before humans emerged. Besides, both groups tend to ignore the other levels of existence—chemical, biological, social, and technological. If such levels and the concomitant emergence processes are ignored, the physicalism/spiritualism dilemma remains unsolved, whereas if they are included, the alleged mysteries are shown to be problems that science is treating successfully.

Preface, 1 Philosophy as Worldview, 02 Classical Matter: Bodies and Fields, 03 Quantum Matter: Weird but Real, 04 General Concept of Matter, 05 Levels of organization, 06 Naturalism, 07 Materialism, 08 The Mind-Body Problem, 09 Minding Matter: The Plastic Brain, 10 Mind and Society, 11 Cognition and Free Will, 12 Brain and Computer: Hardware/Software Dualism, 13 Knowledge: Genuine and Bogus, Appendices, Indexes
Essentials of Anatomic Pathology

L. Cheng, Indiana University, Indianapolis, IN, USA; D. G. Bostwick, Bostwick Laboratories, Glen Allen, VA, USA (Eds.)

Features

► Extensively revised and expanded to cover all aspects of anatomic pathology

In the 8 years since the publication of the first edition of Essentials of Anatomic Pathology, great strides have been made in our understanding of diseases and neoplastic processes. Many clinically important new histopathologic entities have been described or more fully defined in virtually every organ. Numerous clinically important diagnostic and prognostic markers have entered routine practice. Genetic testing for the early detection of cancers and the molecular classification of diseases has become increasingly important. This is an age of enlightenment in surgical pathology, and the authors of this new volume have captured this sense of excitement herein.

This much praised and widely used reference manual on has been extensively revised and expanded to cover the entire field of anatomic pathology. The Third Edition

Features the incorporation of full-color images in the text with updates of new diagnostic and prognostic information. New classifications and numerous new entities and histologic variants are fully explored. Useful immunostaining biomarkers and emerging molecular targets and relevant molecular findings that have emerged from recent genomic studies are incorporated in each chapter.

Written by internationally recognized authorities, the comprehensive, evidence-based practice information is presented in an outline format that is clear and easy to follow. Up-to-date and richly detailed, Essentials of Anatomic Pathology, Third Edition offers both the pathologist-in-training and the practicing pathologist a concise summary of all the critical information needed to recognize, understand and interpret anatomic pathology.

**Reconstruction of Macroscopic Maxwell Equations**

*A Single Susceptibility Theory*

**K. Cho**, Toyota Physical and Chemical Research Institute, Aichi, Japan

**Details**

- **Features**
  - Presents a new and complete theory of Maxwell equations
  - Integrates nonlocal theory and long wavelength approximation as well as quantum mechanical treatment
  - Provides a useful reference work for researchers and a study text for graduate students

This book presents a logically more complete form of macroscopic Maxwell equations than the conventional ones by applying long wavelength approximation to microscopic nonlocal theory. This scheme requires only one susceptibility tensor describing electric and magnetic polarizations together with their mutual interference. The quantum mechanical expression of the susceptibility covers both chiral and achiral symmetry. Only in the absence of chiral symmetry, this reduces to the conventional form, under the additional condition of using magnetic susceptibility defined with respect to, not *H*, but *B*. This scheme solves various problems inherent to the conventional scheme of Maxwell equations.

- **Introduction.** - A New Form of Macroscopic M-eqs.- Discussion about the New Result.- Further Considerations

**2010. 160 p. 30 illus., 15 in color.**

(Springer Tracts in Modern Physics, Volume 237) Hardcover

**ISBN 978-3-642-12790-8**

- approx. € 129,95 | £117.00
- approx. * € (D) 139,05 | € (A) 142,94 | sFr 202,00

**Bookstore location**

Physics

**Fields of Interest**

Mathematical Methods in Physics; Optics and Electrodynamics

**Target Group**

Research

**Type of Publication**

Monograph
Child Welfare in Developing Countries

J. Cockburn, Université Laval, QC, Canada; J. Kabubo-Mariara, University of Nairobi, Kenya (Eds.)

Features

► Co-published with the International Development Research Centre (IDRC)
► Features contributions from local researchers in Africa and South America
► Offers empirical analysis and measurement of child poverty

What factors affect child welfare? How can policy improve child welfare? In developing countries, there has been relatively little empirical work on the analysis and measurement of child poverty. Further, poverty has many dimensions, including mortality, morbidity, hunger, illiteracy, lack of fixed housing and lack of resources, and cannot be assessed with a single measurement method. Based on original research in Africa and South America, and using a multidimensional poverty indicator approach, this book identifies the existence of inequalities in child welfare, analyzes their sources, and evaluates the impacts of policy responses to those inequalities. Topics considered include monetary poverty, asset poverty, nutrition, mortality, access to education and school attendance, child labor and access to health services. The book’s findings demonstrate that while current government programs offering financial assistance, supplementary food, and free or subsidized education and health care have a positive impact on child welfare, these outcomes can still improve, and proposes policy prescriptions towards this end. The book will be of use to poverty and policy researchers, professionals in international development, and graduate students interested in poverty and inequality.

Microbial Biochemistry

G. Cohen, Institut Pasteur, Paris, France

Features

► Describes the biosynthetic pathways of microorganisms and their regulation by repression

Microbial physiology, biochemistry, and genetics allowed the formulation of concepts that turned out to be important in the study of higher organisms.

In the first section, the principles of bacterial growth are given, as well as the description of the different layers that enclose the bacterial cytoplasm, and their role in obtaining nutrients from the outside media through different permeability mechanisms described in detail. A chapter is devoted to allostery and is indispensable for the comprehension of many regulatory mechanisms described throughout the book.

Another section analyses the mechanisms by which cells obtain the energy necessary for their growth, glycolysis, the pentose phosphate pathway, the tricarboxylic and the anaplerotic cycles. Two chapters are devoted to classes of microorganisms rarely dealt with in textbooks, namely the Archaea, mainly the methanogenic bacteria, and the methylotrophs. Eight chapters describe the principles of the regulations at the transcriptional level, with the necessary knowledge of the machineries of transcription and translation.

