Just Released New Books
November 2010
All Titles, All Languages

Sorted by author and title within the main subject
**Java, Indonesia and Islam**

Mark R. Woodward’s Islam in Java: Normative Piety and Mysticism in the Sultanate of Yogyakarta (1989) was one of the most important works on Indonesian Islam of the era. This new volume, Java, Indonesia, and Islam, builds on the earlier study, but also goes beyond it in important ways. Written on the basis of Woodward’s thirty years of research on Javanese Islam in a Yogyakarta (south-central Java) setting, the book presents a much-needed collection of essays concerning Javanese Islamic texts, ritual, sacred space, situated in Javanese and Indonesian political contexts. With a number of entirely new essays as well as significantly revised versions of essays this book is a valuable contribution to the academic community by an eminent anthropologist and key authority on Islamic religion and culture in Java.

**Features**

Mark R. Woodward’s Islam in Java: Normative Piety and Mysticism in the Sultanate of Yogyakarta (1989) was one of the most important works on Indonesian Islam of the era. This new volume builds on the earlier study, but also goes beyond it in important ways. Written on the basis of Woodward’s thirty years of research on Javanese Islam in a Yogyakarta (south-central Java) setting, the book presents [...] 

**Contents**


**Fields of interest**

Religious Studies; Anthropology

**Target groups**

Research

**Type of publication**

Monograph

**Available**


99,95 €
ISBN 978-94-007-0055-0

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**Developmental Biology of Peripheral Lymphoid Organs**

The human immune system is a complex network of tissues and organs dispersed throughout the body. Immunology, as one of the most rapidly evolving fields in biomedical research, has to date covered the essential cellular and molecular events necessary for immune responses to occur. However, it has paid relatively little attention to important developmental processes underlying the formation of the tissues themselves that carry out immune responses in humans and other mammals. In contrast to the thymus and bone marrow that are the sole tissues for generating mature leukocytes for antigen recognition and handling in humans and most mammalian species, the peripheral lymphoid tissues where adaptive immune responses are focused display broad tissue distribution and possess diverse architectural characteristics. These organs develop prior to an individual’s exposure to external antigens, and despite their similar functions, their varied appearances indicate a substantial complexity of tissue. [...] 

**Features**

The human immune system is a complex network of tissues and organs dispersed throughout the body. Immunology, as one of the most rapidly evolving fields in biomedical research, has to date covered the essential cellular and molecular events necessary for immune responses to occur, but has paid relatively little attention to important developmental processes underlying the formation of the tissues themselves. [...] 

**Contents**


**Fields of interest**

Immunology; Developmental Biology; Human Physiology

**Target groups**

Research

**Type of publication**

Contributed volume

**Available**


139,95 €
ISBN 978-3-642-14428-8

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**Membrane Potential Imaging in the Nervous System**

The book is structured in five sections, each containing several chapters written by experts and major contributors to particular topics. The volume starts with a historical perspective and fundamental principles of membrane potential imaging and continues to cover the measurement of membrane potential signals from dendrites and axons of individual neurons, measurements of the activity of many neurons with single cell resolution, monitoring of population signals from the nervous system, and concludes with the overview of new approaches to voltage-imagining. The book is targeted at all scientists interested in this mature but also rapidly expanding imaging approach.

**Features**

Membrane Potential Imaging in the Nervous System: Methods and Applications describes optical techniques to monitor neuronal membrane potential signals. The knowledge upon which voltage-imaging techniques is based was generated over several decades and the aim of this book is to provide a single comprehensive source of information on different types of voltage-imaging techniques, including overviews. [...] 

**Contents**

Historical overview and general methods of membrane potential imaging. - Design and use of organic voltage-sensitive dyes. - Imaging subcellular membrane potential changes from individual regions of single axons, dendrites and spines. - Combined voltage and calcium imaging and signal calibration. - Use of fast-responding voltage-sensitive dyes for large-scale recording of neuronal spiking activity with single-cell resolution. - Monitoring integrated activity of individual neurons using FRET-based voltage-sensitive dyes. - Monitoring population membrane potential signals from neocortex. [...] 

**Fields of interest**

Neurosciences; Human Physiology; Neurobiology; Biological Techniques; Biological Microscopy

**Target groups**

Research

**Type of publication**

Handbook

**Available**

2011. XI, 170 p. 95 illus., 71 in color. With online files/update. Hardcover

109,95 €
ISBN 978-1-4419-6557-8
Animal Models of Dementia

With an ever-increasing elderly population and the resultant rising levels of dementia-related disorders, preclinical research based on animal models is pivotal to our knowledge of underlying molecular mechanisms and drug discovery aiming at the development of therapeutic strategies alleviating or preventing the neurological devastation. In Animal Models of Dementia, expert researchers provide contributions that stress the importance of extensively validated animal models in drug discovery and development in order to predict clinical activity. Beginning with general aspects of animal modeling, related ethical issues, and essential methodological considerations, the highly detailed volume then continues with various levels of model validation, including pathological, behavioral, neurochemical, pharmacological, and imaging aspects, followed by sections focused on specific disorders, such as Alzheimer’s disease, Parkinson’s disease, metabolic, and amyotrophic lateral sclerosis.

Contents

- General Introduction to Animal Models of Human Conditions
- Animal Models of Dementia: Ethical Considerations
- The Role of Rodent Models in the Drug Discovery Pipeline for Dementia
- Species, Strain, and Gender Issues in the Development and Validation of Animal Models of Dementia
- Transgenic and Gene Targeted Models of Dementia
- Transgenic Animals and Intellectual Property Concerns
- Pathological Validation of Animal Models of Dementia
- Behavioral Validation in Animal Models of Dementia
- Pharmacological Validation in Animal Models of Dementia
- Validation of Animal Models of Dementia

Features

- With an ever-increasing elderly population and the resultant rising levels of dementia-related disorders, preclinical research based on animal models is pivotal to our knowledge of underlying molecular mechanisms and drug discovery aiming at the development of therapeutic strategies alleviating or preventing the neurological devastation. In Animal Models of Dementia, expert researchers provide contributions.

Available

2011, XV, 710 p. illus. (Neuromethods, Vol. 48) Hardcover

139.95 €
ISBN 978-1-60761-897-3

DNA Damage Detection In Situ, Ex Vivo, and In Vivo
Methods and Protocols

Recent advances in organic chemistry, fluorescent microscopy, and materials science have created an entirely new range of techniques and probes for imaging DNA damage in molecular and cellular biology. In DNA Damage Detection In Situ, Ex Vivo, and In Vivo: Methods and Protocols, expert researchers explore the latest advances in the area, covering both recent and established techniques to detect and quantify DNA damage at scales ranging from subcellular to the level of a whole live organism. Chapters present all major assays used in molecular and cellular biology for the labeling of DNA damage in situ, ex vivo, and in vivo. Composed in the highly successful Methods in Molecular Biology® series format, each chapter contains a brief introduction, step-by-step methods, a list of necessary materials, and a Notes section which shares tips on troubleshooting and avoiding known pitfalls. Comprehensive and current, DNA Damage Detection In Situ, Ex Vivo, and In Vivo: Methods and Protocols is an essential.

Features

- Recent advances in organic chemistry, fluorescent microscopy, and materials science have created an entirely new range of techniques and probes for imaging DNA damage in molecular and cellular biology.

Contents

- In Situ Detection of Apoptosis by the TUNEL Assay
- Combination of TUNEL Assay with Immunohistochemistry for Simultaneous Detection of DNA Fragmentation and Oxidative Cell Damage
- EM-ISEL: A Useful Tool to Visualize DNA Damage at the Ultrastructural Level
- In Situ Detection of DNA Breaks and Apoptosis by T7 DNA Polymerase
- In Situ Ligation Simplified
- Using PCR Fragments for Detection of Double-Strand DNA Breaks in Tissue Sections
- 5’OH DNA Breaks in Apoptosis and their Labeling by Topoisomerase-Based

Fields of interest

- Neurosciences
- Neurology
- Animal Models

Target groups

- Research

Type of publication

- Contributed volume

Available

2011, XIII, 313 p. 38 illus., 17 in color (Methods in Molecular Biology, Vol. 682) Hardcover

149.95 €
ISBN 978-1-60327-408-1

Replicating Vaccines

A New Generation

Technological advances, together with a better understanding of the molecular biology of infectious microorganisms, are creating exciting possibilities for a new generation of replicating vaccines. Historically, live vaccines have been either directly derived from a natural source or attenuated by empirical approaches using serial passages and host cell adaptation. Currently, we are witnessing a quantum leap in our technological capabilities to specifically modify the genetic make-up of viruses and bacteria, making it possible to generate improved live vaccines and to develop completely new types of replicating vaccines, such as vectored vaccines, single-round infectious vaccines and replicon vaccines. This book highlights some of the most exciting recent developments towards a new generation of replicating vaccines.

Features

- Technological advances, together with a better understanding of the molecular biology of infectious microorganisms, are creating exciting possibilities for a new generation of replicating vaccines.

Contents

- SECTION 1: Today’s Live Attenuated Vaccines
- Live Vaccines and their Role in Modern Vaccinology
- Live Attenuated Vaccines: Influenza, Rotavirus, and Varicella Zoster
- Classical Live Viral Vaccines
- SECTION 2: Genetically Attenuated Micro-Organisms as Vaccines
- Recombinant Live Vaccines to Protect Against the Severe Acute Respiratory Syndrome Coronavirus
- Live Attenuated Shigella Vaccines
- SECTION 3: Manipulating Host-Pathogen Interactions to Make Vaccines
- Basic Science Paves the Way to Novel Safe and Effective Pestivirus

Fields of interest

- Medical Microbiology
- Vaccine
- Immunology
- Virology

Target groups

- Research

Type of publication

- Contributed volume

Available

2011, XIII, 447 p. 42 illus., 14 in color (Birkhäuser Advances in Infectious Diseases) Hardcover

149.95 €
ISBN 978-3-0346-0276-1
Insertional Mutagenesis Strategies in Cancer Genetics

The goal of this work is to summarize the contribution that insertional mutagenesis has made to our understanding of cancer. A variety of insertional mutagens are presented that have been used to study a variety of tumor types in several model organisms. In addition, the impact of insertional mutagenesis in several gene therapy trials is discussed along with strategies to avoid such complications in future clinical trials.

Features

Over the past decades, insertional mutagenesis has played an important contribution to our understanding of cancer. Initially, the action of slow transforming retroviruses was used to identify endogenous cellular oncogenes (e.g. Myc, Myb). These observations sparked a series of experiments that eventually led to the idea cancer is caused by somatically acquired mutations in endogenous oncogenes and tumor [...]

Contents


Fields of interest

Cancer Research; Human Genetics; Pharmacology / Toxicology

Target groups

Research

Type of publication

Contributed volume

Available

2011. VIII, 200 p. 18 illus., 4 in color. Hardcover

99,95 €
ISBN 978-1-4419-7555-0

Oxidative Stress and Free Radical Damage in Neurology

The role of free radicals and oxidative stress in neurological disorders has only recently been recognized, leaving clinical neurologists to seek in vain for information on the subject even in major textbooks. What published information there is may consist of brief reviews of the possible association of superoxide dismutase with familial amyotrophic lateral sclerosis and nitrous oxide with migraine. With luck they may also find information on the purported role of free radicals in the pathogenesis traumatic brain injury. Oxidative Stress and Free Radical Damage in Neurology sets the record straight, focusing on clinical and research issues regarding the interplay of free radicals and the human nervous system. Crucially, the chapters cover numerous antioxidants and their possible therapeutic role in neurological disorders. Key illnesses such as epilepsy, multiple sclerosis and Parkinson’s are analyzed, and chapters also examine more general issues such as the link between free radicals and[...]

