Jürgen H. Gross provides in-depth explanations of concepts, methods, and techniques. Students and professionals alike are guided step-by-step from the basics to the successful application of mass spectrometry. Starting from the very principles of gas-phase ion chemistry, isotopic composition, and accurate mass, Jürgen H. Gross leads through the design of all types of mass analyzers and ionization methods to mass spectral interpretation and coupling techniques. His book offers a balanced mixture of practice-oriented information and theoretical background supported by a wealth of references.
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Cystic Fibrosis
Diagnosis and Protocols, Volume I:
Approaches to Study and Correct CFTR Defects

Despite the many milestones in cystic fibrosis (CF) research, progress towards curing the disease has been slow, and it is increasingly difficult to grasp and use the already wide and still growing range of diverse methods currently employed to study CF so as to understand it in its multidisciplinary nature. Cystic Fibrosis: Diagnosis and Protocols aims to provide the CF research community and related researchers with a very wide range of high-quality experimental tools, as an easy way to grasp and use classical and novel methods applied to cystic fibrosis. Volume I: Approaches to Study and Correct CFTR Defects focuses on the cystic fibrosis transmembrane conductance regulator (CFTR) and its expression, biogenesis, structure, and function in terms of the defects causing CF. Written in the highly successful Methods in Molecular Biology® series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls.

Features
► Features cutting-edge protocols from the highly supportive CF scientific community
► Contains expert tips and key implementation advice
► Focuses on Cystic fibrosis transmembrane conductance regulator defects with an emphasis on practical approaches

Fields of interest
Molecular Medicine; Human Genetics; Laboratory Medicine

Target groups
Professional/practitioner

Discount group
P

Cystic Fibrosis
Diagnosis and Protocols, Volume II:
Methods and Resources to Understand Cystic Fibrosis

Despite the many milestones in cystic fibrosis (CF) research, progress toward curing the disease has been slow, and it is increasingly difficult to grasp and use the already wide and still growing range of diverse methods currently employed to study CF so as to understand it in its multidisciplinary nature. Cystic Fibrosis: Diagnosis and Protocols aims to provide the CF research community and related researchers with a very wide range of high-quality experimental tools, as an easy way to grasp and use classical and novel methods applied to cystic fibrosis. Volume II: Methods and Resources to Understand Cystic Fibrosis focuses on pathophysiology, Omics approaches, and a variety of key resources recently made available for CF research. Written in the highly successful Methods in Molecular Biology® series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls.

Features
► Features cutting-edge protocols from the highly supportive CF scientific community
► Contains expert tips and key implementation advice
► Focuses on cystic fibrosis pathophysiology and Omics studies with an emphasis on practical approaches

Fields of interest
Molecular Medicine; Human Genetics; Laboratory Medicine

Target groups
Professional/practitioner

Discount group
P

Physical Rehabilitation of Paralysed Facial Muscles:
Functional and Morphological Correlates

Using a combined morpho-functional approach the author recently found that polyinnervation of the neuro-muscular junction (NMJ) is the critical factor for recovery of function after transection and suture of the facial nerve. Since polyinnervation is activity-dependent and can be manipulated, he tried to design a clinically feasible therapy by electrical stimulation or by soft tissue massage. First, electrical stimulation was applied to the transected facial nerve or to paralysed facial muscles. Both procedures did not improve vibrissal motor performance (video-based motion analysis of whisking), failed to diminish polyinnervation and even reduced the number of innervated NMJ to one fifth of normal values. In contrast, gentle stroking of the paralysed vibrissal muscles by hand resulted in full recovery of whisking. Manual stimulation was also effective after hypoglossal-facial anastomosis and after interpositional nerve grafting. The author concludes that manual stimulation is a non-invasive procedure with immediate potential for clinical rehabilitation following facial nerve reconstruction.

Features
► Using a combined morpho-functional approach the author recently found that polyinnervation of the neuro-muscular junction (NMJ) is the critical factor for recovery of function after transection and suture of the facial nerve

Field of interest
Neurosciences

Target groups
Research

Discount group
P
Mouse as a Model Organism
From Animals to Cells

Cell culture based research is important for our understanding of biological processes at the cellular and molecular level. Using this approach, the previous decades have produced a wealth of mechanistic information in all areas of biomedical research. Such in vitro research, however, lacks the complexity of in vivo investigations, where many different cell types interact with each other in a normal, three-dimensional environment, with normal levels of cytokines and growth factors. Furthermore, complex human diseases, such as cancer, diabetes or chronic inflammation, can only be modeled in vivo. Due to its small size, its short reproduction time, and the possibility to introduce specific gene mutations, the mouse has become the favourite mammalian model organism to study in vivo function of genes during development and in disease. This book combines review articles on selected subjects presented at the symposium “Mouse as a Model Organism – From Animals to Cells”, held in Rovaniemi, Finland, 2009. Among other topics, high-throughput phenotyping of mouse mutants, mouse phenotypes dependent on other topics, high-throughput phenotyping of mouse mutants, mouse phenotypes dependent on nature and nurture, and a spectrum of in vivo, ex vivo and in vitro methods to study cancer in mice are described. This book will give an excellent introduction to scientists interested in the use of mice as a model to understand complex biological questions in the post-genomic era.

Features
► High-level articles interesting for beginners and experienced scientists in mouse model research
► Describes state-of-the-art, chances, and current problems in mouse model research
► In the post-genomic era, use of in vivo models is mandatory
► This book gives an excellent introduction to the use of mice as a model organism

Fields of interest
Biomedicine general; Animal Models; Animal Genetics and Genomics

Target groups
Research

Discount group
P

Cell Fusion in Health and Disease
I: Cell Fusion in Health

Although cell fusion is an omnipresent process in life, to date considerably less is still known about the mechanisms and the molecules being involved in this biological phenomenon in higher organisms. In Cell Fusion in Health and Disease Vol 1 & Vol 2 leading experts will present up-to-date overviews about cell fusion in physiological and pathophysiological processes, which further covers the current knowledge about cell fusion-mediating molecules. Volume 1 deals with Cell Fusion in Health and will cover aspects of cell fusion in fertilization, placentaion, in C. elegans, in skeletal muscle development and tissue repair, and the use of cell fusion for cellular reprogramming and cancer vaccine development. Volume 2 focuses on Cell Fusion in Disease with a particular emphasis on the role of cell fusion in cancer development and progression. Thus, Cell Fusion in Health and Disease Vol 1 & Vol 2 represents a state-of-the-art work for researchers, physicians or professionals being interested in the biological phenomenon of cell fusion and beyond.

Features
► Up-to-date information about current knowledge in cell fusion
► Comparison of cell fusion in physiological and pathophysiological processes
► Cell fusion becomes an interesting cellular feature as proliferation, differentiation, apoptosis and autophagy

Fields of interest
Biomedicine general; Cell Biology; Membrane Biology

Target groups
Research

Discount group
P

Cell Fusion in Health and Disease
II: Cell Fusion in Disease

Although cell fusion is an omnipresent process in life, to date considerably less is still known about the mechanisms and the molecules being involved in this biological phenomenon in higher organisms. In Cell Fusion in Health and Disease Vol 1 & Vol 2 leading experts will present up-to-date overviews about cell fusion in physiological and pathophysiological processes, which further covers the current knowledge about cell fusion-mediating molecules. Volume 1 deals with Cell Fusion in Health and will cover aspects of cell fusion in fertilization, placentaion, in C. elegans, in skeletal muscle development and tissue repair, and the use of cell fusion for cellular reprogramming and cancer vaccine development. Volume 2 focuses on Cell Fusion in Disease with a particular emphasis on the role of cell fusion in cancer development and progression. Thus, Cell Fusion in Health and Disease Vol 1 & Vol 2 represents a state-of-the-art work for researchers, physicians or professionals being interested in the biological phenomenon of cell fusion and beyond.

Features
► Up-to-date information about current knowledge in cell fusion
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Fields of interest
Biomedicine general; Cell Biology; Membrane Biology

Target groups
Research

Discount group
P

Due May 2011
2011. VIII, 200 p. 200 p. 20 illus. in color. Hardcover
► $189.00
ISBN 978-94-007-0749-8

Due March 2011
► $189.00
ISBN 978-94-007-0762-7

Due May 2011
2011. X, 96 p. 20 illus. in color. (Advances in Experimental Medicine and Biology, Volume 714) Hardcover
► $189.00
ISBN 978-94-007-0781-8
Mammalian Chromosome Engineering
Methods and Protocols

The rapid progression of genetics and molecular biology has turned chromosomal engineering from science fiction to reality, with the successful production of transgenic animals with engineered chromosomes and chromosomes developed for pharmaceutical protein production which are now ready for the medical industry. Mammalian Chromosome Engineering: Methods and Protocols provides the reader with up-to-date information on this rapidly evolving field and strives to take the reader into the exciting realm of chromosomal engineering from the basic principles to the practical applications of these new technologies. The five overview and ten protocol chapters cover the engineering of chromosomes with extrachromosomal vectors and transposon systems, the manipulation of naturally occurring minichromosomes, the generation and engineering of synthetic artificial chromosomes, and the induced de novo platform artificial chromosome system. Written in the highly successful Methods in Molecular Biology™ series format, protocols chapters contain brief introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls.

Features
► Provides a precious resource for scientists interested in new ideas in gene technology ► Features practical protocols from the cutting-edge of this fast-paced field ► Includes expert tips and key implementation advice crucial for getting optimal results

Fields of interest
Human Genetics; Genetic Engineering

Target groups
Professional/practitioner

Discount group
P

RNA Interference Techniques

Non-coding, inhibitory microRNAs have emerged as important modulators of cellular gene expression, through a process called RNA interference (RNAi). To date, hundreds of conserved and species-specific microRNAs have been identified in organisms ranging from single-celled algae to humans. Many of these tiny RNAs are now known to play fundamental roles in developmental biology and disease pathogenesis. In addition, RNAi has emerged as a technology useful for manipulating gene expression. In RNA Interference Techniques, expert researchers present detailed methods for designing and delivering artificial inhibitory RNAs to neural tissue and for detecting or cloning endogenous miRNAs, all in order to aid investigators’ attempts to ask basic biological questions or develop therapeutics for dominant genetic disorders, cancer, or viral infection. As a volume in the successful Neuro-methods series, the chapters provide authoritative accounts of the most commonly used approaches in the field today.

Cutting-edge and concise, RNA Interference Techniques promises to support the vital research in the field of RNAi and miRNAs, ever-continuing to grow rapidly and gain increasing importance in basic and translational biology.

Features
► Spotlights a rapidly growing field with increasing importance in basic and translational biology ► Contains key protocols and clear cut guidance ► Supports the development of therapeutics for dominant genetic disorders, cancer, or viral infection

Fields of interest
Neurosciences; Human Genetics

Target groups
Professional/practitioner

Discount group
P

A Handbook of Transcription Factors

Transcription factors are the molecules that the cell uses to interpret the genome: they possess sequence-specific DNA-binding activity, and either directly or indirectly influence the transcription of genes. In aggregate, transcription factors control gene expression and genome organization, and play a pivotal role in many aspects of physiology and evolution.

This book provides a reference for major aspects of transcription factor function, encompassing a general catalogue of known transcription factor classes, origins and evolution of specific transcription factor types, methods for studying transcription factor binding sites in vitro, in vivo, and in silico, and mechanisms of interaction with chromatin and RNA polymerase.

Features
► Soup-to-nuts overview not provided by any other book ► Objective, high-level, genome-based viewpoint, with subsidiary examples, rather than “paradigm by anecdote” ► Combines in-depth analysis of molecular biology literature with computational-based large-scale analyses

From the contents

Fields of interest
Biomedicine general; Biochemistry, general; Nucleic Acid Chemistry

Target groups
Research

Discount group
P
Targeted Drug Strategies for Cancer and Inflammation

Folate pathways are essential in metabolism and macromolecule synthesis. Antifolate drugs that are largely transported via a high capacity folate transporter (i.e., the reduced-folate carrier) and inhibit folate-dependent enzymes include the dihydrofolate reductase inhibitor, methotrexate, and the thymidylate synthase inhibitors, raltitrexed and pemetrexed. Major advances in folate research made within the last decade include (i) the approval of pemtrexed for the treatment of lung cancer and mesothelioma, and (ii) the demonstration that cell membrane-anchored folate receptors (FR) are exploitable for cancer and inflammatory disease management. FRs are not widely distributed in normal tissues, except on some luminal surfaces; however, they are accessible to systemically administered agents when expressed on many cancers as well as on activated macrophages involved in various inflammatory diseases. High affinity folate-radioisotope conjugates have been developed for imaging pathogenic FR-positive diseases, including cancer. Since the FR transports folates via a low capacity but high affinity endocytic pathway, a variety of FR-targeted antifolate drugs and folate conjugates bearing a wide range of payloads (including cytotoxic drugs) are currently being developed that exploit this property.

Features
- Comprehensive focus on the folate receptor and its exploitation for targeted therapy and diagnostic imaging
- Describes the boundaries between what’s considered to be “molecular targeted” versus conventional systemic therapy
- Discussing discoveries that parallel the emergence of innovative “molecular targeted” small molecules and monoclonal antibodies, i.e., agents that target proteins within highly activated signal transduction pathways that control proliferation

Fields of interest
- Cancer Research; Pharmacology/Toxicology

TH17 Cells in Health and Disease

“About 25 years ago, Mosmann & Coffman introduced the TH1 / TH2 paradigm of T helper cell differentiation which helped explain many aspects of adaptive immunity from eliminating intracellular versus extracellular pathogens to induction of different types of tissue inflammation. However, TH1 / TH2 paradigm could not adequately explain development of certain inflammatory responses which provided impetus for the discovery of a new subset of T cells called TH17 cells. After the discovery of differentiation and transcription factors for TH17 cells, it was clear that TH17 cells represent an independent subset of T cells with specific functions in eliminating certain extracellular pathogens, presumably not adequately handled by TH1 or TH2 cells. The major role of TH17 cells has been described in inducing auto-immune tissue inflammation. The discovery of TH17 cells has expanded the TH1 / TH2 paradigm, and the integration of TH17 cells with TH1 and TH2 effector T cells is beginning to explain the underlying mechanisms of tissue inflammation in a number of infections and auto-immune disease settings.” From Chapter One by Vijay K. Kuchroo, Harvard University, USA

Features
- Includes new information on current discoveries, including the recently identified Interleukin 17 (IL-17) cytokine family.
- Edited by the founder of the International Conference on Regulatory T Cells and TH17 Cells and Clinical Application in Human Diseases
- Includes information on the integration of TH17 cells with TH1 and TH2 effector T cells, which is beginning to explain the underlying mechanisms of tissue inflammation in a number of infections and auto-immune disease settings

Fields of interest
- Immunology; Infectious Diseases; Cell Biology

Protein Function Prediction for Omics Era

Gene function annotation has been a central question in molecular biology. The importance of computational function prediction is increasing because more and more large scale biological data, including genome sequences, protein structures, protein-protein interaction data, microarray expression data, and mass spectrometry data, are awaiting biological interpretation. Traditionally when a genome is sequenced, function annotation of genes is done by homology search methods, such as BLAST or FASTA. However, since these methods are developed before the genomics era, conventional use of them is not necessarily most suitable for analyzing a large scale data. Therefore we observe emerging development of computational gene function prediction methods, which are targeted to analyze large scale data, and also those which use such omics data as additional source of function prediction. In this book, we overview this emerging exciting field. The authors have been selected from 1) those who develop novel purely computational methods 2) those who develop function prediction methods which use omics data 3) those who maintain and update data base of function annotation of particular model organisms (E. coli), which are frequently referred.

Features
- The first book which focus on describing state-of-the-art function prediction methods
- Probably the first book which points out that the role of function prediction has been changing for analyzing omics type large scale data, rather than function of a small set of individual genes of interest
- Observes emerging development of computational gene function prediction methods

Fields of interest
- Biomedicine general; Biochemistry; general; Proteomics

Discount group
- P

Due March 2011

- approx. $189.00
  ISBN 978-1-4419-9370-0

Due April 2011

2010. 210 p. 20 illus. in color. Hardcover
- approx. $180.00
  ISBN 978-94-007-0880-8
Neuroproteomics

In the past few years, the application of proteomics to examine the molecular mechanisms underlying (mal-)functioning of the nervous system and brain disorders has risen steeply, which in many cases has yielded novel insights. As neuroproteomics is a new research field involving the use of a number of high-end analytical instruments and technologies, both promises and pitfalls may not be well appreciated by the researchers, and the design of a proper proteomics experiment may not be obvious. Neuroproteomics brings together a collection of detailed protocols written by experienced professionals in the field in order to cover aspects of various dimensions of this new technology, together with some established methods that have supporting roles in the workflow of neuroproteomics. Written for the popular Neuromethods series, the chapters in this book contain step-by-step, easy to follow instruction along with practical tips and key implementation advice essential for successful implementation of the techniques.

Authoritative and cutting-edge, Neuroproteomics will be of great assistance to all researchers seeking to design and execute their own proteomics experiments in an optimal way and continue moving forward this exciting area of study.

Features
► Covers both techniques involving cutting-edge technology and more established methods
► Features clear, practical protocols for readily reproducible results ► Serves as an ideal guide to the designing of successful neuroproteomics experiments

Fields of interest
Neurosciences; Human Physiology; Neurochemistry

Target groups
Professional/practitioner

Discount group
P

Bacterial Adhesion

Chemistry, Biology and Physics

Over the last few years, bacterial adhesion has become a more and more important and active scientific area, but the field lacks communication and scientific exchange between medical and microbiology researchers who work with the relevant biological systems, and biochemists, structural biologists and physicists, who know and understand the physical methods best suited to investigate the phenomenon at the molecular level. The field consequently would benefit from a cross-disciplinary conference enabling such communication. This book tries to bridge the gap between the disciplines.

Features
► Includes methods from such diverse fields as microbiology, structural biology, biophysics and biochemistry ► Has additional color figures in the online (PDF) version ► Displays the principles of bacterial adhesion over a broad range of medically relevant species ► Provides a broad overview of adhesion from multiple perspectives, ranging from biophysics to medical applications ► Useful for clinical researchers who want to gain a broad understanding of the science behind nosocomial infections

Fields of interest
Biomedicine general; Biological Techniques; Microbiology

Target groups
Research

Discount group
P

Viral Vectors for Gene Therapy

Methods and Protocols

The huge potential for gene therapy to cure a wide range of diseases has led to high expectations and a great increase in research efforts in this area, particularly in the study of delivery via viral vectors, widely considered to be more efficient than DNA transfection. In Viral Vectors for Gene Therapy: Methods and Protocols, experts in the field present a collection of their knowledge and experience featuring methodologies that involve virus production, transferring protocols, and evaluating the efficacy of gene products. While thoroughly covering the most popular viral vector systems of adenovirus, retrovirus, and adeno-associated virus, this detailed volume also explores less common viral vector systems such as baculovirus, herpes virus, and measles virus, the growing interest in which is creating a considerable demand for large scale manufacturing and purification procedures. Written in the highly successful Methods in Molecular Biology™ series format, many chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and vital tips on troubleshooting and avoiding known pitfalls.

Features
► Focuses on the many applications of viral vectors, widely considered more efficient than DNA transfection ► Contains practical laboratory protocols using a wide array of common and uncommon viruses ► Features expert tips and key implementation advice

Fields of interest
Human Genetics; Virology; Gene Therapy

Target groups
Professional/practitioner

Discount group
P
E. Mosekilde, Danish Academy of Natural Sciences, Copenhagen, Denmark; O. Sosnovtseva, Copenhagen University, Denmark; A. Rostami-Hodjegan, School of Pharmacy and Pharmaceutical Sciences, Manchester, UK (Eds.)

**Biosimulation in Biomedical Research, Health Care and Drug Development**

Biosimulation is an approach to biomedical research and the treatment of patients in which computer modeling goes hand in hand with experimental and clinical work. The models are used to interpret the experimental results and to accumulate information from experiment to experiment. The book explains the concepts used in the modeling of biological phenomena and goes on to present a series of well-documented models of the regulation of various genetic, cellular and physiological processes. We discuss how the use of computer models makes it possible to optimize the treatment of cancer for individual patients and explains how models of interacting nerve cells can be used to design new treatments for patients with Parkinson’s disease. We discuss how use of models in industry will allow existing knowledge to be effectively applied, and the book ends with a presentation of the views of the regulatory agencies.

**Features**

- Clear introduction to the modeling of physiological processes and mechanisms
- Well-documented models of important genetic, cellular and macrophysiological phenomena
- Model-based treatments of cancer and Parkinson’s disease
- Application of physiologically-based models in the pharmaceutical industry
- Special chapter presents the views of the regulatory agencies

**Fields of interest**

Pharmaceutical Sciences/Technology; Pharmacy; Medicine/Public Health, general

**Target groups**

Professional/practitioner

**Discount group**

P

---

**X. Palazzi, Sanofi-Aventis, Alfortville, France**

**The Beagle Brain in Stereotaxic Coordinates**

This is an up-to-date atlas of the stereotaxic coordinates of the beagle brain. It provides stellar illustrations of the organization of nerve tracts and the morphology of the nuclei that compose the central nervous system.

**Features**

- Up-to-date reference atlas with modern tools and illustrations
- Serves as a guide to understand the comparative brain structure of other mammals
- The present study provides a brain atlas in stereotaxic coordinates, to be made available to the scientists who work on CNS-related targets and to students of the brain

**Fields of interest**

Neurosciences; Neurobiology; Anatomy

**Target groups**

Research

**Discount group**

P

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**S. A. Plotkin, Emeritus Professor of Pediatrics, University of Pennsylvania, Philadelphia, PA USA (Ed.)**

**History of Vaccine Development**

Vaccinology, the concept of a science ranging from the study of immunology to the development and distribution of vaccines, was a word invented by Jonas Salk. This book covers the history of the methodological progress in vaccine development and to the social and ethical issues raised by vaccination. Chapters include “Jenner and the Vaccination against Smallpox,” “Viral Vaccines,” and “Ethical and Social Aspects of vaccines.” Contributing authors include pioneers in the field, such as Samuel L. Katz and Hilary Koprowski. This history of vaccines is relatively short and many of its protagonists are still alive. This book was written by some of the chief actors in the drama whose subject matter is the conquest of epidemic disease.

**Features**

- Documents the history of vaccine development from the 1798 smallpox vaccine to the present day
- Describes major innovations in detail, including chemical inactivation of whole bacteria, the utilization of purified proteins, and the advents of genetic engineering
- Gives detailed accounts from all over the world

**Fields of interest**

Immunology; Microbiology; Medicine/Public Health, general

**Target groups**

Research

**Discount group**

P
**Encyclopedia of Cancer**

The merging of different basic and clinical science disciplines towards the common goal of fighting against cancer has long ago called for the establishment of a comprehensive reference source both as a tool to close the language gap between clinical and basic science investigators and as a platform of information for students and informed laymen alike. The Encyclopedia of Cancer provides rapid access to focused information on all topics of cancer research for clinicians, research scientists and advanced students. Given the overwhelming success of the Second Edition, which appeared in 2007, and fast recent development in the different fields of cancer research, it has been decided to publish a third fully revised and expanded edition, following the principal concept of the first edition that has proven so successful.

**Fields of interest**
Cancer Research; Molecular Medicine; Oncology

**Target groups**
Research

**Discount group**
P

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**Metal Ions in Toxicology**

Effects, Interactions, Interdependencies

Volume 8, solely devoted to the toxicology of metals and metalloids as well as their compounds, focuses on human health. Not surprisingly, all related research areas are rapidly developing due to the role of metals and metalloids in the environment, for the work place, for food and water supply, etc. Written by 40 internationally recognized experts, the 14 stimulating chapters provide an authoritative and timely resource for scientists working in the wide range from analytical, physical, inorganic, and environmental biochemistry all the way through to toxicology, physiology, and medicine. Metal Ions in Toxicology: Effects, Interactions, Interdependencies highlights, supported by nearly 1900 references, in an authoritative and timely manner the principles of risk assessment regarding the effects of metals on human health. It examines how metal ions and their compounds affect the pulmonary, cardiovascular, gastrointestinal (including liver), hematological, immune, and neurological systems, the kidney, skin and eyes, as well as human reproduction and development. MILS-8 terminates with the role of metal ions as endocrine disruptors, in genotoxicity, and cancer risk.

**Features**
- Concentrates on the human health effects of Metal Ions
- Written by 40 internationally recognized experts
- Comprehensive, timely and authoritative

**Fields of interest**
Pharmacology/Toxicology; Inorganic Chemistry; Ecotoxicology

**Target groups**
Research

**Discount group**
P

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**Human Chromosome Variation: Heteromorphism and Polymorphism**

Human Chromosome Variation: Heteromorphism and Polymorphism was formerly printed under the title "Atlas of Human Chromosome Heteromorphism". The Atlas has become a standard reference book in most cytogenetic laboratories and is cited as a significant reference in ISCN 2005. This revised version has updated and retained the most useful pictorial sections of the first edition, including the comprehensive review of normal and "not-so-normal" variations of the human karyotype with summaries and extensive reference lists organized by chromosome number.

This updated edition features concise background information on chromosome methods and applications, essential information on heteromorphism frequencies in normal and clinical populations as well as new listing and discussions of euchromatic, subtelomeric and FISH variants. The addition of two new sections makes this an even more valuable reference that before. A section on common and rare fragile sites includes a short historical discussion, definitions and an extensive table of officially recognized sites that includes the HUGO name, chromosomal location, methods of induction, genes and references to the most recent molecular characterization.