The next fifteen chapters deal with the biosynthesis of the cell building blocks, amino acids, purine and pyrimidine nucleotides and deoxynucleotides, water-soluble vitamins and coenzymes, isoprene and tetrapyrrole derivatives and vitamin B12.

The two last chapters are devoted to the study of protein-DNA interactions and to the evolution of biosynthetic pathways. The considerable advances made in the last thirty years in the field by the introduction of gene cloning and sequencing and by the exponential development of physical methods such as X-ray crystallography or nuclear magnetic resonance have helped presenting metabolism under a multidisciplinary attractive angle.

The level of readership presupposes some knowledge of chemistry and genetics at the undergraduate level. The target group is graduate students, researchers in academia and industry.
Art Inspiring Transmutations of Life

P. T. Coohill, Siena College, Loudonville, USA. (Ed.)

Features

► Expresses a creative experience infused with aesthetic inspiration, that transmutes and transforms
► Regards art as a unique thread in human communication, that carries the significance of human life and sustains history and culture
► Shows how art elevates life’s struggle, and provides a human measure

Although the creative impulse surges in revolt against everyday reality, breaking through its confines, it makes pacts with that reality’s essential laws and returns to it to modulate its sense. In fact, it is through praxis that imagination and artistic inventiveness transmute the vital concerns of life, giving them human measure. But at the same time art’s inspiration imbues life with aesthetic sense, which lifts human experience to the spiritual. Within these two perspectives art launches messages of specifically human inner propulsions, strivings, ideals, nostalgia, yearnings prosaic and poetic, profane and sacral, practical and ideal, while standing at the fragile borderline of everydayness and imaginative adventure. Art’s creative perduring constructs are intentional marks of the aesthetic significance attributed to the flux of human life and reflect the human quest for repose. They mediate communication and participation in spirit and sustain the relative continuity of culture and history.

► € 139,95 | £126.00
► * € (D) 149,75 | € (A) 153,95 | sFr 217,50

Bookstore location
Philosophy

Fields of Interest
Phenomenology; Ethics; Metaphysics

Target Group
Research

Type of Publication
Contributed volume
Methylxanthines

B. B. Fredholm, Karolinska Institute, Stockholm, Sweden (Ed.)

Features

► 21 contributions written by world experts in the field
► Provides an up-to-date and authoritative account of the pharmacology of methylxanthines
► Discusses the actions of the different xanthines and the mechanisms involved

In the present volume of the Handbook of Experimental Pharmacology well known experts describe the actions of different xanthines with a focus on caffeine and theophylline. A special chapter is devoted to theobromine, an active component of chocolate, the actions of which are less well characterized. This book also presents the pharmacology of one xanthine derivative, propentofylline, as an example of a xanthine that has gone through extensive development for a novel therapeutic area.

Evolution in Action
Case studies in Adaptive Radiation, Speciation and the Origin of Biodiversity
M. Glaubrecht, Museum of Natural History, Humboldt University, Berlin (Ed.)

Features
► Reveals many aspects among the wide spectrum of current approaches in evolutionary research
► Presents a colorfully illustrated survey of current evolutionary biology research
► Makes use of modern techniques from molecular biology, bioinformatics and systematic phylogeny
► Allows the reconstruction of the relationships of organisms, the course of evolution and its underlying causations

We have come a long way towards better understanding how new species originate, i.e. speciation, which long remained Darwin’s “mystery of mysteries.” Since speciation is the underlying mechanism for radiations, it is the ultimate causation for the biological diversity of life that surrounds us.

Without a doubt, Charles Darwin’s contribution to our understanding of the origin of biodiversity cannot be overestimated. This book is a contribution to both the Darwin Year we celebrated in 2009 and to the Year of Biodiversity and Conservation 2010. The studies and model cases presented show the progress and dynamics of research based on Darwinian theories and sheds light on its implications in the context of current biodiversity crises.

The great importance of adaptive (and non-adaptive) radiations for biodiversity is widely accepted, but our understanding of the processes and mechanisms involved is still limited and generalizations need to be based on the accumulation of more evidence from additional case studies.

The studies presented in this volume are those urgently needed and focus on a variety of organisms and different aspects of radiations. The scientific results presented therein are excellent examples not only of evolution in action, but also of active research on evolutionary processes and their most apparent outcome – biodiversity.
Introduction to Circuit Analysis and Design

T. H. Glisson, North Carolina State University, Raleigh, NC, USA

Features

- Emphasizes input-output properties and descriptions of circuits
- Covers symbolic relations among currents, voltages, and other quantities
- Includes topics important in design but not found in competing book
- Presents more than 800 in-line examples and exercises and more than 1100 end-of-chapter problems
- Offers sections on methods for checking intermediate and final results

Introduction to Circuit Analysis and Design takes the view that circuits have inputs and outputs, and that relations between inputs and outputs and the terminal characteristics of circuits at input and output ports are all-important in analysis and design. Two-port models, input resistance, output impedance, gain, loading effects, and frequency response are treated in more depth than is traditional. Due attention to these topics is essential preparation for design, provides useful preparation for subsequent courses in electronic devices and circuits, and eases the transition from circuits to systems.


Bookstore location
Engineering

Fields of Interest
Circuits and Systems; Solid State Physics

Target Group
Graduate

Type of Publication
Graduate/Advanced undergraduate textbook
Discrete Calculus
Applied Analysis on Graphs for Computational Science

L. J. Grady, Siemens Corporate Research, Princeton, NJ, USA; J. R. Polimeni, Harvard Medical School, Boston, MA, USA

Features
- Presents a thorough review of discrete calculus, with a focus on key concepts required for successful application
- Unifies many standard image processing algorithms into a common framework
- Provides numerous example applications from several fields of computational science, applying this framework to a broad range of problems

The field of discrete calculus, also known as “discrete exterior calculus”, focuses on finding a proper set of definitions and differential operators that make it possible to operate the machinery of multivariate calculus on a finite, discrete space. In contrast to traditional goals of finding an accurate discretization of conventional multivariate calculus, discrete calculus establishes a separate, equivalent calculus that operates purely in the discrete space without any reference to an underlying continuous process.