Features

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Contents


Fields of interest

Neurosciences; Biophysics and Biological Physics; Medical Biochemistry; Human Physiology; Neuroradiology; Imaging / Radiology

Target groups

Research

Type of publication

Monograph

Available

2011. XV, 343 p. 80 illus., 18 in color. Hardcover

149,95 €

Neurokinetics

The Dynamics of Neurobiology in Vivo

This book summarizes 20 years of work on the kinetics of blood-brain transfer and metabolism mechanisms in mammalian brain. The substances affiliated with these mechanisms include glucose, amino acids, monocarboxylic acids, and oxygen. These substances are important to energy metabolism and neurotransmission in the mammalian brain at rest and during activation. To understand the processes addressed by these mechanisms, the book examines the kinetics of compartmentalization and compartmental analysis, particularly as they relate to transporter, enzyme, and receptor function. Compartments are subsets of substances separated by transporters and receptors in membranes, and enzymes in cells. This book is divided in six major chapters covering compartmental analysis, kinetic analysis of transport and metabolism, blood-brain transfer and metabolism of glucose, amino acids, and oxygen, and amino acid metabolism and interaction of amino acid metabolites with receptors.

Features

Neurokinetics: The Dynamics of Neurobiology in Vivo summarizes 20 years of work on the kinetics of blood-brain transfer and metabolism mechanisms in mammalian brain. The substances affiliated with these mechanisms include glucose, amino acids, monocarboxylic acids, and oxygen. These substances are important to energy metabolism and neurotransmission in the mammalian brain at rest and during[...]

Contents


Fields of interest

Neurosciences; Biophysics and Biological Physics; Medical Biochemistry; Human Physiology; Neuroradiology; Imaging / Radiology

Target groups

Research

Type of publication

Monograph

Available

2011. XV, 343 p. 80 illus., 18 in color. Hardcover

149,95 €
Signaling Pathways in Squamous Cancer

Squamous epithelia form the lining surface of tissues in contact with the environment: the skin, oral mucosa, esophagus and respiratory tract, the genital tract, and several other specialized tissues. These tissues are at highest risk for exposure to environmental carcinogens such as UV, tobacco smoke and infectious agents. Cancers that form in squamous epithelia are among the most common human solid tumors and have high morbidity and mortality. These cancers include squamous cell carcinoma of the skin, oral cancer, head and neck and esophageal cancer, certain lung cancers and cervical cancer. We propose to organize the book so that the early chapters will focus on individual pathways and more specific mechanisms in both normal function and cancer, while the later chapters will be more integrative and include overviews of biomarkers and therapeutic development. This should increase interest for clinically oriented researchers. All authors will be encouraged to provide a balanced review in [...] Features

Squamous epithelia form the essential lining surface of tissues in contact with the environment, including the skin, and mucosa of the oral cavity, pharynx, larynx, esophagus, respiratory and genital tracts, and several other specialized tissues. These tissues are at highest risk for exposure to environmental carcinogens such as UV light, tobacco smoke, and infectious agents. Consequently, squamous cell [...] Contents

1. Regulation of Squamous Differentiation
2. Notch
3. Various Growth Factors
4. Nuclear Hormone Receptors
5. Other Cellular Receptors
6. Apoptosis and Inflammation
7. Additional Mechanisms

Adrenocortical Carcinoma

Basic Science and Clinical Concepts

We anticipate the book to be a definitive text on the subject that explores all aspects of the study of adrenal cancer and the treatment of patients with the disease. Chapters will cover epidemiology, pathogenesis, genetics, cancer stem cells, historic and emerging therapies, mouse models of adrenal cancer, new developments in tumor profiling, worldwide collaborative groups and tumor registries together with resources for the practitioner and community of adrenal cancer scientists. We do not wish this book to compete with the other larger books in the Endocrine and Endocrine Surgery literature. In addition, it is not expected to cover benign adrenal diseases that have been covered in detail in other venues. We envision this book to be a very specialized and exhaustive text on basic, translational and clinical aspects of adrenal cancer. Features

This first edition of the textbook "Adrenocortical Carcinoma: Basic Sciences and Clinical Concepts" provides a concise compilation of relevant data advancing our current understanding of this rare cancer. Chapters are dedicated to various aspects of both the basic biology and the clinical science relating to adrenocortical carcinoma (ACC). Expert clinicians introduce the reader to current state-of-the-art [...] Fields of interest

Cancer Research; Pharmacology / Toxicology

Target groups

Research

Type of publication

Contributed volume

Available

2011. XV, 546 p. 116 illus., 60 in color. Hardcover

149,95 €


Zebrafish Neurobehavioral Protocols

As a model organism, zebrafish (Danio rerio) offer an opportunity to perform steady-state scientific investigations in a robust and high-throughput manner. In Zebrafish Neurobehavioral Protocols, experts in the field provide a series of detailed behavioral protocols dealing with the major current research areas in the field of behavioral neuroscience. The chapters discuss the use and interpretation of video-aided quantification of zebrafish behaviors, describe novel assays commonly used to quantify emotionality, learning, memory, and social behaviors in zebrafish, and instruct how to quantify endocrine responses and correlate them with behavior. Written in the Neuromethods series format, the chapters provide authoritative reviews of many commonly used approaches in the field today. This "how to" book will be a useful practical guide for zebrafish researchers and will complement another related book from this series, Zebrafish Models in Neurobehavioral Research. Cutting-edge and timely, Zebrafish [...] Features

As a model organism, zebrafish (Danio rerio) offer an opportunity to perform steady-state scientific investigations in a robust and high-throughput manner. In Zebrafish Neurobehavioral Protocols, experts in the field provide a series of detailed behavioral protocols dealing with the major current research areas in the field of behavioral neuroscience. The chapters discuss the use and interpretation of [...] Contents

Video-Aided Analysis of Zebrafish Locomotion and Anxiety-Related Behavioral Responses.- Videograms: A Method for Repeatable Unbiased Quantitative Behavioral Analysis Without Scoring or Tracking.- Automated Imaging of Avoidance Behavior in Larval Zebrafish.- Quantifying Anti-Predator Responses to Chemical Alarm Cues.- Modified Associative Learning T-Maze Test for Zebrafish (Danio rerio) and Other Small Teleost Fish.- Zebrafish Conditioned Place Preference Models of Drug Reinforcement and Relapse to Drug Seeking.- A Simple and Effective Method to Condition Olfactory Behaviors in Groups of [...] Fields of interest

Neurosciences; Animal Models

Target groups

Professional/practitioner

Type of publication

Contributed volume

Available


94,95 €

Emerging Therapeutic Targets in Ovarian Cancer

Features
Despite rapid advances in understanding the biology of ovarian cancer, progress in treatment has been slow. But the prospects for improvement have never been better. A wide range of novel therapeutic targets now present themselves for clinical evaluation and initial results are certainly encouraging. In this text, all these areas are covered by experts in the field. Each chapter provides up-to-date coverage [...]  

Fields of interest
Cancer Research; Pharmacology / Toxicology

Target groups
Research

Type of publication
Monograph

Available
2011. XV, 294 p. 26 illus., 20 in color. Hardcover
139,95 €  

Cell Fusions
Regulation and Control

Cell fusions are important to fertilization, placentation, development of skeletal muscle and bone, calcium homeostasis and the immune defence system. Additionally, cell fusions participate in tissue repair and may be important to cancer development, progression and therapy. A large number of factors regulate cell fusions, including receptors and ligands, membrane domain organizing proteins, proteases, signaling molecules and fusogenic proteins that bring membranes close together. In the present volume, we interrogate what mechanisms that may be important to cell fusions in mammals and what mechanisms that may be shared with lower organisms and viruses. Additionally, the importance of cell fusions to the pathogenesis as well as treatment of diseases is addressed. 

Features
Cell fusions are important to fertilization, placentation, development of skeletal muscle and bone, calcium homeostasis and the immune defence system. Additionally, cell fusions participate in tissue repair and may be important to cancer development, progression and therapy. A large number of factors regulate cell fusions, including receptors and ligands, membrane domain organizing proteins, proteases, [...]  

Contents

Fields of interest
Biomedicine (general)

Target groups
Research

Type of publication
Contributed volume

Available
149,95 €  

The Minimal Cell
The Biophysics of Cell Compartment and the Origin of Cell Functionality

In the last ten years there has been a considerable increase of interest on the notion of the minimal cell. With this term we usually mean a cell-like structure containing the minimal and sufficient number of components to be defined as alive, or at least capable of displaying some of the fundamental functions of a living cell. In fact, when we look at extant living cells we realize that thousands of molecules are organized spatially and functionally in order to realize what we call cellular life. This fact elicits the question whether such huge complexity is a necessary condition for life, or a simpler molecular system can also be defined as alive. Obviously, the concept of minimal cell encompasses entire families of cells, from totally synthetic cells, to semi-synthetic ones, to primitive cell models, to simple biomimetic cellular systems. Typically, in the experimental approach to the construction of minimal the main ingredient is the compartment. Lipid vesicles (liposomes) are used to host [...]  

Contents
Foreword, Pier Luigi Luisi. - Part I The Physical Aspects: 1 Towards a minimal cytoplasm, Jacqueline D. Keighron and Christine D. Keating. - 2 Evolution of the cell’s mechanical design, David Boal and Cameron Forde. - 3 On the minimal requirements for the emergence of cellular crowding, Luis Acenza and Martin Graña. - 4 How small is small? A bio-physical chemists thoughts about the lower limits of cell sizes, Peter B. Moore. - 5 Biochemical reactions in the crowded and confined physiological environment: Physical chemistry meets synthetic biology, Allen P. Minton and Germán Rivas-Caballero. - [...]  

Fields of interest
Biomedicine (general); Biotechnology; Cell Biology; Gene Expression

Target groups
Research

Type of publication
Contributed volume

Available
139,95 €  
Behavioral Neurobiology of Bipolar Disorder and Its Treatment

This book offers the most up-to-date information about research surrounding the neurobiology of bipolar disorder as well as currently available and novel therapeutic options. The volume has assembled a widely respected group of preclinical and clinical researchers who bring their expertise to bear upon this illness by reviewing cutting-edge research and clinical evidence regarding the pathophysiology and treatment of bipolar disorder. Early chapters review the course and outcome and genetics of this highly heritable condition, including chapters on epigenetics and clinical endophenotypes. Several chapters offer a remarkably thorough and unique overview of the neurobiology of the disorder, including what is known from neuroimaging work and the development of animal models. Finally, the book covers treatment strategies for bipolar disorder, including both traditional and novel therapeutics, as well as non-pharmacological treatments. It offers both researchers and clinicians key insights into this...[...]

Features

Despite the devastating impact of bipolar disorder on the lives of millions worldwide, many aspects of its underlying etiology and pathophysiology remain unknown. This book, which has assembled a widely respected group of preclinical and clinical researchers, acts as a valuable and timely resource for both researchers and clinicians. This volume reviews the very latest biological, psychopharmacological, and...[...]

Contents


Fields of interest

Neurosciences; Psychiatry; Psychopharmacology; Human Genetics; Imaging / Radiology

Target groups

Research

Type of publication

Contributed volume

Available


149,95 €

ISBN 978-3-642-15756-1

Immunologic Signatures of Rejection

This book discusses the mechanisms leading to immune-mediated tissue rejection following the hypothesis that independent of the disease process the final effector mechanism is shared by most (but not all) pathologies and it is relatively simple. The book covers evidence gathered to support the thesis by studies performed in humans during rejection or in experimental models and will focus particularly (but not exclusively) on the analysis of the rejected tissue rather than the systemic circulation. Several disease processes are discussed including example of chronic inflammatory process without resolution of the pathologic process and acute one with resolution of the pathologic process (clearance of pathogen, rejection of tumor) or unwanted tissue destruction (allograft rejection, autoimmunity).