**Features**
- Only comprehensive reference on normal human chromosome variation available
- Extensive photographic examples, many from personal files, are not available elsewhere
- Reference material is accessible only by time-consuming research both on and off the internet
- Is a historical document as well as one of current clinical relevance
- Authoritative: written by America Board of Medical Genetics-certified practicing clinical cytogeneticists

**Fields of interest**
Cytogenetics; Human Genetics; Gene Function

**Target groups**
Research

**Discount group**
P

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**RSC Publishing**

**Available**

Only available in print

Distribution rights outside North and South America:
Royal Society of Chemistry, Cambridge, UK

2011. 422 p. (Metal Ions in Life Sciences, Volume 8)
Hardcover

$299.00
ISBN 978-1-84973-091-4

Due May 2011


$189.00
ISBN 978-90-04-0895-1
Service Composition for the Semantic Web

Service Composition for the Semantic Web presents an in-depth analysis of aspects related to semantic-enabled Web service modeling and composition. It also covers challenges and solutions to composing Web services on the semantic Web, and proposing a semantic framework for organizing and describing Web services. Service Composition for the Semantic Web describes composability and matching models to check whether semantic Web services can be combined together to avoid unexpected failures at run time, and a set of algorithms that automatically generate detailed descriptions of composite services from high-level specifications of composition requests. The book includes case studies in the areas of digital government and bioinformatics.

Features
- Covers an in-depth analysis of issues related to semantic-enabled Web service modeling and composition
- Introduces detailed framework for the automatic composition of Web services on the semantic Web
- Includes case studies in the areas of digital government and bioinformatics

Contents

Fields of interest
Information Systems Applications (incl.Internet); Database Management; Information Storage and Retrieval

Target groups
Professional/practitioner

Discount group
P

Due February 2011

2011. XVI, 191 p. Hardcover
> approx. 699.00

Evaluations of Process Modeling Grammars

Jan Recker investigates the notion of quality of business process modeling grammars. His evaluation is based on ontological analysis, qualitative analysis, and quantitative analysis, which are applied to BPMN, a widely used business process modeling grammar. His results first show ontological shortcomings in BPMN, second how these manifest in actual process modeling practice, and third how they eventually influence the usage behavior of modeling practitioners. Seen more general, his book is a landmark for an empirical technology assessment that analyzes how design flaws in technology influence usage behavior.

Features
- This book explores on an extraordinary high level of conceptualization and scientific rigor the current capabilities of the most prominent process modeling grammar BPMN

Fields of interest
Information Systems; Computer Appl. in Administrative Data Processing; Information Systems Applications (incl.Internet)

Target groups
Research

Discount group
P

Due February 2011

2011. XXII, 199 p. (Lecture Notes in Business Information Processing, Volume 71) Softcover
> 572.00
ISBN 978-3-642-18359-1
Advances in Polymer Science


Volume 238

S. Enders, Technical University Berlin, Berlin, Germany; B. A. Wolf, Johannes Gutenberg-Universität Mainz, Mainz, Germany (Eds.)

Polymer Thermodynamics


Features
▸ Highest Impact Factor of all publications ranked by ISI within Polymer Science ▸ Short and concise reports on physics and chemistry of polymers, each written by the world renowned experts ▸ Still valid and useful after 5 or 10 years ▸ The electronic version is available free of charge for standing order customers at: springer.com/series/12/

Fields of interest
Polymer Sciences; Soft and Granular Matter, Complex Fluids and Microfluidics; Characterization and Evaluation of Materials

Target groups
Research

Discount group
P

Due May 2011

2011. 350 p. 171 illus., 134 in color. Hardcover
▸ $169.00
ISBN 978-1-4419-8830-7
Advanced Fluorescence Reporters in Chemistry and Biology III
Applications in Sensing and Imaging

The key element of any fluorescence sensing or imaging technology is the fluorescence reporter, which transforms the information on molecular interactions and dynamics into measurable signals of fluorescence emission. This book, written by a team of frontline researchers, demonstrates the broad field of applications of fluorescence reporters, starting from nanoscopic properties of materials, such as self-assembled thin films, polymers and ionic liquids, through biological macromolecules and further to living cell, tissue and body imaging. Basic information on obtaining and interpreting experimental data is presented and recent progress in these practically important areas is highlighted. The book is addressed to a broad interdisciplinary audience.

Features
- A comprehensive review
- Written by experts
- With numerous colour illustrations

From the contents

Fields of interest
Analytical Chemistry; Molecular Medicine; Medical Biochemistry

Target groups
Research

Discount group
P

Due April 2011


Due May 2011


Microorganisms in Foods 8
Use of Data for Assessing Process Control and Product Acceptance

Microorganisms in Foods 8: Use of Data for Assessing Process Control and Product Acceptance is written by the International Commission on Microbiological Specifications for Foods with assistance from a limited number of consultants. The purpose of this book is to provide guidance on appropriate testing of food processing environments, processing lines, and finished product to enhance the safety and microbiological quality of the food supply. Microorganisms in Foods 8 consists of two parts. Part I, Principles of Using Data in Microbial Control, builds on the principles of Microorganisms in Foods 7: Microbiological Testing in Food Safety Management (2002), which illustrates how HACCP and Good Hygienic Practices (GHP) provide greater assurance of safety than microbiological testing, but also identifies circumstances where microbiological testing may play a useful role. Part II, Specific Applications to Commodities, provides practical examples of criteria and other tests and is an updated and expanded version of Part II of Microorganisms in Foods 2: Sampling for Microbiological Analysis: Principles and Specific Applications (2nd ed. 1986). Part II also builds on the 2nd edition of Microorganisms in Foods 6: Microbial Ecology of Food Commodities (2005) by identifying appropriate tests to evaluate the effectiveness of controls.

Features
- Contains wealth of information on food microbiology and food safety
- Provides guidance on the appropriate testing of food processing environments
- Presents ways to improve the microbiological safety of food

Fields of interest
Chemistry/Food Science, general

Target groups
Professional/practitioner

Discount group
P

Due March 2011

2011. XIX, 521 p. 12 illus. Hardcover

Advanced Fluorescence Reporters in Chemistry and Biology III
Focus on Food Safety and Defense

The global food-supply chain is vulnerable to threats from a variety of directions. Hence food security and safety remains a hot topic worldwide in academic research areas and food industry practices. This book describes efforts from academia, government, and industry to counter food terrorism and to protect the food supply against any threat. In addition, it evaluates the global food supply, production capabilities, and food availability during and after disasters. Articles in the book assess food safety emergencies, and the prevention of, and response to deliberate contamination by microbial or chemical substances. Minimization of health and economic risks following a terrorist act or unintentional contamination is likewise discussed. The book also examines novel preservation techniques, methods to produce safe food products, and other concerns for ensuring a stable and safe food supply.

Features
- Academia, industry, and government experts review the Global Food Chain Security and Safety
- Novel preservation approaches, new techniques and methods to produce safe food products
- How to prevent food crises during and after natural disasters and / or terrorist acts
- Learn about “Food Protection: Safety and Defense” against intentional and deliberate contamination with Chemical, Microbial, Radio, and Bioterrorism

Fields of interest
Chemistry/Food Science, general; Applied Microbiology; Food Science

Target groups
Graduate

Discount group
P

Due May 2011


M. Hefnawy, Ag-Tech International, Inc., Greeneville, Tennessee, USA (Ed.)
Long-Term Durability of Polymeric Matrix Composites

Long-Term Durability of Polymeric Matrix Composites presents a comprehensive knowledge-set of matrix, fiber and interphase behavior under long-term aging conditions, theoretical modeling and experimental methods. Organized in a five-part structure, this volume covers long-term constituent behavior, predictive methodologies, experimental validation and design practice. Readers will also find a discussion of various applications, including aging air craft structures, aging civil infrastructure, in addition to engines and high temperature applications.

Features
- Covers a wide range of polymeric matrix composite applications
- Focuses on the durability and aging of various polymeric matrix composite materials
- Describes micro-mechanical and multi-scale modeling and simulation techniques

From the contents

Fields of interest
Polymer Sciences; Ceramics, Glass, Composites, Natural Materials; Simulation and Modeling

Target groups
Research

Discount group
P

Topics in Current Chemistry

Volume 298
R. Naaman, Weizmann Institute of Science, Rehovot, Israel; D. N. Beratan, Duke University, Durham, NC, USA; D. Waldecker, University of Pittsburgh, Pittsburgh, PA, USA (Eds.)

Electronic and Magnetic Properties of Chiral Molecules and Supramolecular Architectures

Time-dependent density functional response theory for electronic chiroptical properties of chiral molecules; by Jochen Autschbach, Lucia Nitsch-Velasquez, and Mark Rudolph*Chiroptical Properties of Charge-Transfer Compounds; by Yoshihisa Inoue, Tadashi Mori * G-C content independent long-range charge transfer through DNA; by Tetsuo Majima * Induced chirality in porphyrin aggregates: the role of weak and strong interactions; by Roberto Purrello * Vibrational circular dichroism spectroscopy of chiral molecules in solution; by Yunjie Xu * Magneto-electric properties of self-assembled monolayers of chiral molecules; by Zeev Vager and Ron Naaman * Theory of adsorption induced chirality and electron transfer through chiral systems; by Spiros Skourtis and David Beratan

Features
- This series presents critical reviews of the present position and future trends in modern chemical research
- Short and concise reports on chemistry, each written by the world renowned experts
- Still valid and useful after 5 or 10 years
- More information as well as the electronic version of the whole content available at: springerlink.com

Advances in Polymer Science and Technology

Covers a wide range of polymeric matrix composite applications
- Focuses on the durability and aging of various polymeric matrix composite materials
- Describes micro-mechanical and multi-scale modeling and simulation techniques

From the contents

Fields of interest
Polymer Sciences; Ceramics, Glass, Composites, Natural Materials; Simulation and Modeling

Target groups
Research

Discount group
P

Due April 2011

Due May 2011
2011. X, 640 p. 75 illus. Hardcover
[approx. $229.00]^a
ISBN 978-1-4419-9307-6

Due March 2011
2011. XI, 311 p. Hardcover
[approx. $339.00]^a
ISBN 978-3-642-18103-4

Due April 2011

Distribution rights in China: Zhejiang University Press
Jointly published with Zhejiang University Press

2011. 350 p. 70 illus. Hardcover
[approx. $219.00]^a
ISBN 978-3-642-19076-7

Springer News 2/2011 Chemistry 11

K. V. Pochiraju, Stevens Institute of Technology, Hoboken, NJ, USA; G. P. Tandon, University of Dayton Research Institute, Dayton, OH, USA; G. A. Schoepfner, Wright-Patterson Air Force Base, OH, USA (Eds.)

Advanced Functional Materials

With recent developments in the polymer, ceramic, sensor, and fuel cell technology, a range of novel materials have been manufactured for advanced, compact, and electronic industry. Polymers, silicon, energy materials have received much attention in recent years. “Advanced Functional Materials” gives the most recent research results on polymer, fine ceramics, sensor, and green fuel cells. The content of this book, mainly based on the authors’ recent research results, covers a broad spectrum including: the advanced inorganic-organic-hybrid polymeric materials, high functional sensor, and microbial fuel cells. The book is suitable for the researchers working in the areas of polymer, nanotechnology, ceramic engineering, engineering thermoplastic, energy and power engineering, chemical engineering, and materials, etc. Hee-Gweon Woo is a professor at the Department of Chemistry, Chonnam National University, the Republic of Korea. Hong Li is a professor at the Institute of Polymer Chemistry, Nankai University, China.

Features
- Reports comprehensively on research into polymer, ceramic, sensor, silicon, fuel cell, and renewable-energy materials
- Covers recent research over the past ten years, from fundamentals to applications
- Collects contributions from widely-recognized, world-leading researchers in their subjects

From the contents
High Performance Organic Polymers - Advanced Biodegradable Organic Polymers - High Functional Inorganic Polymers - Ceramic Composites from Inorganic Preceramic Polymers

Fields of interest
Polymer Sciences; Ceramics, Glass, Composites, Natural Materials; Nanotechnology

Target groups
Research

Discount group
P
Social Network Data Analytics

Social network analysis applications have experienced tremendous advances within the last few years due in part to increasing trends towards users interacting with each other on the internet. Social networks are organized as graphs, and the data on social networks takes on the form of massive streams, which are mined for a variety of purposes. Social Network Data Analytics covers an important niche in the social network analytics field. This edited volume, contributed by prominent researchers in this field, presents a wide selection of topics on social network data mining such as Structural Properties of Social Networks, Algorithms for Structural Discovery of Social Networks and Content Analysis in Social Networks. This book is also unique in focusing on the data analytical aspects of social networks in the internet scenario, rather than the traditional sociology-driven emphasis prevalent in the existing books, which do not focus on the unique data-intensive characteristics of online social networks. Emphasis is placed on simplifying the content so that students and practitioners benefit from this book. This book targets advanced level students and researchers concentrating on computer science as a secondary text or reference book. Data mining, database, information security, electronic commerce and machine learning professionals will find this book a valuable asset, as well as primary associations such as ACM, IEEE and Management Science.

Features
► Presents a wide swath of topics on social network data mining including Structural Properties of Social Networks, Algorithms for Structural Discovery of Social Networks and Content Analysis in Social Networks. ► Emphasis is placed on simplifying the content so that students and practitioners benefit from this book. ► Includes case studies.

Fields of interest
Information Systems Applications (incl. Internet); Database Management; Management of Computing and Information Systems

Target groups
Research

Discount group
P

Guide to HTML, JavaScript and PHP
For Scientists and Engineers

This book enables readers to quickly develop a working knowledge of HTML, JavaScript and PHP. The text emphasizes a hands-on approach to learning and makes extensive use of examples. A detailed science, engineering, or mathematics background is not required to understand the material, making the book ideally suitable for self-study or an introductory course in programming. Features: describes the creation and use of HTML documents; presents fundamental concepts of client-side and server-side programming languages; examines JavaScript and PHP implementation of arrays, built-in and user-defined methods and functions, math capabilities, and input processing with HTML forms; extends programming fundamentals to include reading and writing server-based files, command-line interfaces, and an introduction to GD graphics; appendices include a brief introduction to using a “pseudocode” approach to organizing solutions to computing problems; includes a Glossary and an extensive set of programming exercises.

Features
► Enables readers to quickly develop a working knowledge of HTML, JavaScript and PHP
► Emphasizes a hands-on approach to learning and makes extensive use of examples
► Includes a Glossary and an extensive set of programming exercises

From the contents

Fields of interest
Programming Techniques; Programming Languages, Compilers, Interpreters; User Interfaces and Human Computer Interaction

Target groups
Lower undergraduate

Discount group
P

Introduction to Reliable and Secure Distributed Programming

In modern computing a program is usually distributed among several processes. The fundamental challenge when developing reliable and secure distributed programs is to support the cooperation of processes required to execute a common task, even when some of these processes fail. Failures may range from crashes to adversarial attacks by malicious processes. Cachin, Guerraoui, and Rodrigues present an introductory description of fundamental distributed programming abstractions together with algorithms to implement them in distributed systems, where processes are subject to crashes and malicious attacks. The authors follow an incremental approach by first introducing basic abstractions in simple distributed environments, before moving to more sophisticated abstractions and more challenging environments. Each core chapter is devoted to one topic, covering reliable broadcast, shared memory, consensus, and extensions of consensus. For every topic, many exercises and their solutions enhance the understanding.

Features
► Introduces fundamental reliable and secure distributed programming abstractions, and offers algorithms to implement these abstractions
► Incremental approach explores basic abstractions before moving to more sophisticated concepts
► The book functions as a complete practical reference to the basics of reliable distributed programming applications
► Includes a companion set of running examples implemented in Java

Fields of interest
Algorithm Analysis and Problem Complexity; Computer Communication Networks; Operating Systems

Target groups
Graduate

Discount group
P

Due February 2011

2011. XIV, 502 p. 100 illus., 50 in color. Hardcover
► approx. $159.00
ISBN 978-1-4419-8461-6

Due May 2011

2011. XIV, 458 p. Hardcover
► approx. $89.95
ISBN 978-0-85729-448-7

Due January 2011

2nd ed. 2011. XIX, 320 p. Hardcover
► $69.95
ISBN 978-3-642-15259-7

Discount group
P
Advanced Digital Preservation

There is growing recognition of the need to address the fragility of digital information, on which our society heavily depends for smooth operation in all aspects of daily life. This has been discussed in many books and articles on digital preservation, so why is there a need for yet one more? Because, for the most part, those other publications focus on documents, images and webpages – objects that are normally rendered to be simply displayed by software to a human viewer. Yet there are clearly many more types of digital objects that may need to be preserved, such as databases, scientific data and software itself.

David Giaretta, Director of the Alliance for Permanent Access, and his contributors explain why the tools and techniques used for preserving rendered objects are inadequate for all these other types of digital objects, and they provide the concepts, techniques and tools that are needed. The book is structured in three parts. The first part is on theory, i.e., the concepts and techniques that are essential for preserving digitally encoded information. The second part then shows practice, i.e., the use and validation of these tools and techniques. Finally, the third part concludes by addressing how to judge whether money is being well spent, in terms of effectiveness and cost sharing.

Various examples of digital objects from many sources are used to explain the tools and techniques presented. The presentation style mainly aims at practitioners in libraries, archives and industry who are either directly responsible for preservation or who need to prepare for audits of their archives.

Features
► Deals both with rendered objects and arbitrary object collections like databases, scientific data sets, software, etc. ► Encompasses both technical and economical issues ► Integrates digital rights management, authentication, and accreditation

Fields of interest
Information Storage and Retrieval; Library Science; Computers and Society

Discount group
P

Guide to Teaching Computer Science
An Activity-Based Approach

This guide presents both a conceptual framework and detailed implementation guidelines for general computer science (CS) teaching. The content is clearly written and structured to be applicable to all levels of CS education and for any teaching organization, without limiting its focus to instruction for any specific curriculum, programming language or paradigm. Features: presents an overview of research in CS education; examines strategies for teaching problem-solving, evaluating pupils, and for dealing with pupils' misunderstandings; provides learning activities throughout the book; proposes active-learning-based classroom teaching methods, as well as methods specifically for lab-based teaching; discusses various types of questions that a CS instructor, tutor, or trainer can use for a range of different teaching situations; investigates thoroughly issues of lesson planning and course design; describes frameworks in which prospective CS teachers gain their first teaching experience.

Features
► Presents both a conceptual framework and detailed implementation guidelines for general computer science teaching ► Clearly written and structured to be applicable to all levels of education and for any teaching organization, without limiting its focus to instruction for any specific curriculum, programming language or paradigm ► Provides learning activities throughout the book

Fields of interest
Computers and Education; Teaching and Teacher Education; Science Education

Target groups
Upper undergraduate

Discount group
P

S. C. Hoi, Nanyang Technological University, Singapore; J. Luo, Kodak Research Laboratories, Rochester, NY, USA; S. Boll, University of Oldenburg, Germany; D. Xu, Nanyang Technological University, Singapore; R. Jin, Michigan State University, East Lansing, MI, USA; I. King, The Chinese University of Hong Kong, Shatin, Hong Kong (Eds.)

Social Media Modeling and Computing

This timely text/reference presents the latest advances in various aspects of social media modeling and social media computing research. Gathering together superb research from a range of established international conferences and workshops, the editors coherently organize and present each of the topics in relation to the basic principles and practices of social media modeling and computing. Individual chapters can be also be used as self-contained references on the material covered. Topics and features: presents contributions from an international selection of preeminent experts in the field; discusses topics on social-media content analysis; examines social-media system design and analysis, and visual analytic tools for event analysis; investigates access control for privacy and security issues in social networks; describes emerging applications of social media, for music recommendation, automatic image annotation, and the analysis and improvement of photo-books.

Features
► Presents contributions from an international selection of preeminent experts in the field ► Discusses topics on social-media content analysis, and examines social-media system design and analysis ► Describes emerging applications of social media

Fields of interest
Pattern Recognition; Simulation and Modeling; Multimedia Information Systems

Target groups
Research

Discount group
P
Analysis and Design of Advice

The premise that giving advice is a design problem is central to this book. It means that advice is seen as an artefact, as information communicated by an advisor to an advisee. Drawing on arguments in philosophy, recent empirical research in individual and group decision-making, and in information systems engineering, the book offers a rigorous approach to the analysis and design of advice in real-world decision situations, in which the advisor must manage with variously imprecise, unclear, incomplete or conflicting qualitative information.

Features
► Treats advice as a general design artifact, independent of the application domain ► Rejects unrealistic assumptions of classical decision theory about perfect rationality and exact numerical, quantitative estimates of probability ► Innovatively combines elements from management science, computer science, and mathematical logic

Contents
1 Introduction. - 2 Coordination and Advice. - 3 Conceptual Analysis of Advice. - 4 Interpretation of Advice. - 5 Kinds of Advice. - 6 Advisor’s Conceptual Analysis of Advice. - 7 Perspectives. - References, Index.

Fields of interest
Software Engineering; Business/Management Science; general; Computers and Society

Target groups
Graduate

Discount group
P
Community-Built Databases
Research and Development

Wikipedia, Flickr, You Tube, Facebook, LinkedIn are all examples of large community-built databases, although with quite diverse purposes and collaboration patterns. Their usage and dissemination will further grow introducing e.g. new semantics, personalization, or interactive media. Pardede delivers the first comprehensive research reference on community-built databases. The contributions discuss various technical and social aspects of research in and development in areas such as Web science, social networks, and collaborative information systems.

Pardede delivers the first comprehensive research reference on community-built databases. The contributions discuss various technical and social aspects of research in and development in areas such as Web science, social networks, and collaborative information systems.

Features
► First book to combine social and technical aspects of community-built databases ► Discusses issues of social networks and Web communities independent of a specific platform or product Opens up new research in areas such as Web science, social networks, distributed databases, and collaborative information systems ► Discusses issues of social networks and Web communities independent of a specific platform or product Opens up new research in areas such as Web science, social networks, distributed databases, and collaborative information systems ► Opens up new research in areas such as Web science, social networks, distributed databases, and collaborative information systems ► Opens up new research in areas such as Web science, social networks, distributed databases, and collaborative information systems ► Opens up new research in areas such as Web science, social networks, distributed databases, and collaborative information systems

Fields of interest
Information Systems Applications (incl.Internet); Information Storage and Retrieval; Computers and Society

Target groups
Research

Discount group
P

Guide to e-Science
Next Generation Scientific Research and Discovery

This guidebook on e-science presents real-world examples of practices and applications, demonstrating how a range of computational technologies and tools can be employed to build essential infrastructures supporting next-generation scientific research. Each chapter provides introductory material on core concepts and principles, as well as guidelines and discussions of relevant e-science methodologies, architectures, tools, systems, services and frameworks. Features: includes contributions from an international selection of preeminent e-science experts and practitioners; discusses use of mainstream grid computing and peer-to-peer grid technology for “open” research and resource sharing in scientific research; presents varied methods for data management in data-intensive research; investigates issues of e-infrastructure interoperability, security, trust and privacy for collaborative research; examines workflow technology for the automation of scientific processes; describes applications of e-science.

Features
► Includes contributions from an international selection of preeminent e-science experts and practitioners ► Examines how e-science techniques can be used to facilitate “open” research and resource sharing, data-intensive research, collaborative research, and scientific workflows ► Describes applications of e-science, highlighting systems used in the fields of biometrics, clinical medicine, and ecology

Fields of interest
Information Systems and Communication Service; Computer Applications

Target groups
Professional/practitioner

Discount group
P

A Developer’s Guide to the Semantic Web

The Semantic Web represents a vision for how to make the huge amount of information on the Web automatically processable by machines on a large scale. For this purpose, a whole suite of standards, technologies and related tools have been specified and developed over the last couple of years, and they have now become the foundation for numerous new applications.

A Developer’s Guide to the Semantic Web helps the reader to learn the core standards, key components, and underlying concepts. It provides in-depth coverage of both the what-is and how-to aspects of the Semantic Web. From Yu’s presentation, the reader will obtain not only a solid understanding about the Semantic Web, but also learn how to combine the pieces to build new applications on the Semantic Web.

Features
► Offers complete coverage of all core standards and technical components of the Semantic Web, including RDF, RDFS, OWL 1 and 2, SPARQL (including features offered by SPARQL 1.1); and related technologies such as Turtle, Microformats, RDFa, GRDDL and SKOS ► Provides an in-depth description of many well-known applications and projects such as FOAF, semantic Wiki, SearchMonkey by Yahoo!, Rich Snippets by Google, Open Linked Data Project and DBpedia Project ► Explains the key concepts, core standards and technical components in real-world examples, guiding the readers step-by-step through the development process to bridge the gap between what-is and how-to ► Includes source code for the examples and application projects, ready for download from the author’s website, www.liyangyu.com

Fields of interest
Information Storage and Retrieval; Information Systems Applications (incl.Internet)

Target groups
Professional/practitioner

Discount group
P
The Physics of Landslides
Dynamics of Gravity-Driven Flows

Landslides represent one of the most destructive natural catastrophes. They can reach extremely long distances and velocities, and are capable of wiping out human communities and settlements. Yet landslides have a creative facet as they contribute to the modification of the landscape. They are the consequence of the gravity pull jointly with the tectonic disturbance of our living planet. Landslides are most often studied within a geotechnical and geomorphological perspective. Engineering calculations are traditionally applied to the stability of terrains. In this book, landslides are viewed as a physical phenomenon. A physical understanding of landslides is a basis for modeling and mitigation and for understanding their flow behavior and dynamics. We still know relatively little about many aspects of landslide physics. It is only recently that the field of landslide dynamics is approaching a more mature stage. This is testified by the release of modeling tools for the simulation of landslides and debris flows. In this book the emphasis is placed on the problems at the frontier of landslide research. Each chapter is self-consistent, with questions and arguments introduced from the beginning.