This unique text brings together into a single framework current research in the three areas of discrete calculus, complex networks, and algorithmic content extraction. Although there have been a few intersections in the literature between these disciplines, they have developed largely independently of one another, yet researchers working in any one of these three areas can strongly benefit from the tools and techniques being used in the others.

Many example applications from several fields of computational science are provided to demonstrate the usefulness of this framework to a broad range of problems. Readers are assumed to be familiar with the basics of vector calculus, graph theory, and linear algebra.

Topics and
- Discrete Calculus: History and Future.
- Introduction to Discrete Calculus.
- Circuit Theory and Other Discrete Physical Models.
- Part II: Applications of Discrete Calculus.
- Building a Weighted Complex from Data.
- Filtering on Graphs.
- Clustering and Segmentation.
- Manifold Learning and Ranking.
- Measuring Networks.
- Representation and Storage of a Graph and Complex.
- Optimization.
- The Hodge Theorem: A Generalization of the Helmholtz Decomposition.
Centrifugal Pumps

J. F. Gülich, Villeneuve, Switzerland

Features

► Presents detailed design procedures for pumps
► Includes a large variety of ready to use tables for design calculations and diagnostics
► Features in-depth treatment of the underlying physical mechanisms for practical applications
► Offers comprehensive scope of topics encountered by the pump engineers

This book gives an unparalleled, up-to-date, in-depth treatment of all kinds of flow phenomena encountered in centrifugal pumps including the complex interactions of fluid flow with vibrations and wear of materials.

The scope includes all aspects of hydraulic design, 3D-flow phenomena and partload operation, cavitation, numerical flow calculations, hydraulic forces, pressure pulsations, noise, pump vibrations (notably bearing housing vibration diagnostics and remedies), pipe vibrations, pump characteristics and pump operation, design of intake structures, the effects of highly viscous flows, pumping of gas-liquid mixtures, hydraulic transport of solids, fatigue damage to impellers or diffusers, material selection under the aspects of fatigue, corrosion, erosion-corrosion or hydro-abrasive wear, pump selection, and hydraulic quality criteria.

The 2nd ed. has been enhanced by hydraulic design information on axial pumps and sewage pumps, turbine performance curve prediction, torsional rotor vibrations and recent research results on partload flow and hydraulic excitation forces.

To ease the use of the information, the methods and procedures for the various calculations and failure diagnostics discussed in the text are gathered in about 150 pages of tables which may be considered as almost unique in the open literature. The text focuses on practical application in the industry and is free of mathematical or theoretical ballast. In order to find viable solutions in practice, the physical mechanisms involved should be thoroughly understood. The book is focused on fostering this understanding which will benefit the pump engineer in industry as well as academia and students.

Fertility Control

U. Habenicht, BayerHealthCare, Bayer Schering Pharma AG, Berlin; R. J. Aitken, University of Newcastle, Australia (Eds.)

Features

► Our knowledge of reproductive mechanisms has increased dramatically in the recent past and this is an ideal moment to consider the implications of this new knowledge from a contraceptive perspective

► Represents a unique collection of papers from internationally renowned experts

► Gives a state-of-the art summary of current concepts in reproductive biology

This book represents a unique collection of papers from internationally renowned experts to give us a state-of-the art summary of current concepts in reproductive biology. The narrative has been developed to highlight how new gains in our understanding of reproductive mechanisms have generated unique opportunities for contraceptive development.

Contact Dermatitis

J. D. Johansen, University of Copenhagen, Denmark; P. J. Frosch, Hautklinikum Dortmund, Germany; J. Lepoittevin, Laboratoire de Dermatochimie, Institut Le Bel, Strasbourg, France (Eds.)

Features

- Fast access to information through core messages and ‘case reports’
- Dictionary of contact allergens with chemical structures, sources and references
- Chapters on emerging topics in the field
- Combination of general overview and very detailed information

The fifth edition delivers up-to-date coverage of every conceivable aspect in modern-day management of contact dermatitis. Leading experts have thoroughly updated the previous edition, while adding new chapters on genetics, the skin barrier, respiratory symptoms to chemicals and an extensive section on prevention.

Both irritant and allergic contact dermatitis are covered with special emphasis on immunological mechanisms, molecular aspects of sensitizers, atypical clinical forms, reactions to medicaments, occupational and environmental aspects.

The comprehensive yet approachable text is supplemented by numerous color illustrations and tables. Core messages and case reports highlight the most important information and help in gaining better understanding of the topic and greater competence in daily practice.

An extensive dictionary of allergens gives quick access to specific information.
Scanning Probe Microscopy of Functional Materials
Nanoscale Imaging and Spectroscopy
S. V. Kalinin, Oak Ridge National Laboratory, Oak Ridge, TN, USA; A. Gruverman, University of Nebraska-Lincoln, Lincoln, NE, USA (Eds.)

Features
► Serves the rapidly developing field of nanoscale characterization of functional materials properties
► Covers electrical, electromechanical, magnetic, and chemical properties of diverse materials including complex oxides, biopolymers, and semiconductors
► Focuses on newly emerging areas such as nanoscale chemical reactions, electromechanics, spin effects, and molecular vibrations
► Combines theoretical aspects with applications ranging from fundamental physical studies to device characterization

The goal of this book is to provide a general overview of the rapidly developing field of novel scanning probe microscopy (SPM) techniques for characterization of a wide range of functional materials, including complex oxides, biopolymers, and semiconductors. Many recent advances in condensed matter physics and materials science, including transport mechanisms in carbon nanotubes and the role of disorder on high temperature superconductivity, would have been impossible without SPM. The unique aspect of SPM is its potential for imaging functional properties of materials as opposed to structural characterization by electron microscopy. Examples include electrical transport and magnetic, optical, and electromechanical properties. By bringing together critical reviews by leading researchers on the application of SPM to the nanoscale characterization of functional materials properties, this book provides insight into fundamental and technological advances and future trends in key areas of nanoscience and nanotechnology.