Features

This book collects salient observational data, derived predominantly from human studies, regarding the mechanism(s) of rejection in various pathologic conditions; the premise is that immune rejection, better defined as “immune-mediated, tissue-specific destruction” (TSD), comprises a broad range of phenomena ranging from tumor regression, to clearance of pathogen through destruction of infected cells, ...[...]

Fields of interest

Cancer Research

Target groups

Research

Type of publication

Contributed volume

Available

2011. VII, 300 p. 21 illus., 19 in color. Hardcover

139,95 €

ISBN 978-1-4419-7218-7

Physical Activity, Dietary Calorie Restriction, and Cancer

The World Health Organization estimates that 25 percent of common cancers can be prevented through regular physical activity and weight control. Common cancers linked to overweight/obesity and a sedentary lifestyle include breast, colon, endometrium, pancreas, renal, esophageal, and several others. There are several plausible mechanisms linking lack of physical activity and increased adiposity to cancer risk, supported by results from animal experiments and human intervention studies.

Features

This book focuses on how obesity and sedentary lifestyles adversely affect cancer risk and survival for individuals as well as mechanisms that may underlie those associations. However, evidence is accumulating rapidly on the cost of obesity and sedentary lifestyles to society. For example, obesity is estimated to lead to costs of $147 billion in the US.6 While research on individual level interventions for...[...]

Contents

Introduction Anne McTiernan, Linda Nebeling, Rachel Ballard-Barbash Epidemiology of overweight/obesity and cancer risk Eugenia Calle Epidemiology of physical activity and cancer risk. Kathryn Schmitz, I Min Lee, Anne McTiernan Dietary energy restriction, exercise, and mammary carcinogenesis Henry Thompson Animal model of obesity and advanced prostate cancer Tim Nagy Dietary energy restriction, exercise, and colon carcinogenesis Steve Hursting Mechanisms linking obesity to cancer risk in humans Catherine Duggan and Anne McTiernan Mechanisms linking physical activity to cancer risk[...]

Fields of interest

Cancer Research; Pharmacology / Toxicology

Target groups

Research

Type of publication

Contributed volume

Available


139,95 €

ISBN 978-1-4419-7550-8
The Blood-Brain and Other Neural Barriers
Reviews and Protocols

Evolving technologies starting with tracer studies, and more recently with genomics and proteomics, have provided novel information about the molecular properties of cerebral endothelium and astrocytes; however, further studies must be done in animal models of neurological diseases and in humans to get a clearer understanding of the pathogenesis of blood-brain barrier (BBB) breakdown in nervous system diseases. In The Blood-Brain and Other Neural Barriers: Reviews and Protocols, experts in the field present a series of cutting-edge protocols which can be used to study the barriers. Opening with detailed information on components of the neurovascular unit as well as the blood-cerebrospinal fluid barrier, the book continues with meticulous techniques to image the barriers in humans and experimental animals, followed by cutting-edge molecular techniques to study the BBB and novel models to study the barriers, and it concludes with techniques for the delivery of therapeutic[s].

Contents

Features
Evolving technologies starting with tracer studies, and more recently with genomics and proteomics, have provided novel information about the molecular properties of cerebral endothelium and astrocytes; however, further studies must be done in animal models of neurological diseases and in humans to get a clearer understanding of the pathogenesis of blood-brain barrier (BBB) breakdown in nervous system [..]

Sleep is a necessary, active, diverse and periodic condition, homeostatically regulated and precisely meshed with waking time into the sleep-wakefulness cycle. The authors present a detailed and updated review of the structures involved in the phase of wakefulness, including their morphological, functional and chemical characteristics, as well as their anatomical connections.

Features
Wakefulness is a necessary, active and periodic brain state, with a circadian and homeostatic regulation and precisely meshed with other states into the sleep-wakefulness cycle. This monograph first overviews the historical background and current understanding of the neuronal systems generating and/or maintaining the various phases of the sleep-wakefulness cycle. A key cellular correlate of wakefulness is [..]

Contents
The sleep-wakefulness cycle. - Revised edition of the publications describing the anatomical connections and effects of lesions and electrical stimulation of brain structures on the sleep-wakefulness cycle. - The peripheral nerves and spinal cord, medullary and caudal pontine tegmentum. - Oral pontine tegmentum and superior cerebellar peduncle. - Midbrain tegmentum, hypothalamus and basal forebrain. - Thalamus. - Cerebral cortex. - Final commentary. - Functional anatomy of wakefulness. - The brain-stem-hypothalamic wakefulness structures and their neurotransmitters. - Other brain structures with their[..]

Fields of interest
Neurosciences

Target groups
Research

Type of publication
Monograph

Available
99.95 €
ISBN 978-3-642-14625-1
Epigenetics and Human Reproduction

Epigenetics is a rapidly expanding field in medical and biological research which concerns heritable traits that are not attributable to changes in the DNA sequence. Epigenetic mechanisms play key roles in many biological processes, and it has become clear that their disruption can give rise to diverse pathologies in humans. Edited by preeminent experts, Sophie Rousseaux and Saadi Khochbin, this volume in the 'Epigenetics and Human Health' series discusses the role of epigenetics in human reproduction.

Features
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Contents

Fields of interest
Human Genetics; Reproductive Medicine

Target groups
Research

Type of publication
Monograph

Available
2011. XVI, 372 p. 64 illus., 53 in color. (Epigenetics and Human Health, 0) Hardcover

149.95 €
ISBN 978-3-642-14772-2

Cell Signaling Reactions

Single-Molecular Kinetic Analysis

This book encompasses the exciting developments and challenges in the fast-moving and rapidly expanding research field of single-molecule kinetic analysis of cell signaling that promises to be one of the most significant and exciting areas of biological research for the foreseeable future. Cell signaling is carried out by complicated reaction networks of macromolecules, and single-molecule analyses has already demonstrated its power to unravel complex reaction dynamics in purified systems. To date, most of the published research in the field of single-molecule processes in cells, focus on the dynamic properties (translational movements of the centre of mass) of biological molecules. However, we hope that this book presents as many kinetic analyses of cell signaling as possible. Although single-molecule kinetic analysis of cellular systems is a relatively young field when compared with the analysis of single-molecule movements in cells, this type of analysis is highly important because it directly[...]

Features
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Contents
Preface, Yasushi Sako and Masahiro Ueda: List of contributors; 1 Single-molecule kinetic analysis of receptor protein tyrosine kinases, Ichio Hiroshima and Yasushi Sako; 2 Single-molecule kinetic analysis of stochastic signal transduction mediated by G-protein coupled chemotaxtrant receptor, Yoshihiro Miyanaga and Masahiro Ueda; 3 Single-molecule analysis of molecular recognition between signaling proteins RAS and RAF, Kayo Hibino and Yasushi Sako; 4 Single-channel structure-function dynamics: The gating of potassium channels, Shigetoshi Oiki; 5 Immobilizing channel molecules in[...]

Fields of interest
Biomedicine (general); Cell Biology; Biochemistry

Target groups
Research

Type of publication
Contributed volume

Available

149.95 €

Oncothermia: Principles and Practices

Oncothermia is the next generation medical innovation that delivers selective, controlled and deep energy for cancer treatment. The basic principles for oncothermia stem from oncological hyperthermia, the oldest approach to treating cancer. Nevertheless, hyperthermia has been wrought with significant controversy, mostly stemming from shortcomings of controlled energy delivery. Oncothermia has been able to overcome these insufficiencies and prove to be a controlled, safe and efficacious treatment option. This book is the first attempt to elucidate the theory and practice of oncothermia, based on rigorous mathematical and biophysical analysis, not centered on the temperature increase. It is supported by numerous in-vitro and in-vivo findings and twenty years of clinical experience. This book will help scientists, researchers and medical practitioners in understanding the scientific and conceptual underpinnings of oncothermia and will add another valuable tool in the fight against cancer. Professor[...]

Features
Oncothermia is the next generation medical innovation that delivers selective, controlled and deep energy for cancer treatment. The basic principles for oncothermia stem from oncological hyperthermia, the oldest approach to treating cancer. Nevertheless, hyperthermia has been wrought with significant controversy, mostly stemming from shortcomings of controlled energy delivery. Oncothermia has [...]

Contents

Fields of interest
Cancer Research; Oncology; Cell Biology; Medical Education; Statistics for Life Sciences, Medicine, Health Sciences; Applications of Mathematics

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. XIII, 565 p. 472 illus. in color. Hardcover

139.95 €
Electrophysiological Recording Techniques

Applying neurophysiological methods to the study of brain-behavior relationships proved to be a major advance in the early days of neuroscience research. Considerable technological progress has been made very recently, and the impact on modern neuroscience will be invaluable. In Electrophysiological Recording Techniques, experts in the field present a current view of the widespread application of electrophysiological methods to the study of the brain and to the problem of brain-behavior relationships. The book has been organized to display the range of modern electrophysiological methods ranging from the recordings of single neurons and neuronal ensembles to recordings of field potentials within discrete brain regions and across multiple brain areas. Many of the chapters also address the major challenge of applying the appropriate methods to analyze and interpret neurophysiological recording data. As a volume in the popular Neuromethods series, the chapters provide authoritative reviews of many [...] Features

Applying neurophysiological methods to the study of brain-behavior relationships proved to be a major advance in the early days of neuroscience research. Considerable technological progress has been made very recently, and the impact on modern neuroscience will be invaluable. In Electrophysiological Recording Techniques, experts in the field present a current view of the widespread application of [...] Contents


Fields of interest

Neurosciences; Human Physiology

Target groups

Professional/practitioner

Type of publication

Contributed volume

Available

2011. X, 188 p. 61 illus., 11 in color. Hardcover

139,95 €
ISBN 978-1-4419-6977-4

Inhibitory Synaptic Plasticity

This volume will explore the most recent findings on cellular mechanisms of inhibitory plasticity and its functional role in shaping neuronal circuits, their rewiring in response to experience, drug addiction and in neuropathology. Inhibitory Synaptic Plasticity will be of particular interest to neuroscientists and neurophysiologists.

Features

Since its discovery and first publication in 1973, synaptic plasticity in its most popular form – the plasticity of excitatory glutamatergic synapses – has been widely investigated. But to fully understand how brain functions develop and are maintained, there is a need for studying the interaction between the different forms of plasticity. Inhibitory Synaptic Plasticity integrates studies that have [...] Contents


Neurosciences; Human Physiology; Neurobiology

Target groups

Research

Type of publication

Contributed volume

Available

2011. X, 188 p. 61 illus., 11 in color. Hardcover

139,95 €
ISBN 978-1-4419-6977-4

Molecular Genetics of Liver Neoplasia

Primary liver cancer is the third most deadly and fifth most common cancer worldwide (~500,000 deaths annually), with a sharp increase of incidence in the United States in recent years. Hepatocellular carcinoma (HCC) and cholangiocarcinoma (CC) are the major types of primary liver cancer. Risk factors include gender, hepatitis B virus (HBV), hepatitis C virus (HCV), cirrhosis, metabolism diseases, diabetes, obesity, toxins, excess alcohol consumption and smoking. Liver cancer arises most frequently in inflammatory livers with extensive oxidative stress due to viral hepatitis which causes over 80% of HCC cases worldwide. Currently, survival remains dismal for most HCC and CC patients, largely due to the tumor’s aggressiveness at the time of diagnosis and the lack of effective therapy.