Features
► One of the first books providing a thorough treatment of the physical basis of landslides
► The book contains large sections on the physics of granular media, experimental studies of landslides, numerical models and the relevant fluid mechanics ► The book presents detailed reports on 12 case studies ► The advanced and didactically-oriented text will be useful to researchers and professionals in addition to students

Fields of interest
Applied Earth Sciences; Environmental Physics; Soft and Granular Matter, Complex Fluids and Microfluidics

Target groups
Professional/practitioner

Discount group
P

Due June 2011
2011. IV, 450 p. 160 illus., 60 in color. Hardcover
► approx. $199.00
ISBN 978-3-642-19111-4

Due May 2011
2011. 720 p. 4 illus. in color. (Advances in Geophysical and Environmental Mechanics and Mathematics, Volume 2) Hardcover
► $279.00
ISBN 978-3-642-19111-4

Due June 2011
2011. 450 p. 170 illus., 75 in color. (Modern Approaches in Solid Earth Sciences, Volume 8) Hardcover
► approx. $169.00

Y. Ogawa, R. Anma, University of Tsukuba, Japan; Y. Dilek, Miami University, Oxford, OH, USA (Eds.)

Accretionary Prisms and Convergent Margin Tectonics in the Northwest Pacific Basin

Accretionary prisms in convergent margins are natural laboratories for exploring initial orogenic processes and mountain building episodes. They are also an important component of continental growth both vertically and laterally. Accretionary prisms are seismically highly active and their internal deformation via megathrusting and out-of-sequence faulting are a big concern for earthquake and tsunami damage in many coastal cities around the Pacific Rim. The geometries and structures of modern accretionary prisms have been well imaged seismically and through deep drilling projects of the Ocean Drilling Program (and recently IODP) during the last 15 years. Better understanding of the spatial distribution and temporal progression of accretionary prism deformation, structural and hydrologic evolution of the décollement zone (tectonic interface between the subducting slab and the upper plate), chemical gradients and fluid flow paths within accretionary prisms, contrasting stratigraphic and deformational framework along-strike in accretionary prisms, and the distribution and ecosystems of biological communities in accretionary prism settings is most important in interpreting the evolution of ancient complex sedimentary terrains and orogenic belts in terms of subduction-related processes.

Features
► Process-oriented and data-rich chapters, reflecting the most recent knowledge and information on accretionary prism and convergent margin evolution ► Numerous seafloor bathymetry images and outcrop pictures as a rich and original resource for trench and accretionary prism structure and geology ► First comprehensive coverage of many subsensible dive results from most NW pacific Basin trench walls and accretionary prisms

Fields of interest
Geology; Structural Geology; Sedimentology

Target groups
Research

Discount group
P

K. Hutter, ETH Zürich, Zurich, Switzerland; Y. Wang, Darmstadt University of Technology, Darmstadt, Germany; I. P. Chubarenko, Russian Academy of Sciences, Kaliningrad, Russia

Physics of Lakes
Volume 2: Lakes as Oscillators

The overwhelming focus of this 2nd volume of “Physics of Lakes” is adequately expressed by its subtitle “Lakes as Oscillators”. It deals with barotropic and baroclinic waves in homogeneous and stratified lakes on the rotating Earth and comprises 12 chapters, starting with rotating shallow-water waves, demonstrating their classification into gravity and Rossby waves for homogeneous and stratified water bodies. This leads to gravity waves in bounded domains of constant depth, Kelvin, Poincaré and Sverdrup waves, reflection of such waves in gulfs and rectangles and their description in sealed basins as barotropic ‘inertial waves proper’. The particular application to gravity waves in circular and elliptical basins of constant depth leads to the description of Kelvin-type and Poincaré-type waves and their balanced description in basins of arbitrary geometry on the rotating Earth. Consideration of two-, three- and n-layer fluids with sharp interfaces give rise to the description of gravity waves of higher order baroclinicity with experimental corroborations in a laboratory flume and e.g. in Lake of Lugano, Lake Banyoles and Lake Biwa. Barotropic wave modes in Lake Onega with complex geometry show that data and computational output require careful interpretation.

Features
► Deals with barotropic and baroclinic waves in homogeneous and stratified lakes on the rotating Earth ► Presents a classification of rotating shallow-water waves ► Describes Kelvin-type and Poincaré-type waves

Fields of interest
Mathematical Applications in Earth Sciences; Geology/Natural Processes; Classical Continuum Physics

Target groups
Research

Discount group
P

Due June 2011
2011. 720 p. 4 illus. in color. (Advances in Geophysical and Environmental Mechanics and Mathematics, Volume 2) Hardcover
► approx. $199.00
ISBN 978-3-642-19111-4

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► approx. $199.00
ISBN 978-3-642-19111-4

Due June 2011
2011. 450 p. 170 illus., 75 in color. (Modern Approaches in Solid Earth Sciences, Volume 8) Hardcover
► approx. $169.00

F. V. Blasio, University of Oslo, Norway
**The Coastlines of the World by Google Earth**

**Understanding our Environment**

Features in our environment are best presented in images, using all possible aspects including the bird’s eye’s view from satellites. This is in particular the case for coasts in mostly flat environments. This book will present the extreme variety of coastal forms in all dimensions and from all latitudes and climates. It shows the beauty of our planet, sites which are familiar to many travelers as well as remote sections of the world coastlines seen by nearly nobody. At the same time it demonstrated how satellite techniques can help to take over information on our environment.

**Features**

- All the world’s coastlines at a glance, through images and explanatory text
- More than 170 colour images from Google Earth (including scale and coordinate data) and terrestrial and oblique aerial photos from the authors
- Offers researchers and even non-experts a wealth of information and context to understand our coastal environment

**Contents**


**Fields of interest**

Coastal Sciences; Physical Geography; Geology

**Discount group**

P

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**Global Climate**

**The Oceanic Warm Pool**

The warm pool of the western Pacific and eastern Indian Ocean is one of the most prominent features of global sea surface temperature distribution. Its variation is of uttermost importance to global climate. However, to date, there has been very few focused studies on the formation, evolution, and climatic effects of the warm pool. This book represents the first organized research to focus on the variability of the warm pool and its climatic effects, in which oceanographic and atmospheric scientists work together to disclose important mechanisms that control the global climate through the warm pool variations.

**Features**

- Topical treatment of this subject
- Appeals to both academics and interested individuals
- Provides an excellent résumé of current literature on the subject

**Fields of interest**

Oceanography; Meteorology/Climatology; Climate Change

**Discount group**

P
**Handbook of Terminal Planning**

Container Terminals (CT) operate as central nodes in worldwide hub-and-spoke networks and link ocean-going vessels with smaller feeder vessels as well as with inbound and outbound hinterland transportation systems using road, rail, or inland waterways. The volume of transcontinental container flows has gained appreciably over the last five decades -- throughput figures of CT reached new records, frequently with double-digit annual growth rates. Stimulated by throughput requirements and stronger competition between terminals settled in the same region or serving a similar hinterland, respectively, cost efficiency and throughput capabilities become more and more important. Nowadays, both terminal capacity and costs have to be regarded as key indicators for CT competitiveness. In respect of this steady growth, this handbook focuses on planning activities being aimed at "order of magnitude improvements" in terminal performance and economic viability. On the one hand the book is intended to provide readership with technological and organizational CT basics for strategic planning. On the other hand this book offers methodical assistance for fundamental dimensioning of CT in terms of 'technique', 'organization' or 'man'. The former primarily considers comprehensive information about container handling technologies representing the state of the art for present terminal operations, while the latter refers to methodological support comprising in particular quantitative solutions and modeling techniques for strategic terminal decisions as well as straightforward design guidelines.

**Features**
- Presents the complete state of the art in Container Terminal design, management, and planning
- Provides solutions and insights for practitioners and researchers
- Contributors are leading figures in CT research and practice

**Fields of interest**
- Operations Research/Decision Theory;
- Production/Logistics;
- Regional/Spatial Science

**Target groups**
- Professional/practitioner

**Discount group**
P

**Due February 2011**


**approx. $189.00**
ISBN 978-1-4419-8407-4

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**The Konstantinos Karamanlis Institute for Democracy Yearbook 2011**

The Global Economic Crisis and the Case of Greece

The global economy is still experiencing the effects of the worst economic crisis since the Great Depression of the 1930s. Over the last three years economies worldwide have slowed and international trade has declined. Most importantly, the crisis has negatively affected the lives of ordinary people, creating a sense of uncertainty about the future and thus posing a direct threat to social cohesion, thus posing new challenges to political leadership. Climate change is also forcing the developed world to formulate a common strategy that will balance growth and environmental protection. The aim of the book is to examine these international trends and comprehend the transformations that take place internationally. The multi-authored work presents several accounts on the course of vital aspects of politics and economy. As a result, the contents of the book focusses on four main subjects: 1) global economic crisis and its consequences, 2) economic governance, 3) political leadership, and 4) climate change.

**Features**
- Provides a thorough analysis of important political issues
- Analyses the consequences of the financial crisis
- Interdisciplinary character
- Contributions from prominent scholars and policy makers

**Fields of interest**
- Economic Policy;
- International Economics;
- Climate Change

**Target groups**
- Research

**Discount group**
P

**Due April 2011**

2011. XVIII, 194 p. (The Konstantinos Karamanlis Institute for Democracy Yearbook Series) Hardcover

**approx. $139.00**
ISBN 978-3-642-18414-7

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**Medical Decision Making**

A Health Economic Primer

This textbook offers a comprehensive theory of medical decision making under uncertainty, combining informative test theory with the expected utility hypothesis. The book shows how the parameters of Bayes’ theorem can be combined with a value function of health states to arrive at informed test and treatment decisions. The authors distinguish between risk neutral, risk averse and prudent decision makers and demonstrate the effects of risk preferences on physicians’ decisions. They analyze individual tests, multiple tests and endogenous tests where the test result is determined by the decision maker. Finally, the topic is examined in the context of health economics by introducing a trade-off between enjoying health and consuming other goods, so that the extent of treatment and thus the potential improvement in the patient’s health become endogenous.

**Features**
- Basic chapters on MDM tools and expected utility theory appeal to students of both medicine and economics
- A comprehensive text on MDM under uncertainty for economists and physicians alike

**Contents**
- 1 Introduction.
- 2 Basic Tools in Medical Decision Making.
- 3 Expected Utility, Risk Aversion and Prudence.
- 4 Treatment Decisions Without Diagnostic Tests.
- 5 Treatment Decisions with Diagnostic Tests.
- 6 Treatment Decisions Under Comorbid Risk.
- 7 Optimal Strategy for Multiple Diagnostic Tests.
- 8 The Optimal Cutoff Point of a Diagnostic Test.
- 9 A Test’s Total Value of Informations.
- 10 Valuing Health and Life.
- 11 Conclusion.

**Fields of interest**
- Economics/Management Science, general;
- Epidemiology;
- Medicine/Public Health, general

**Target groups**
- Upper undergraduate

**Discount group**
P

**Due May 2011**

2011. 250 p. 54 illus. Hardcover

**approx. $129.00**
ISBN 978-3-642-18329-4

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SpringerBriefs in Business

SpringerBriefs present concise summaries of cutting-edge research and practical applications across a wide spectrum of fields. Featuring compact volumes of 50 to 125 pages, the series covers a range of content from professional to academic. Typical topics might include:

- A timely report of state-of-the-art analytical techniques
- A bridge between new research results, as published in journal articles, and a contextual literature review
- A snapshot of a hot or emerging topic
- An in-depth case study or clinical example
- A presentation of core concepts that students must understand in order to make independent contributions

SpringerBriefs in Business showcase emerging theory, empirical research, and practical application in management, finance, entrepreneurship, marketing, operations research, and related fields, from a global author community. Briefs are characterized by fast, global electronic dissemination, standard publishing contracts, standardized manuscript preparation and formatting guidelines, and expedited production schedules.

Mass Customization
An Exploration of European Characteristics

Today customer value creation is heavily dependent on the customization of mass-products. After having reached its peak in the past mass production can no longer fulfil increasing customer demands sufficiently. After the start of new production techniques and user-friendly interfaces in combination with the Internet the issue of mass customization started to develop significantly. This book analyses different mass customization production paradigms in trying to find a shared definition which is not limited to mere modules assembly. It also empathizes the difficulties and problems, from user-friendly interfaces to very rigid customers’ demand curve towards price and time issues. Based on a marketing survey of over 500 European respondents the results indicate the possibility of breaking brand’s fidelity through mass-customized products provided by a short delivery time and an identical price.

Features
- Provides a complete overview on mass customization theories and implementation strategies
- Includes 11 examples of mass customization implementation in different sectors
- Based on a marketing survey with over 500 European respondents

Fields of interest
Marketing; e-Commerce/e-business; Business/Management Science, general

Target groups
Research

Discount group
P

Drivers of Innovation, Entrepreneurship and Regional Dynamics

The need for informed and effective insights into key concepts and models of regional development and growth, from an endogenous growth perspective, has risen over the past decade. These recent advances address in particular local and regional assets and characteristics comprising inter alia creativity, knowledge, innovation forces and entrepreneurship. Access to and exploitation of these modern forms of human and social capital are of paramount importance for the dynamic regional economic environment in a city or region. This volume offers an overview and critical treatment of the spatial-economic roots, opportunities and impacts of new growth strategies, mainly from an evidence-based perspective. In the various contributions to this volume, relevant findings and strategic options are interpreted and discussed from both an analytical and a policy perspective to help cultivate creativity, human capital development and innovation as well as entrepreneurial activity, with a view to exploit the drivers of economic development, in order to strengthen the competitive edge of cities and regions.

Features
- Courses of action to survive and thrive as regional growth continues
- Powerful drivers of improved regional performance in an age of knowledge and extreme competition
- How to manage in the New Economy
- Endogenous forces and processes: the holy grail of new economy

Contents

Fields of interest
Regional/Spatial Science; Economic Growth; R & D/Technology Policy

Target groups
Research

Discount group
P

Due April 2011

2011. 100 p. 20 illus. (SpringerBriefs in Business) Softcover

$49.95
ISBN 978-3-642-18389-8

Due April 2011

2011. 416 p. 60 illus. (Advances in Spatial Science) Hardcover

approx. $189.00
ISBN 978-3-642-17939-6
Information Science & Technology in China: A Roadmap to 2050

As one of the eighteen field-specific reports comprising the comprehensive scope of the strategic general report of the Chinese Academy of Sciences, this sub-report addresses long-range planning for developing science and technology in the field of information science & technology. They each craft a roadmap for their sphere of development to 2050. In their entirety, the general and sub-group reports analyze the evolution and laws governing the development of science and technology, describe the decisive impact of science and technology on the modernization process, predict that the world is on the eve of an impending S&T revolution, and call for China to be fully prepared for this new round of S&T advancement. Based on the detailed study of the demands on S&T innovation in China's modernization, the reports draw a framework for eight basic and strategic systems of socio-economic development with the support of science and technology, work out China's S&T roadmaps for the relevant eight basic and strategic systems in line with China's reality, further detail S&T initiatives of strategic importance to China's modernization, and provide S&T decision-makers with comprehensive consultations for the development of S&T innovation consistent with China's reality. Supported by illustrations and tables of data, the reports provide researchers, government officials and entrepreneurs with guidance concerning research directions, the planning process, and investment.

Features
► The first book on China's long-term trends in information technology development ► Offers in-depth analysis of China's requirements of information technology with detailed data ► Identifies essential technology challenges for over 1 billion users

Fields of interest
R & D/Technology Policy; Information Systems and Communication Service

Target groups
Research

Discount group
P

Vector Optimization with Infimum and Supremum

The theory of Vector Optimization is developed by a systematic usage of infimum and supremum. In order to get existence and appropriate properties of the infimum, the image space of the vector optimization problem is embedded into a larger space, which is a subset of the power set, in fact, the space of self-infimal sets. Based on this idea we establish solution concepts, existence and duality results and algorithms for the linear case. The main advantage of this approach is the high degree of analogy to corresponding results of Scalar Optimization. The concepts and results are used to explain and to improve practically relevant algorithms for linear vector optimization problems.

Features
► Presents a completely new approach to Vector Optimization ► Covers the range from theory to algorithms ► Includes a self-contained chapter on the linear case

Fields of interest
Operations Research/Decision Theory; Optimization; Order, Lattices, Ordered Algebraic Structures

Target groups
Graduate

Discount group
P

Sectors Matter!
Exploring Mesoeconomics

Although all economic activities take place in sectors, economists often devote little attention to differences between and characteristics of sectors. This book tries to show that mesoeconomics, the economic exploration of sectors and groups, is a useful instrument of analysis between microeconomics (the analysis of markets) and macroeconomics (the analysis of economies). In order to do so, economists and social scientists from related disciplines and coming from Europe, Australia and Asia, demonstrate that sectors matter for economic development and the formation of societies. The book includes chapters with rigorous economic analysis, outlooks on economic history, and case studies in order to show the relevance of sectoral issues, this broad range of content making it likely the most comprehensive book on mesoeconomics to date.

Features
► Only book on the advances of mesoeconomics ► Introduces new concepts ► Why should sectors matter?

Contents

Field of interest
Industrial Organization

Target groups
Research

Discount group
P
Fuzzy Stochastic Multiobjective Programming

Although studies on multiobjective mathematical programming under uncertainty have been accumulated and several books on multiobjective mathematical programming under uncertainty have been published (e.g., Stancu-Minasian (1984); Slowinski and Teghem (1990); Sakawa (1993); Lai and Hwang (1994); Sakawa (2000)), there seems to be no book which concerns both randomness of events related to environments and fuzziness of human judgments simultaneously in multiobjective decision making problems. In this book, the authors are concerned with introducing the latest advances in the field of multiobjective optimization under both fuzziness and randomness on the basis of the authors’ continuing research works. Special stress is placed on interactive decision making aspects of fuzzy stochastic multiobjective programming for human-centered systems under uncertainty in most realistic situations when dealing with both fuzziness and randomness. Organization of each chapter is briefly summarized as follows:

Chapter 2 is devoted to mathematical preliminaries, which will be used throughout the remainder of the book. Starting with basic notions and methods of multiobjective programming, interactive fuzzy multiobjective programming as well as fuzzy multiobjective programming is outlined.

Features
- Presents the latest advances in the new field of multiobjective programming involving fuzziness and randomness
- Emphasis on human-centered systems under uncertainty in realistic situations
- Authors are among the leading researchers in the field

Fields of interest
Operations Research/Decision Theory; Operations Research, Management Science; Probability Theory and Stochastic Processes

Target groups
Professional/practitioner

Discount group
P

Innovations in Macroeconomics

Modern macroeconomics suffers from an unclear link between short-term Keynesian analysis and long-term growth modelling. Moreover, product and process innovations have been only partially integrated. The analysis suggests new approaches to innovations in open economies in many ways, including the Schumpeterian Mundell-Fleming model and new monetary growth models. A specific focus is on the role of innovations for output, employment and exchange rate developments. This book presents a new link between monetary analysis and growth modelling in open economies. Structural change, innovations and growth are considered from a new perspective. With respect to economic policy - in particular innovation policy - the analysis implies major changes, concerning both EU countries and other leading OECD economies.

This important new book sets a new direction for macroeconomics. By linking several strands of fundamental economic thinking into a coherent, integrated framework it provides a pathbreaking understanding into the fundamental forces shaping macroeconomic performance. In particular, by injecting insights from the Schumpeterian model, the author succeeds in presenting a new policy framework to guide economic growth policy.

Features
- Novel approaches to innovation dynamics and growth in open economies
- New monetary and non-monetary growth models
- Discussion of rational innovation policies in OECD countries

Fields of interest
Macroeconomics; Economic Policy; R & D/Technology Policy

Target groups
Research

Discount group
P
Higher Education: Handbook of Theory and Research

Series editors: J. C. Smart, M. B. Paulsen

Volume 26

Published annually since 1985, the Handbook series provides a compendium of thorough and integrative literature reviews on a diverse array of topics of interest to the higher education scholarly and policy communities. Each chapter provides a comprehensive review of research findings on a selected topic, critiques the research literature in terms of its conceptual and methodological rigor, and sets forth an agenda for future research intended to advance knowledge on the chosen topic. The Handbook focuses on twelve general areas that encompass the salient dimensions of scholarly and policy inquiries undertaken in the international higher education community. The series is fortunate to have attracted annual contributions from distinguished scholars throughout the world.

Features
- Authoritative in the field of higher education
- Provides state-of-the-art reviews on a wide range of topics in the study of higher education
- Attracts annual contributions from distinguished scholars around the world
- Chapters are frequently cited in major higher education journals

From the contents

W. Locke, Centre for Higher Education Research and Information (CHERI), The Open University, Milton Keynes, United Kingdom; W. K. Cummins, The George Washington University, Washington, USA; D. Fisher, The University of British Columbia, Vancouver, BC, Canada (Eds.)

Changing Governance and Management in Higher Education

The Perspectives of the Academy

External drivers are pressing for a more privatized approach to higher education and research, a greater reliance on technology and the more efficient use of resources. This book analyzes recent changes in institutional governance and management in higher education and their impact on the academy and academic work. It draws on findings from an international study based on a survey of academics in eighteen countries. It opens with a chapter outlining the key issues, drivers and challenges that inform contemporary discourse around academic work and the profession in general. It then focuses on national case studies, comparing changes in the top tier with the lower tiers of national systems, public and private institutions, and other differentiating factors appropriate in each country, which include mature and emerging higher education systems. It concludes by proposing a series of generalizations about the contemporary status of governance and management of institutions of higher education.

Features
- First widely available publication of findings from the international study of “Changing Academic Profession”
- Presents the results of an impressive survey led in many different countries
- Completes the current literature by focussing on an academic perspective
- Strong empirically-based comparative analysis of a common survey in 14 countries in the same twelve month period

Fields of interest
Higher Education; International and Comparative Education; Administration, Organization and Leadership

Target groups
Research

Discount group
P

Due March 2011

2011. 550 p. Hardcover

$239.00
ISBN 978-94-007-0701-6

Due June 2011


$139.00
ISBN 978-94-007-1139-6

Due May 2011


$139.00
ISBN 978-94-007-1115-4

University Rankings

Theoretical Basis, Methodology and Impacts on Global Higher Education

This ground-breaking and exhaustive analysis of university ranking surveys scrutinizes their theoretical bases, methodological issues, societal impact, and policy implications, providing readers with a deep understanding of these controversial comparators. The authors propose that university rankings are misused by policymakers and institutional leaders alike. They assert that these interested parties overlook the highly problematic internal logic of ranking methodologies even as they obsess over the surveys’ assessment of their status. The result is that institutions suffer from short-termism, realigning their resources to maximize their relative rankings. While rankings are widely used in policy and academic discussions, this is the first book to explore the theoretical and methodological issues of ranking itself. It is a welcome contribution to an often highly charged debate. Far from showing how to manipulate the system, this collection of work by key researchers aims to enlighten interested parties.

Features
- First book to comprehensively deal with the subject
- Ground-breaking detail on the theory, methodology and social impacts of university ranking schemes
- Focuses on enhancing users’ understanding of the surveys
- Covers the social impact of ranking systems within university institutions, including their impact on campus life

Fields of interest
Higher Education; Educational Policy; International and Comparative Education

Target groups
Research

Discount group
P

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2011. 550 p. Hardcover

$239.00
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- Covers the social impact of ranking systems within university institutions, including their impact on campus life

Fields of interest
Higher Education; Educational Policy; International and Comparative Education

Target groups
Research

Discount group
P
Perspectives on Educational Quality

Illustrative Outcomes on Primary and Secondary Schooling in the Netherlands

The quality of education is a term that is frequently used in public debates. Understood in the sense of education being “generally okay”, or rather, most frequently, as “not okay”. Perhaps there is an over-ruling nostalgic view that formerly education was better than today. In scholarly discourse there are those who maintain that the quality of education is an illusive term, with varying interpretations in different settings and by different stakeholders.

In this book the complexity of the concept of education quality is recognized, but a conceptual framework is presented that makes quality, despite its complexity, amenable to rational and empirical analysis. Productivity, equity, effectiveness, efficiency and responsiveness of education systems are seen as key facets of quality. A concrete set of indicators is presented that makes for the measurement of these quality facets. In the second part of the book the quality framework is applied to an analysis of the quality of education in the Netherlands. Common sense in the Netherlands is dominated by the view that the quality of education is a course for serious concern. Some recent quality reviews take the same pessimistic outlook.

Features

- Provides a comprehensive conceptualization of educational quality
- Provides an elaborate set of education indicators, formulated at system, school and classroom level
- Discusses alternative views on education quality
- Uses quality indicators to assess a national educational system
- Illustrates the use of education indicators to determine strong and weak points of a national education system

Fields of interest

Higher Education; International and Comparative Education; Assessment, Testing and Evaluation

Target groups

Research

Discount group

P

Due May 2011

2011. 130 p. (SpringerBriefs in Education) Softcover

$59.95

ISBN 978-94-007-0925-6
T. Sasao, Kyushu Institute of Technology, Iizuka, Japan

Memory-Based Logic Synthesis

This book describes the synthesis of logic functions using memories. It is useful to design field programmable gate arrays (FPGAs) that contain both small-scale memories, called look-up tables (LUTs), and medium-scale memories, called embedded memories. This is a valuable reference for both FPGA system designers and CAD tool developers, concerned with logic synthesis for FPGAs.

Features
► Describes in detail the synthesis of logic functions using memories ► Includes a look-up tables (LUT) cascade as a new architecture for logic synthesis ► Shows logic design methods for index generation functions ► Introduces C-measure, which specifies the complexity of Boolean functions ► Presents hash-based design methods, which efficiently synthesize index generation functions by pairs of smaller memories and can be applied to IP address tables, packet filtering, terminal access controllers, memory patch circuits, virus scanning circuits, fault map of memories, and pattern matching

Contents
Introduction.- Basic Elements.- Definitions and Basic Properties.- MUX-Based Synthesis.- Cascade-Based Synthesis.- Encoding Method.- Functions with Small C-Measures.- C-Measure of Sparse Functions.- Index Generation Functions.- Hash-Based Synthesis.- Reduction of the Number of Variables.- Various Realizations.- Conclusions.