Developing Adaptation Policy and Practice in Europe: Multi-level Governance of Climate Change

E. C. Keskitalo, Umeå University, Sweden (Ed.)

Features
► The first book on adaptation to climate change in advanced industrial states
Includes comparative cases focused on four countries
► Examines multi-level cases from the national to the local level
► “Developing Adaptation Policy and Practice in Europe” is the first volume on adaptation to climate change in a multi-level context (national to local cases) in Europe.

2010. II, 381 p. Hardcover
► approx. € 139.95 | £126.00
► approx. * € (D) 149.75 |
► € (A) 153.94 | sFr 217.50

Bookstore location
Environmental Sciences

Fields of Interest
Climate Change; Political Science;
Landscape/Regional and Urban Planning

Target Group
Professional/practitioner

Type of Publication
Contributed volume
Evolutionary Psychology and Information Systems Research
A New Approach to Studying the Effects of Modern Technologies on Human Behavior
N. Kock, Texas A&M University, TX, USA (Ed.)

Features
- The editor is a leading scholar in the field of EP-IS research
- Presents new perspectives on the interactions of humans and technology
- Topics include interface design, online dating and consumer behavior, information search and use behavior and autopoiesis and self-organizing information systems

The point of Information System (IS) EP research then is that these evolved psychological traits very likely influence our behavior toward modern technologies, and a deeper understanding of how technology affects behavior might be achieved by applying concepts and theories from EP. Springer author Ned Kock (Information Systems Action Research: An Applied View of Emerging Concepts and Methods) is probably the leading scholar in IS-EP research, and he is proposing an AoIS volume to gather together for the first time invited papers on EP concepts and theories that can be used as a basis for future research; examples of ongoing IS-EP research; and a look at the current debate on IS-EP research. Kock will invite leading scholars in IS and IS-EP research as well as the leading scholars in pure EP (see attached proposal for all names) to contribute papers. Topics to be covered include basic human behavior toward technology; interface design; online dating and consumer behavior; information search and use behavior; and autopoiesis and self-organizing information systems.

Evolutionary Psychology and Information Systems Theorizing.
- Group Level Evolution and Information Systems: What Can We Learn From Animal Colonies in Nature?
- Applying Evolutionary Psychology to the Study of Post-Adoption Information Technology Use: Reinforcement, Extension or Revolution?
- Suprise and Human Evolution: How a Snake Screen Enhanced Knowledge Transfer through a Web Interface.
- Studying Invisibly: Media Naturalness and Learning.
- Using Evolutionary Psychology to Extend our Understanding of Fit and Human Drives in IS Utilization Decisions and Performance.
- The Interaction of Communication Medium and Management Control Systems in the Processes and Outcomes of Transfer Price Negotiations.
- A Research Model for Online Social Behavior Based on an Evolutionary, Social Psychological, and Technological Approach.
- Homo Virtualensis: Evolutionary Psychology as a Tool for Studying Video Games.
- Three Roads to Cultural Recurrence.
Arbuscular Mycorrhizas: Physiology and Function
H. Koltai, Y. Kapulnik (Eds.)

Features

- Presents cutting edge science of mycorrhiza physiology, ecology and genetics
- Features contributions by leading scientists in the field
- Raises new notions of mycorrhizal symbioses
- Examines future prospects on mycorrhizal effects and their management

In the years since the first edition of “Arbuscular Mycorrhizas: Physiology and Function” was published, an exceptional proliferation of interest in mycorrhizal biology has developed. This has been associated with advances in different research disciplines such as genetics, genomics, proteomics, metabolomics and physiology, advances which have generated better insight into topics of mycorrhizal biology, including the mechanisms of host-mycorrhiza interactions pre- and post-penetration, the influence of the symbiosis on the host and its surroundings, and the evolution and diversity of mycorrhization. It therefore became necessary to both update and expand the book’s coverage in this, its second edition.

PART ONE: HOST-FUNGAL INTERACTIONS: PRE-PENETRATION.
- Chapter 1: Fungal spore germination and pre-symbiotic mycelial growth - Physiological and genetic aspects/ Manuela Giovannetti, Luciano Avio, Cristiana Sbrana.
- Chapter 2: Metabolites in separated exudate fractions of carrot roots grown under phosphorus stress and their potential role in AM fungus/host interactions/ Gerald Nagahashi, David D. Douds, Yurdagul Ferhatoglu.
- Chapter 3: The making of symbiotic cells in arbuscular mycorrhizal roots/ Andrea Genre, Paola Bonfante.
- Chapter 4: Strigolactones and their role in arbuscular mycorrhizal symbiosis/ Soizic Rochange.

PART TWO: HOST-FUNGAL INTERACTIONS: POST-PENETRATION.
- Chapter 5: Molecular-physiological aspects of the AM symbiosis post penetration/ Philipp Franken.
- Chapter 7: Nutrient uptake: The arbuscular mycorrhiza fungal symbiosis as a plant nutrient acquisition strategy/ Elke Neumann, Eckhard George.
- Chapter 8: Hormonal responses in host plants triggered by arbuscular mycorrhizal fungi/ Jutta Ludwig-Müller.

PART THREE: INFLUENCE OF THE SYMBIOSIS ON THE HOST AND ITS SURROUNDING: HOST RESPONSE TO BIOTIC STRESS.
- Chapter 10: Biotic environment of the arbuscular mycorrhizal fungi in soil/ Jan Jansa, Milan Gryndler.

PART FOUR: INFLUENCE OF THE SYMBIOSIS ON THE HOST AND ITS SURROUNDING: HOST RESPONSE TO ABIOTIC STRESS.
- Chapter 12: Metal tolerant mycorrhizal plants: A review from the perspective on industrial waste in temperate region/ Katarzyna Turnau, Przemysław Ryszka, Grzegorz Wojtczak.