Features

Cancer is a genetic disease and cancer research is a broad discipline embracing investigators and clinicians with diverse backgrounds. This new edition of Molecular Genetics of Liver Neoplasia intends to provide a comprehensive view on genetics and a mechanistic understanding of liver cancer. The book covers from molecular pathogenesis and cellular origin to translational genomics of liver cancer. The [...] Contents


Cancer Research; Pharmacology / Toxicology

Target groups

Research

Type of publication

Contributed volume

Available

2011. XIV, 326 p. 46 illus., 30 in color. (Cancer Genetics) Hardcover

149,95 €
ISBN 978-1-4419-6081-8

M.A. Woodin, University of Toronto, ON, Canada; A. Maffei, SUNY Stony Brook, NY, USA (Eds.)
Contextual Development Economics

A Holistic Approach to the Understanding of Economic Activity in Low-Income Countries

Poverty still persists in today’s low-income countries despite decades of international aid, and extensive research on the determinants of growth and development. The book argues that meeting this challenge requires a holistic understanding of the context-specific factors that influence economic behavior and structures in poor countries. Contextual Development Economics approaches this task by offering a methodology that allows analysing the dynamic interrelations between economic, cultural and historical determinants of economic life in low-income countries. The book starts with an empirical inquiry into the economic characteristics of low-income countries that create the context by which the specific forms of organising economic activity in these countries are determined. It then looks at how different generations of development economists sought to explain economic realities in low-income countries from the 1940s through today. The book finally synthesises the results from this empirical and [...]
Fundamentals of Traffic Simulation

The increasing power of computer technologies, the evolution of software engineering and the advent of Intelligent Transport Systems (ITS) worldwide has helped make traffic simulation one of the most used approaches for traffic analysis in support of the design and evaluation of traffic systems. The ability of traffic simulation software to emulate the time variability of traffic phenomena makes it a uniquely useful tool for capturing the complexity of traffic systems. While a wide variety of simulation software is available, no one book has presented a unified treatment of the subject. Fundamentals of Traffic Simulation is the first book to provide practitioners and researchers with a comprehensive treatment of the state of the art of traffic simulation. Leading researchers worldwide provide up-to-date information on: Simulation as a well established and grounded OR technique and its specificities when applied to traffic systems. The main approaches to traffic simulation and the principles of,...

Features

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Contents


Fields of interest

Operation Research / Decision Theory; Operations Research, Mathematical Programming; Regional Science; Applied Mathematics / Computational Methods of Engineering

Target groups

Professional/practitioner

Type of publication

Contributed volume

Available


139,95 €

Strategische Unternehmensführung

Perspektiven, Konzepte, Strategien


Features


Contents


Fields of interest

Organization / Planning; Personnel Management; Accounting / Auditing

Target groups

Lower undergraduate

Type of publication

Undergraduate textbook

Available

2011. XIV, 307 S. 71 Abb. (BA KOMPAKT) Softcover

21,45 €
ISBN 978-3-7908-2339-2

Managing Science

Methodology and Organization of Research

What is science? How is it performed? Is science only a method or is it also an institution? These are questions at the core of Managing Science, a handbook on how scientific research is conducted and its results disseminated. Knowledge creation occurs through scientific research in universities, industrial laboratories, and government agencies. Any knowledge management system needs to promote effective research processes to foster innovation, and, ultimately, to channel that innovation into economic competitiveness and wealth. However, science is a complicated topic. It includes both methodological and organizational aspects, which have traditionally been discussed in isolation from each other. In Managing Science, Frederick Betz presents a holistic approach to science, incorporating both philosophical and practical elements, in a framework that integrates scientific method, content, administration and application. Illustrating all of the key concepts with illustrative case studies,[...]

Features

What is science? How is it performed? Is science only a method or is it also an institution? These are questions at the core of Managing Science, a comprehensive handbook on how scientific research is conducted and its results disseminated. Knowledge creation occurs through scientific research in universities, industrial laboratories, and government agencies. Any knowledge[...]

Fields of interest

R & D / Technology Policy; Methodology and the History of Economic Thought; Technology Management

Target groups

Research

Type of publication

Monograph

Available


89,95 €
ISBN 978-1-4419-7487-7
Collaboration and Co-creation
New Platforms for Marketing and Innovation

Today’s consumers are more knowledgeable, networked, and vocal. For them consumption is not merely an act of buying products and services, but an expression of their creative potential. Consequently, they are demanding a say and a voice in how companies conceive, develop, and deliver value to them. It is not surprising, therefore, to hear that a large number of companies are transforming how they innovate—not only in terms of developing new products and services, but in how they are created, delivered, and supported to customers. Open Innovation thinking, where companies collaborate with suppliers, distributors, and customers to co-create unique value, is fast replacing traditional thinking that viewed innovation as a proprietary activity and marketing as a static, one-way broadcast. However, while there is significant advocacy and buy-in for collaborating with customers, there is little guidance for companies on how to undertake the journey from applause and appreciation to execution. Only reading [...] Features
Praise for Collaboration and Co-Creation "In today’s customer-empowered world, collaboration and co-creation competencies are critical to the future growth of a company... Gaurav Bhalla offers a concrete framework and specific examples that managers can use to implement value co-creation programs with their customers. A must-read for companies not wishing to get left behind!" --Vijay Govindarajan, Earl [...] Contents
Today’s consumers are more knowledgeable, networked, and vocal. For them consumption is not merely an act of buying products and services, but an expression of their creative potential. Consequently, they are demanding a say and a voice in how companies conceive, develop, and deliver value to them. It is not surprising, therefore, to hear that a large number of companies are transforming how they innovate—not only in terms of developing new products and services, but in how they are created, delivered, and supported to customers. Open Innovation thinking, where companies collaborate with [...] Fields of interest
Marketing; Management/Business for Professionals; Organization / Planning
Target groups
Professional/practitioner
Type of publication
Professional book

Available
2011. XVI, 205 p. 10 illus. Hardcover
39,95 €

Qualitätsmanagement für Dienstleistungen
Grundlagen, Konzepte, Methoden

Qualität ist ein zentraler Erfolgsfaktor für jedes Dienstleistungsunternehmen. Dieses Buch bietet Hilfestellungen zur Sicherstellung und Erhöhung der Dienstleistungsgütean. Das Buch stellt einen ganzheitlichen, wissenschaftlich fundierten Ansatz des Qualitätsmanagements für Dienstleistungen vor, der sich konsequent am Managementprozess mit den Phasen Analyse, Planung, Steuerung und Kontrolle des [...] Contents
Grundlagen des Qualitätsmanagements für Dienstleistungen. - Analyse der Dienstleistungsgüte. - Planung und Steuerung des Qualitätsmanagements für Dienstleistungen. - Umsetzung des Qualitätsmanagements für Dienstleistungen. - Qualitätscontrolling für Dienstleistungen. Fields of interest
Management/Business for Professionals; Organization / Planning
Target groups
Professional/practitioner
Type of publication
Professional book

Available
2011. XXVI, 662 S. Hardcover
60,70 €
ISBN 978-3-642-13809-6

Supporting Real Time Decision-Making
The Role of Context in Decision Support on the Move

This volume of Annals of Information Systems will acknowledge the twentieth anniversary of the founding of the International Society for Decision Support Systems (ISDSS) by documenting some of the current best practices in teaching and research and envisioning the next twenty years in the decision support systems field. The volume is intended to complement existing DSS literature by offering an outlet for thoughts and research particularly suited to the theme of describing the next twenty years in the area of decision support. Several subthemes are planned for the volume. One subtheme draws on the assessments of internationally known DSS researchers to evaluate where the field has been and what has been accomplished. A second subtheme of the volume will be describing the current best practices of DSS research and teaching efforts. A third subtheme will be an assessment by top DSS scholars on where the DSS discipline needs to focus in the future. The tone of this volume is one of enthusiasm for the [...] Features
Operation Research / Decision Theory; Business Information Systems; Information Systems and Communication Service; Management of Computing and Information Systems
Target groups
Research
Type of publication
Contributed volume

Available
99,95 €
**Knowledge and the Family Business**

*The Governance and Management of Family Firms in the New Knowledge Economy*

Family businesses—the predominant form of business organization around the world—can make numerous, critical contributions to the economy and family well-being in both financial and qualitative terms. But dysfunctional family businesses can be difficult to manage, painful experiences at best, and they can destroy family wealth and personal relationships. This book explores the dynamics of family business management, in the context of constantly changing market conditions and the role that knowledge management plays in strategic planning and adaptation. Integrating the literature from family business, entrepreneurship, industrial psychology, and knowledge management, and with illustrative examples from a variety of enterprises, the authors address such topics as: *How family businesses can compete in the new knowledge economy* *How to manage a family business when knowledge is its main asset* *How to transfer knowledge (and how to keep it alive) through family generations* Within this framework...

**Features**

Family businesses—the predominant form of business organization around the world—can make numerous, critical contributions to the economy and family well-being in both financial and qualitative terms. But dysfunctional family businesses can be difficult to manage, painful experiences at best, and they can destroy family wealth and personal relationships. This book explores the dynamics of family business...

**Contents**

2. Knowledge as a Factor in the Theory of Family Business
3. Knowledge—Substance and Application: Tacit/Explicit Knowledge
4. Social Features of Knowledge Transfer
5. Learning and Knowledge in Behavioral Theory
6. Practice of Organizational Learning: Identification, Generation/Creation, Diffusion, Integration/Modification, Action
7. Intellectual Capital and Knowledge Management in Family Businesses
8. Continuity versus Change in Learning Strategies
9. Emotions and Emotional Climate
10. New Models of Leadership

**Fields of interest**

Entrepreneurship

**Target groups**

Research

**Type of publication**

Monograph

**Available**

2011. XII, 270 p. 10 illus. (Innovation, Technology, and Knowledge Management) Hardcover

99.95 €

ISBN 978-1-4419-7352-8

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**On Kolm’s Theory of Macrojustice**

*A Pluridisciplinary Forum of Exchange*

The "Theory of Macrojustice", introduced by S.-C. Kolm, is a stimulating contribution to the debate on the macroeconomic income distribution. The solution called "Equal Labour Income Equalisation" (ELIE) is the result of a three stages construction: collective agreement on the scheme of labour income redistribution, collective agreement on the degree of equalisation to be chosen in that framework, individual freedom to exploit his/her personal productive capacities (the source of labour income and the sole basis for taxation). This book is organised as a discussion around four complementary themes: philosophical aspects of macrojustice, economic analysis of macrojustice, combination of ELIE with other targeted transfers, econometric evaluations of ELIE.

**Features**

The “Theory of Macrojustice”, introduced by S.-C. Kolm, is a stimulating contribution to the debate on the macroeconomic income distribution. The solution called "Equal Labour Income Equalisation" (ELIE) is the result of a three stages construction: collective agreement on the scheme of labour income redistribution, collective agreement on the degree of equalisation to be chosen in that framework, individual ...

**Contents**


**Fields of interest**

Public Finance & Economics; Political Philosophy; Political Science; Law Theory / Law Philosophy; Economic Theory; Econometrics

**Target groups**

Research

**Type of publication**

Monograph

**Available**

2011. XII, 370 p. Hardcover

89.95 €

ISBN 978-3-540-78376-3
Patentmanagement
Innovationen erfolgreich nutzen und schützen


Features

Contents

Fields of interest
Management/Business for Professionals; Technology Management

Target groups
Professional/practitioner

Type of publication
Professional book

Available
2011. IX, 385 S. Hardcover
56,03 €
ISBN 978-3-642-03106-9

Voting Paradoxes and Group Coherence

The Condorcet Efficiency of Voting Rules

The likelihood of observing Condorcet’s Paradox is known to be very low for elections with a small number of candidates if voters’ preferences on candidates reflect any significant degree of a number of different measures of mutual coherence. This reinforces the intuitive notion that strange election outcomes should become less likely as voters’ preferences become more mutually coherent. Similar analysis is used here to indicate that this notion is valid for most, but not all, other voting paradoxes. This study also focuses on the Condorcet Criterion, which states that the pairwise majority rule winner should be chosen as the election winner, if one exists. Representations for the Condorcet Efficiency of the most common voting rules are obtained here as a function of various measures of the degree of mutual coherence of voters’ preferences. An analysis of the Condorcet Efficiency representations that are obtained yields strong support for using Borda Rule.