Fields of interest
Energy, general; Circuits and Systems; Computer-Aided Engineering (CAD, CAE) and Design

Target groups
Research

Discount group
P

Due March 2011

2011. 250 p. Hardcover
$129.00
Intelligent Mathematics: Computational Analysis

Knowledge can be modeled and computed using computational mathematical methods, then lead to real world conclusions. The strongly related to that Computational Analysis is a very large area with lots of applications. This monograph includes a great variety of topics of Computational Analysis. We present: probabilistic wavelet approximations, constrained abstract approximation theory, shape preserving weighted approximation, non positive approximations to definite integrals, discrete best approximation, approximation theory of general Picard singular operators including global smoothness preservation property, fractional singular operators. We also deal with non-isotropic general Picard singular multivariate operators and q-Gauss-Weierstrass singular q-integral operators. We talk about quantitative approximations by shift-invariant univariate and multivariate integral operators, nonlinear neural networks approximation, convergence with rates of positive linear operators, quantitative approximation by bounded linear operators, univariate and multivariate quantitative approximation by stochastic positive linear operators on univariate and multivariate stochastic processes. We further present right fractional calculus and give quantitative fractional Korovkin theory of positive linear operators. We also give analytical inequalities, fractional Opial inequalities, fractional identities and inequalities regarding fractional integrals. We further deal with semi group operator approximation, simultaneous Feller probabilistic approximation. We also present Fuzzy singular operator approximations.

Features
- Basic book on Intelligent Mathematics: Computational Analysis
- Presents the Principles of Computational Analysis related to Intelligent systems
- Written by a leading expert in the field

Fields of interest
Computational Intelligence; Artificial Intelligence (incl. Robotics)

Target groups
Research

Discount group
P

Introducing PIC Microcontrollers to Peripheral Devices

This book is targeted for students of electronics and computer sciences. The first part of the book contains 15 original applications working on the PIC microcontroller, including: lighting diodes, communication with RS232 (bit-banging), interfacing to 7-segment and LCD displays, interfacing to matrix keypad 3 x 4, working with PWM module and others. This material can be used to cover one semester’s teaching of microcontroller programming or similar classes. The volume contains schematic diagrams and source codes with detailed descriptions. All tests were prepared on the basis of the original documentation (data sheets, application notes). The next three chapters: The Stack, Tables and Instruction and Data Memory pertain to PIC18F1320. Software referred to is also presented in assembly language. Finally the application of the PIC24FJ microcontroller with the 240x128 LCD display, 16963C and with accelerometer sensor, written in C are described.

Features
- Introduces many original, proven and important software programmes as well as schematics of circuitry
- All programmes are described in detail
- Includes exercises with detailed debugging.

Fields of interest
Robotics and Automation; Control, Robotics, Mechatronics; Electronics and Microelectronics, Instrumentation

Target groups
Research

Discount group
P

Intelligent Networking, Collaborative Systems and Applications

Current companies and communities of practice are involved in intensive networking and collaborative systems by a great variety of electronic relations and collaborative interactions. This has resulted in entangled systems that need to be managed efficiently and in an autonomous way, thus facing many issues and challenges. The extensive research produced in this book will help virtual organizations to exploit latest and powerful technologies based on Grid and Wireless infrastructures as well as Cloud computing in order to alleviate complex issues and challenges arisen in networking and collaborative systems, in terms of collaborative applications, resource management, mobility, and security and system resilience. The ultimate aim of the book is to stimulate research that leads to the creation of responsive environments for networking and, at longer-term, the development of adaptive, secure, mobile, and intuitive intelligent systems for collaborative work and learning. Academic researchers, professionals and practitioners in the field will be inspired and put in practice the ideas and experiences proposed in the book in order to evaluate them for their specific research and work.

Features
- Recent research in Intelligent Networking, Collaborative Systems and Applications
- State-of-the-Art book
- Written by leading experts in this field

Fields of interest
Computational Intelligence; Artificial Intelligence (incl. Robotics); Statistical Physics, Dynamical Systems and Complexity

Target groups
Research

Discount group
P
Principles of VLSI RTL Design
A Practical Guide

S. Churiwala, Atrenta, Noida, INDIA; S. Garg, Atrenta, Noida, INDIA

Since register transfer level (RTL) design is less about being a bright engineer, and more about knowing the downstream implications of your work, this book explains the impact of design decisions taken that may give rise later in the product lifecycle to issues related to testability, data synchronization across clock domains, synthesizability, power consumption, routability, etc., all of which are a function of the way the RTL was originally written. Readers will benefit from a highly practical approach to the fundamentals of these topics, and will be given clear guidance regarding necessary safeguards to observe during RTL design.

Features
► Provides a highly accessible, single-source reference to all key topics essential to an RTL designer
► Describes in detail specific actions/cautions that designer needs to consider in design to avoid problems in downstream implementation
► Covers content based on practical experience with numerous real designs from large semiconductor design companies.

Contents
Introduction to RTL Designs; Ensuring RTL Intent; Static Timing Analysis (STA); Clock Domain Crossing (CDC); Power; Design for Test; Timing Exceptions; Congestion; Conclusions.

Fields of interest
Circuits and Systems; Computer-Aided Engineering (CAD, CAE) and Design

Target groups
Research

Discount group
P

Due April 2011
2011. X, 192 p. 95 illus. Hardcover
► approx. $129.00
ISBN 978-1-4419-9295-6

Integral and Diagnostic Intrusive Prediction of Speech Quality

T-Labs Series in Telecommunication Services

N. Côté, Université de Bretagne Occidentale, Plouzané, France

This work deals with the instrumental measurement methods for the perceived quality of transmitted speech. These measures simulate the speech perception process, employed by human subjects during auditory experiments. The measure standardized by the International Telecommunication Union (ITU), called "Wideband-Perceptual Speech Quality Evaluation (WB-PESQ)", is not able to quantify all perceived characteristics on a unidimensional quality scale, the Mean Opinion Score (MOS) scale. Recent experimental studies showed that subjects make use of several perceptual dimensions to judge the quality of speech signals. In order to represent the signal at a higher stage of perception, a new model, called "Diagnostic Instrumental Assessment of Listening quality (DIAL)", has been developed. It includes a perceptual and a cognitive model which simulate the whole quality judgment process. Except for strong discontinuities, DIAL predicts very well speech quality of different speech processing and transmission systems, and it outperforms the WB-PESQ.

Features
► Develops a reliable intrusive speech quality model which estimates auditory test results
► Introduces a new perceptual and a cognitive model which simulate the whole quality judgment process ► Predicts very well the quality of many speech transmitting systems

From the contents

Fields of interest
Signal, Image and Speech Processing; User Interfaces and Human Computer Interaction; Communications Engineering, Networks

Target groups
Research

Discount group
P

Due May 2011
2011. 250 p. (T-Labs Series in Telecommunication Services, Volume 1) Hardcover
► approx. $139.00
ISBN 978-3-642-18462-8
Self-Excited Vibration
Theory, Paradigms, and Research Methods

Based on a systematic understanding of its theoretical foundations, “Self-Excited Vibration: Theory, Paradigms, and Research Methods” offers a method for analyzing any type of self-excited vibration (SEV). After summarizing the research results of various SEV phenomenon, including chatter, shimmy, rotor whirl, flutter, gallop, and SEV of man-made control systems, the author constructs a general constitutive mechanism of SEV, as well as a common research program and detailed analysis technique. All of these will help the reader independently analyze any new SEV phenomena.

Prof. Wenjing Ding was the Director of the Dynamics and Vibration Division of the Engineering Mechanics Department of Tsinghua University, China.

Features
- Probes into the general constitutive mechanisms of a variety of self-excited vibrations (SEV)
- Emphasizes building a systematic SEV theory
- Helps readers completely master the techniques needed to study SEV phenomena

Contents

Fields of interest
Mechanical Engineering; Civil Engineering; Automotive Engineering

Target groups
Research

Discount group
P

Soft Computing in Economics and Finance

Currently the methods of Soft Computing are successfully used for risk analysis in: budgeting, e-commerce development, portfolio selection, Black-Scholes option pricing models, corporate acquisition systems, evaluating investments in advanced manufacturing technology, interactive fuzzy interval reasoning for smart web shopping, fuzzy scheduling and logistic. An essential feature of economic and financial problems is that there are always at least two criteria to be taken into account: profit maximization and risk minimization. Therefore, the economic and financial problems are multiple criteria ones. In this book, a new systematization of the problems of multiple criteria decision making is proposed which allows the author to reveal unsolved problems. The solutions of them are presented as well and implemented to deal with some important real-world problems such as investment project’s evaluation, tool steel material selection problem, stock screening and fuzzy logistic. It is well known that the best results in real-world applications can be obtained using the synthesis of modern methods of soft computing. Therefore, the developed by the author new approach to building effective stock trading systems, based on the synthesis of fuzzy logic and the Dempster-Shafer theory, seems to be a considerable contribution to the application of soft computing methods in economics and finance.

Features
- Introductory book to Soft Computing in Economics and Finance
- Foundations of Soft Computing methods in Economics and Finance
- Written by a leading expert in the field

Fields of interest
Computational Intelligence; Artificial Intelligence (incl. Robotics); Operations Research/Decision Theory

Target groups
Research

Discount group
P

Mobile Hybrid Intrusion Detection

The MOVICAB-IDS System

This monograph comprises work on network-based Intrusion Detection (ID) that is grounded in visualisation and hybrid Artificial Intelligence (AI). It has led to the design of MOVICAB-IDS (MOBILE VISUALISATION CONNECTIONIST AGENT-BASED IDS), a novel Intrusion Detection System (IDS), which is comprehensively described in this book. This novel IDS combines different AI paradigms to visualise network traffic for ID at packet level. It is based on a dynamic Multiagent System (MAS), which integrates an unsupervised neural projection model and the Case-Based Reasoning (CBR) paradigm through the use of deliberative agents that are capable of learning and evolving with the environment. The proposed novel hybrid IDS provides security personnel with a synthetic, intuitive snapshot of network traffic and protocol interactions. This visualisation interface supports the straightforward detection of anomalous situations and their subsequent identification. The performance of MOVICAB-IDS was tested through a novel mutation-based testing method in different real domains which entailed several attacks and anomalous situations.

Features
- Recent research in Mobile Hybrid Intrusion Detection
- Comprehensive description of the MOVICAB-IDS, a novel Intrusion Detection System
- Written by leading experts in the field

Contents
Introduction.- Visualisation, Artificial Intelligence, and Security.- Previous Work on NID.- A Novel Hybrid IDS.- Experiments & Results.- Testing & Validation.- Discussion & Conclusions.

Fields of interest
Computational Intelligence; Artificial Intelligence (incl. Robotics)
Intelligent Surveillance Systems

Surveillance systems have become increasingly popular. Full involvement of human operators has led to shortcomings, e.g. high labor cost, limited capability for multiple screens, inconsistency in long-duration, etc. Intelligent surveillance systems (ISSs) can supplement or even replace traditional ones. In ISSs, computer vision, pattern recognition, and artificial intelligence technologies are used to identify abnormal behaviours in videos. They present the development of real-time behaviour-based intelligent surveillance systems. The book focuses on the detection of individual abnormal behaviour based on learning and the analysis of dangerous crowd behaviour based on texture and optical flow. Practical systems include a real-time face classification and counting system, a surveillance robot system that utilizes video and audio information for intelligent interaction, and a robust person counting system for crowded environments.

Features
- Explains practical applications for ISS in an easily-accessible way
- Presents the newest results on Intelligent Surveillance Systems
- Includes dynamics analysis for crowd behaviour.

Fields of interest
Computational Intelligence; Computer Imaging, Vision, Pattern Recognition and Graphics; Robotics and Automation

Target groups
Research

Discount group P

Due April 2011

Hardcover

> approx. $139.00
ISBN 978-3-642-17763-7

Robot and Multibody Dynamics

Analysis and Algorithms

Robot and Multibody Dynamics: Analysis and Algorithms provides a comprehensive and detailed exposition of a new mathematical approach, referred to as the Spatial Operator Algebra (SOA), for studying the dynamics of articulated multi-body systems. The approach is useful in a wide range of applications including robotics, aerospace systems, articulated mechanisms, bio-mechanics and molecular dynamics simulation. The book also: treats algorithms for simulation, including an analysis of complexity of the algorithms, describes one universal, robust, and analytically sound approach to formulating the equations that govern the motion of complex multi-body systems, covers a range of more advanced topics including under-actuated systems, flexible systems, linearization, diagonalized dynamics and space manipulators. Robot and Multibody Dynamics: Analysis and Algorithms will be a valuable resource for researchers and engineers looking for new mathematical approaches to finding engineering solutions in robotics and dynamics.

Features
- Uses modern mathematical modeling tools (spatial algebra) and treats algorithms for simulation, including an analysis of complexity of the algorithms
- Describes one universal, robust, and analytically sound approach to formulating the equations that govern the motion of complex multi-body systems
- Covers a range of more advanced topics including under-actuated systems, flexible systems, linearization, diagonalized dynamics and space manipulators

Fields of interest
Theoretical and Applied Mechanics; Vibration, Dynamical Systems, Control; Statistical Physics, Dynamical Systems and Complexity

Target groups
Professional/practitioner

Discount group P

Due March 2011

2011. 320 p. (Studies in Computational Intelligence, Volume 338) Hardcover

> $179.00
ISBN 978-3-642-17763-7

Available

2011. XX, 512 p. Hardcover

> $229.00
ISBN 978-1-4419-7266-8

L. C. Jain, University of South Australia, Adelaide, SA, Australia; E. Aidman, University of Adelaide, SA, Australia; C. Abeynayake, Defence Science and Technology Organisation, Edinburgh, SA, Australia (Eds.)

Robotics and Automation

Vision, Pattern Recognition and Graphics; Fields of interest
dynamics analysis for crowd behaviour.

On Intelligent Surveillance Systems
easily-accessible way
on videos. They present the development of real-time
detection of dangerous crowd behaviour based on
traditional ones. In ISSs, computer vision, pattern
artificial intelligence technologies are used to identify abnormal behaviours in
real-time face classification and counting system, a surveillance robot system that utilizes video
audio information for intelligent interaction, and a robust person counting system for crowded

Features
- Explains practical applications for ISS in an
easily-accessible way
- Presents the newest results on Intelligent Surveillance Systems
- Includes dynamics analysis for crowd behaviour.

Fields of interest
Computational Intelligence; Computer Imaging, Vision, Pattern Recognition and Graphics; Robotics and Automation

Target groups
Research

Discount group P

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- Covers a range of more advanced topics including under-actuated systems, flexible systems, linearization, diagonalized dynamics and space manipulators

Fields of interest
Theoretical and Applied Mechanics; Vibration, Dynamical Systems, Control; Statistical Physics, Dynamical Systems and Complexity

Target groups
Professional/practitioner

Discount group P

Due March 2011

2011. 320 p. (Studies in Computational Intelligence, Volume 338) Hardcover

> $179.00
ISBN 978-3-642-17763-7

Available

2011. XX, 512 p. Hardcover

> $229.00
ISBN 978-1-4419-7266-8

L. C. Jain, University of South Australia, Adelaide, SA, Australia; E. Aidman, University of Adelaide, SA, Australia; C. Abeynayake, Defence Science and Technology Organisation, Edinburgh, SA, Australia (Eds.)
Logistic Core Operations with SAP Procurement, Production, Distribution Logistics and Compliance

The book explains, outlines, and shows how SAP’s business suite supports logistic end-to-end processes. Therefore, it does not focus on how to setup and configure individual features, but to show all relevant functionality, system and application integration to outline closed-loop supply chain processes in the area of procurement-, production-, distribution logistics and compliance. In case of different solutions for one specific business area, the authors outline the main differences, provide examples and make recommendations which solution is adequate for a specific business problem. The main goal of the book is to provide a “big-picture” perspective of the SAP business suite and its components – how they work together, and how this enterprise solutions finally map business requirements into software functionality.

Features
► In-depth case studies for each core solution to find out how companies can improve business processes with SAP functionalities ► Provides advice which application will best meet the processes with SAP functionalities ► To find out how companies can improve business processes with SAP functionalities ► Gives a detailed guide and complete overview of what SAP offers for logistic processes

Contents

Fields of interest
Engineering Economics, Organization, Logistics, Marketing, Computer Applications; Management of Computing and Information Systems

Target groups
Professional/practitioner

Discount group
P

Microelectronics Test Structures for CMOS Technology and Products

Test structures are used to develop and monitor the manufacturing process, product yield and performance of CMOS technology. The structures, when appropriately designed, provide timely feedback during the manufacturing and product evaluation processes, which in turn helps reduce the overall cost. This book covers the fundamentals of test structure designs for silicon CMOS technology, while also describing the basics of electrical measurements and characterization techniques for optimal use of the test structures. Often, the task of designing test structures is handed down to engineers with less experience who are given no training or guidelines for executing the design. As a result, many test structures are improperly designed and may have limited utility, or not work at all. In addition, poorly designed structures that are functional also create more questions than they answer, thus adding confusion to the process rather than resolving it. In the last decade, many small companies have sprung up to assist the larger silicon chip manufacturers in improving product yield, and CMOS chip design companies design their own test structures to evaluate the technology, but they have limited exposure to the complexity of the manufacturing process.

Features
► Provides a comprehensive guide to designing the most effective and lowest-cost microelectronic test structures ► Uses specific examples of good design techniques and discusses common errors to avoid in order to guide readers ► Presents an integrated approach to multiple parts of the design process, using measurement techniques and statistical analysis combined with physical mapping

Contents
Introduction.- Test Structures.- Performance Evaluation Techniques.- High-Level Design Methodologies.

Fields of interest
Electronics and Microelectronics, Instrumentation; Optical and Electronic Materials; Circuits and Systems

Target groups
Professional/practitioner

Discount group
P

High-Level Verification Methods and Tools for Verification of System-level Designs

Given the growing size and heterogeneity of Systems on Chip (SOC), the design process from initial specification to chip fabrication has become increasingly complex. This growing complexity provides incentive for designers to use high-level languages such as C, SystemC, and SystemVerilog for system-level design. While a major goal of these high-level languages is to enable verification at a higher level of abstraction, allowing early exploration of system-level designs, the focus so far for validation purposes has been on traditional testing techniques such as random testing and scenario-based testing. This book focuses on high-level verification, presenting a design methodology that relies upon advances in synthesis techniques as well as on incremental refinement of the design process. These refinements can be done manually or through elaboration tools. This book discusses verification of specific properties in designs written using high-level languages, as well as checking that the refined implementations are equivalent to their high-level specifications. The novelty of each of these techniques is that they use a combination of formal techniques to do scalable verification of system designs completely automatically.

Features
► Offers industry practitioners already involved with high-level synthesis an invaluable reference to high-level verification ► Uses a combination of formal techniques to do scalable verification of system designs completely automatically ► Presents techniques that guarantee properties verified in the high-level design are preserved through the translation to low-level RTL ► Written by researchers in work in mainstream hardware and software design and includes results from both academia and industry

Contents
Introduction.- High-Level Design Methodologies.- High-Level Verification Techniques.- High-Level Design Methodologies.

Fields of interest
Circuits and Systems; Computer-Aided Engineering (CAD, CAE) and Design

Target groups
Research

Discount group
P
J. Korec, Texas Instruments, Bethlehem, PA, USA

Low Voltage Power MOSFETs
Design, Performance and Applications

Low Voltage Power MOSFETs focuses on the design of low voltage power MOSFETs and the relation between the device structure and the performance of a power MOSFET used as a switch in power management applications. This Springer-Briefs close the gap between detailed engineering reference books and the numerous technical papers on the subject of power MOSFETs. The material presented covers low voltage applications extending from battery operated portable electronics, through point of load converters, internet infrastructure, automotive applications, to personal computers and server computers. The issues treated in this volume are explained qualitatively using schematic illustrations, making the discussion easy to follow for all prospective readers.

Features
► Explains the relation between the way a power MOSFET has been designed and how effective the performance of the device is in different applications

Contents

Fields of interest
Power Electronics, Electrical Machines and Networks; Solid State Physics; Electronics and Microelectronics, Instrumentation

Due April 2011
► $49.95

H. Kwasnicka, Wroclaw University of Technology, Poland; L. C. Jain, University of South Australia, Adelaide, SA, Australia (Eds.)

Innovations in Intelligent Image Analysis

This book presents an introduction to new and important research in the imaging processing and analysis area. It is hoped that this book will be useful for scientists and students involved in many aspects of image analysis. The book does not attempt to cover all of the aspects of Computer Vision, but the chapters do present some state of the art examples.

Features
► Recent research in image analysis using advanced computational intelligence paradigms
► Survey of advanced computational intelligence paradigms in image interpretation, image retrieval, knowledge acquisition and biometric systems
► Includes a number of case studies

Contents
Advances in Intelligent Image Analysis.- Multi-class Classification in Image Analysis Via Error-Correcting Output Codes.- MORPHOLOGICAL OPERATOR DESIGN FROM TRAINING DATA.- TASK-SPECIFIC SALIENCE FOR OBJECT RECOGNITION.- Fast and efficient local features detection for building recognition.- Visual Perception in Image Analysis.- An Introduction to Magnetic Resonance Imaging: From Image Acquisition to Clinical Diagnosis.- Image Analysis in Poincaré-Peters Perceptual Representative Spaces.- Local keypoints and global affine geometry: triangles and ellipses for image fragment matching.

Fields of interest
Computational Intelligence; Artificial Intelligence (incl. Robotics); Signal, Image and Speech Processing

Target groups
Research

Discount group
P

Due March 2011
2011. 326 p. (Studies in Computational Intelligence, Volume 339) Hardcover
► $179.00
ISBN 978-3-642-17933-4

Lattice Boltzmann Method introduces the lattice Boltzmann method (LBM) for solving transport phenomena – flow, heat and mass transfer – in a systematic way. Providing explanatory computer codes throughout the book, the author guides readers through many practical examples, such as: flow in isotermal and non-isothermal lid driven cavities; flow over obstacles; forced flow through a heated channel; conjugate forced convection and natural convection. Diffusion and advection-diffusion equations are discussed with applications and examples, and complete computer codes accompany the coverage of single and multi-relaxation-time methods. Although the codes are written in FORTRAN, they can be easily translated to other languages, such as C++. The codes can also be extended with little effort to multi-phase and multi-physics, if the reader knows the physics of the problem.

Readers with some experience of advanced mathematics and physics will find Lattice Boltzmann Method a useful and easy-to-follow text. It has been written for those who are interested in learning and applying the LBM to engineering and industrial problems and it can also serve as a textbook for advanced undergraduate or graduate students who are studying computational transport phenomena.

Features
► Provides detailed examples with complete computer codes  ► Avoids the most complicated mathematics and physics without sacrificing the basic fundamentals of the method  ► Introduces the Lattice Boltzmann Method in a readable manner

Fields of interest
Engineering Thermodynamics, Heat and Mass Transfer; Classical Continuum Physics; Engineering Fluid Dynamics

Target groups
Research

Discount group
P

Due March 2011

2011. LVIII, 238 p. 65 illus. Hardcover  
► approx. $129.00  

Stochastic Processes with Applications to Reliability Theory

Stochastic process theory is of fundamental importance for engineers and managers involved in the manufacture of high-quality products and the design of reliable systems. In order to make sense of the theory, however, and to apply it to real systems, an understanding of the basic stochastic processes is indispensable.

As well as providing readers with useful reliability studies and applications, Stochastic Processes also gives a basic treatment of such stochastic processes as the Poisson process, the renewal process, the Markov chain, the Markov process, and the Markov renewal process. Many examples are cited from reliability models to show the reader how to apply stochastic processes. Furthermore, Stochastic Processes gives a simple introduction to other stochastic processes such as the cumulative process, the Wiener process, the Brownian motion and reliability applications.

Stochastic Processes is suitable for use as a reliability textbook by advanced undergraduate and graduate students. It is also of interest to researchers, engineers and managers who study or practise reliability and maintenance.

Features
► Provides a basic treatment of stochastic processes  ► Includes reliability studies and their applications  ► Shows readers how to apply stochastic processes

Contents

Fields of interest
Quality Control, Reliability, Safety and Risk; Probability Theory and Stochastic Processes; Operations Research/Decision Theory

Target groups
Research

Discount group
P

Due March 2011

2011. XX, 340 p. 194 illus. Hardcover  
► $179.00  
ISBN 978-3-642-17483-4

Recent Developments and Innovative Applications in Computational Mechanics

This Festschrift is dedicated to Professor Dr.-Ing. habil. Peter Wriggers on the occasion of his 60th birthday. It contains contributions from friends and collaborators as well as current and former PhD students from almost all continents. As a very diverse group of people, the authors cover a wide range of topics from fundamental research to industrial applications: contact mechanics, finite element technology, micromechanics, multiscale approaches, particle methods, isogeometric analysis, stochastic methods and further research interests. In summary, the volume presents an overview of the international state of the art in computational mechanics, both in academia and industry.

Features
► The newest advances in computational mechanics  ► Festschrift for Prof. Wriggers 60th Birthday

From the contents

Fields of interest
Theoretical and Applied Mechanics; Computational Science and Engineering

Target groups
Research

Discount group
P

Due March 2011

2011. X, 246 p. 28 illus. (Springer Series in Reliability Engineering) Hardcover  
► $319.00  
Modelling and Control for Intelligent Industrial Systems
Adaptive Algorithms in Robotics and Industrial Engineering

Incorporating intelligence in industrial systems can help to increase productivity, cut-off production costs, and to improve working conditions and safety in industrial environments. This need has resulted in the rapid development of modeling and control methods for industrial systems and robots, of fault detection and isolation methods for the prevention of critical situations in industrial work-cells and production plants, of optimization methods aiming at a more profitable functioning of industrial installations and robotic devices and of machine intelligence methods aiming at reducing human intervention in industrial systems operation. To this end, the book analyzes and extends some main directions of research in modeling and control for industrial systems. These are: (i) industrial robots, (ii) mobile robots and autonomous vehicles, (iii) adaptive and robust control of electromechanical systems, (iv) filtering and stochastic estimation for multisensor fusion and sensorless control of industrial systems, (iv) fault detection and isolation in robotic and industrial systems, (v) optimization in industrial automation and robotic systems design, and (vi) machine intelligence for robots autonomy. The book will be a useful companion to engineers and researchers since it covers a wide spectrum of problems in the area of industrial systems.