PART FIVE: EVOLUTIONARY AND DIVERSITY PERSPECTIVES OF MYCORRHITIC ASSOCIATION.
- Chapter 13: Effect of differences among crop species and cultivars on the arbuscular mycorrhizal symbiosis/ Victoria Estaún, Cinta Calvet, Amélia Campbru.
- Chapter 14: Mycorrhizal symbiosis and plant reproduction/Roger T. Koide.
Laron Syndrome - From Man to Mouse

Lessons from Clinical and Experimental Experience

Z. Laron, Schneider Children's Medical Center of Israel, Israel; J. Kopchick, Edison Biotechnology Institute, Konnecker Research Laboratories, Ohio University Athens, OH, USA (Eds.)

Features

- First book covering this interesting topic, written by Zvi Laron who first described and reported the condition in 1966 (this syndrome is named after him)
- Describes the comprehensive pathophysiology of IGF-I deficiency and gives valuable advice for the IGF-I treatment
- Compares IGF-I and GH deficiency and illustrates the effects of the treatment, e.g. metabolic effects, adipose tissue alterations and the effects on aging

Laron Syndrome covers the relationship between GH and IGFI and their phenotypic effects. These effects can generally be separated into growth and metabolic defects. In this unique book, the authors illustrate and demonstrate the interesting results of the short and long-term effects of the mutation and give valuable treatment advice. This book is a helpful resource for pediatricians, endocrinologists and internists as well as researcher in the field of genetics and biology.


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Bookstore location
Medicine

Fields of Interest
Pediatrics; Endocrinology; Internal Medicine

Target Group
Professional/practitioner

Type of Publication
Monograph
Features

- Examines a body of solid facts rather than rapidly changing theories
- Offers abundant material for metallogeny research
- Includes practical information for explorationists
- Provides inspiration for commodity investors

Giant Metallic Deposits

Future Sources of Industrial Metals

P. Laznicka, West Lakes, SA, Australia

Metals in the earth's crust are very unevenly distributed and, traditionally, a small number of ore deposits, districts or countries have dominated the world supply and have influenced commodity prices. The importance of exceptionally large, or rich, deposits has greatly increased in the age of globalization when a small number of international corporations dominate the metals market, based on few very large ore deposits, practically anywhere in the world. Search for giant orebodies thus drives the exploration industry: not only the in-house teams of large internationals, but also hundreds of junior companies hoping to sell their significant discoveries to the "big boys".

Geological characteristics of giant metallic deposits and their setting and the politico-economic constraints of access to and exploitation in prospective areas have been a "hot topic" in the past fifteen years, but the knowledge generated and published has been one-sided, scattered and fragmented. This is the first comprehensive book on the subject that provides body of solid facts rather than rapidly changing theories, written by author of the Empirical Metallogeny book series and founder of the Data Metallogenica visual knowledge system on mineral deposits of the world, who has had an almost 40 years long international academic and industrial experience. The book will provide abundant material for comparative research in metallogeny, practical information for the explorationists as to where to look for the "elephants", and some inspiration for commodity investors.

Civilization based on metals.- Data on metallic deposits and magnitude categories: giant and world class deposits.- From trace metals to giant deposits.- Geological divisions that contain ore giants: introduction and role of the mantle.- Oceans and young island arc systems.- Andean-type continental margins (upper volcanic-sedimentary level).- Cordilleran granitoids in convergent continental margins (lower, plutonic levels).- Intracratonic (intraplate) orogens, granites, hydrothermal deposits.- Volcano-sedimentary orogens (mostly Phanerozoic).- Precambrian greenstone-granite terrains.- Proterozoic-style intracratonic orogens and basins: extension, sedimentation, magmatism.- Rifts, paleo-rifts, rifted margins, anorogenic and alkaline magmatism.- Sedimentary association and regoliths.- Higher-grade metamorphic associations.- Giant deposits in geological context.- Giant deposits: industry, economics, politics.- Finding or acquiring giant deposits.- Epilogue.- References.- Index of mineral deposits.
Silicon Photonics II
Components and Integration
D. J. Lockwood, National Research Council, Ottawa, ON, Canada; L. Pavesi, University of Trento, Povo (Trento), Italy (Eds.)

Features
► 2nd volume of the successful TAP book
► Summarizes the current state of the art of silicon photonics
► Strong focus on devices, realization and materials
► Useful reference to researchers and graduate students alike

This book is volume II of a series of books on silicon photonics. It gives a fascinating picture of the state-of-the-art in silicon photonics from a component perspective. It presents a perspective on what can be expected in the near future. It is formed from a selected number of reviews authored by world leaders in the field, and is written from both academic and industrial viewpoints. An in-depth discussion of the route towards fully integrated silicon photonics is presented. This book will be useful not only to physicists, chemists, materials scientists, and engineers but also to graduate students who are interested in the fields of micro- and nanophotonics and optoelectronics.

Preface.- Silicon wire waveguiding system: Fundamental characteristics and applications.- Polarization issues in silicon waveguide components and their control using cladding stress.- Photonics and electronics integration.- Germanium-on-silicon light emitters.- Grating couplers and polarization diversity in silicon photonics.- Erbium-doped nanocrystalline silicon for light amplification.- Efficient silicon MOSLEDs.- Germanium as a material to enable silicon photonics.- Ultralow power silicon microdisk modulators for on-chip optical interconnects.- Hybrid silicon photonic integrated circuits for optical networking.- Silicon photonics front-end integration in high-speed SiGe BiCMOS

Bookstore location
Physics

Fields of Interest
Optics, Optoelectronics, Plasmonics and Optical Devices; Microwaves, RF and Optical Engineering; Optical and Electronic Materials

Target Group
Professional/practitioner

Type of Publication
Monograph
International Straits
Concept, Classification and Rules of Passage

A. Lopez Martin, University Complutense of Madrid, Spain

Features
► Up-to-date and comprehensive monograph on the regime of navigation of international straits
► Identifies and classes each strait
► Includes the domestic legislation and the traffic separation schemes of the international straits

This book analyzes the regime of navigation in historical relation to the United Nations Convention of the Law of the Sea (UNCLOS) of 10 December 1982, and then analyzes in detail the concept of international straits to arrive at a complete definition. This work examines the eight categories of straits laid out in the UNCLOS. It analyzes the right of innocent passage and the regime of transit passage, both systems of navigation in international straits, and then presents the domestic legislation and the traffic separation schemes which apply to international straits. Finally, the work includes a complete catalogue of straits with the reference to their respective UNCLOS articles.