Features
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Contents
Voting Paradoxes and Their Probabilities.- Condorcet’s Paradox and Group Coherence.- Other Incompatibility Paradoxes.- Other Voting Paradoxes.- Condorcet Efficiency and Social Homogeneity.- Coherence and the Efficiency Hypothesis.- Other Characteristics of Voting Rules.- The Significance of Voting Rule Selection.- Complete PMR Ranking Efficiencies.

Fields of interest
Economic Theory; Game Theory / Mathematical Methods; Public Finance & Economics; Political Science; Game Theory, Economics, Social and Behavioral Sciences

Target groups
Research

Type of publication
Monograph

Available
139,95 €
ISBN 978-3-642-03106-9

Change Communications Jahrbuch
2010

### Integrierte Corporate Governance

**Ein neues Konzept der wirksamen Unternehmens-Führung und -Aufsicht**


**Features**


**Contents**

1. Einführung - Situative Board Dimension - Strategische Board Dimension - Integrierte Board Management Dimension - Evaluative Board Dimension - Schlussfolgerungen.  

**Fields of interest**

Management/Business for Professionals; Organisation / Planning

**Target groups**

Professional/practitioner

**Type of publication**

Professional book

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### Corporate Social Responsibility und nachhaltige Entwicklung

**Einführung, Strategie und Glossar**


**Features**

Das Buch kombiniert eine Einführung in den Inhalt und Kontext von Corporate Social Responsibility (CSR) und Nachhaltigkeit mit einem umfassenden Glossar der wichtigsten Begriffe aus dem Themengebiet. Während der erste Teil die wesentlichen Argumentationslinien einer CSR-Strategie zusammenfasst, dient der zweite Teil der Schärfung der Konzepte und Begrifflichkeiten und erleichtert somit das Verständnis für das [...]  

**Contents**


**Fields of interest**

Business & Management Science

**Target groups**

Graduate

**Type of publication**

Monograph

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### Planning Production and Inventories in the Extended Enterprise

**A State of the Art Handbook, Volume 1**

In two volumes, Planning Production and Inventories in the Extended Enterprise: A State of the Art Handbook examines production planning across the extended enterprise against a backdrop of important gaps between theory and practice. The early chapters describe the multifaceted nature of production planning problems and reveal many of the core complexities. The middle chapters describe recent research on theoretical techniques to manage these complexities. Accounts of production planning system currently in use in various industries are included in the later chapters. Throughout the two volumes there are suggestions on promising directions for future work focused on closing the gaps.

**Features**

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**Contents**


**Fields of interest**

Production / Logistics

**Target groups**

Professional/practitioner

**Type of publication**

Handbook

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**Available**

2011. XIV, 250 S. Hardcover  
74,72 €  
ISBN 978-3-642-14688-6
Wireless Network Design
Optimization Models and Solution Procedures

This book surveys state-of-the-art optimization modeling for design, analysis, and management of wireless networks, such as cellular and wireless local area networks (LANs), and the services they deliver. The past two decades have seen a tremendous growth in the deployment and use of wireless networks. The current-generation wireless systems can provide mobile users with high-speed data services at rates substantially higher than those of the previous generation. As a result, the demand for mobile information services with high reliability, fast response times, and ubiquitous connectivity continues to increase rapidly. The optimization of system performance has become critically important both in terms of practical utility and commercial viability, and presents a rich area for research. In the editors’ previous work on traditional wired networks, we have observed that designing low cost, survivable telecommunication networks involves extremely complicated processes. Commercial products available to[...]

Features
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Contents

Fields of interest
Operation Research / Decision Theory; Operations Research, Mathematical Programming; Computer Systems Organization and Communication Networks; Information and Communication, Circuits; Communications Engineering, Networks

Target groups
Research

Type of publication
Monograph

Available
National Intellectual Capital
A Comparison of 40 Countries

Over the past decade, knowledge assets and intellectual capital have been attracting an increasing amount of attention, not only from academics and CEOs, but also from national policy makers. To date, most studies of intellectual capital have focused at the organizational level, with an emphasis on explaining the role of "intangible assets" as a differentiator between accounting value and market value as a possible source of corporate competitive advantage. More recently, pioneers in the field, including the authors of this book, have begun to apply these methodologies to a broader scope, with the objective of comparing the intellectual capital indices at the national or regional level. As a result, an increasing number of world organizations and researchers are commissioned to investigate this future-oriented crucial national issue. Yet, the linkage between the value of intangible assets and how to quantify or benchmark it is still tenuous, not to mention easily misunderstood by a layman for[...]

Features
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How to organize works is largely a function of what it knows—i.e., the collective knowledge about all aspects of the enterprise, from competitive intelligence to formal systems and policies to the ways in which individuals solve problems and share their expertise. Organizational knowledge is not to be found in manuals and web sites, but in the day-to-day interactions among employees, suppliers, customers, investors, and other stakeholders. How Organizations Remember is based on a 10-month study of a technology firm with locations in three countries (Australia, US, and Ireland); the company has undergone rapid growth and expansion, which have had a profound impact on power structures and organizational culture, and hence, on the ways in which knowledge is created and disseminated. The author discovered that what is remembered is diverse, and of differing value within and across the organization. How knowledge is remembered is equally diverse, and ranges from computer files to cartoons on the...
Corporate Foresight
Towards a Maturity Model for the Future Orientation of a Firm

Have you ever wondered why even large companies fail when faced with changes in their environment? Would you be surprised to learn that the average life expectancy of a Fortune 500 company is below 50 years? This book presents findings from 19 case studies in multinational companies such as Siemens, Volkswagen, General Electric, Philips and Deutsche Telekom. René Rohrbeck proposes a Maturity Model to assess how prepared a company is to respond to external (disruptive) change. He uses data from 107 interviews with board members, corporate strategists, innovation managers, and corporate foresight professionals to present and discuss best practices. Using illustrations to show the complex interaction of corporate foresight with other units such as innovation and strategic management, René Rohrbeck provides the reader with rich insights on how to make an organization agile and reactive towards change. For scholars this book proposes multiple hypotheses and frameworks for future research.

Features
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Contents

Fields of interest
Organization / Planning; Technology Management; Business & Management Science

Target groups
Research

Type of publication
Monograph

Available
2011. XIII, 228 p. (Contributions to Management Science) Hardcover
99.95 €
ISBN 978-3-7908-2625-8

Frontiers in Major League Baseball
Nonparametric Analysis of Performance Using Data Envelopment Analysis

This book focuses on the application of Data Envelopment Analysis (DEA) to Major League Baseball (MLB). DEA is a nonparametric linear programming model that is used across academic disciplines. In sports economics, authors have applied the technique primarily to assess team and/or managerial efficiency. The basis for performance analysis is economic production theory, where it is assumed that baseball can be viewed as a production process whereby inputs (player quality measures) are transformed into outputs (wins, attendance). The primary advantage that DEA has over more traditional regression based approaches is the ability to handle multiple inputs and multiple outputs. Further, the approach is nonparametric and hence, does not require a priori specification of the production function. The book develops the theory of DEA in the context of a production environment. A focal point is the assessment of technical and cost efficiency of MLB teams. It is shown that previous frontier applications...

Features
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Contents

Fields of interest
Development Economics; Economic Growth; Economic Policy; Entrepreneurship

Target groups
Research

Type of publication
Monograph

Available
2011. XVII, 110 p. 40 illus. Hardcover
89.95 €
ISBN 978-1-4419-7520-1

Infrastructuring
The Key to Achieving Economic Growth, Productivity, and Quality of Life

The recent global financial crisis has intensified concerns over how nations—both developed and developing—can revitalize economic growth and ensure opportunity for prosperity to all citizens. Many analysts and policymakers alike are looking to new business creation and the promotion of entrepreneurial practices as a panacea, or at least as a partial solution. A. Coskun Samli has argued in his two most recent books that the current model of globalization tends to marginalize the poor and that developing countries must rely on local business development, rather than exogenous forces, such as aid, loans, and trade, to catalyze growth. This third book in his trilogy argues that a “bottom-up” approach is necessary for developing countries to participate in globalization—but is not sufficient. He proposes that the economic goals of a country, a region, or a company are fulfilled first and foremost by a properly designed and maintained infrastructure, encompassing both physical elements, such as...

Features
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Fields of interest
Development Economics; Economic Growth; Economic Policy; Entrepreneurship

Target groups
Research

Type of publication
Monograph

Available
89.95 €
ISBN 978-1-4419-0830-8

A.C. Samli, University of North Florida, Jacksonville, FL, USA
Transforming Water Management in South Africa

Designing and Implementing a New Policy Framework

One of the early set of reforms that South Africa embarked on after emerging from apartheid was in the water sector, following a remarkable, consultative process. The policy and legal reforms were comprehensive and covered almost all aspects of water management including revolutionary changes in defining and allocating rights to water, radical reforms in water management and supply institutions, the introduction of the protection of environmental flows, and major shifts in charging for water use and in the provision of free basic water. Over ten years of implementation of these policy and legislative changes mean that valuable lessons have already been learned and useful experiences gained in the challenge of effective water resources management and water services provision in a middle-income country.

Features
One of the early set of reforms that South Africa embarked on after emerging from apartheid was in the water sector, following a remarkable, consultative process. The policy and legal reforms were comprehensive and covered almost all aspects of water management including revolutionary changes in defining and [...]
Advances in Entrepreneurial Finance bring together contributions from researchers from the fields of entrepreneurship, behavioral finance, psychology, and neuroscience to shed new light on the dynamics of decision making and risk-taking by entrepreneurs and venture capitalists (VCs). Every new venture requires access to capital at competitive interest rates, and much has been written on general entrepreneurship by management scholars and financial contracting by financial economists using traditional finance theory with all its highly restrictive assumptions regarding decision makers’ cognitive capabilities and behavior. But recent developments in behavioral finance can now be applied to understand how entrepreneurs and VCs perceive risk and uncertainty and how they decide and act accordingly. Showcasing the latest research, this volume demonstrates that findings from the behavioral and neuroscience arenas can and do explain decision making by entrepreneurs and venture investors in the real world. […]

Features
Advances in Entrepreneurial Finance bring together contributions from researchers from the fields of entrepreneurship, behavioral finance, psychology, and neuroscience to shed new light on the dynamics of decision making and risk taking by entrepreneurs and venture capitalists (VCs). Every new venture requires access to capital at competitive interest rates, and much has been written on general […]

Fields of interest
Entrepreneurship; Finance / Banking; Cognitive Psychology

Target groups
Research

Type of publication
Monograph

Available
2011. XII, 134 p. Hardcover
89,95 €
ISBN 978-3-642-12585-0

Chemistry

Environmentally Benign Photocatalysts

Applications of Titanium Oxide-based Materials

Titanium oxide-based catalysts are especially promising as one of the most stable, non-toxic, easily available photofunctional materials known today. Previously, the successful development of second-generation titanium oxide photocatalysts using an advanced metal ion-implantation technique led to reactions that could be induced not only with UV but also visible light. Since then, not only has efficiency been improved but new materials and synthetic methods have also been developed. This book will cover the various approaches in the design of efficient titanium oxide-based photocatalysts by such methods as sol-gel, precipitation, dip-coating, metal ion-implantation and sputtering deposition. It will cover the most recent advances in TiO2 research and their potential applications as well as detailed and fundamental characterization studies on the active sites and mechanisms behind the reactions at the molecular level. The book should serve not only as a text for research into photochemistry and […]

Features
This book focuses on the various approaches used in the design and development of highly efficient, visible light responsive titanium oxide-based photocatalysts by applying such methods as sol-gel, precipitation, dip-coating, metal ion-implantation, and magnetron sputtering deposition. Titanium oxide-based photocatalysts and related catalysts are especially promising to investigate since they are stable, […]

Contents

Fields of interest
Catalysis; Environmental Physics; Effects of Radiation / Radiation Protection; Biophysics and Biological Physics; Terrestrial Pollution; Environmental Engineering / Biotechnology

Target groups
Graduate

Type of publication
Graduate/advanced undergraduate textbook
Theory and Experiment in Electrocatalysis

This review volume highlights advances in both theoretical and experimental techniques and points out both the progress made and the challenges to overcome in the near future. The topics cover a broad spectrum going from surface characterization, investigation of thermodynamics and kinetics mechanistic pathways, electrochemical experiments and theory, multi-scale modeling applied to synthesis and growth processes such as electrodeposition, and corrosion reactions arising from the nanosize of electrocatalysts that affect their lifetime and activity.