Fields of interest
Computational Intelligence; Robotics and Automation; Artificial Intelligence (incl. Robotics)

Target groups
Research

Discount group
P

Due February 2011
$179.00ISBN 978-3-642-17874-1

Robotic Systems for Handling and Assembly

Although parallel robots are known to offer many advantages with respect to accuracy, dynamics, and stiffness, major breakthroughs in industrial applications have not yet taken place. This is due to a knowledge gap preventing fast and precise execution of industrial handling and assembly tasks. This book focuses on the design, modeling, and control of innovative parallel structures as well as the integration of novel machine elements. Special attention is paid to the integration of active components into lightweight links and passive joints. In addition, new control concepts are introduced to minimize structural vibrations. Although the optimization of robot systems itself allows a reduction of cycle times, these can be further decreased by improved path planning, robot programming, and automated assembly planning concepts described by 25 contributions within this book. The content of this volume is subdivided into four main parts dealing with Modeling and Design, System Implementation, Control and Programming as well as Adaptronics and Components.

This book is aimed at researchers and postgraduates working in the field of parallel robots as well as practicing engineers dealing with industrial robot development and robotic applications.

Features
► New Developments on Robotic Systems for Handling and Assembly ► Focuses on the design, modeling, and control of innovative parallel structures as well as the integration of novel machine elements ► Written by leading experts in the field

Contents

Fields of interest
Robotics and Automation; Artificial Intelligence (incl. Robotics)

Target groups
Research

Discount group
P

Due January 2011
$159.00ISBN 978-3-642-16784-3

Handbook of Swarm Intelligence
Concepts, Principles and Applications

From nature, we observe swarming behavior in the form of ant colonies, bird flocking, animal herding, honey bees, swarming of bacteria, and many more. It is only in recent years that researchers have taken notice of such natural swarming systems as culmination of some form of innate collective intelligence, albeit swarm intelligence (SI) - a metaphor that inspires a myriad of computational problem-solving techniques. In computational intelligence, swarm-like algorithms have been successfully applied to solve many real-world problems in engineering and sciences. This handbook volume serves as a useful foundational as well as consolidatory state-of-art collection of articles in the field from various researchers around the globe. It has a rich collection of contributions pertaining to the theoretical and empirical study of single and multi-objective variants of swarm intelligence based algorithms like particle swarm optimization (PSO), ant colony optimization (ACO), bacterial foraging optimization algorithm (BFOA), honey bee social foraging algorithms, and harmony search (HS). With chapters describing various applications of SI techniques in real-world engineering problems, this handbook can be a valuable resource for researchers and practitioners, giving an in-depth flavor of what SI is capable of achieving.

Features
► Comprehensive study of both theoretical and algorithmic analysis of swarm intelligence techniques ► Provides real-world applications of SI techniques ► Written by leading experts in this field

Fields of interest
Computational Intelligence; Artificial Intelligence (incl. Robotics)

Target groups
Research

Discount group
P

Available
2010. XII, 544 p. 211 illus., 54 in color. (Adaptation, Learning, and Optimization, Volume 8) Hardcover
$229.00ISBN 978-3-642-17380-9
Applications of Finite Element Methods for Reliability Studies on ULSI Interconnections

Applications of Finite Element Methods for Reliability Studies on ULSI Interconnections provides a detailed description of the application of finite element methods (FEMs) to the study of ULSI interconnect reliability. Over the past two decades, the application of FEMs has become widespread and continues to lead to a much better understanding of reliability physics. To help readers cope with the increasing sophistication of FEMs’ applications to interconnect reliability, Applications of Finite Element Methods for Reliability Studies on ULSI Interconnections will: introduce the principle of FEMs; review numerical modeling of ULSI interconnect reliability; describe the physical mechanism of ULSI interconnect reliability encountered in the electronics industry; and discuss in detail the use of FEMs to understand and improve ULSI interconnect reliability from both the physical and practical perspective, incorporating the Monte Carlo method.

Features

▶ Gives readers a thorough understanding of the application of finite element methods to reliability modelling
▶ Provides various numerical models for interconnect reliability
▶ Includes many illustrations to improve the reader’s understanding

Fields of interest

Quality Control, Reliability, Safety and Risk; Computational Intelligence; Electronics and Microelectronics, Instrumentation

Target groups

Research

Discount group

P

Unmanned Aerial Vehicles

Unmanned Aircraft Systems (UAS) have seen unprecedented levels of growth during the last decade in both military and civilian domains. However, it is anticipated that civilian applications will be dominant in the future, although there are still barriers to be overcome and technical challenges to be met. For example, integrating UAS into civilian space, fully autonomous navigation, see-and-avoid systems, smart UAS designs, system integration, vision-based navigation, logistics and training, to name but a few areas, will be of prime importance in the near future. This special volume is the outcome of research presented at the International Symposium on Unmanned Aerial Vehicles, held in Dubai in June 2010, and presents state-of-the-art findings on topics related to: UAS operations and integration into the national airspace system; UAS navigation and control; micro-, mini-, small UAS; UAS simulation testbeds and frameworks; UAS research platforms and applications; UAS applications. This book aims at serving as a guide tool on UAS for engineers and practitioners, academics, government agencies and industry.

This is a hardbound spinoff from the Journal of Intelligent and Robotic Systems, Volume 61:1-4, 2011.

Features

▶ Most recent state-of-the-art published research
▶ Includes the latest information on air vehicle operations
▶ Includes emergency landing system techniques

Fields of interest

Control, Robotics, Mechatronics; Communications Engineering, Networks, Signal, Image and Speech Processing

Target groups

Research

Discount group

P

Dependability of Networked Computer-based Systems

The measurement of dependability attributes on real systems is a very time-consuming and costly affair, making analytical or simulation modeling the only viable solutions. Dependability of Networked Computer-based Systems explores reliability, availability and safety modeling of networked computer-based systems used in life-critical applications such as avionics, nuclear power plants, automobiles and chemical process industries.


Features

▶ Gives a detailed overview of dependability models and analysis techniques
▶ Details new trends in dependability related to networked computer-based systems
▶ Forms a guide to decision-making based on system dependability at the design, operation and maintenance stages

Fields of interest

Quality Control, Reliability, Safety and Risk; Performance and Reliability; Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences

Target groups

Research

Discount group

P
Ambient Assisted Living

In this book, 22 authors discuss development of Ambient Assisted Living. It presents new technological developments which support the autonomy and independence of individuals with special needs. As the technological innovation raises also social issues, the book addresses micro and macro economical aspects of assistive systems and puts an additional emphasis on the ethical and legal discussion. The presentation is supported by real world examples and applications.

Features
- Presents many technological innovation for Ambient Assisted Living
- Discusses the micro and macro economical aspects
- Includes ethical and legal aspects

Contents

Fields of interest
Biomedical Engineering; R & D/Technology Policy; Aging

Recent Developments in the Ordered Weighted Averaging Operators: Theory and Practice

This volume presents the state of the art of new developments, and some interesting and relevant applications of the OWA (ordered weighted averaging) operators. The OWA operators were introduced in the early 1980s by Ronald R. Yager as a conceptually and numerically simple, easily implementable, yet extremely powerful general aggregation operator. That simplicity, generality and implementability of the OWA operators, combined with their intuitive appeal, have triggered much research both in the foundations and extensions of the OWA operators, and in their applications to a wide variety of problems in various fields of science and technology.

Part I: Methods includes papers on theoretical foundations of OWA operators and their extensions. The papers in Part II: Applications show some more relevant applications of the OWA operators, mostly means, as powerful yet general aggregation operators. The application areas are exemplified by environmental modeling, social networks, image analysis, financial decision making and water resource management.

Features
- Recent developments in the Ordered Weighted Averaging operators
- Written by leading experts in this field
- State-of-the-Art book

Fields of interest
Appl.Mathematics/Computational Methods of Engineering; Artificial Intelligence (incl. Robotics)
Climate Change and its Effects on Water Resources

Issues of National and Global Security

National and global security can be assessed in many ways but one underlying factor for all humanity is access to reliable sources of water for drinking, sanitation, food production and manufacturing industry. In many parts of the world, population growth and an escalating demand for water already threaten the sustainable management of available water supplies. Global warming, climate change and rising sea level are expected to intensify the resource sustainability issue in many water-stressed regions of the world by reducing the annual supply of renewable fresh water and promoting the intrusion of saline water into aquifers along sea coasts, where 50% of the global population reside.

Features
- Water security in a changing climate
- Effect of climate change on water resources
- Sustainability of surface and subsurface waters

Fields of interest
Climate Change; Environment, general; Earth Sciences, general

Target groups
Graduate

Discount group
P

Due May 2011

Waste Water Treatment and Reuse in the Mediterranean Region

Water scarcity and the need for ecological sustainability have led to the introduction of treated waste water as an additional water resource in the national water resource management plans of Mediterranean countries. Summarizing the results generated within the European Union-funded project INNOVA-MED, this volume highlights the following topics: Application of innovative technologies and practices for waste water treatment and reuse adapted to the Mediterranean region; Constraints on the application of advanced treatments and reuse of reclaimed water and sludge; Problems and requirements of sustainable water management in the Mediterranean area. The book includes several examples of Mediterranean countries, such as Tunisia, Morocco, Egypt, Palestine and Spain, and presents their practical experiences in the application of innovative processes and practices for waste water treatment and reuse.

Features
- A comprehensive review
- Written by experts

From the contents
- Technologies for advanced wastewater treatment in the Mediterranean Region.
- Innovative Wastewater Treatment And Reuse Technologies Adapted To Southern Mediterranean Countries.
- Overview of new practices in the re-use of reclaimed water.
- Treatment and re-use of sludge.
- Constraints of application of advance treatments and re-use of reclaimed water and sludge.
- Risk Assessment and Life Cycle Analysis in Water Industry.

Fields of interest
Environmental Chemistry; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; Geochemistry

Target groups
Research

Discount group
P

Due April 2011

Effect-Directed Analysis of Complex Environmental Contamination

Today more than 5 million chemicals are known and roughly 100,000 of them are frequently used, with both numbers rising. Many of these chemicals are ultimately released into the environment and may cause adverse effects to ecosystems and human health. Effect-directed analysis (EDA) is a promising tool for identifying predominant toxicants in complex, mostly environmental mixtures combining effect testing, fractionation and chemical analysis. In the present book leading experts in the field provide an overview of relevant approaches and tools used in EDA. This includes diagnostic biological tools, separation techniques and advanced analytical and computer tools for toxicant identification and structure elucidation. Examples of the successful application of EDA are discussed such as the identification of mutagens in airborne particles and sediments, of endocrine disruptors in aquatic ecosystems and of major toxicants in pulp and paper mill effluents. This book is a valuable, comprehensive and interdisciplinary source of information for environmental scientists and environmental agencies dealing with the analysis, monitoring and assessment of environmental contamination.

Features
- A comprehensive review
- Written by experts

Available
2011. XIV, 300 p. Hardcover

Discount group
P
Science and Stakeholders
Solutions to Energy and Environmental Issues by Incorporating Resource Agencies, Regulators, Tribes, Industry, and other Stakeholders

Nation and the World must move forward with development of a range of energy sources and savings, all with attendant environmental problems. Solving these problems, and those remaining from past energy-related activities, will require iteration, inclusion, and collaboration with a wide range of stakeholders, including U.S., State and local governmental agencies, Tribal Nations, scientists, environmentalists, public policy makers, and the general public.

Features
► Describes and examines the interactions and integration of science and stakeholders to find solutions to some of the Nation’s controversial Energy-related issues
► Uses case studies to explore the methods of integration and collaboration among diverse communities
► The focus of each chapter will be on problem definition, the process leading to the solution, and the mechanisms and collaborations among stakeholders that made the solutions possible

From the contents

Fields of interest
Environmental Management; Renewable Energy Sources

Target groups
Professional/practitioner

Discount group
P

Progress in Urban Ecology
This book gives an interdisciplinary overview on urban ecology. Basic understanding of urban nature development and its social reception are discussed for the European Metropolitan Area of Berlin. Further we investigate specific consequences for environment and nature and the quality of life for city dwellers due to profound changes of climate, city shrinking, and the demographic and economic developments. Actual problems of urban ecology should be discussed not only in terms of natural dimension like Atmosphere, Biosphere, Pedosphere and Hydrosphere but also in terms of social dimension like urban planning, dwelling and recreation, traffic and mobility and economic values. Our research findings focus on streets, new urban landscapes after deconstructing apartment blocks, intermediate use of brownfields, and the relationships between urban nature and the well-being of city dwellers. Finally, the book provides a contribution to the international discussion on the theory of urban ecology.

Features
► Interdisciplinary (social and natural) approach on urban ecology
► Case study Berlin as a Metropolitan Region
► New research findings taken into account profound changes of climate, city shrinking and demographic and economic development

From the contents

Fields of interest
Environmental Management; Landscape/Regional and Urban Planning; Biogeosciences

Target groups
Upper undergraduate

Discount group
P

In the Wrong Place – Alien Marine Crustaceans: Distribution, Biology and Impacts
In The Wrong Place: Alien Marine Crustaceans - Distribution, Biology And Impacts provides a unique view into the remarkable story of how shrimps, crabs, and lobsters – and their many relatives – have been distributed around the world by human activity, and the profound implications of this global reorganization of biodiversity for marine conservation biology. Many crustaceans form the base of marine food chains, and are often prominent predators and competitors acting as ecological engineers in marine ecosystems.

Commencing in the 1800s global commerce began to move hundreds – perhaps thousands – of species of marine crustaceans across oceans and between continents, both intentionally and unintentionally. This book tells the story of these invasions from Arctic waters to tropical shores, highlighting not only the importance and impact of all prominent crustacean invasions in the world’s oceans, but also the commercial exploitation of invasive crabs and shrimps.

Features
► First global, comprehensive review of alien marine crustaceans
► Highlights the pervasiveness, importance and impacts of alien crustacea across the world
► Highlights the commercial exploitation of invasive decapods

Fields of interest
Marine & Freshwater Sciences; Ecology; Freshwater & Marine Ecology

Target groups
Research

Discount group
P

ISBN 978-3.642.17730.4
$179.00

Due May 2011
Anatomy of an Environmental Disaster

The book is structured into six core parts. The first part sets the scene and explains how the use of Aral basin water resources, primarily used for irrigation, has destroyed the Aral Sea. The team explains how spheres and events interact and the related problems. Part 2 examines the social consequences of the ecological catastrophe and the effect of the Aral Sea desiccation on cultural and economic conditions of near Aral region. Part 3 explores the scientific causes of the destruction using detailed analyses and data plus some of their own research spanning aquatic biology, terrestrial biology, hydrology, water management and biodiversity. They also share some of the latest archaeological discoveries and paleobotanical analysis to delineate past levels and characteristics of the Aral Sea. There is particular focus on modern remote sensing and GIS techniques and how they can monitor the Aral Sea and the environment. Part 4 discusses regional and international initiatives to mitigate human and ecological problems of the Aral Sea and the wider political and economic consequences. With thorough insight of the total environment cost, the final chapters of the book will provide lessons for the future. There are insightful case studies throughout.

Features
- First book in the new Springer-Praxis Earth System Science Series
- Written by a global team of experts with up-to-date knowledge of the Aral Sea
- Highly regarded lead Editor, Dr Philip Micklin has written recent NATO book, an article in Scientific American and a review in Annual Review of Earth and Planetary Sciences
- Explores theories and makes comparisons with the available data Looks at possible solutions and their extension to similar areas in the world
- Makes good use of colour images for scientific interpretation

Fields of interest
- Environmental Management; Meteorology/Climatology; Oceanography

Target groups
- Research

Discount group
- P

Due June 2011


C. Ray, University of Hawaii, Honolulu, USA; R. Jain, University of the Pacific, Stockton, USA (Eds.)

Drinking Water Treatment

Sustainable technologies for water supply are urgently needed if water supplies are to become accessible to billions of less fortunate people with inadequate access to water. These technologies must be simple, less expensive, less energy intensive, and easy to maintain for their adaptation among the poor masses. Four appropriate technologies are discussed here: solar pasteurization, membrane desalination, natural filtration (riverbank filtration), and solar distillation. Solar pasteurization can be a useful means of producing water at remote, but sunny locations where fuel may not be easily available for boiling water. Membrane desalination will remain as a viable means of drinking water production for individual households to large communities. Various membrane filtration techniques such as the means to “democratize” membrane filtration have been presented. Riverbank filtration is a “natural” filtration technique where drinking water is produced by placing wells on the banks of rivers. The riverbed/bank material and the underlying aquifer act as natural filters to remove pollutants from river water. Solar distillation can be a viable method of drinking water production for individual households to small communities without the input of external energy. Sustainability framework and technology transfer are discussed through transdisciplinary analysis.

Features
- Describes sustainable and low-cost technologies to produce drinking water accessibilities for people in developing and developed countries at a low cost
- Focuses on the water treatment methods such as solar distillation and pasteurization, membrane desalination and natural riverbank filtration

Fields of interest
- Environmental Engineering/Biotechnology; Math. Appl. in Environmental Science; Civil Engineering

Target groups
- Professional/practitioner

Discount group
- P

Due May 2011

2011. X, 290 p. 89 illus. (Strategies for Sustainability) Hardcover

Reviews of Environmental Contamination and Toxicology

Continuation of Residue Reviews


Volume 212

D. M. Whitacre, Reviews of Environmental Contamination and Toxicology, Summerfield, NC, USA (Ed.)

Reviews of Environmental Contamination and Toxicology Volume 212

Reviews of Environmental Contamination and Toxicology attempts to provide concise, critical reviews of timely advances, philosophy and significant areas of accomplished or needed endeavor in the total field of xenobiotics, in any segment of the environment, as well as toxicological implications.

Features
- Biochemical Effects Induced by the Hexachlorocyclohexanes
- The use of Cholinesterases in Ecotoxicology
- Tropospheric Ozone and Plants: Absorption, Responses and Consequences
- Strategies for Decolorization and Detoxification of Pulp and Paper Mill Effluent

Contents
- Foreword.- Preface.- Biochemical Effects Induced by the Hexachlorocyclohexanes.- The Use of Cholinesterases in Ecotoxicology.- Tropospheric Ozone and Plants: Absorption, Responses and Consequences.- Strategies for Decolorization and Detoxification of Pulp and Paper Mill Effluent.- Index

Fields of interest
- Ecotoxicology; Environmental Management; Waste Management/Waste Technology

Target groups
- Research

Discount group
- P

Due April 2011

2011. 150 p. 5 illus. Hardcover

Focusing on Appropriate Technology and Desalination

Sustainable technologies for water supply are urgently needed if water supplies are to become accessible to billions of less fortunate people with inadequate access to water. These technologies must be simple, less expensive, less energy intensive, and easy to maintain for their adaptation among the poor masses. Four appropriate technologies are discussed here: solar pasteurization, membrane desalination, natural filtration (riverbank filtration), and solar distillation. Solar pasteurization can be a useful means of producing water at remote, but sunny locations where fuel may not be easily available for boiling water. Membrane desalination will remain as a viable means of drinking water production for individual households to large communities. Various membrane filtration techniques such as the means to “democratize” membrane filtration have been presented. Riverbank filtration is a “natural” filtration technique where drinking water is produced by placing wells on the banks of rivers. The riverbed/bank material and the underlying aquifer act as natural filters to remove pollutants from river water. Solar distillation can be a viable method of drinking water production for individual households to small communities without the input of external energy. Sustainability framework and technology transfer are discussed through transdisciplinary analysis.

Features
- Describes sustainable and low-cost technologies to produce drinking water accessibilities for people in developing and developed countries at a low cost
- Focuses on the water treatment methods such as solar distillation and pasteurization, membrane desalination and natural riverbank filtration

Fields of interest
- Environmental Engineering/Biotechnology; Math. Appl. in Environmental Science; Civil Engineering

Target groups
- Professional/practitioner

Discount group
- P

Due April 2011

2011. 150 p. 5 illus. Hardcover

Press + approx. $129.00
ISBN 978-1-4419-8452-4
Health Care and EU Law

The aim of the present volume is to explore the consequences of the impact of the EU rules for the internal market (including the proposed Directive on patients’ rights) and competition on national health care systems. It will also address how related areas, such as EU public procurement law and WTO law, influence national healthcare organisation and Member State autonomy.

Features
- The book approaches the issue of health care not only from the perspective of patient mobility but also from the angle of competition law, public procurement law and WTO law.
- It provides the reader with a comprehensive view of the impact of (European) market law on national health care.
- Compulsory reading for everyone who is engaged in issues of health care and EU law.

From the contents

Fields of interest
European Law/Public International Law; Medicine/Public Health, general; Economics general

Target groups
Professional/practitioner

Discount group
P

Schoolchildren as Propaganda Tools in the War on Terror
Violating the Rights of Afghani Children under International Law

This book explores in what ways both sides involved in the so-called war on terror are using schoolchildren as propaganda tools while putting the children’s security at grave risk. The book explores how terrorists use attacks on education to attempt to destabilize the government while the government and the international aid community use increases in school attendance as an ostensible index of largely illusory progress in the overall security situation in and development. The book challenges the notion that unoccupied civilian schools are not entitled under the law of armed conflict to a high standard of protection which prohibits their use for military purposes. Also examined are the potential violations of international law that can occur when government and educational aid workers encourage and facilitate school attendance, as they do, in areas within conflict-affected states such as Afghanistan where security for education is inadequate and the risk of terror attacks on education high.

Features
- Fills an important gap in both the children’s human rights and international law literature.
- Provides an in-depth analysis of the rights rhetoric surrounding the issue of education in States undergoing conflict and a terror campaign.
- Explores how that rhetoric may work in fact against children’s best interests and basic right to security.

From the contents
Re-examining the Role of Education Aid as a Component of Humanitarian Agenda in Conflict-Affected States; Attacks on Education: The Scope of the Problem and the Unwitting Complicity of CAFS, their Coalition Allies and the International Aid Community.

Fields of interest
International & Foreign Law/Comparative Law; Human Rights/Law of armed conflict; International Law

Target groups
Research

Discount group
P

Computers, Privacy and Data Protection: an Element of Choice

This timely interdisciplinary work on current developments in ICT and privacy/data protection, coincides as it does with the rethinking of the Data Protection Directive, the contentious debates on data sharing with the USA (SWIFT, PNR) and the judicial and political resistance against data retention. The authors of the contributions focus on particular and pertinent issues from the perspective of their different disciplines which range from the legal through sociology, surveillance studies and technology assessment, to computer sciences. Such issues include cutting-edge developments in the field of cloud computing, ambient intelligence and PEs; data retention, PNR-agreements, property in personal data and the right to personal identity; electronic road tolling, HIV-related information, criminal records and teenager’s online conduct, to name but a few.

Features
- Timely look at current developments in ICT and privacy/data protection.
- Daring and prospective approaches coinciding with the revision of the Data Protection Directive.
- Directive A pertinent, interdisciplinary focus.

Fields of interest
European Law/Public International Law; Computers and Society; Criminology & Criminal Justice

Target groups
Research

Discount group
P

Due March 2011

Hardcover

$189.00

Due April 2011

2011. 290 p. Hardcover

$139.00
ISBN 978-3-642-17899-3

Due March 2011

2011. 340 p. 25 illus., 10 in color. Hardcover

$189.00
ISBN 978-90-007-0640-8
Real Estate Investments in Germany
Transactions and Development

The real estate market in Germany is on the move. Not only are major real estate portfolios changing hands but a considerable number of small portfolios and individual properties are also being developed and sold. Against this backdrop, this publication provides investors and project developers with practical explanations of the legal, tax and economic requirements surrounding real estate investments in Germany.

Contents

Fields of interest
International & Foreign Law/Comparative Law; Management/Business for Professionals; Commercial Law

Target groups
Professional/practitioner

Discount group
P
Plant-Plant Allelopathic Interactions
Phenolic Acids, Cover Crops and Weed Emergence

In an effort to implement conservation measures farmers have used a variety of production methods, including the use of reduced or zero tillage and cover crops. One benefit of these production methods has been early season weed control. The literature suggests that a variety of mechanisms may be involved, among them the allelopathic effects of phenolic acids. This retrospective analysis addresses the following: How likely are phenolic acid concentrations and environmental conditions in wheat no-till cropping systems for the inhibition of annual broadleaf weed emergence? and Do phenolic acids have a dominant role or are they just one component of a larger promoter/modifier/inhibitor complex? The book covers allelopathic plant-plant interactions, laboratory and field experiments, and future research. It uses a journal format, provides justifications, laboratory and field experiments, and future research. It uses a journal format.

Features
▶ In-depth analysis of phenolic acids in laboratory seedling-microbe-soil model systems and no-till field systems ▶ A blue print of how or how not to study plant-plant allelopathic interactions
▶ The application of the Scientific Method to the research of plant-plant allelopathic interactions
▶ Extensive listing of if-then hypotheses for plant-plant allelopathic interactions
▶ Listing of cons and pros for the effects of phenolic acids on broadleaf weed emergence in wheat no-till systems
▶ A discussion of past, present, and future paradigms for studying plant-plant allelopathic interactions
▶ Updated criteria for identifying plant-plant allelopathic interactions in nature
▶ Listing of potential tools for studying plant-plant allelopathic interactions within the framework of a "holistic paradigm"

Fields of interest
Applied Ecology; Agriculture; Ecotoxicology

Target groups
Upper undergraduate

Discount group
P

Due March 2011

ISBN 978-94-007-0682-8

$139.00

Due May 2011

ISBN 978-1-4419-8818-8

$209.00

International Association for Food Protection, Des Moines, USA

Procedures to Investigate Foodborne Illness

This revised Sixth edition of Procedures to Investigate Foodborne Illness is designed to guide public health personnel or teams in any country that investigates reports of alleged foodborne illnesses. It is a companion to another manual published by the IAFP, Procedures to Investigate Waterborne Illness. These two manuals are based on epidemiologic principles and investigative techniques that have been found effective in determining causal factors of disease incidence. This edition describes procedures to: Plan, prepare, investigate and respond to intentional contamination of food Handle illness alerts and food-related complaints that may be related to illness Interview ill persons, those at risk, and controls Develop a case definition Collect and snap specimens and samples Conduct hazard analysis at sites where foods responsible for outbreaks were produced, processed, or prepared Trace sources of contamination Collate and interpret collected data Report information

Features
▶ Guide for public health personnel to investigate reports of foodborne illnesses ▶ Based on effective epidemiologic principles and investigative techniques for determining causal factors of disease incidence ▶ User-friendly organization of guidelines

From the contents
Foreword.- Introduction.- Develop a Foodborne Disease Surveillance System.- Investigate Outbreaks.- Seek Sources and Modes of Contamination and Ways By Which the Contaminants Survived and/or Proliferated.- Analyze Data.- Make Recommendations for Control.- Inform the Public.- Calculate Economic Impact of Disease Outbreaks.- Submit Report.