Nonlinear Deformable-body Dynamics

A. C. Luo, Southern Illinois University, Edwardsville, IL, USA

Features

► Develops a concise, self-contained introduction to nonlinear deformable-body dynamics, different from Cosserat theory
► Accessible to interdisciplinary audience due to the user friendly presentation and instructive examples

"Nonlinear Deformable-body Dynamics" mainly consists in a mathematical treatise of approximate theories for thin deformable bodies, including cables, beams, rods, webs, membranes, plates, and shells. The intent of the book is to stimulate more research in the area of nonlinear deformable-body dynamics not only because of the unsolved theoretical puzzles it presents but also because of its wide spectrum of applications. For instance, the theories for soft webs and rod-reinforced soft structures can be applied to biomechanics for DNA and living tissues, and the nonlinear theory of deformable bodies, based on the Kirchhoff assumptions, is a special case discussed. This book can serve as a reference work for researchers and a textbook for senior and postgraduate students in physics, mathematics, engineering and biophysics. Dr. Albert C.J. Luo is a Professor of Mechanical Engineering at Southern Illinois University, Edwardsville, IL, USA. Professor Luo is an internationally recognized scientist in the field of nonlinear dynamics in dynamical systems and deformable solids.

Vascular Disruptive Agents for the Treatment of Cancer

T. Meyer, UCL Cancer Institute, London, UK (Ed.)

Features

- Discusses preclinical target identification and validation, and the optimum pre-clinical animal models
- Biomarkers and imaging modalities used to assess the efficacy of these agents are examined
- A review of the clinical development of key drugs is provided
- Recent research exploring rational combinations of VDAs with other agents is reviewed and the potential place of VDAs in the future of cancer therapy is critically appraised

Tumour survival and growth is critically dependent on an independent blood supply. As such tumour vasculature presents an ideal target for cancer therapy that is widely applicable, accessible and genetically stable rendering it less prone to resistance. Two approaches have been explored for cancer therapy; firstly the prevention of new vessel formation with inhibitors of angiogenesis, and secondly the destruction of existing tumour blood vessels with so called vascular disruptive agents (VDAs). While the first approach appears to delay tumour progression, the second has the potential to cause massive cell death and tumour regression. It si the second approach of vascular targeting that is the focus of this review. Since the tubulin binding agent combretastatin, derived from the bark of the African bush willow, was discovered by George R Pettit to have antimitotic properties over twenty years ago, the field of vascular targeting has expanded steadily. Coincident with the preclinical and clinical development of these agents, there have been advances in our understanding of their mechanism of action and in the technology required to assess their effects.

High-Quality Visual Experience
Creation, Processing and Interactivity of High-Resolution and High-Dimensional Video Signals
M. Mrak, University of Surrey, Guildford, UK; M. Grgic, University of Zagreb, Zagreb, Croatia; M. Kunt, Swiss Federal Institute of Technology, Lausanne, Switzerland (Eds.)

Features
▶ Describes recent research on the creation, processing and interactivity of high-resolution and high-dimensional video signals
▶ Written by leading experts in high-resolution video signals
▶ Presents the state-of-the-art of end to end architectures for high-quality visual experience

Last few years have seen rapid acceptance of high-definition television (HDTV) technology around the world. This technology has been hugely successful in delivering more realistic television experience at home and accurate imaging for professional applications. Adoption of high definition continues to grow as consumers demand enhanced features and greater quality of content.

Following this trend, natural evolution of visualisation technologies will be in the direction of fully realistic visual experience and highly precise imaging. However, using the content of even higher resolution and quality is not straightforward as such videos require significantly higher access bandwidth and more processing power. Therefore, methods for radical reduction of video bandwidth are crucial for realisation of high visual quality. Moreover, it is desirable to look into other ways of accessing visual content, solution to which lies in innovative schemes for content delivery and consumption.

This book presents selected chapters covering technologies that will enable greater flexibility in video content representation and allow users to access content from any device and to interact with it.

Part I Quality of visual information.- Part II Video coding for high resolutions.- Part III Visual content upscaling.- Part IV 3D visual content processing and displaying.- Part V Accessing technologies for visual content.
High Power Laser-Matter Interaction

P. Mulser, TU Darmstadt; D. Bauer, Universität Rostock

Features

Comprehensive review

Introduction and handbook to high-power laser-matter interaction, laser generated plasma, nonlinear waves, particle acceleration, nonlinear optics, nonlinear dynamics, radiation transport. The book provides a systematic review of the major results and developments of the past 25 years.

Clinical Handbook of Assessing and Treating Conduct Problems in Youth

R. C. Murrihy, A. D. Kidman, University of Technology Sydney, Australia; T. H. Ollendick, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA (Eds.)

Features

► Provides an all-inclusive, comprehensive balance of theory and applied practice, unlike most books on the market that tend to focus on either theory or application, but not both

► Half of the overall content comprises therapeutic guidelines for evidence-based treatment

► Offers comprehensive coverage of assessment techniques

conduct problems, particularly oppositional defiant disorder (ODD) and conduct disorder (CD), are the most common mental health problems affecting children and adolescents. The consequences to individuals, families, and schools may be severe and long-lasting. To ameliorate negative outcomes and ensure the most effective treatment for aggressive and antisocial youth, early diagnosis and evidence-based interventions are essential.

Clinical Handbook of Assessing and Treating Conduct Problems in Youth provides readers with both a solid grounding in theory and a comprehensive examination of the evidence-based assessment strategies and therapeutic practices that can be used to treat a highly diverse population with a wide range of conduct problems. It provides professional readers with an array of evidence-based interventions, both universal and targeted, that can be implemented to improve behavioral and social outcomes in children and adolescents.