Features
Topics in Number 50 include:
- Investigation of alloy cathode Electrocatalysts
- A model Hamiltonian that incorporates the solvent effect to gas-phase density functional theory (DFT) calculations
- DFT-based theoretical analysis of ORR mechanisms
- Structure of the polymer electrolyte membranes (PEM)

Contents
Chapter 1. "Characterization of alloy electrocatalysts by combined low-energy ion scattering spectroscopy and electrochemistry," by Stephanous Axnanda, Kyle Cummins, Manuel P. Soriaga, and D. Wayne Goodman
Chapter 2. "Recent Advances in Theoretical Aspects of Electrocatalysis," E. Santos and W. Schmickler

Fields of interest
Electrochemistry; Catalysis; Nanotechnology; Surfaces and Interfaces, Thin Films

Target groups
Research

Type of publication
Monograph

Available
2010. XI, 757 p. 450 Illus., 50 in color. (Nanostructure Science and Technology) Hardcover
189,95 €

Detection of Biological Agents for the Prevention of Bioterrorism

The threat of biological and chemical terrorism has driven the demand for timely techniques that can quickly detect the agent or agents used in an attack. The detection and/or prevention of these potential security threats provide significant scientific and technical challenges due to the combination of possible agents and modes of delivery available. This book will present a thorough look at the importance and technological challenges of mass spectrometry (MS) for the detection & identification of biological and chemical threats. This new contribution’s general aims are to draw the attention of recognized practitioners, experts and graduate students trying to grasp the latest MS developments in the cutting-edge fields of MS-biodefense technologies for the rapid/early/specific sensitive threat detection of pathogens, viruses, explosives, mycotoxins, chemical agents, and biological markers of xenobiotic chemicals.

Features
The threat of biological and chemical terrorism has driven the demand for timely techniques that can quickly detect the agent or agents used in an attack. The detection and/or prevention of these potential security threats provide significant scientific and technical challenges due to the combination of possible agents and modes of delivery available. This book will present a thorough look at the importance...

Contents
Preface.- Broadband analysis of bioagents by mass spectrometry.- Hollow-fiber flow field-flow fractionation for mass spectrometry: from proteins to whole bacteria.- Mass spectrometry and tandem mass spectrometry for protein biomarker discovery and bacterial speciation.- Intact cell/spore mass spectrometry of fusarium macro conidia for fast isolate and species differentiation.- Bacteriophage amplification-coupled detection and identification of bacterial pathogens.- Matrix assisted laser desorption ionization mass spectrometric analysis of bacillus anthracis: from fingerprint analysis of...

Fields of interest
Mass Spectrometry; Security Science and Technology; Monitoring / Environmental Analysis; Biotechnology

Target groups
Graduate

Type of publication
Proceedings

Available
2011. XII, 350 p. (NATO Science for Peace and Security Series A: Chemistry and Biology, Proceeding) Hardcover
169,95 €
Detection of Biological Agents for the Prevention of Bioterrorism

The threat of biological and chemical terrorism has driven the demand for timely techniques that can quickly detect the agent or agents used in an attack. The detection and/or prevention of these potential security threats provide significant scientific and technical challenges due to the combination of possible agents and modes of delivery available. This book will present a thorough look at the importance and technological challenges of mass spectrometry (MS) for the detection & identification of biological threats. This new contribution’s general aims are to draw the attention of recognized practitioners, experts and graduate students trying to grasp the latest MS developments in the cutting-edge fields of MS-biodefense technologies for the rapid/early/species the threat of detection of pathogens, viruses, explosives, mycotoxins, chemical agents, and biomarker markers of xenobiologic chemicals.

Features

The threat of biological and chemical terrorism has driven the demand for timely techniques that can quickly detect the agent or agents used in an attack. The detection and/or prevention of these potential security threats provide significant scientific and technical challenges due to the combination of possible agents and modes of delivery available. This book will present a thorough look at the importance [...]
STM Investigation of Molecular Architectures of Porphyrinoids on a Ag(111) Surface

Supramolecular Ordering, Electronic Properties and Reactivity

The self-assembly of large organic molecules has become a vividly explored and interdisciplinary field in science. One major goal is the tailored fabrication of highly ordered, molecular networks, which are stabilized on a metal surface. Metalloporphyrins receive particular attention, because their distinct intrinsic functionalities make them promising candidates for applications in chemical sensors, solar cells, and for tailored catalytic processes. Based on scanning tunneling microscopy investigations, several novel and fundamental contributions are presented, which has led to a new level of understanding. Highlights are the results with respect to intramolecular conformation and supramolecular ordering, electronic interactions with the substrate, surface confined synthesis such as in-situ metallation reactions, and ligand effects. The number of publications this work has led to emphasises its quality and significance.

Contents
Introduction - Principle of the STM - Origin of the Tunneling Current - Scanning Tunneling Spectroscopy - Contrast Mechanism of Molecular Adsorbates - Temperature Programmed Desorption - Low Energy Electron Diffraction - UHV System - Scanning Tunneling Microscope - Control Electronics and Vibration Isolation - Ag(111) - Porphyrinoids - Preparation of thin Porphyrinoid Layers - Vapor-deposition of Cobalt and Iron - Self-Assembly and Individual Appearance of Tetraphenylporphyrins on - Ag(111) - Self-Assembly and Individual Appearance of Cobalt(II)-Tetakis(hexyl)porphyrin - on [...] 

Fields of interest
Physical Chemistry; Analytical Chemistry; Surface and Interface Science; Thin Films; Energy Technology

Target groups
Research

Type of publication
Monograph

Available
2010. XXVII, 164 p. 76 illus., 21 in color. (Springer Theses) Hard-cover
99,95 €
ISBN 978-3-642-14839-2

Neurodegenerative Diseases

The role of histone deacetylases in neurodegenerative diseases and small-molecule inhibitors as a potential therapeutic approach. - Phosphodiesterase inhibition to target the synaptic dysfunction in Alzheimer's disease. - Glutamate and neurodegenerative disease. - Modulation of the Kynurenine pathway for the potential treatment of neurodegenerative diseases. - Spinal muscular atrophy: current therapeutic strategies

Features
The role of histone deacetylases in neurodegenerative diseases and small-molecule inhibitors as a potential therapeutic approach. - Phosphodiesterase inhibition to target the synaptic dysfunction in Alzheimer's disease. - Glutamate and neurodegenerative disease. - Modulation of the Kynurenine pathway for the potential treatment of neurodegenerative diseases. - Spinal muscular atrophy: current therapeutic strategies

Contents
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Fields of interest
Medicinal Chemistry; Neurology; Pharmacology / Toxicology

Target groups
Research

Type of publication
Contributed volume

Available
2010. XIV, 191 p. (Topics in Medicinal Chemistry, Vol. 6) Hard-cover
189,95 €
ISBN 978-3-642-16757-7

Ultrasound Technologies for Food and Bioprocessing

Traditional food and bioprocessing technologies are facing challenges due to high expectations from the consumers and producers for better quality and safety, higher process efficiency, and products with novel properties or functionalities. For these reasons, in the past few years new forms of physical energies have been explored to propose alternatives to traditional processing technologies. Acoustic energy has the potential to replace or partially substitute conventional processes, and at the same time offer unique opportunities in the characterization of foods and biomaterials. This book is a resource for experts and newcomers in the field of power ultrasound, gives insights into the physical principles of this technology, details the latest advancements, and links them to current and potential applications in the food and bioprocessing related industries.

Features
Traditional food and bioprocessing technologies are facing challenges due to high expectations from consumers and producers in their demand for better quality and safety, higher process efficiencies, and products with novel properties or functionalities. For these reasons, in the last few years new forms of physical energy have been explored as alternatives to traditional processing technologies. Acoustic [...] 

Contents
Physical and chemical effects of ultrasound - Acoustic cavitation - Ultrasound applications in food processing - The thermodynamic and kinetic aspects of power ultrasound processes - Wideband multi-frequency, multimo, and modulated (MMM) ultrasonic technology - Application of hydrodynamic cavitation for food and bioprocessing - Contamination-free sonoreactor for the food industry - Controlled cavitation for scale free heating, gum hydration and emulsification in food and bioprocessing - Ultrasonic cutting of foods - Engineering food ingredients with high-intensity ultrasound [...] 

Fields of interest
Chemistry (general); Food Science; Biochemical Engineering; Microbiology

Target groups
Research

Type of publication
Contributed volume

Available
2011. X, 666 p. 204 illus., 79 in color. (Food Engineering Series) Hard-cover
169,95 €
ISBN 978-1-4419-7471-6
Encyclopedic Dictionary of Polymers

This reference, in its second edition, contains more than 7,500 polymeric material terms, including the names of chemicals, processes, formulate, and analytical methods that are used frequently in the polymer and engineering fields. In view of the evolving partnership between physical and life sciences, this title includes an appendix of biochemical and microbiological terms (thus offering previously unpublished material, distinct from all competitors.) Each succinct entry offers a broadly accessible definition as well as cross-references to related terms. Where appropriate to enhance clarity further, the volume's definitions may also offer equations, chemical structures, and other figures. The new interactive software facilitates easy access to a large database of chemical structures (2D/3D-view), audio files for pronunciation, polymer science equations and many more.

Features
This reference, in its second edition, contains more than 7,500 polymeric material terms, including the names of chemicals, processes, formulate, and analytical methods that are used frequently in the polymer and engineering fields. In view of the evolving partnership between physical and life sciences, this title includes an appendix of biochemical and microbiological terms (thus offering previously [...]

Fields of interest
Polymer Sciences; Organic Chemistry; Materials Science (general); Tribology, Corrosion and Coatings; Physical Chemistry

Target groups
Research

Type of publication
Dictionary

Available
2011. XXXI, 1016 p. 390 illus. In 2 volumes, not available separately. Hardcover
499,00 €
ISBN 978-1-4419-6246-1

Ruthenium Oxidation Complexes
Their Uses as Homogenous Organic Catalysts

Ruthenium Oxidation Complexes explores ruthenium complexes, particularly those in higher oxidation states, which function as useful and selective organic oxidation catalysts. Particular emphasis is placed on those systems which are of industrial significance. The preparation, properties and applications of the ruthenium complexes are described, followed by a presentation of their oxidative properties and summary of the different mechanisms involved in the organic oxidations (e.g. oxidations of alcohols, aikenes, arenes and alkynes, aikanes, amines, ethers, phosphines and miscellaneous substrates). Moreover, future trends and developments in the area are discussed. This monograph is aimed at inorganic, organic, industrial and catalysis chemists, especially those who wish to carry out specific organic oxidations using catalytic methods.

Features
Ruthenium Oxidation Complexes explores ruthenium complexes, particularly those in higher oxidation states, which function as useful and selective organic oxidation catalysts. Particular emphasis is placed on those systems which are of industrial significance. The preparation, properties and applications of the ruthenium complexes are described, followed by a presentation of their oxidative [...]