Field of interest
Microbiology

Target groups
Professional/practitioner

Discount group
T

Due March 2011

Originally published by International Association for Food Protection, Des Moines, IA, USA, 1999

2011. XXX, 200 p. 48 illus. Hardcover

$139.00

ISBN 978-94-007-0682-8

2011. XXII, 414 p. 54 illus., 46 in color. Hardcover

$209.00

ISBN 978-1-4419-8818-8

$209.00

ISBN 978-1-4419-8305-4


Approx. $209.00

ISBN 978-1-4419-8305-4
Functional and Structural Proteomics of Glycoproteins

It has been predicted that nearly half of all human proteins are glycosylated indicating the significance of glycoproteins in human health and disease. For example, the glycans attached to proteins have emerged as important biomarkers in the diagnosis of diseases such as cancers and play a significant role in how pathogenic viruses gain entry into human cells. The study of glycoproteins has now become a truly proteomic science. In the last few years, technology developments including in silico methods, high throughput separation and detection techniques have accelerated the characterization of glycoproteins in cells and tissues. Glyco-engineering coupled to rapid recombinant protein production has facilitated the determination of glycoprotein structures key to exploring and exploiting their functional roles. Each chapter in this volume is written by experts in the field and together provide a review of the state of the art in the emerging field of glycoproteomics.

Features
- Covers a broad range of technologies
- Comprehensive articles written by international experts in the field of glycoproteomics
- A timely review of glycoproteins and methods for the diagnosis and treatment of glycoprotein related human diseases

From the contents

Field of interest
Biochemistry, general

Target groups
Research

Discount group
P

Non-Timber Forest Products in the Global Context

This book provides a comprehensive, global synthesis of current knowledge on the potential and challenges associated with the multiple roles, use, management and marketing of non-timber forest products (NTFPs). There has been considerable research and policy effort surrounding NTFPs over the last two and half decades. The book explores the evolution of sentiments regarding the potential of NTFPs in promoting options for sustainable multi-purpose forest management, income generation and poverty alleviation. Based on a critical analysis of the debates and discourses it employs a systematic approach to present a balanced and realistic perspective on the benefits and challenges associated with NTFP use and management within local livelihoods and landscapes, supported with case examples from both the southern and northern hemispheres. This book covers the social, economic and ecological dimensions of NTFPs and closes with an examination of future prospects and research directions.

Features
- Presents a global view of the multiple roles of NTFPs and a balanced and realistic perspective on the benefits and challenges associated with NTFP use and management.
- Provides an up-to-date, critical analysis of the debates and discourses surrounding NTFPs.
- Includes solid case study material and includes a series of integrated case studies that serve to illustrate many of the issues highlighted in the discussion chapters.

Fields of interest
Forestry Management; Plant Physiology; Environmental Economics

Target groups
Research

Discount group
P

Telomeres and Telomerase Methods and Protocols

New and rapid advances in technology have equipped us with a variety of tools and platforms to ask fundamental questions of telomere regulation and have allowed investigators to carry out experiments using diverse model systems. For example, proteomic, genomic, and molecular approaches have afforded us unprecedented insight into the complex protein interaction networks at work on the telomere chromatin and the detailed information regarding telomere dynamics in response to stress or stimuli. Telomeres and Telomerase: Methods and Protocols, Second Edition builds upon the telomerase assays featured in the popular first edition to encompass many different assays that allow investigators to query the function of telomere proteins and the responses of the telomere DNA, including detailed examinations of biochemical, molecular, and proteomic approaches. Written in the highly successful Methods in Molecular Biology® series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and expert tips on troubleshooting and avoiding known pitfalls. Authoritative and practical, Telomeres and Telomerase: Methods and Protocols, Second Edition serves as an ideal, up-to-date guide for investigators further pursuing this vital field of study.

Features
- Features cutting-edge protocols from this expanding and celebrated field of study.
- Details biochemical, molecular, and proteomic approaches.
- Contains expert tips and key implementation advice.

Fields of interest
Biochemistry, general; Biomedicine general

Target groups
Professional/practitioner

Discount group
P

Due May 2011


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Due March 2011
Mammalian Cell Viability
Methods and Protocols

Whether the question is one of basic cell survival, or whether it is being used to correlate cell number to some other factor such as matrix synthesis, an estimate of cell viability is universally required. In Mammalian Cell Viability: Methods and Protocols, experts in the field describe methods from the most basic which can be performed in any laboratory, to some which require specific pieces of equipment. Initially focusing on methods for monolayer and suspension cells, later chapters describe methods for determining viability within tissue sections and 3 dimensional culture systems. Finally, methods requiring highly specialized equipment are described in order to explain what is possible. Written in the highly successful Methods in Molecular Biology™ series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and vital tips on troubleshooting and avoiding known pitfalls. Practical and adaptable, Mammalian Cell Viability: Methods and Protocols serves as a self-contained laboratory manual useful to both experienced researchers and those new to this incredibly important and influential field.

Features
- Features protocols utilizing both common lab equipment and specialized, cutting-edge equipment
- Facilitates the multiplexing of methods for the greatest levels of success
- Contains expert tips and key implementation advice

Fields of interest
Cell Biology; Cell Culture

Target groups
Professional/practitioner

Discount group
P

Chemical Biology of the Tropics
An Interdisciplinary Approach

The mystique of the rainforest has captured the imaginations of generations of young people, explorers, authors, and biologists. It is a delicate ecosystem whose myriad sounds and smells, whose vibrancy of life, is balanced by constant cycles of death and decay. It is a place of fierce competition where unusual partnerships are forged and creative survival strategies are the norm. In this book, you will meet the scientific pioneers who first attempted to quantify and understand the vast diversity of these tropical forests, as well as their successors, who utilize modern tools and technologies to dissect the chemical nature of rainforest interactions. This book provides a general background on biodiversity and the study of chemical ecology before moving into specific chemical examples of insect defenses and microbial communication. It finishes with first-hand accounts of the trials and tribulations of a canopy biology pioneer and a rainforest research novice, while assessing the state of modern tropical research, its importance to humanity, and the ecological, political, and ethical issues that need to be tackled in order to move the field forward.

Features
- Leading tropical ecologists, geneticists, microbiologists, biochemists, and others discuss the newest developments in the emerging field of tropical chemical biology
- Introduces new interdisciplinary concept
- International experts present the state-of-the-art knowledge in their fields and write about how the rich biodiverse setting of the Amazon Rainforest could provide for a natural laboratory to put that technology into action

Fields of interest
Plant Biochemistry; Plant Ecology; Plant Sciences

Target groups
Research

Discount group
P

Receptor Signal Transduction Protocols
Third Edition

As our understanding of G protein-coupled receptor (GPCR) signal transduction continues to grow, we cannot help but be struck by the emerging complexity and the ability of this receptor superfamily to continually surprise us as new facets are discovered. In this third edition of Receptor Signal Transduction Protocols, the expert contributors have taken into account the constant evolution of the GPCR field and dealt with methods that allow researchers to address many of the important rising issues. Serving as a companion to the previous editions, this volume contains thorough revisions of some core chapters, the complete rewriting of others to encompass new technological developments since the publication of the prior editions, and the commissioning of brand new, cutting-edge chapters to expand on previous coverage. Written in the highly successful Methods in Molecular Biology™ series format, chapters include introductions to the respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and up-to-date, Receptor Signal Transduction Protocols, Third Edition serves the scientific community with a broad collection of the current, practical methodologies in this highly promising field.

Features
- Acknowledges the constant evolution of the GPCR field with up-to-date methodologies
- Contains detailed revisions of chapters from the prior editions as well as a considerable amount of completely new material
- Features expert tips and key implementation advice

Field of interest
Biochemistry, general

Target groups
Professional/practitioner

Discount group
P
J. Xu, Department of Botany and Plant Pathology, Purdue University, West Lafayette, IN, USA; B. H. Bluhm, Department of Plant Pathology, Division of Agriculture, University of Arkansas, Fayetteville, AR, USA (Eds.)

Fungal Genomics
Methods and Protocols

Having experienced unprecedented growth since the turn of the millennium, the dramatic expansion of resources and techniques in fungal genomics is poised to fundamentally redefine the study of fungal biology. In Fungal Genomics: Methods and Protocols, expert researchers explore the three most likely fronts upon which the field will advance: the sequencing of more and more fungal genomes, the mining of sequenced genomes for useful information, and most importantly, the use of genomics sequences to provide a foundation for powerful techniques to explain biological processes. Much of the book is dedicated to explaining established and emerging genomics-based technologies in filamentous fungi, including gene expression profiling techniques, techniques for fungal proteomics as well as various case studies that could be adapted to a wide range of fungi.

Features
► Emphasizes unpublished tips, potential pitfalls, common mistakes, and special considerations directly from the experts  ► Supports readers with the key information needed to keep up with and excel in this steadily progressing field  ► Features practical protocols, ready for implementation in the lab

Fields of interest
Plant Genetics & Genomics; Microbial Genetics and Genomics; Gene Expression

Target groups
Professional/practitioner

Discount group
P

Due April 2011

2011. 280 p. 29 illus. (Methods in Molecular Biology, Volume 722) Hardcover
► $119.00
ISBN 978-1-61779-039-3
S. Y. Zaginaichenko, Institute of Hydrogen and Solar Energy, Kiev, Ukraine; D. V. Schur, V. V. Skorokhod, Institute for Problems of Materials Science of NAS, Kiev, Ukraine; A. Veziroglu, International Association for Hydrogen Energy, University of Miami, FL, U.S.A.; B. Ibrahimoglu, Gazi University, Department of Mechanical Engineering, Ankara, Turkey (Eds.)

Carbon Nanomaterials in Clean Energy Hydrogen Systems – II

This book presents selected contributions to the NATO Advanced Research Workshop "Carbon Nanomaterials in Clean Energy Hydrogen Systems" held in June 2010. These original papers reflect recent progress in response to the modern-day requirements in chemistry of carbon nanomaterials and metal-hydrogen systems. Successor to the 2008 proceedings, this second volume focuses on research and application studies of materials capable of interacting actively with hydrogen, also addressing questions of hydrogen accumulation and storage.

Features
► Hydrogen is the most suitable energy carrier and source, because it is of greatest abundance and ecologically clean ► The energetic sources, allowed the hydrogen production in the industrial quantities are presented in this book ► Various advanced materials and technologies of their synthesis are considered

Fields of interest
Nanotechnology; Renewable and Green Energy; Power Electronics, Electrical Machines and Networks

Target groups
Graduate

Discount group
P

Due March 2011

► $229.00
ISBN 978-94-007-0898-3

Also available as Softcover
► $119.00
ISBN 978-94-007-0901-0
Markov Decision Processes with Applications to Finance

The theory of Markov Decision Processes focuses on controlled Markov chains in discrete time. The authors establish the theory for general state and action spaces and at the same time show its application by means of numerous examples, mostly taken from the fields of finance and operations research. By using a structural approach many technicalities (concerning measure theory) are avoided. They cover problems with finite and infinite horizons, as well as Partially Observable Markov Decision Processes, Piecewise Deterministic Markov Decision Processes and stopping problems. The book presents Markov Decision Processes in action and includes various state-of-the-art applications with a particular view towards finance. It is useful for upper-level undergraduates, Master students and researchers both in applied probability and finance and provides exercises (without solutions).

Features

- Contains various applications with a particular view towards finance/insurance
- Avoids many technical (e.g. measure theoretic) problems
- The collection of topics is unique
- Approach is problem-oriented and illustrated by many examples

From the contents


Fields of interest

Probability Theory and Stochastic Processes; Quantitative Finance; Applications of Mathematics

Target groups

Graduate

Discount group

P

Noncommutative Functional Calculus

Theory and Applications of Slice Hyperholomorphic Functions

The book contains recent results concerning a functional calculus for n-tuples of not necessarily commuting linear operators and for quaternionic linear operators. These calculi are based on a new theory of hyperholomorphicity for functions with values in a Clifford algebra the so-called slice monogenic functions which are carefully described in the book and, in particular, for functions with values in the algebra of quaternions the so-called slice regular functions. All the results in the book are new (except for an Appendix on the Riesz-Dunford functional calculus and for a short introduction to Clifford algebras) and appear for the first time organized in a monograph. All the material presented is self contained. The intended audience consists of researcher in operator theory, spectral theory, hypercomplex analysis, and mathematical physics as well as graduate and postgraduate students.

Features

- This book shows that the Riesz-Dunford functional calculus can be extended to n-tuples of not necessarily commuting operators. To do so, the authors develop a completely new spectral theory
- The fundamental technical tools is the newly developed theory of slice hyperholomorphic functions (which includes functions of a paravector variable with values in a Clifford algebra and quaternion valued functions of a quaternionic variable)
- The monograph is based on results by the authors and thus it is completely original, except for a few pages of basic material and an Appendix

Fields of interest

Operator Theory; Functional Analysis; Functions of a Complex Variable

Target groups

Research

Discount group

P

Lebesgue and Sobolev Spaces with Variable Exponents

The field of variable exponent function spaces has witnessed an explosive growth in recent years. The standard reference article for basic properties is already 20 years old. Thus this self-contained monograph collecting all the basic properties of variable exponent Lebesgue and Sobolev spaces is timely and provides a much-needed accessible reference work utilizing consistent notation and terminology. Many results are also provided with new and improved proofs. The book also presents a number of applications to PDE and fluid dynamics.

Features

- First book in the area of research
- Self-contained presentation suitable for both graduate students and researchers
- Comprehensive book with extensive index and nomenclature
- Applications for the developed theory is presented in the book

Contents


Fields of interest

Analysis; Functional Analysis; Partial Differential Equations

Target groups

Graduate

Discount group

P
Blow-up Theories for Semilinear Parabolic Equations

There is an enormous amount of work in the literature about the blow-up behavior of evolution equations. It is our intention to introduce the theory by emphasizing the methods while seeking to avoid massive technical computations. To reach this goal, we use the simplest equation to illustrate the methods; these methods very often apply to more general equations.

Features
- There are many lengthy books in blowup theories, this one is short and appropriate for graduate students
- Emphasize the methods, avoid massive technical computations
- Good enough for a one semester course

Contents
1 Introduction
2 A review of elliptic theories
3 A review of parabolic theories
4 A review of fixed point theorems
5 Finite time Blow-up for evolution equations
6 Steady-State solutions
7 Blow-up rate
8 Asymptotically self-similar blow-up solutions
9 One space variable case

Fields of interest
Partial Differential Equations; Applications of Mathematics; Analysis

Target groups
Graduate

Discount group
P

Due March 2011
Available

Cohomology Theories

A generalized etale cohomology theory is a theory which is represented by a presheaf of spectra on an etale site for an algebraic variety, in analogy with the way an ordinary spectrum represents a cohomology theory for spaces. Examples include etale cohomology and etale K-theory. This book gives new and complete proofs of both Thomason's descent theorem for Bott periodic K-theory and the Nisnevich descent theorem. In doing so, it exposes most of the major ideas of the homotopy theory of presheaves of spectra, and generalized etale homology theories in particular.

From the reviews
- (...) in developing the techniques of the subject, introduces the reader to the stable homotopy category of simplicial presheaves. (...) This book provides the user with the first complete account which is sensitive enough to be compatible with the sort of closed model category necessary in K-theory applications (...). As an application of the techniques the author gives proofs of the descent theorems of R. W. Thomason and Y. A. Nisnevich. (...) The book concludes with a discussion of the Lichtenbaum-Quillen conjecture (an approximation to Thomason's theorem without Bott periodicity). The recent proof of this conjecture, by V. Voevodsky, (...) makes this volume compulsory reading for all who want to be au fait with current trends in algebraic K-theory
- Zentralblatt MATH

Features
- Highly original presentation
- Provides new and complete proofs of important theorems
- Very useful for researchers working in fields related to algebraic K-theory

Field of interest
Mathematics, general

Target groups
Research

Discount group
P

B. Hu, University of Notre Dame, USA
J. F. Jardine, University of Western Ontario, London, Canada
H. Li, City University of Hong Kong, Hong Kong, China; C. Qi, Shanghai Jiao Tong University, Shanghai, China

Spatio-Temporal Modeling of Nonlinear Distributed Parameter Systems

A Time/Space Separation Based Approach

The purpose of this volume is to provide a brief review of the previous work on model reduction and identification of distributed parameter systems (DPS), and develop new spatio-temporal models and their relevant identification approaches.

In this book, a systematic overview and classification on the modeling of DPS is presented first, which includes model reduction, parameter estimation and system identification. Next, a class of block-oriented nonlinear systems in traditional lumped parameter systems (LPS) is extended to DPS, which results in the spatio-temporal Wiener and Hammerstein systems and their identification methods. Then, the traditional Volterra model is extended to DPS, which results in the spatio-temporal Volterra model and its identification algorithm. All these methods are based on linear time/space separation. Sometimes, the nonlinear time/space separation can play a better role in modeling of very complex processes. Thus, a nonlinear time/space separation based neural modeling is also presented for a class of DPS with more complicated dynamics. Finally, all these modeling approaches are successfully applied to industrial thermal processes, including a catalytic rod, a packed-bed reactor and a snap curing oven.

Features
- Systematic review of the progress so far on modelling of distributed parameter systems
- Unified view from the time/space separation to synthesis to different methods
- Some new spatio-temporal models and their identification approaches.

Fields of interest
Mathematical Modeling and Mathematics in Industry; Control; Industrial Chemistry/Chemical Engineering

Target groups
Research

Discount group
P
Advanced Lukasiewicz calculus and MV-algebras

This is a continuation of Vol. 7 of Trends in Logic. It will cover the wealth of recent developments of Lukasiewicz Logic and their algebras (Chang MV-algebras), with particular reference to (de Finetti) coherent evaluation of continuously valued events, (Rényi) conditionals for such events, related algorithms.

Contents

Fields of interest
Mathematical Logic and Foundations

Due April 2011
approx. $139.00
ISBN 978-94-007-0839-4

J. Naudts, Physics Department, University of Antwerp, Antwerp, Belgium

Generalised Thermostatistics

The domain of non-extensive thermostatistics has been subject to intensive research over the past twenty years and has matured significantly. Generalised Thermostatistics cuts through the tradition-alism of many statistical physics texts by offering a fresh perspective and seeking to remove elements of doubt and confusion surrounding the area. The book is divided into two parts - the first covering topics from conventional statistical physics, whilst adopting the perspective that statistical physics is statistics applied to physics. The second developing the formalism of non-extensive thermostatistics, of which the central role is played by the notion of a deformed exponential family of probability distributions. Presented in a clear, consistent, and deductive manner, the book focuses on theory, part of which is developed by the author himself, but also provides a number of references towards application-based texts.

Written by a leading contributor in the field, this book will provide a useful tool for learning about recent developments in generalization of statistical mechanics and thermodynamics, especially with respect to self-study. Written for researchers in theoretical physics, mathematics and statistical mechanics, as well as graduates of physics, mathematics or engineering. A prerequisite knowledge of elementary notions of statistical physics and a substantial mathematical background are required.

Features
- First book to present the recent progress in generalizing the well-established idioms of statistical physics
- Theory is supplemented with pointers to application-based references
- Provides readers with the opportunity to learn in a systematic manner about q-deformed exponential and logarithmic functions, their role in Tsallis’ nonextensive thermostatistics, and how everything fits into a more general mathematical formalism.

Fields of interest
Mathematics, general; Statistical Physics, Dynamical Systems and Complexity; Mathematical Methods in Physics

Due March 2011
2011. X, 199 p. 28 illus. Hardcover
approx. $109.00

D. A. Timashev, Moscow State University, Russia

Homogeneous Spaces and Equivariant Embeddings

Homogeneous spaces of linear algebraic groups lie at the crossroads of algebraic geometry, theory of algebraic groups, classical projective and enumerative geometry, harmonic analysis, and representation theory. By standard reasons of algebraic geometry, in order to solve various problems on a homogeneous space, it is natural and helpful to compactify it while keeping track of the group action, i.e., to consider equivariant completions or, more generally, open embeddings of a given homogeneous space. Such equivariant embeddings are the subject of this book. We focus on the classification of equivariant embeddings in terms of certain data of “combinatorial” nature (the Luna-Vust theory) and description of various geometric and representation-theoretic properties of these varieties based on these data. The class of spherical varieties, intensively studied during the last three decades, is of special interest in the scope of this book.

Features
- First existing complete survey of various topics related to the subject of the book and to each other, which were by now scattered in the literature
- Well-developed cross-referencing mechanism makes it easy to navigate through the text, so that it may serve well as a kind of a guide or encyclopedia on the subject, with many indications for further reading
- Proofs of all important results are provided unless they are too long or technical, so that the reader can learn the theory in general from the very beginning with no special need to address to other sources

Fields of interest
Algebraic Geometry; Topological Groups, Lie Groups

Due April 2011
2011. 262 p. 16 illus. (Encyclopaedia of Mathematical Sciences, Volume 138) Hardcover
approx. $129.00
ISBN 978-3-642-18398-0

D. Mundici, Department of Mathematics
“Ulisse Dini”, University of Florence, Italy

Equivariant Embeddings

Equivariant Embeddings

This book is the first to present the recent advances in generalizing the well-established idioms of statistical physics. Theory is supplemented with pointers to application-based references. Provides readers with the opportunity to learn in a systematic manner about q-deformed exponential and logarithmic functions, their role in Tsallis’ nonextensive thermostatistics, and how everything fits into a more general mathematical formalism.

Fields of interest
Mathematics, general; Statistical Physics, Dynamical Systems and Complexity; Mathematical Methods in Physics

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2011. X, 199 p. 28 illus. Hardcover
approx. $109.00

D. A. Timashev, Moscow State University, Russia

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Fields of interest
Algebraic Geometry; Topological Groups, Lie Groups

Due April 2011
2011. 262 p. 16 illus. (Encyclopaedia of Mathematical Sciences, Volume 138) Hardcover
approx. $129.00
ISBN 978-3-642-18398-0
E. B. Vinberg, Moscow University, Moscow, Russia

Linear Representations of Groups
Translated from the Russian by A. Iacob

This textbook contains a comprehensive and detailed exposition of the fundamentals of the representation theory of groups, especially of finite groups and compact groups. The exposition is based on the decomposition of the two-sided regular representation. This enables the author to give not only an abstract description of the representations but also their realizations in function spaces, which is important for physical applications. As an example, the theory of Laplace spherical functions is treated. Some basic ideas of the representation theory of Lie groups are also given, as well as all the representations of the groups SU2 and SO3. The book contains numerous examples and exercises, some with solutions.

Features
► Brief, modern and very readable introduction to representation theory of groups
► Clear and concentrating on the essentials
► Provides numerous examples and exercises, some with solutions

Contents

Field of interest
Algebra

Target groups
Research

Discount group
P

Available
► $49.95
ISBN 978-3-0348-0062-4
Induction Chemotherapy
Integrated Treatment Programs for Locally Advanced Cancers

Induction chemotherapy, as part of an integrated plan of management for locally advanced cancers, is being practiced throughout the world, but frequently teams are unaware of the work being undertaken in other institutions. This book aims to present the full range of management techniques used in induction chemotherapy within one accessible volume. It provides up-to-date information on pioneering and cutting edge practices and documents the advantages of integrated treatment schedules. Patient selection is discussed, and each of the cancer types for which induction therapy has proved important is considered in detail. All who are responsible for the treatment of patients with locally advanced cancers will find this book to be an invaluable source of information. It will be particularly interesting for specialist oncologists aiming to set up fully comprehensive cancer centers and for health administrators wishing to learn about the benefits of establishing such centers in strategic locations.

Features
► Describes the applications of induction chemotherapy in different cancer types
► Presents integrated treatment practices in different renowned institutions
► Devotes detailed attention to pioneering or cutting-edge practices and research
► Discusses patient selection
► Explains the importance of comprehensive cancer centres

Fields of interest
Oncology; General Practice / Family Medicine

Target groups
Professional/practitioner

Discount group
MR

Pulmonary Involvement in Patients with Hematological Malignancies

The number of patients treated for hematological malignancies is increasing steadily. To maximize cure rates, aggressive treatments have been introduced, including high-dose chemotherapy, stem cell transplantation, and targeted therapies. As a result, overall and disease-free survival rates have improved substantially, but at the price of life-threatening toxic and infectious complications that chiefly target the lung. This book provides clinicians caring for patients with hematological malignancies with detailed, up-to-date information on all relevant aspects of pulmonary involvement. Individual sections are devoted to epidemiology, diagnostic strategy, lung infections, non-infectious pulmonary involvement, and treatment, including decision making in patients with acute respiratory failure. Each of these sections contains a number of chapters, all written by leading international experts.

Features
► Detailed, up-to-date information is provided on all relevant aspects of pulmonary involvement in patients with hematological malignancies
► Leading experts discuss epidemiology, diagnostic strategy, lung infections, non-infectious pulmonary involvement, and treatment, including decision making in patients with acute respiratory failure
► Invaluable “pearls” relating to each condition are presented

Contents
Preamble and Introduction.-Epidemiology.- Diagnostic Strategy in Hematologic Malignancies.- Patients.- Lung Infections in Patients with Hematologic Malignancies.-Noninfectious Pulmonary Involvement in Patients with Hematologic Malignancies.- Treatment and Difficult Decisions in Patients with Hematologic Malignancies.-Pearls that You Should be Aware of.-Post Face.