This expertly written resource:
- Lays the foundation for understanding conduct problems in youth, including epidemiology, etiology, and biological, familial, and contextual risk factors.
- Details the assessment process, with in-depth attention to tools, strategies, and differential diagnosis.
- Reviews nine major treatment protocols, including Parent-Child Interaction Therapy (PCIT), multisystemic therapy (MST) for adolescents, school-based group approaches, residential treatment, and pharmacotherapy.
- Critiques the current generation of prevention programs for at-risk youth.
- Explores salient issues in working effectively with minority youth.
- Offers methods for evaluating intervention programs, starting with cost analysis.

This volume serves as a one-stop reference for all professionals who seek a solid grounding in theory as well as those who need access to evidence-based assessment and therapies for conduct problems. It is a must-have volume for anyone working with at-risk children, including clinical child, school, and developmental psychologists; forensic psychologists; social workers; school counselors and allied professionals; and medical and psychiatric practitioners.
Polymer Macro- and Micro-Gel Beads: Fundamentals and Applications

A. Nussinovitch, The Hebrew University of Jerusalem, Rehovot, Israel

Features

➤ The first book devoted to hydrocolloid (water-soluble polymer) beads, their properties and their practical uses
➤ Reviews numerous methods of bead production, along with techniques for estimating their properties
➤ Covers traditional and novel applications of polymeric beads

The use of hydrocolloid (water-soluble polymer) beads is on the rise in many fields. A book that covers both past and new applications for hydrocolloid beads, their properties, and how to deliberately change them, is crucial. Currently there are only chapters in a handful of books covering these topics; there are no books fully devoted to them. Water-Soluble Polymer Beads: Fundamentals and Applications fills this void. This book describes all methods of bead production and techniques to change and to estimate their physical and chemical properties. A full description of past and recent developments and applications of beads in the fields of agriculture, biotechnology, environmental studies, medicine and food are presented.

Physical properties of beads and their estimation.- Bead formation, strengthening and modification.- Mathematical models for drying different polymeric beads.- Food and biotechnological applications of polymeric beads.- Medicinal applications of hydrocolloid beads.- Dry bead formation, structure, properties and applications.- Liquid-core beads and their applications in food and biotechnology.- Beads for drug delivery.- Beads and bacterial inoculants for agricultural uses.- Beads for environmental applications.- Index.
Forthcoming
Due September 2010

Kinetics and Dynamics
From Nano- to Bio-Scale

P. Paneth, A. Dybala-Defratyka, Technical University of Lodz, Poland (Eds.)

Features
► Provides a thorough computational approach to the reactivity of chemical and biochemical systems
► Discusses recent advances in linear scaling algorithms and their impact on the study of kinetics
► Describes a broad spectrum of systems and applications rather than being solely focussed on methodology
► Features interplay between experiment and theory

"Kinetics and Dynamics" on molecular modeling of dynamic processes opens with an introductory overview before discussing approaches to reactivity of small systems in the gas phase. Then it examines studies of systems of increasing complexity up to the dynamics of DNA.

This title has interdisciplinary character presenting wherever possible an interplay between the theory and the experiment. It provides basic information as well as the details of theory and examples of its application to experimentalists and theoreticians interested in modeling of dynamic processes in chemical and biochemical systems. All contributing authors are renowned experts in their fields and topics covered in this volume represent the forefront of today's science.

High-Temperature Cuprate Superconductors
Experiment, Theory, and Applications
N. Plakida, Joint Institute for Nuclear Research, Dubna Moscow Region, Russia

Features
► Summarizes all the results available for High-Temperature Cuprate Superconductors
► Balanced presentation of experimental and theoretical aspects
► Contains all the theoretical bases needed

High-Temperature Cuprate Superconductors provides an up-to-date and comprehensive review of the properties of these fascinating materials. The essential properties of high-temperature cuprate superconductors are reviewed on the background of their theoretical interpretation. The experimental results for structural, magnetic, thermal, electric, optical and lattice properties of various cuprate superconductors are presented with respect to relevant theoretical models. A critical comparison of various theoretical models involving strong electron correlations, antiferromagnetic spin fluctuations, phonons and excitons provides a background for understanding of the mechanism of high-temperature superconductivity. Recent achievements in their applications are also reviewed. A large number of illustrations and tables gives valuable information for specialists. A text-book level presentation with formulation of a general theory of strong-coupling superconductivity will help students and researchers to consolidate their knowledge of this remarkable class of materials.

C4 Photosynthesis and Related CO2 Concentrating Mechanisms

A. S. Raghavendra, University of Hyderabad, Hyderabad, India; R. F. Sage, University of Toronto, ON, Canada (Eds.)

Features

- The first up-to-date review of advances in C4 photosynthesis
- Covers physiology, biochemistry, molecular biology, biogeography, evolution and bioengineering
- Offers a ready source of inspiration for further C4 photosynthesis research

The C4 pathway of photosynthesis was discovered and characterized, more than four decades ago. Interest in C4 pathway has been sustained and has recently been boosted with the discovery of single-cell C4 photosynthesis and the successful introduction of key C4-cycle enzymes in important crops, such as rice. Further, cold-tolerant C4 plants are at the verge of intense exploitation as energy crops. Rapid and multidisciplinary progress in our understanding of C4 plants warrants a comprehensive documentation of the available literature. The book, which is a state-of-the-art overview of several basic and applied aspects of C4 plants, will not only provide a ready source of information but also triggers further research on C4 photosynthesis. Written by internationally acclaimed experts, it provides an authoritative source of progress made in our knowledge of C4 plants, with emphasis on physiology, biochemistry, molecular biology, biogeography, evolution, besides bioengineering C4 rice and biofuels. The book is an advanced level textbook for postgraduate students and a reference book for researchers in the areas of plant biology, cell biology, biotechnology, agronomy, horticulture, ecology and evolution.

Comparative E-Government
C. G. Reddick, University of Texas, San Antonio, TX, USA (Ed.)