Contents

Fields of interest
Organic Chemistry; Catalysis; Inorganic Chemistry; Industrial Chemistry / Chemical Engineering

Target groups
Research

Type of publication
Monograph

Available
2011. XV, 330 p. (Catalysis by Metal Complexes, Vol. 34) Hardcover
129,95 €
ISBN 978-1-4020-9376-0

Adhesion of Cells, Viruses and Nanoparticles

"Adhesion of Cells, Viruses and Nanoparticles" describes the adhesion of cells, viruses and nanoparticles starting from the basic principles of adhesion science, familiar to postgraduates, and leading on to recent research results. The underlying theory is that of van der Waals forces acting between cells and substrates, embodied in the molecules lying at the surfaces, together with the geometry and elasticity of the materials involved. The first part describes the fundamental background to adhesion principles, including the phenomenology, the important equations and the modeling ideas. Then the mechanisms of adhesion are explored in the second part, including the elastic deformations of spheres and the importance of the energy of adhesion as measured in various tests. It is demonstrated that adhesion of cells is statistical and depends on Brownian movement and on the complex multiple contacts that can form as cells move around. Then, detailed chapters on cell adhesion, contact of viruses and [...]
Multiscale and Multiphysics
Computational Frameworks for Nano- and Bio-Systems

This volume develops multiscale and multiphysics simulation methods to understand nano- and bio-systems by overcoming the limitations of time- and length-scales. Here the key issue is to extend current computational simulation methods to be useful for providing microscopic understanding of complex experimental systems. This thesis discusses the multiscale simulation approaches in nanoscale metal-insulator-metal junction, molecular memory, ionic transport in zeolite systems, dynamics of biomolecules such as lipids, and model lung system. Based on the cases discussed here, the author suggests various systematic strategies to overcome the limitations in time- and length-scales of the traditional monoscale approaches.

Features
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Contents
1 Introduction.- 2 Negative Differential Resistance of Oligo (Phenylenylene Ethynylene) Self-Assembled Monolayer Systems: The Electric Field Induced Conformational Change Mechanism.- 3 Free Energy Barrier for Molecular Motions in Bistable [2]-Rotaxane Molecules.- 4 Electronic Devices.- 5 Potential Energy Surfaces.- 6 Quantum Chemistry in Computational Chemistry.- 7. Density functional calculations.- 8. Some extended Hueckel methods: - ab initio, AM1 and related semiempirical methods: - density functional theory (DFT).- Topics are placed in a historical context, adding interest to them and removing much of their apparently arbitrary aspect. The large number of references, to all significant topics mentioned, should make this [...] Features
The second edition of this popular textbook has been revised to improve explanations and to add topics which were not featured in the first edition. It also contains extended, updated examples and references. The questions (the hallmark of a genuine textbook) at the end of each chapter fall into two classes: to test and reinforce the reader’s understanding, and to encourage deeper thought. As in the [...] Contents

Fields of interest
Theoretical and Computational Chemistry; Nanochemistry; Biochemistry

Target groups
Research

Type of publication
Monograph

Available
2011. XVII, 170 p. 65 illus., 40 in color. (Springer Theses) Hardcover
99,95 € ISBN 978-1-4419-7600-0
Testing Molecular Wires
A Photophysical and Quantum Chemical Assay

The field of molecular electronics and organic photovoltaics is steadily growing. One of the major themes in molecular electronics is the construction, measurement, and understanding of the current-voltage response of an electronic circuit, in which molecules may act as conducting elements. The investigated molecular structures in this thesis have been shown to be suitable for distance-independent charge transport. More precisely, the systems investigated were of particular interest due to their ability to provide efficient electronic coupling between electroactive units, and display wire-like behavior in terms of transferring charges from donors to acceptors. Besides impacting on the field of molecular electronics, the results of this research also have applications in the design and development of light harvesting, photocatalysis, and catalytic modules. This work is a great asset to the field of charge transport through organic pi-conjugated molecules.

Features
The field of molecular electronics and organic photovoltaics is steadily growing. One of the major themes in molecular electronics is the construction, measurement, and understanding of the current-voltage response of an electronic circuit, in which molecules may act as conducting elements. The investigated molecular structures in this thesis have been shown to be suitable for distance-independent charge transport.

Contents

Fields of interest
Physical Chemistry; Applied and Technical Physics; Energy Technology

Target groups
Research

Type of publication
Monograph

Available
2010. XIII, 182 p. 109 illus., 30 in color. (Springer Theses) Hardcover
99,95 €
ISBN 978-3-642-14739-5

WOLEDs and Organic Photovoltaics
Recent Advances and Applications

The search for renewable energy sources and the efficient utilization of energy have been the most important research areas in modern science and technology. The design and development of materials that can contribute to light-harvesting, solar energy conversion and photovoltaics are important areas of research. Also of great importance is the exploration of WOLEDs for solid state lighting that could lead to a more efficient utilization of energy. This monograph consists of a collection of contributions from prominent leading scientists in the area, initiated by the organization of the SRT Workshop on WOLEDs and Organic Photovoltaics at the University of Hong Kong in January 2009. This represents a unique and irresistibly attractive account and reference for researchers in the field of WOLEDs and organic photovoltaics both from academia and industry.

Features
The search for renewable energy sources and the efficient utilization of energy have been the most important research areas in modern science and technology. The design and development of materials that can contribute to light-harvesting, solar energy conversion and photovoltaics are important areas of research. Also of great importance is the exploration of WOLEDs for solid state lighting that could lead to a more efficient utilization of energy.

Contents

Fields of interest
Organic Chemistry; Renewable and Green Energy; Laser Technology and Physics, Photonics; Optical and Electronic Materials; Physical Chemistry

Target groups
Research

Type of publication
Monograph

Available
2010. VII, 240 p. 80 illus., 35 in color. (Green Energy and Technology) Hardcover
99,95 €
ISBN 978-3-642-14934-4

Advances in Cryptology - ASIACRYPT 2010

This book constitutes the refereed proceedings of the 16th International Conference on the Theory and Application of Cryptology and Information Security, ASIACRYPT 2010, held in Singapore, in December 2010. The 35 revised full papers presented were carefully reviewed and selected from 216 submissions. The papers are organized in topical sections on hash attacks; symmetric-key cryptosystems; block and stream ciphers; protocols; key exchange; foundation; zero-knowledge; lattice-based cryptography; secure communication and computation; models, notions, and assumptions; and public-key encryption.

Features
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Fields of interest
Data Encryption; Algorithm Analysis and Problem Complexity; Management of Computing and Information Systems; Discrete Mathematics in Computer Science; Systems and Data Security; Applications of Mathematics

Target groups
Research

Type of publication
Proceedings

Available
2010. XIV, 634 p. (Security and Cryptology, Vol. 6477) Softcover
79,00 €
ISBN 978-3-642-17372-1
This book constitutes the refereed proceedings of the First International Conference on Decision and Game Theory for Security, GameSec 2010, held in Berlin, Germany, in November 2010. The 12 revised full papers and 6 revised short papers presented were carefully reviewed and selected from numerous submissions and focus on analytical models based on game, information, communication, optimization, decision, and control theories that are applied to diverse security topics. The papers are organized in topical sections on security investments and planning, privacy and anonymity, adversarial and robust control, network security and botnets, authorization and authentication, as well as theory and algorithms for security.

Features
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Fields of interest
Data Encryption; Computer Communication Networks; Systems and Data Security; Algorithm Analysis and Problem Complexity; Management of Computing and Information Systems; Game Theory, Economics, Social and Behav. Sciences

Target groups
Research

Type of publication
Proceedings

Available
46,00 €
ISBN 978-3-642-17196-3

This book constitutes the refereed proceedings of the Second International Conference on Simulation, Modeling, and Programming for Autonomous Robots, SIMPAR 2010, held in Darmstadt, Germany, in November 2010. The 28 revised full papers and 17 revised poster papers presented were carefully reviewed and selected from 74 submissions. 13 papers address methodologies and environments of robot simulation, 14 refer to methodologies of autonomous robot programming and middleware, 18 describe applications and case studies. The papers are organized in topical sections on simulation, programming, and applications.

Features
This book constitutes the refereed proceedings of the Second International Conference on Simulation, Modeling, and Programming for Autonomous Robots, SIMPAR 2010, held in Darmstadt, Germany, in November 2010. The 28 revised full papers and 17 revised poster papers presented were carefully reviewed and selected from 74 submissions. 13 papers address methodologies and environments of robot simulation, 14 refer to methodologies of autonomous robot programming and middleware, 18 describe applications and case studies. The papers are organized in topical sections on simulation, programming, and applications.

Fields of interest
Artificial Intelligence (incl. Robotics); Simulation and Modeling; User Interfaces and Human Computer Interaction; Computation by Abstract Devices; Computer Communication Networks; Software Engineering

Target groups
Research

Type of publication
Proceedings

Available
2010. XV, 558 p. (Lecture Notes in Artificial Intelligence, Vol. 6472) Softcover
70,00 €
ISBN 978-3-642-17318-9

Run-time Models for Self-managing Systems and Applications
This edited volume focuses on the adoption of run-time models for the design and management of autonomic systems. Traditionally, performance models have a central role in the design of computer systems. Models are used at design-time to support the capacity planning of the physical infrastructure and to analyze the effects and trade-offs of different architectural choices. Models may also be used at run-time to assess the compliance of the running system with respect to design-time models, to measure the real system performance parameters to fill the gap between design and run-time. Models at run-time can also assess the compliance of service level agreements and trigger autonomic systems reconfiguration. Run-time models are receiving great interest, since, e.g., power management of CPUs and resource management in virtualized systems can be actuated at very fine grain time scales. In such situations, traditional performance techniques evaluating the systems steady state may provide only a rough...
Practical Studies in E-Government

Best Practices from Around the World

Information and communication technology (ICT) is permeating all aspects of service management; in the public sector, ICT is improving the capacity of government agencies to provide a wide array of innovative services that benefit citizens. E-Government is emerging as a multidisciplinary field of research based initially on empirical insights from practice. Efforts to theoretically anchor the field have opened perspectives from multiple research domains, as demonstrated in Practical Studies in E-Government. In this volume, the editors and contributors consider the evolution of the e-government field from both practical and research perspectives. Featuring in-depth case studies of initiatives in eight countries, the book deals with such technology-oriented issues as interoperability, prototyping, data quality, and advanced interfaces, and management-oriented issues as e-procurement, e-identification, election results verification, and information privacy. The book features best practices, tools for...

Features

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Fields of interest

e-commerce / e-business; Information Systems Applications (incl.Internet); Business & Economics (general); Political Science

Target groups

Research

Type of publication

Monograph

Available

2011. X, 251 p. 15 illus. Hardcover

99.95 €
ISBN 978-1-4419-7532-4

Information Security and Cryptology

5th International Conference, Inscrypt 2009, Beijing, China, December 12-15, 2009. Revised Selected Papers

This book constitutes the thoroughly refereed postconference proceedings of the 4th International Conference on Information Security and Cryptology, Inscrypt 2009, held in Beijing, China, in December 2009. The 22 revised full papers and 10 short papers presented were carefully reviewed and selected from 147 submissions. The papers are organized in topical sections on cryptanalysis; signature and encryption; key exchange; private computations; cipher design and analysis; public key cryptography; network and system security; hardware security; and web security.

Features

This book constitutes the thoroughly refereed postconference proceedings of the 4th International Conference on Information Security and Cryptology, Inscrypt 2009, held in Beijing, China, in December 2009. The 22 revised full papers and 10 short papers presented were carefully reviewed and selected from 147 submissions. The papers are organized in topical sections on cryptanalysis; signature and...