Fields of interest
Intensive / Critical Care Medicine; Hematology; Oncology

Target groups
Professional/practitioner

Discount group
MR

European Instructional Lectures
Volume 11, 2011, 12th EFORT Congress, Copenhagen, Denmark

This eleventh volume in the EUROPEAN INSTRUCTIONAL LECTURES series continues the format of educational chapters from across Orthopaedics and Traumatology contributed by distinguished Orthopaedic Educators in Europe. It provides up-to-date material and major advances covering a range of topics including: General Orthopaedics, Basic Science and Technology, Musculo-skeletal Tumours, Infections, Paediatric Orthopaedics, Trauma, Spine, Upper Limb, Hip, Knee, Leg, Ankle and Foot. All the lectures were presented at the 12th EFORT Congress in Copenhagen, Denmark. The lectures are an authoritative source of information illustrated by radiographs, MRI and CT Scans, operative photographs, tables and line drawings. They are a valuable source of instruction for Surgeons and Trainees alike.

Features
► Collection of highlights of EFORT Instructional Courses
► Cutting-edge educational tool for orthopedic and trauma surgeons
► Written by international experts

Contents

Fields of interest
Orthopedics; Surgical Orthopedics; Conservative Orthopedics

Target groups
Professional/practitioner

Discount group
MR
Nitrite and Nitrate in Human Health and Disease

Nitrite and Nitrate in Human Health and Disease delivers a comprehensive review of nitrite and nitrate biology, from basic biochemistry to the complex physiology and metabolism of these two naturally occurring molecules in the human body. Well-organized and well referenced chapters cover the rich history of nitrite and nitrate, sources of exposure, and the physiological effects when consumed through foods containing nitrite and nitrate. The chapters are written by leading experts, all of whom share their research and perspectives in order to help define the context for benefits vs. any potential risks associated with nitrite and nitrate use, either through dietary ingestion or therapeutic dosing. This diverse collection of authors includes vascular biologists, physiologists, physicians, epidemiologists, cancer biologists, registered dieticians, chemists, and public health experts from five countries in both academia and government. Nitrite and Nitrate in Human Health and Disease provides a balanced view of nitric oxide biochemistry, and nitrite and nitrate biochemistry in physiology and in the food sciences.

Features
- Introduces nitric oxide and provides a biochemical analysis of its roles in human physiology
- Offers evidence showing how NO-rich foods are linked to disease prevention and healthy modulation of human physiological functions
- Reviews research on therapeutic applications of NO and NO metabolites

Fields of interest
Clinical Nutrition; Nutrition; Public Health; Gesundheitswesen

Target groups
Professional/practitioner

Discount group
MR

Chemicals in Surgical Periodontal Therapy

Periodontitis is a chronic and destructive inflammatory disease of the tooth-supporting tissues that is induced by an opportunistic mixed infection. It is highly prevalent, affecting 10-15% of the adult population, and represents the major cause of tooth loss in adults. This book is an encyclopedic collection of data from scientific papers and textbooks that form the foundation for a sound understanding of the chemicals used in surgical periodontal therapy. The topics addressed include treatment with enamel matrix proteins to stimulate periodontal regeneration, the use of guided tissue regeneration barriers, root conditioning, and the role of bone grafts and bone graft substitutes in periodontal therapy. Throughout, the emphasis is on fostering understanding through development of the reader's biological background knowledge. Chemicals in Surgical Periodontal Therapy will be of value to undergraduate and postgraduate dental students, dental hygienists, dental practitioners, and associated professionals.

Contents

Fields of interest
Dentistry; Surgery

Target groups
Professional/practitioner

Discount group
P

Achieving Excellence in Medical Education
Second Edition

A goldmine of theoretical insights and practical suggestions, Achieving Excellence in Medical Education, Second Edition explores the essential question facing medical educators and learners today: What is our vision of educational excellence, and what can we do to enhance our performance? Among the topics explored within this updated, engaging, informative, and thought-provoking text are: Education’s position as a priority of medical schools; Seminal educational insights from non-medical educators; Best practices of outstanding educators and learners; Promises and pitfalls of new educational technologies; Key resources for promoting excellence in medical education; Medical education’s role in preparing future leaders; Leadership roles for medical schools in universities and society.

From the reviews of the first edition
- This is an eloquent, quotable, and inspirational book that provides a template for “Achieving Excellence in Medical Education” - Journal of the American Medical Association
- Gunderman is an accomplished educator, well known as a thoughtful and provocative teacher... I recommend his book to department chairs, clerkship and residency program directors, and education professionals who are shaping the future of medical education - New England Journal of Medicine

Features
- The book addresses education, a topic that has received virtually no attention in book-length manuscripts in the field of radiology
- Provides a rationale that current and prospective radiological educators can use to develop more support for education both within their departments and within academic health centers
- Provides extensive practical advice on how to function more effectively as a radiological educator

Fields of interest
Imaging / Radiology; Medical Education

Target groups
Professional/practitioner

Discount group
P
Moral Acquaintances and Moral Decisions

Resolving Moral Conflicts in Medical Ethics

The potential of modern medicine in a pluralistic world leads to the potential for moral conflict. The most prevalent bioethical theories often either overestimate or underestimate the amount of shared moral belief that can be used to address these conflicts. This work presents a means for taking seriously the pluralism in the modern world while recognizing the likelihood of moral "acquaintance" between persons with differing views. It criticizes moral theories that overstate the extent of the problem of pluralism as well as those that imply too much agreement between reasonable moral persons, yet it locates a means for the resolution of many moral conflicts in moral acquaintanceship. Drawing from the work of H. Tristram Engelhardt, Jr., casuists and principle-based theorists, and Erich Loewy and Kevin W. Wildes's initial development of the concept of moral acquaintanceship, Moral Acquaintances and Moral Decisions is philosophically in-depth work with direct applications for decision making in real medical settings. A work in moral theory as well as a source of real world guidance, clinically oriented bioethics professionals as well as students of bioethical theory should find the theory of moral acquaintanceship provided here important to their work.

Features
- The first clear analysis of moral acquaintances that addresses both Kevin Wildes's and Erich Loewy's versions of the important concept
- Provides a method for making justified moral resolutions in difficult cases in the modern world of moral disagreement
- Delivers a solid critique of three major methods of bioethical decision-making – libertarian, principle-based, and casuistry
- Takes seriously the problem of pluralism and the need for justified solutions in real cases

Fields of interest
Theory of Medicine/Bioethics; Ethics; Social Sciences, general

Target groups
Professional/practitioner

Discount group
MR

Cardiothoracic Surgery in the Elderly
Evidence-Based Practice

Cardiothoracic Surgery in the Elderly: Evidence Based Practice is an important and timely book that reflects the thoughtful work of pioneers in geriatric surgery. It encompasses their knowledge related to geriatric surgery, and their reflections and guidance on the rapidly accumulating knowledge related to improving the health and surgical care of seniors.

This book provides a scholarly review of the constantly expanding knowledge base about cardiovascular and thoracic surgery in seniors. The book follows a logical sequence covering general aspects of care, cardiac surgery and thoracic surgery. Chapters are focused on common, devastating and often missed complications of surgical care in the seniors. These include delirium, depression, pressure sores, functional losses, incontinence, volume depletion and asymptomatic or atypical complications - myocardial infarction, post-operative diarrhea, urinary track infections and pneumonia. Each is expertly reviewed. Strategies to help the surgeons and the surgical team anticipate, recognize and effectively prevent or manage such problems are discussed and the evidence basis for such strategies is provided.

Features
- Presents both evidence and techniques for cardiac surgery in the elderly to establish the best possible outcomes for patients
- First book to review the substantial body of knowledge that has been developed in recent years related to geriatric cardiothoracic surgical problems
- Features the foremost knowledge and expertise of the pioneers in geriatric surgery.

Fields of interest
Cardiac Surgery; Abdominal Surgery; General Surgery

Target groups
Professional/practitioner

Discount group
MR

Autoimmune Diseases
Acute and Complex Situations

Autoimmune Diseases: Acute and Complex Situations provides a detailed overview of conditions associated with autoimmune diseases that are considered either life-threatening or requiring complex management. These include abdominal pain, arthritis, cutaneous ulcers, gastrointestinal hemorrhage, epilepsy, pancreatitis, stroke and white-matter CNS lesions.

Autoimmune Diseases: Acute and Complex Situations addresses the latest clinical and immunological prognostic factors that may help to identify patients at higher risk of developing potentially life-threatening involvement. This book comprehensively helps the reader to diagnose these patients, in whom an early therapeutic approach is essential.

Autoimmune Diseases: Acute and Complex Situations is a valuable reference tool for rheumatologists, internists, immunologists, and all the specialists involved in the multidisciplinary care of patient with rheumatic and systemic autoimmune diseases.

Features
- An overview of the main complex and acute clinical situations occurring in patients with Systemic Autoimmune Disease assists the reader to quickly and easily locate the different life-threatening, complex situations in separate chapters for each disease
- Descriptions of the latest clinical and immunological prognostic factors that may help to identify patients at higher risk of developing potentially life-threatening involvement aids the reader to diagnose these patients, in whom an early therapeutic approach is essential
- The inclusion of nearly 100 images and diagnostic/therapeutic algorithms illustrates the text with clinical photographs of the main organs involved, and helps the reader to make diagnostic and therapeutic decisions

Fields of interest
Rheumatology; Internal Medicine

Target groups
Professional/practitioner

Discount group
MR
Nuclear Medicine Technology Study Guide: A Technologist’s Review for Passing Board Exams

Nuclear Medicine Technology Study Guide presents a comprehensive review of nuclear medicine principles and concepts necessary for technologists to pass board examinations. The practice questions and content follow the guidelines of the Nuclear Medicine Technology Certification Board (NMTCB) and American Registry of Radiological Technologists (ARRT), allowing test takers to maximize their success in passing the examinations. The book is organized by sections of increasing difficulty, with over 600 multiple-choice questions covering all areas of nuclear medicine, including radiation safety; radionuclides and radiopharmaceuticals; instrumentation and quality control; patient care; and diagnostic and therapeutic procedures. Detailed answers and explanations to the practice questions follow. Supplementary chapters will include nuclear medicine formulas, numbers, and a glossary of terms for easy access by readers. Additionally, test-taking strategies are covered.

Features
► Over 600 multiple-choice questions and answers organized by level of difficulty

Contents
Tackling the Multiple-Choice Test.- Test I.- Test II.- Test III.- Formulas, Numbers, and Normal Range of Values.- Commonly-Used Abbreviations and Symbols in Nuclear Medicine.- Useful Websites.-

Fields of interest
Nuclear Medicine; Imaging / Radiology; Diagnostic Radiology

Target groups
Professional/practitioner

Discount group
MR

The Poly-Traumatized Patient with Fractures
A Multi-Disciplinary Approach

This guide provides practical information for the care of patients with blunt injuries. It covers the care for truncal injuries (head, chest, abdomen) and fracture care of the extremities, the pelvis and the spine in a condensed fashion. Unlike previous, anatomically oriented outlines, this combines the anatomic location with frequent injury combinations. It is written for orthopedic and trauma surgeons, offering them a condensed outline of fracture treatment. In addition, all aspects of trauma care are covered, including associated injuries that may alter the decision making in patients with polytrauma.

Features
► Practical guide written by international experts in the field. ► Covers trauma and orthopedics in an integrated fashion. ► Combines anatomic location with frequent injury combinations

Fields of interest
Orthopedics; Traumatic Surgery; Emergency Medicine

Target groups
Professional/practitioner

Discount group
MR

Frozen Section Library: Central Nervous System

Frozen section of Neuropathology-related cases is performed while the patient is undergoing surgery. Intraoperative consultation is used to help guide intraoperative management of the case and to ensure that adequate and appropriate tissue has been obtained for purposes of making an accurate final diagnosis. Frozen section diagnosis is often a highly demanding situation for the pathologist, who must render a diagnosis quickly and provide sound guidance and advice. In addition to the need for rapid recall of differential diagnoses, there are many pitfalls and artifacts that add to the risk of frozen section diagnosis that are not present with permanent sections of fully processed tissue that can be examined in a more leisurely fashion. Most standard pathology textbooks focus primarily on permanent section material and largely ignore the topic of frozen section.

The purpose of this volume is to add to the Frozen Section Library series and provide a convenient, user-friendly handbook to assist in the evaluation of central nervous system related frozen sections. It provides a useful reference, organized around differential diagnoses, primarily by location in the central nervous system. The text will be illustrated with color pictures and include tables as appropriate.

Features
► Convenient, user-friendly handbook. ► Well illustrated. Site-specific

Contents

Field of interest
Pathology

Target groups
Professional/practitioner

Discount group
MR
Changing Landscape of Academic Women’s Health Care in the United States

Since 2005 a dozen states and more than 15 specialties have reported a physician shortage or anticipate one in the next few years. This anticipated shortage and a worsening of physician distribution are compounded by a projected increased demand for women’s healthcare services. Women’s healthcare is particularly vulnerable, because the obstetrician gynecologist workforce is aging and is among the least satisfied medical specialists. Furthermore, fellowship training in women’s healthcare in internal medicine and in maternal child health in family and community medicine involves only a small portion of general internists and family physicians. In response to this challenge, the Association of American Medical Colleges called for an expansion of medical schools and graduate medical education enrollments. As we cope with significant and rapid changes in organizations and reimbursement, academic departments of obstetrics and gynecology, family and community medicine, and internal medicine have opportunities to create a unified women’s health curriculum for undergraduate students, share preventive health and well-woman expertise in training programs, provide improved continuity of care, instill concepts of lifelong learning to our graduates, and better develop our research programs.

Features
- This volume is an important addition to the literature, because - Women’s health is a major academic healthcare issue - It focuses on strategic planning on behalf of academic faculty - It is written by authors with distinguished leadership skills - Uses of national normative databases and links to the Flexner Report - Contains recommendations for implementation

Fields of interest
Public Health/Gesundheitswesen; Gynecology; Administration, Organization and Leadership

Target groups
Professional/practitioner

Discount group
MR

CT of the Acute Abdomen

CT of the Acute Abdomen provides a comprehensive account of the use of CT in patients with acute abdomen. Recent important developments in CT, including multislice CT and multiplanar reconstructions, receive particular attention. CT features are clearly illustrated, and pitfalls and differential diagnoses are discussed. The first section of the book presents epidemiological and clinical data in acute abdomen. The second and third sections document the key CT findings and their significance and discuss the technological background. The fourth and fifth sections, which form the main body of the book, examine in detail the various clinical applications of CT in nontraumatic and traumatic acute abdomen. This book will serve as an ideal guide to the performance and interpretation of CT in the setting of the acute abdomen; it will be of value to all general and gastrointestinal radiologists, as well as emergency room physicians and gastrointestinal surgeons.

Features
- An in-depth and comprehensive account of the use of CT in patients with acute abdomen
- Provides practical knowledge and comprehensive coverage of cardiovascular disease
- Algorithms, case studies, and recommendations on evidence-based best practices facilitate rapid learning. A key resource for the busy practitioner, this book is designed to give the reader the skills to confidently perform assessments, initiate and maintain efficacious therapy, and know when a referral to a cardiologist is advisable.

Fields of interest
Gastroenterology; Diagnostic Radiology; Gastroenterology

Target groups
Professional/practitioner

Discount group
P

Comprehensive Cardiovascular Medicine in the Primary Care Setting

Comprehensive Cardiovascular Medicine in the Primary Care Setting provides an authoritative, detailed discussion of cardiovascular disease balanced with practical utility. Disease states are explained with emphasis on risk factors, risk estimation, and established cardiac disease. The book also delves into the co-morbid conditions which surround cardiovascular disease, including peripheral vascular disease, chronic kidney disease, depression, and erectile dysfunction, with the goal of improving quality of life for affected individuals. An abundance of algorithms, case studies, and recommendations on evidence-based best practices facilitate rapid learning. A key resource for the busy practitioner, this book is designed to give the reader the skills to confidently perform assessments, initiate and maintain efficacious therapy, and know when a referral to a cardiologist is advisable.

Fields of interest
Internal Medicine; Cardiology; General Practice / Family Medicine

Target groups
Professional/practitioner

Discount group
P

Due March 2011
$139.00
ISBN 978-94-007-0930-0

Due June 2011
2011. 400 p. 400 Illus., 200 in color. (Medical Radiology / Diagnostic Imaging) Hardcover
$1319.00
ISBN 978-3-540-89231-1

Due June 2011
2011. XIII, 580 p. 161 Illus., 59 in color. (Contemporary Cardiology) Softcover
$599.00
ISBN 978-1-60761-982-8

W. F. Rayburn, University of New Mexico, Albuquerque NM, U.S.A.; J. Schulkin, Georgetown University Medical School, Washington DC, U.S.A. (Eds.)

P. Taourel, Hôpital Lapeyronie, Montpellier, France (Ed.)
P. P. Toth, Sterling Rock Falls Clinic, Sterling, IL, USA; C. P. Cannon, Harvard Medical School, Boston, MA, USA (Eds.)
Brainstem Disorders

The book is a translation from the German language edition: "Erkrankungen des Hirnstamms" by Peter P. Urban

Copyright 2009 by Schattauer GmbH, Stuttgart

The topography of the brainstem is complex, and even experienced neurologists find it challenging to localize brainstem lesions and diagnose brainstem disorders. This richly illustrated book provides a comprehensive review of brainstem disorders and presents the clinical knowledge necessary for diagnosis. The opening sections document the brainstem neuroanatomy and discuss current diagnostic methods. The entire spectrum of clinical findings in brainstem disorders is then described, and topodiagnostic aspects of the neurological findings are explained in detail. The descriptions of brain stem disorders are consistently structured and are supported by many MR images and short case reports. In addition to primary brainstem lesions, such as vascular brainstem syndromes, other disorders are considered that do not exclusively show brainstem symptoms or signs, e.g., multiple sclerosis. This book will serve as an invaluable reference work for neurologists in clinical practice or further education.

Features
- A comprehensive review of brainstem disorders that presents the clinical knowledge necessary for diagnosis
- Documents the brainstem neuroanatomy and discusses current diagnostic methods
- Describes the entire spectrum of clinical findings in the various brainstem disorders and explains in detail the topodiagnostic aspects of neurological findings
- Includes many MR images and short case reports

Fields of interest
- Neurology; Neuroradiology; Neurosurgery

Target groups
- Professional/practitioner

Discount group
- MR

Raising of Microvascular Flaps
A Systematic Approach

This book provides all those who deal with microsurgical tissue transfer, i.e. plastic surgeons, ENT surgeons, trauma surgeons, and oral and maxillofacial surgeons, with all they need to know in their daily practice. In this second edition, the authors have followed the principle of systematic teaching based on photographs of cadaver preparations alongside explanatory color drawings to enhance understanding of the anatomy. Since microvascular tissue transfer is continuously developing, three flaps from the new generation that expand the spectrum of reconstructive possibilities have been added. As in the first edition, the operative techniques for all flaps are also shown step by step on the DVD that accompanies the book. For each step, individual risks and mistakes are emphasized. A special strength of the book is its clear didactic structure. The highly instructive text is comprehensive and precise and also covers all representative literature on flap raising.

Features
- Systematic approach to the techniques of microsurgical tissue transfer
- Brilliant photographs and artwork clearly showing all the surgical steps and the underlying anatomy
- Covers all commonly used soft-tissue and bone flaps including a new series of perforator flaps
- Step-by-step instructions given in videos on a DVD

Contents
- Introduction
- Radial forearm flap
- Lateral arm flap
- Anterolateral thigh / Vastus lateralis flap
- Latissimus dorsi flap
- Scapular flap
- Fibula flap
- Iliac Crest Bone Flap
- Anterolateral Thigh Perforator Flap
- Soleus Perforator Flap
- Deep inferior epigastric artery perforator flap (DIEAP-flap)

Fields of interest
- Oral and Maxillofacial Surgery
- Plastic Surgery
- Otorhinolaryngology

Target groups
- Professional/practitioner

Discount group
- MR

Due April 2011

2011. 350 p. 169 illus., 40 in color. Hardcover
- $179.00
ISBN 978-3-642-04202-7

Due June 2011

2nd ed. 2011. Approx. 200 p. 190 illus. in color. With DVD. Hardcover
- $139.00
ISBN 978-3-540-93831-6
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**The Passivity of Law: Competence and Constitution in the European Court of Justice**

At the heart of this book, a question: what to make of the creeping competences of the EU and of the role the European Court of Justice plays in this respect? Taking the implied powers doctrine as its starting point, the hypothesis is that it shows what is ultimately at stake in the concept of legal competence: the problem of creation in law, or the relationship between constituent and constituted power. By rethinking this relationship, a new conceptual framework to make sense of creeping competences is designed. For this, the work of Maurice Merleau-Ponty is used. Tracing back the philosophical roots of creation, legal constitution is understood as constitution in passivity. This leads to a new interpretation of the relationship between law and politics, rule following, authority, competences and European integration. From this perspective specific chapters in the case law of the European Court of Justice are reread and the logic behind the competence creep is unpacked.

**Features**
- An in-depth analysis of the ‘competence creep’ in EU law
- First book to use the work of Merleau-Ponty to rethink European integration
- Offers original interpretations of constitutional theory, rule-following and authority

**Contents**
- Acknowledgements
- Introduction
- Chapter I Competences and Authority in the European Legal Order
- Chapter II Paradigms of Constitution-Making, or Two Tales of One Dualism
- Chapter III Rethinking Constituent Power: A Chaotic Alternative
- Chapter IV Embodiment of the Rule: The Passivity of Constitution
- Chapter V Constituting Competence: The Court of Justice and the European Legal Order
- Conclusive Summary
- Bibliography

**Fields of interest**
- Philosophy of Law; European Law/Public International Law; Political Science

**Due April 2011**
- 2011. 205 p. Hardcover
- $139.00

| ISBN 978-94-007-1033-7 |

**Leonardo’s Choice: Genetic Technologies and Animals**

Leonardo’s Choice: Genetic Technologies and Animals is an edited collection of twelve essays and one dialogue focusing on the profound affects the use of animals in biotechnology is having on both humans and other species. Communicating crucial understandings of the integrated nature of the human and non-human world, these essays, unlike the majority of discussions of biotechnology, take seriously the impact of these technologies on animals themselves. This collection’s central questions revolve around the disassociation Western ideas of creative freedom have from the impacts those ideas and practices have on the non-human world. This transdisciplinary collection includes perspectives from the disciplines of philosophy, cultural theory, art and literary theory, history and theory of science, environmental studies, law, landscape architecture, history, and geography. Included authors span three continents and four countries. Included essays contribute significantly to a growing scholarship surrounding “the question of the animal” emanating from philosophical, cultural and activist discourses. Its authors are at the forefront of the growing number of theorists and practitioners across the disciplines concerned with the impact of new technologies on the more-than-human world.

**Features**
- Considers genetic technologies in light of a growing concern about our relationship with the natural world and specifically with animals
- Urgently critiques genetic technologies’ impact on control or erasure of animal subjectivity
- Questions the inevitability of a biotechnological future and the rationales behind it
- Elicits ethical and political viewpoints concerning public involvement in decision-making processes related to biotechnologies
- Includes transdisciplinary perspectives and is intended for transdisciplinary audiences

**Fields of interest**
- Ethics; Genetic Engineering; Interdisciplinary Studies

**Due May 2011**
- 2011. 222 p. Hardcover
- $189.00

| ISBN 978-1-4020-6834-8 |
Truth and Falsehood
An Inquiry into Generalized Logical Values

The book presents a thoroughly elaborated logical theory of generalized truth-values understood as subsets of some established set of (basic) truth values. After elucidating the importance of the very notion of a truth value in logic and philosophy, we examine some possible ways of generalizing this notion. The useful four-valued logic of first-degree entailment by Nuel Belnap and the notion of a bilattice (a lattice of truth values with two ordering relations) constitute the basis for further generalizations. By doing so we elaborate the idea of a multilattice, and most notably, a trilattice of truth values – a specific algebraic structure with information ordering and two distinct logical orderings, one for truth and another for falsity. Each logical order not only induces its own logical vocabulary, but determines also its own entailment relation. We consider both semantic and syntactic ways of formalizing these relations and construct various logical calculi.

Features
- Surveys and unifies various philosophical and formal treatments of truth values
- Discusses central issues such as the relation between truth values and consequence relations
- Systematically develops both semantically and proof-theoretically a theory of generalized truth values as subsets of already established truth values.

Fields of interest
Logic; Mathematical Logic and Foundations; Mathematical Logic and Formal Languages

Target groups
Research

Discount group
P

Feminist Epistemology and Philosophy of Science
Power in Knowledge

This collection brings together exciting new works that address today’s key challenges for a feminist power-sensitive approach to knowledge and scientific practice. Taking up such issues as the role of contextualism in epistemology, democracy and dissent in knowledge practices, and epistemic agency under conditions of oppression, the essays build upon well-established work in feminist epistemology and philosophy of science such as standpoint theory and contextual empiricism, offering new interpretations and applications. Many contributions capture the current engagement of feminist epistemologists with the insights and programs of nonfeminist epistemologists, while others focus on the intersections between feminist epistemology and other fields of feminist inquiry such as feminist ethics and metaphysics.

*See remarks below for remainder of text*

Features
- Offers a mixture of well-established authors and a new generation of feminist scholars
- The relative dearth of collected volumes devoted to feminist epistemology in the last decade lends significance to the broad-ranging collection
- Represents significant developments in the field, building on the previous generation of work in the 1990s
- Part of the Springer series on feminist philosophy

Fields of interest
Logic; Mathematical Logic and Foundations; Mathematical Logic and Formal Languages

Target groups
Research

Discount group
P

Anima Mundi: The Rise of the World Soul Theory in Modern German Philosophy

This work presents and philosophically analyzes the early modern and modern history of the theory concerning the soul of the world, anima mundi. The initial question of the investigation is why there was a revival of this theory in the time of the early German Romanticism, whereas the concept of the anima mundi had been rejected in the earlier, classical period of European philosophy (early and mature Enlightenment). The presentation and analysis starts from the Leibnizian-Wolfian school, generally hostile to the theory, and covers classical eighteenth-century physico-theology, also reluctant to accept an anima mundi. Next, it discusses early modern and modern Christian philosophical Cabbala (Böhme and Otinger), an intellectual tradition which to some extent tolerated the idea of a soul of the world. The philosophical relationship between Spinoza and Spinozism on the one hand, and the anima mundi theory on the other is also examined. An analysis of Giordano Bruno’s utilization of the concept anima del mondo is the last step before we give an account of how and why German Romanticism, especially Baader and Schelling asserted and applied the theory of the Weltseele.