Features
- Covers progress region by region in Africa, Asia, the Middle East, Europe, North America, and South America
- The first book to study e-government initiatives in developing and developed countries
- Includes contributions by experts from every region

Comparative E-Government examines the impact of information and communication technology (ICT) on governments throughout the world. It focuses on the adoption of e-government both by comparing different countries, and by focusing on individual countries and the success and challenges that they have faced.

With 32 chapters from leading e-government scholars and practitioners from around the world, there is representation of developing and developed countries and their different stages of e-government adoption. Part I compares the adoption of e-government in two or more countries. The purpose of these chapters is to discern the development of e-government by comparing different counties and their individual experiences. Part II provides a more in-depth focus on case studies of e-government adoption in select countries. Part III, the last part of the book, examines emerging innovations and technologies in the adoption of e-government in different countries. Some of the emerging technologies are the new social media movement, the development of e-participation, interoperability, and geographic information systems (GIS).

Studies on Cardiovascular Disorders

H. Sauer, Justus Liebig University, Giessen; A. Shah, King's College London, UK; F. R. Laurindo, University of São Paulo, Brazil (Eds.)

Features
► Cutting-edge research
► Contributions by leading scientists
► The present series of articles on oxidative stress in clinical practice summarizes the current knowledge in a rapidly evolving field.

This collection of articles on oxidative stress in clinical practice surveys essential current research in what is a rapidly evolving field. As well as giving the reader a mechanistic overview of how oxidative stress affects cardiovascular disease, it analyzes the potential of a number of therapeutic options that target these pathways. Understanding the complexity of the cellular redox system could lead to the development of better targeted interventions that facilitate patient recovery. Even as large-scale clinical trials of so-called ‘simple’ antioxidant approaches such as vitamins C and E show that significant benefits for cardiovascular patients remain elusive, Studies on Cardiovascular Disorders demonstrates that such approaches are too simplistic.

Beginning with a summary of redox signalling models that could induce the progression of redox-associated cardiovascular disorders, the volume moves on to examine redox-mediated protein modification under physiological and pathophysiological conditions. It provides an outline of the signalling pathways in cardiovascular development during embryogenesis—and what impact these might have in the differentiation process of resident cardiac and blastocyst-derived stem cells. Further chapters detail our current knowledge of the influence the sensory nervous system exerts on the cardiovascular system, and the paradoxical role of mitochondria-derived ROS in cardiac protection. In all, almost 30 contributions cover issues as diverse as the antioxidant properties of statins in the heart and the oxidative risk factors for cardiovascular disease in women. A range of medical practitioners will find the contents of Studies on Cardiovascular Disorders provides illuminating insight into the Janus-faced role of ROS in the cardiovascular system.
Optical Generation and Control of Quantum Coherence in Semiconductor Nanostructures

G. Slavcheva, Imperial College London, UK; P. Roussignol, Ecole Normale Supérieure, Paris, France (Eds.)

Features

➤ Addresses essential issues for new device applications, from novel lasers to spintronics
➤ Focuses on promising new advances
➤ Pays special attention to the optical control of spin coherence

The unprecedented control of coherence that can be exercised in quantum optics of atoms and molecules has stimulated increasing efforts in extending it to solid-state systems. One motivation to exploit the coherent phenomena comes from the emergence of the quantum information paradigm, however many more potential device applications ranging from novel lasers to spintronics are all bound up with issues in coherence. The book focuses on recent advances in the optical control of coherence in excitonic and polaritonic systems as model systems for the complex semiconductor dynamics towards the goal of achieving quantum coherence control in solid-state. Special attention is given to the optical control of spin coherence. These front edge research topics are presented in the form of review articles by leading scientists.

Handbook of Behavioral Medicine
Methods and Applications

A. Steptoe, University College of London, UK (Ed.)
Associate editors: K. Freedland, Washington University School of Medicine, St. Louis, MO, USA; J. R. Jennings, University of Pittsburgh, Pittsburgh, PA; M. M. Llabre, University of Miami, Coral Gables, FL; S. B. Manuck, University of Pittsburgh, Pittsburgh, PA; E. J. Susman, Pennsylvania State University, University Park, PA

Features

► Written by a diverse and respected panel of researchers representing the Academy of Behavioral Medicine Research
► Surveys the current field of behavioral medicine research and applications using an innovative structure which captures cutting edge practices

Many books about behavioral medicine techniques and applications published in the past are now outdated, and do not reflect the diversity and excitement of the field in the new millennium. This Handbook aims to fill this gap by providing an up-to-date survey of methods and applications across the broad range of behavioral medicine research and practice. The chapters will be written by fellows of the Academy of Behavioral Medicine Research, a distinguished scientific society of active behavioral medicine researchers. This book will reflect an innovative structure based on cutting-edge methodologies and applications that are relevant across different medical conditions.

The book will focus on established and emerging methods of investigation and their application in clinical and basic research settings. This will provide researchers and practitioners with practical advice on methods that can be used in their work, and insights into the scientific knowledge underpinning these applications. Avioral, psychosocial and biomedical science knowledge and techniques relevant to the understanding health and illness, and the application of this knowledge and these techniques to prevention, diagnoses, treatment and rehabilitation.

ESD Design for Analog Circuits

V. A. Vashchenko, National Semiconductor, Santa Clara, CA, USA; A. Shibkov, Angstrom Design Automation, San Jose, CA, USA

Features

► Includes case studies that involve four classes of baseline ESD devices
► Features based software simulation with topics that overlap the text material

Provides many device level solutions

This book is on high voltage and system level circuit design. It covers many challenging ESD topics related to analog circuit design for both ESD device and ESD circuits at the network level. Included is extensive discussion of analog design for DC-DC buck/boost converters, level shifters, digital-analog converters, high speed and precision power amplifiers, and system level cable specs for interface applications.


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Bookstore location
Engineering

Fields of Interest
Circuits and Systems; Electronics and Microelectronics, Instrumentation

Target Group
Professional/practitioner

Type of Publication
Professional book