Features
- Important monograph on the (early) modern theory of the Soul of the World
- Examines the World Soul problematic in a broad metaphysical context
- Includes interdisciplinary discussion between metaphysics, theology, natural philosophy
- Covers non-mainstream intellectual traditions such as Cabbala, Hermeticism
- Includes unpublished early modern manuscript material

Fields of interest
History of Philosophy; Philosophy of Religion; Philosophy of Nature

Target groups
Research

Discount group
P
Bifurcation and Chaos in Discontinuous and Continuous Systems

“Bifurcation and Chaos in Discontinuous and Continuous Systems” provides rigorous mathematical functional-analytical tools for handling chaotic bifurcations along with precise and complete proofs together with concrete applications presented by many stimulating and illustrating examples. A broad variety of nonlinear problems are studied involving difference equations, ordinary and partial differential equations, differential equations with impulses, piecewise smooth differential equations, differential and difference equations, and differential equations on infinite lattices as well. This book is intended for mathematicians, physicists, theoretically inclined engineers and postgraduate students either studying oscillations of nonlinear mechanical systems or investigating vibrations of strings and beams, and electrical circuits by applying the modern theory of bifurcation methods in dynamical systems.

Dr. Michal Fečkan is a Professor at the Department of Mathematical Analysis and Numerical Mathematics on the Faculty of Mathematics, Physics and Informatics at the Comenius University in Bratislava, Slovakia. He is working on nonlinear functional analysis, bifurcation theory and dynamical systems with applications to mechanics and vibrations.

Features
- Comprehensive theory of chaos in nonlinear dynamical systems with applications to mechanics and vibrations
- Precise and complete proofs of derived results
- Many stimulating and illustrative examples
- Rigorous proof on the existence of chaos for stick-slip systems
- Extension of Smale horseshoe to inflated dynamical systems

Fields of interest
- Theoretical, Mathematical and Computational Physics; Mechanics; Dynamical Systems and Ergodic Theory

Target groups
- Research

Discount group
- P

Due June 2011

Jacobi Dynamics
A Unified Theory with Applications to Geophysics, Celestial Mechanics, Astrophysics and Cosmology

In their approach to Earth dynamics the authors consider the fundamentals of Jacobi Dynamics (1887, Reidel) for two reasons. First, because satellite observations have proved that the Earth does not stay in hydrostatic equilibrium, which is the physical basis of today’s treatment of geodynamics. And secondly, because satellite data have revealed a relationship between gravitational moments and the potential of the Earth’s outer force field (potential energy), which is the basis of Jacobi Dynamics. This has also enabled the authors to come back to the derivation of the classical virial theorem and, after introducing the volumetric forces and moments, to obtain a generalized virial theorem in the form of Jacobi’s equation. Thus a physical explanation and rigorous solution was found for the famous Jacobi’s equation, where the measure of the matter interaction is the energy.

Features
- A theoretical treatise on a unified theory with applications to the dynamics of the Earth, Moon, planets and satellites, the Sun and the stars
- Builds up fundamentals of real dynamics of the Earth
- Written by experts in the field

From the contents

Fields of interest
- Astronomy, Astrophysics and Cosmology; Geophysics/Geodesy; Remote Sensing/Photogrammetry

Target groups
- Research

Discount group
- P

Due April 2011

The Second Law of Economics
Energy, Entropy, and the Origins of Wealth

Nothing happens in the world without energy conversion and entropy production. These fundamental natural laws are familiar to most of us when applied to the evolution of stars, biological processes, or the working of an internal combustion engine, but what about industrial economies and wealth production, or their constant companion, pollution? Does economics conform to the First and the Second Law of Thermodynamics? In this important book, Reiner Kümmel takes us on a fascinating tour of these laws and their influence on natural, technological, and social evolution. Analyzing economic growth in Germany, Japan, and the United States in light of technological constraints on capital, labor, and energy, Professor Kümmel upends conventional economic wisdom by showing that the productive power of energy far outweighs its small share of costs, while for labor just the opposite is true. Wealth creation by energy conversion is accompanied and limited by polluting emissions that are coupled to entropy production.

Features
- Reconsiders economics from the perspective of natural laws
- Shows how energy and its conversion into physical work accounts for most of the growth that mainstream economics attributes to technological progress and related concepts
- Describes energy needs and options for the future
- Explores consequences for economic growth and environmental sustainability
- Describes energy needs and options for the future
- Explores consequences for economic growth and environmental sustainability

Fields of interest
- Socio- and Econophysics, Population and Evolutionary Models; Energy Economics; Energy Policy, Economics and Management

Target groups
- Professional/practitioner

Discount group
- P

Due June 2011
Basic Relativity
An Introductory Essay

This Brief presents a new way of introducing relativity theory, in which perplexing relativistic effects such as time dilation and Lorentz contraction are explained prior to the discussion of Lorentz-transformation. The notion of relativistic mass is shown to contradict the spirit of relativity theory and the true significance of the mass-energy relation is contrasted with the popular view of it. The author discusses the twin paradox from the point of view of both siblings. Last but not least, the fundamentals of general relativity are described, including the recent Gravity Probe B experiment.

Contents
From Time Dilation to E = mc².
- The Lorentz Transformation.
- General Relativity.
- Concluding Remarks.
- Selected Problems

Fields of interest
Classical and Quantum Gravitation, Relativity Theory; Mathematical Methods in Physics; Cosmology

Target groups
Research

Discount group
P

P. Hraskó, Janus Pannonius University, Pécs, Hungary

Landolt-Börnstein
Numerical Data and Functional Relationships in Science and Technology – New Series

Editor-in-chief: W. Martienssen

Group VIII

Advanced Materials and Technologies
Volume 2C3

T. Spittel, M. Spittel, TU Bergakademie Freiberg, Germany
H. P. Warlimont, Neuses-Freigericht, Germany (Ed.)

Non-ferrous Alloys – Heavy Metals

The volume contains metal forming data of 44 non-ferrous alloys of heavy metals, i.e. Cu, Ni, Zn, Pb, Nb, U, W, Sn, Zr, and noble metals. The mechanical and thermophysical properties of each alloy are given as well as its plasticity and flow curves. Each material is characterized by its composition and international notation. An introduction presents the fundamental terms and concepts of metal forming.

Fields of interest
Physics, general; Materials Science, general; Engineering Design

Target groups
Research

Due March 2011
2011. 104 p. 16 illus. (SpringerBriefs in Physics) Softcover
$49.95
ISBN 978-3-642-17809-2

Due July 2011
2011. 575 p. Hardcover
$5659.00
ISBN 978-3-642-14173-7
**The Sky in Early Modern English Literature**

*A Study of Allusions to Celestial Events in Elizabethan and Jacobean Writing, 1572–1620*

Astronomy is not just a subject unto itself. We all look at the sky, and it has always been a fertile source of guidance and inspiration in art, music, and literature. This book explores the sky’s appearances in music and art, but focuses most on the sky’s enormous presence in early modern English literature. The author concentrates on William Shakespeare, whose references to the sky far exceed the combined total of all his contemporaries. Venturing into the historical context of these references, the book teaches about the Supernovae of 1572 and 1604, the abundant comets of this period, eclipses, astrology and its relation to the night sky at the time, and the early years of the telescope and how the literature of the time relates to it. This book promises to open doors between science, the arts, and history.

**Features**
- Inspires readers to look for their own connections between astronomy and literature, and by helping them to enjoy the night sky itself more completely.

**From the contents**
- Abstract
- Preface
- General Introduction
- Chapter One: The Stella Nova of 1572 and 1604
- Chapter Two: Comets and Meteors: A Rich Harvest from 1573 to 1607
- Chapter Three: These Late Eclipses
- Chapter Four: Of Signs and Seasons

**Fields of interest**
- Astronomy, Observations and Techniques
- Languages and Literature
- Interdisciplinary Studies

**Target groups**
- Research

**Discount group**
P

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**Silicon Photonics III**

*Systems and Applications*

This book is volume III of a series of books on silicon photonics. It reports on the development of fully integrated systems where many different photonics component are integrated together to build complex circuits. This is the demonstration of the fully potentiality of silicon photonics. It contains a number of chapters written by engineers and scientists of the main companies, research centers and universities active in the field. It can be of use for all those persons interested to know the potentialities and the recent applications of silicon photonics both in microelectronics, telecommunication and consumer electronics market.

**Features**
- Third volume of the successful TAP book
- Gives a state-of-the-art report on integrated Si photonics
- Focus on integration of optical and electrical Si photonic devices
- Valuable reference to researchers and graduate students alike

**Contents**
- Preface
- A nanophotonic interconnect for high-performance many-core computation
- 200 Gps photonic integrated chip on a silicon platform
- LSI on-chip optical interconnection with silicon nanophotonics
- CMOS Photonics: A Platform for Advanced Optoelectronic Integration
- Silicon based optoelectronics
- Silicon photonics WDM network for multi-chip processor interconnects
- Silicon Photonics: the system on chip perspective
- Silicon photonics for the aerospace industry

**Fields of interest**
- Optics, Optoelectronics, Plasmonics and Optical Devices
- Microwaves, RF and Optical Engineering
- Optical and Electronic Materials

**Target groups**
- Professional/practitioner

**Discount group**
P

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**Principles of Evolution**

*From the Planck Epoch to Complex Multicellular Life*

With contributions from a team of leading experts, this volume provides a comprehensive survey of recent achievements in our scientific understanding of evolution. The questions it asks concern the beginnings of the universe, the origin of life and the chances of its arising at all, the role of contingency, and the search for universal features in the plethora of evolutionary phenomena. Rather than oversimplified or premature answers, the chapters provide a clear picture of how these essential problems are being tackled, enabling the reader to understand current thinking and open questions.

**Features**
- Displays the current view of science of evolution
- Presents a systematic interdisciplinary analysis of the development of life
- Discusses the evolution of social organizations
- Develops an interdisciplinary view of protein- and citation networks
- Gives examples for self-organized structures in the universe

**Fields of interest**
- Statistical Physics, Dynamical Systems and Complexity
- Evolutionary Biology
- Biophysics and Biological Physics

**Target groups**
- Research

**Discount group**
P
Terahertz (THz) and Mid-Infrared (MIR) radiation (TERA-MIR) can be transmitted through nearly any material without causing biological harm. Novel and rapid methods of detection can be created with devices operation in these spectral ranges allowing scanning for weapons, detecting hidden explosives (including plastic landmines), controlling the quality of food and a host of other exciting applications. This book focuses on mathematical and physical aspects of the field, on unifying these two spectral domains (THz and MIR) with regard to common sources, detectors, materials and applications, and on key interdisciplinary topics. The main THz and MIR source is the quantum cascade laser (QCL). Thus significant attention is paid to the challenge of turning this advanced technology into affordable commercial devices so as to exploit its enormous potential.

**Features**
- State of the Art detection schemes for MIR and THz
- Alternative sources beyond QLS analysed
- Applications discussed in detail

**Fields of interest**
Quantum Optics; Optics and Electrodynamics; Optics, Optoelectronics, Plasmonics and Optical Devices

**Target groups**
Graduate

**Discount group**
P

**Nanotechnological Basis for Advanced Sensors**

Bringing together experts from 15 countries, this book is based on the lectures and contributions of the NATO Advanced Study Institute on “Nanotechnological Basis for Advanced Sensors” held in Sozopol, Bulgaria, 30 May - 11 June, 2010. It gives a broad overview on this topic, and includes articles on: techniques for preparation and characterization of sensor materials; different types of nanoscaled materials for sensor applications, addressing both their structure ( nanoparticles, nanocomposites, nanostructured films, etc.) and chemical nature (carbon-based, oxides, glasses, etc.); and on advanced sensors that exploit nanoscience and nanotechnology. In addition, the volume represents an interdisciplinary approach with authors coming from diverse fields such as physics, chemistry, engineering, materials science and biology. A particular strength of the book is its combination of longer papers, introducing the basic knowledge on a certain topic, and brief contributions highlighting special types of sensors and sensor materials.

**Fields of interest**
Nanoscale Science and Technology; Materials Science, general; Nanotechnology

**Target groups**
Graduate

**Discount group**
P
Handbook of Accessible Achievement Tests for All Students
Bridging the Gaps Between Research, Practice, and Policy

The Handbook of Accessible Achievement Tests for All Students: Bridging the Gaps Between Research, Practice, and Policy presents a wealth of evidence-based solutions designed to move the assessment field beyond “universal” standards and policies toward practices that enhance learning and testing outcomes. Drawing on an extensive research and theoretical base as well as emerging areas of interest, the volume focuses on major policy concerns, instructional considerations, and test design issues, including: The IEP team’s role in sound assessment. The relationships among opportunity to learn, assessment, and learning outcomes. Innovations in computerized testing and the 6D” framework for standard setting. Legal issues in the assessment of special populations. Guidelines for linguistically accessible assessments. Evidence-based methods for making item modifications that increase the validity of inferences from test scores. Strategies for writing clearer test items. Methods for including student input in assessment design. Suggestions for better measurement and tests that are more inclusive.

Features
► Provides comprehensive coverage of the concept of accessibility and its application to the design and use of tests with all students
► Covers in depth the topics of test accessibility and test design
► Addresses the subject within the context of NCLB, including the modified alternate assessment amendments of April 2007, and item modification research
► Details the most current research in testing accommodations, large-scale assessment, and educational accountability.

Fields of interest
Child and School Psychology; Educational Psychology; Social Work

Target groups
Research

Discount group
P

Self-Help in Mental Health: A Critical Review

They’re fast, cheap, and promise amazing results—no wonder more people seek mental health advice from self-help books and sites rather than seeking therapy. Complicating this picture: many resources are inappropriate, ineffective, even dangerous. For the clinicians who would gladly recommend self-help for their clients, the challenge is finding reliable, evidence-based sources of help among the vast quantities available. Self-Help in Mental Health: A Critical Review guides readers through this plethora of materials, organizing it into useful order, evaluating popular approaches and trends, and recommending clinically valid, science-based resources for specific clinical and sub-clinical problems. Its authors explain how and why such methods work, offering innovative uses for self-help in prevention and promotion, therapy and rehabilitation, including strengthening therapeutic gains (akin to homework in cognitive-behavioral therapy) and encouraging self-reliance. While some may be tempted to write-off all self-help as quackery or therapy-lite, Harwood and L’Abate recognize the potential the self-help movement holds for countering the stigma associated with mental health treatments.

Features
► Guidelines for evaluating self-help
► Strategies for integrating self-help
► New directions in theories of self-help

Contents
Part I: Introduction to the field of self-help in mental health. What constitutes self-help in mental health and what can be done to improve it. The self-help movement in mental health: from passivity to interactivity. Part II: Self-support approaches: Initiated, Guided, Maintained, and monitored by professionals (for participants).- Distance writing: helping without seeing participants. - Bibliotherapy.- Online support groups and therapy.- Manuals for practitioners.

Fields of interest
Clinical Psychology; Psychotherapy; Social Work

Target groups
Research

Discount group
P

Handbook of Child and Adolescent Anxiety Disorders

Is it school refusal or separation anxiety disorder? Can preschoolers have panic attacks? Does food neophobia really exist? For readers seeking ways to improve assessment, case conceptualization, or treatment plans as well as a more general understanding of anxiety disorders among children, the Handbook of Child and Adolescent Anxiety Disorders addresses these and many other complex issues. A straightforward companion to the diagnostic manuals, this volume crosses theoretical boundaries to describe in depth the wide range of children’s anxiety disorders and to explain the developmental nuances that separate them from their adult analogues. Coverage includes: Diagnostic and etiological models of children’s anxiety disorders (i.e., genetic, cognitive-behavioral, taxonomic, neuropsychological, dimensional). Differential diagnosis guidelines for generalized anxiety disorder (GAD), phobic conditions, obsessive-compulsive disorder (OCD), and posttraumatic stress disorder (PTSD) in youth. Ancillary factors in child and adolescent anxiety (e.g., personality, temperament, parenting issues, and comorbid conditions). Psychological, pharmacological, and combined treatments for childhood anxiety disorders.

Features
► Provides a comprehensive text with the latest information on treatment, assessment, treatment augmentation, and basic science
► Addresses comorbid and complicating factors in treating children and adolescents with anxiety disorders
► Discusses cutting-edge controversies in the field of anxiety disorders, such as the placement of OCD in the DSM-V and novel augmentation approaches to behavioral therapy

Fields of interest
Child and School Psychology; Psychiatry; Education (general)

Target groups
Research

Discount group
P
T. Inoguchi, University of Tokyo, Japan (Ed.)

The Quality of Life in Asia
A comparison of the quality of life in 29 Asian Countries and Societies

Issues related to the quality of life gain more and more research interests from scholars and policy makers. Individual scholars, research institutes as well as government agencies have begun appraising and comparing the quality of life across a number of different countries and regions. In this proposed work, we aim to study and compare the quality of life in 29 countries and societies in Asia, which encompass an ever largest and unparalleled area as far as the region of Asia is concerned, with a comprehensive and systematic research design. Utilizing the AsiaBarometer surveys data conducted in 29 societies throughout Asia from 2003 to 2008, we systematically explore demographics such as income and educational level, a way of life such as the extent of access to public utilities and digital devices, value priorities, specific life domain assessments and overall quality of life. Given the expected and real diversities and peculiarities in Asia, we would do best to emphasize the bottom-up approach. Namely, we ask how the ordinary citizens of these societies live their daily lives, what they value for their lot in life, and how they feel about what they experience in their society on a daily basis. This focus on the daily lives of ordinary people in Asia is another unique feature of this proposed work.

Features
- The first book to study quality of life in the vast region of Asia
- Encompasses 29 societies in East, Southeast, South and Central Asia
- Uses a comprehensive and systematic research design
- Explores demographic profile, lifestyles, value priorities, and subjective and objective quality of life
- Looks at ordinary citizens within each society and compares societies
- Based on a sample of over 50,000

Fields of interest
Quality of Life Research; Social Policy; Political Science

Target groups
Research

Discount group
P

P. Meusburger, University of Heidelberg, Department of Geography, Heidelberg, Germany;
M. Heffernan, University of Nottingham, School of Geography, Nottingham, United Kingdom;
E. Wunder, University of Heidelberg, Department of Geography, Heidelberg, Germany (Eds.)

Cultural Memories
The Geographical Point of View

The revival of interest in collective cultural memories since the 1980s has been a genuinely global phenomenon. Cultural memories can be defined as the social constructions of the past that allow individuals and groups to orient themselves in time and space. The investigation of cultural memories has necessitated an interdisciplinary perspective, though geographical questions about the spaces, places, and landscapes of memory have acquired a special significance. The essays in this volume, written by leading anthropologists, geographers, historians, and psychologists, open a range of new interpretations of the formation and development of cultural memories from ancient times to the present day. The volume is divided into five interconnected sections. The first section outlines the theoretical considerations that have shaped recent debates about cultural memory. The second section provides detailed case studies of three key themes: the founding myths of the nation-state, the contestation of national collective memories during periods of civil war, and the oral traditions that move beyond national narrative. The third section examines the role of World War II as a pivotal episode in an emerging European cultural memory. The fourth section focuses on cultural memories in postcolonial contexts beyond Europe. The fifth and final section extends the study of cultural memory back into premodern tribal and nomadic societies.

Features
- The first volume on cultural memories dealing with spatiality of knowledge and the role of places
- Encompasses both unique to place and time and universal in economic resources and power relationships are economic forces based on industrial capitalism
- New research methodology to gather and analyze historical archaeological data
- In-depth case studies of two settlement periods in Western Australia
- Due to the timing of settlement in Western Australia there was a lack of older infrastructure patterns based on industrial capitalism to evoke geographical inertia to modify and deform the newer system in many ways making the systemic patterns which grew out of market capitalism forces clearer and easier to delineate than in older settlement areas
- The struggle between the forces of market capitalism, settlers and indigenous Australians over space, labor, physical and economic resources and power relationships are both unique to place and time in allowing an understanding of how such complicated regional, interregional and global forces shape a settler society.

Fields of interest
Archaeology; History; Anthropology

Target groups
Research

Discount group
P

G. Nayton, Historical Archaeology Consultancy, Thornlie, WA, Australia

The Archaeology of Market Capitalism
A Western Australian Perspective

The area claimed by the British Empire as Western Australia was primarily colonized through two major thrusts: the development of the Swan River Colony to the southwest in 1829, and the 1863 movement of Australian born settlers to colonize the northwest region. The Western Australian story is overwhelmingly the story of the spread of market capitalism, a narrative which is at the foundation of modern western world economy and culture. Due to the timing of settlement in Western Australia there was a lack of older infrastructure patterns based on industrial capitalism to evoke geographical inertia to modify and deform the newer system in many ways making the systemic patterns which grew out of market capitalism forces clearer and easier to delineate than in older settlement areas. However, the struggle between the forces of market capitalism, settlers and indigenous Australians over space, labor, physical and economic resources and power relationships are both unique to place and time in allowing an understanding of how such complicated regional, interregional and global forces shape a settler society.

Features
- Comprehensive analysis of the sociocultural and economic implications of colonization
- New research methodology to gather and analyze historical archaeological data
- In-depth case studies of two settlement periods in Western Australia, with international applications

Fields of interest
Archaeology; History; Anthropology

Target groups
Research

Discount group
P

Discount group
P
Studies in Temporal Urbanism

The urbanTick Experiment

This book is very much about what the name urbanTick literally says, about the ticking of the urban, the urban as we experience it everyday on the bus, in the park or between buildings. It is about the big orchestrated mass migration of commuters, the seasonal blossoms of the trees along the walkway and the frequency of the stamping rubbish-eater-trucks. It is also, not to forget, about climate, infrastructure, opening hours, term times, parking meters, time tables, growing shadows and moon light. But most of all it is about how all this is experienced by citizens on a daily basis and how they navigate within this complex structure of patterns. The content of this book is based on the content of the urbanTick blog between 2008-2010. One year blogging about this topic brought together a large collection of different aspects and thoughts. It is not at all a conclusive view, the opposite might be the case, it is an exploratory work in progress, while trying to capture as many facets of the topic as possible.

Features
- Unique focus on temporal aspects in a socio spatial context
- Accessible for a wide range of audience
- Combination of facts, experience, observation and speculation
- Short paragraphs that can be read linear, by topic or random
- Extensive list of links for wider context

Contents

Field of interest
Urbanism

Target groups
Research

Discount group
P

Due April 2011

2011. XX, 375 p. 400 illus. Hardcover

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**Ranking and Prioritization for Multi-Indicator Systems**

**Introduction to Partial Order Applications**

This book provides axioms of partial order and some basic material, for example consequences of “criss-crossing” of data profiles, the role of aggregations of the indicators and the powerful method of formal concept analysis. The interested reader will learn how to apply fuzzy methods in partial order analysis and what ‘antagonistic indicator’ means.

**Features**

- Discusses main topics of ranking applying partial order theory
- Is about how far simple order methods can be useful for the ordinal analysis of data matrices
- The reader will learn how to apply unclear methods in partial order analysis

**Contents**


**Fields of interest**

Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences; Statistics for Life Sciences, Medicine, Health Sciences

**Target groups**

Professional/practitioner

**Discount group**

P

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**Selected Works of Murray Rosenblatt**

During the second half of the 20th century, Murray Rosenblatt was one of the most celebrated and leading figures in probability and statistics. Among his many contributions, Rosenblatt conducted seminal work on density estimation, central limit theorems under strong mixing conditions, spectral domain methodology, long memory processes and Markov processes. He has published over 130 papers and 5 books, many as relevant today as when they first appeared decades ago. Murray Rosenblatt was one of the founding members of the Department of Mathematics at the University of California at San Diego (UCSD) and served as advisor to over twenty PhD students. He maintains a close association with UCSD in his role as Professor Emeritus. This volume is a celebration of Murray Rosenblatt’s stellar research career that spans over six decades, and includes some of his most interesting and influential papers. Several leading experts provide commentary and reflections on various directions of Murray’s research portfolio.

**Features**

- Provides convenient access to significant papers from a highly regarded author in the field of Statistics
- Includes a complete bibliography of the authors work
- Commentaries by leading experts explain the development of Rosenblatt’s ideas over time

**Fields of interest**

Statistical Theory and Methods

**Target groups**

Research

**Discount group**

P

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**Dynamic Mixed Models for Familial Longitudinal Data**

This book provides a theoretical foundation for the analysis of discrete data such as count and binary data in the longitudinal setup. Unlike the existing books, this book uses a class of auto-correlation structures to model the longitudinal correlations for the repeated discrete data that accommodates all possible Gaussian type auto-correlation models as special cases including the equi-correlation models. This new dynamic modelling approach is utilized to develop theoretically sound inference techniques such as the generalized quasi-likelihood (GQL) technique for consistent and efficient estimation of the underlying regression effects involved in the model, whereas the existing ‘working’ correlations based GEE (generalized estimating equations) approach has serious theoretical limitations both for consistent and efficient estimation, and the existing random effects based correlations approach is not suitable to model the longitudinal correlations. The book has exploited the random effects carefully only to model the familial correlations of the data.

**Features**

- Provides a clear direction for accurate familial and longitudinal data analysis by presenting differences between the familial and longitudinal correlation models
- Deals with non-stationary longitudinal correlations caused by time dependent covariates
- Offers an appropriate level of theoretical detail for graduate students, professors and other researchers, along with easy and interesting illustrations of real life data analysis

**From the contents**


**Fields of interest**

Statistical Theory and Methods; Biostatistics; Econometrics

**Target groups**

Research

**Discount group**

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