Fields of interest

Computer Communication Networks; Data Encryption; Management of Computing and Information Systems; Algorithm Analysis and Problem Complexity; Systems and Data Security; Computers and Society

Target groups

Research

Type of publication

Proceedings

Available

2010. XIII, 469 p. (Security and Cryptology, Vo1. 6151) Softcover
62.00 €
ISBN 978-3-642-16341-8

Experimental Methods for the Analysis of Optimization Algorithms

In operations research and computer science it is common practice to evaluate the performance of optimization algorithms on the basis of computational results, and the experimental approach should follow accepted principles that guarantee the reliability and reproducibility of results. However, computational experiments differ from those in other sciences, and the last decade has seen considerable methodological research devoted to understanding the particular features of such experiments and assessing the related statistical methods. This book consists of methodological contributions on different scenarios of experimental analysis. The first part overviews the main issues in the experimental analysis of algorithms, and discusses the experimental cycle of algorithm development; the second part treats the characterization by means of statistical distributions of algorithm performance in terms of solution quality, runtime and other measures; and the third part collects advanced methods from...

Features

In operations research and computer science it is common practice to evaluate the performance of optimization algorithms on the basis of computational results, and the experimental approach should follow accepted principles that guarantee the reliability and reproducibility of results. However, computational experiments differ from those in other sciences, and the last decade has seen...

Contents

Advances in Visual Computing

G. Bebis, University of Nevada, Reno, NV, USA; R. Boyle, Bio Vis Lab, Moffett Field, CA, USA; R. Parvin, Lawrence Berkeley National Laboratory, Berkeley, CA, USA; D. Kosec, Desert Research Institute, Reno, NV, USA; R. Chung, The Chinese University of Hong Kong, China; R. Hammoud, Dyna Vox Systems, Pittsburgh, PA, USA; M. Hussain, King Saud University, Riyadh, Saudi Arabia; R.-H. Tan, Hewlett-Packard Labs, Paolo Alto, CA, USA; R. Crawfis, The Ohio State University, Columbus, OH, USA; D. Thalmann, EPFL, Lausanne, Switzerland; D. Kasi, NASA Ames Research Lab, Moffett Field, CA, USA; L. Avila, Kiveware, Clifton Park, NY, USA (Eds.)

Human Recognition at a Distance in Video

Most biometric systems employed for human recognition require physical contact with, or close proximity to, a cooperative subject. Far more challenging is the ability to reliably recognize individuals at a distance, when viewed from an arbitrary angle under real-world environmental conditions. Gait and face data are the two biometrics that can be most easily captured from a distance using a video camera. This comprehensive and logically organized text/reference addresses the fundamental problems associated with gait and face-based human recognition, including newly developed techniques where the both the model and the data (obtained from multiple cameras) are in 3D. In addition, the work considers new video-based techniques for face profile recognition, and for the super-resolution of facial imagery obtained at different angles. Finally, the...

Features
Most biometric systems employed for human recognition require physical contact with, or close proximity to, a cooperative subject. Far more challenging is the ability to reliably recognize individuals at a distance, when viewed from an arbitrary angle under real-world environmental conditions. Gait and face data are the two biometrics that can be most easily captured from a distance using a video. [...]

Contents

Fields of interest
Image Processing and Computer Vision; Pattern Recognition; Computers and Society

Target groups
Research

Type of publication
Monograph

Available
2010, XXVII, 261 p. (Advances in Computer Vision and Pattern Recognition) Hardcover

87,00 €
Motion in Games

This book constitutes the proceedings of the Second International Workshop on Motion in Games, held in Utrecht, The Netherlands, in November 2010. The 30 revised full papers presented together with 9 revised poster papers in this volume were carefully reviewed and selected. The papers are organized in topical sections on body simulation, learning movements, body control, motion planning, physically-based character control, crowds and formation, geometry, autonomous characters, navigation, motion synthesis, perception, real-time graphics, and posters.

Features
This book constitutes the proceedings of the Second International Workshop on Motion in Games, held in Utrecht, The Netherlands, in November 2010. The 30 revised full papers presented together with 9 revised poster papers in this volume were carefully reviewed and selected. The papers are organized in topical sections on body simulation, learning movements, body control, motion planning, physically-based character control, crowds and formation, geometry, autonomous characters, navigation, motion synthesis, perception, real-time graphics, and posters.

Fields of interest
Computer Imaging, Vision, Pattern Recognition and Graphics; Information Systems Applications (incl.Internet); Artificial Intelligence (incl. Robotics); User Interfaces and Human Computer Interaction; Simulation and Modeling; Algorithm Analysis and Problem Complexity

Target groups
Research

Type of publication
Proceedings

Available
62,00 €
ISBN 978-3-642-16957-1

Advances in Visual Computing

The three volume set LNCS 6453, LNCS 6454, and LNCS 6455 constitutes the refereed proceedings of the 6th International Symposium on Visual Computing, ISVC 2010, held in Las Vegas, NV, USA, in November/December 2010. The 93 revised full papers and 73 poster papers presented together with 44 full and 6 poster papers of 7 special tracks were carefully reviewed and selected from more than 300 submissions. The papers of part I (LNCS 6453) are organized in computational bioimaging, computer graphics, behavior detection and modeling, low-level color image processing, feature extraction and matching, visualization, motion and tracking, unconstrained biometrics: advances and trends, 3D mapping, modeling and surface reconstruction, and virtual reality. Part II (LNCS 6454) comprises topics such as calibration, pose estimation, and reconstruction, segmentation, stereo, registration, medical imaging, low cost virtual reality: expanding horizons, best practices in teaching visual computing, applications, and... [ ]

Features
The three volume set LNCS 6453, LNCS 6454, and LNCS 6455 constitutes the refereed proceedings of the 6th International Symposium on Visual Computing, ISVC 2010, held in Las Vegas, NV, USA, in November/December 2010. The 93 revised full papers and 73 poster papers presented together with 44 full and 6 poster papers of 7 special tracks were carefully reviewed and selected from more than 300 submissions. The [...] [ ]

Fields of interest
Pattern Recognition; Computational Biology / Bioinformatics; Computer Graphics; Computer Imaging, Vision, Pattern Recognition and Graphics; Image Processing and Computer Vision; User Interfaces and Human Computer Interaction

Target groups
Professional/practitioner

Type of publication
Proceedings

Available
79,00 €
ISBN 978-3-642-17276-2

Advances in Visual Computing

The three volume set LNCS 6453, LNCS 6454, and LNCS 6455 constitutes the refereed proceedings of the 6th International Symposium on Visual Computing, ISVC 2010, held in Las Vegas, NV, USA, in November/December 2010. The 93 revised full papers and 73 poster papers presented together with 44 full and 6 poster papers of 7 special tracks were carefully reviewed and selected from more than 300 submissions. The papers of part I (LNCS 6453) are organized in computational bioimaging, computer graphics, behavior detection and modeling, low-level color image processing, feature extraction and matching, visualization, motion and tracking, unconstrained biometrics: advances and trends, 3D mapping, modeling and surface reconstruction, and virtual reality. Part II (LNCS 6454) comprises topics such as calibration, pose estimation, and reconstruction, segmentation, stereo, registration, medical imaging, low cost virtual reality: expanding horizons, best practices in teaching visual computing, applications, and... [ ]

Features
The three volume set LNCS 6453, LNCS 6454, and LNCS 6455 constitutes the refereed proceedings of the 6th International Symposium on Visual Computing, ISVC 2010, held in Las Vegas, NV, USA, in November/December 2010. The 93 revised full papers and 73 poster papers presented together with 44 full and 6 poster papers of 7 special tracks were carefully reviewed and selected from more than 300 submissions. The [...] [ ]

Fields of interest
Pattern Recognition; Computational Biology / Bioinformatics; Computer Graphics; Computer Imaging, Vision, Pattern Recognition and Graphics; Image Processing and Computer Vision; User Interfaces and Human Computer Interaction

Target groups
Professional/practitioner

Type of publication
Proceedings

Available
87,00 €
ISBN 978-3-642-17288-5
The papers in this volume are the refereed papers presented at AI-2010, the Thirtieth SGAI International Conference on Innovative Techniques and Applications of Artificial Intelligence, held in Cambridge in December 2010 in both the technical and the application streams. They present new and innovative developments and applications, divided into technical stream sections on Intelligent Agents; Knowledge Discovery and Data Mining; Evolutionary Algorithms, Bayesian Networks and Model-Based Diagnosis; Machine Learning; Planning and Scheduling; followed by application stream sections on Applications of Machine Learning I and II; AI for Scheduling and AI in Action. The volume also includes the text of short papers presented as posters at the conference. This is the twenty-seventh volume in the Research and Development in Intelligent Systems series, which also incorporates the eighteen volumes in the Applications and Innovations in Intelligent Systems series. These series are essential reading for [...]

**Features**
The papers in this volume are the refereed papers presented at AI-2010, the Thirtieth SGAI International Conference on Innovative Techniques and Applications of Artificial Intelligence, held in Cambridge in December 2010 in both the technical and the application streams. They present new and innovative developments and applications, divided into technical stream sections on Intelligent Agents; Knowledge Discovery and Data Mining; Evolutionary Algorithms, Bayesian Networks and Model-Based Diagnosis; Machine Learning; Planning and Scheduling; followed by application stream sections on Applications of Machine Learning I and II; AI for Scheduling and AI in Action. The volume also includes the text of short papers presented as posters at the conference. This is the twenty-seventh volume in the Research and Development in Intelligent Systems series, which also incorporates the eighteen volumes in the Applications and Innovations in Intelligent Systems series. These series are essential reading for [...]

**Contents**

**Fields of interest**
Artificial Intelligence (incl. Robotics); Data Mining and Knowledge Discovery

**Target groups**
Research

**Type of publication**
Proceedings

**Available**

**ISBN 978-3-642-17315-8**

**Price**
79,00 €
Architecting Dependable Systems

As software systems become increasingly ubiquitous, issues of dependability become ever more crucial. Given that solutions to these issues must be considered from the very beginning of the design process, it is clear that dependability and security have to be addressed at the architectural level. This book, as well as its six predecessors, was born of an effort to bring together the research communities of software architectures, dependability, and security. This state-of-the-art survey contains expanded, peer-reviewed papers based on selected contributions from the Workshop on Architecting Dependable Systems (WADS 2009), held at the International Conference on Dependable Systems and Networks (DSN 2009), as well as a number of invited papers written by renowned experts in the area. The 13 papers are organized in topical sections on: mobile and ubiquitous systems, architecting systems, fault management, and experience and vision.

Features

As software systems become increasingly ubiquitous, issues of dependability become ever more crucial. Given that solutions to these issues must be considered from the very beginning of the design process, it is clear that dependability and security have to be addressed at the architectural level. This book, as well as its six predecessors, was born of an effort to bring together the research communities of [...]
Web Information Systems Engineering - WISE 2010
11th International Conference, Hong Kong, China, December 12-14, 2010, Proceedings

This book constitutes the proceedings of the 11th International Conference on Web Information Systems Engineering, WISE 2010, held in Hong Kong, China, in December 2010. The 32 revised full papers and 19 revised short papers presented together with 4 keynote talks were carefully reviewed and selected from 170 submissions. The papers are organized in topical sections on web service, social networks, web data mining, keyword search, web data modeling, recommender systems, RDF and web data processing, XML and query languages, web information systems, and information retrieval and extraction.

Features
This book constitutes the proceedings of the 11th International Conference on Web Information Systems Engineering, WISE 2010, held in Hong Kong, China, in December 2010. The 32 revised full papers and 19 revised short papers presented together with 4 keynote talks were carefully reviewed and selected from 170 submissions. The papers are organized in topical sections on web service, social networks, web data [...]

Fields of interest
Information Storage and Retrieval; Information Systems and Communication Service; Information Systems Applications (incl.Internet); Multimedia Information Systems; User Interfaces and Human Computer Interaction; Data Mining and Knowledge Discovery

Target groups
Research

Type of publication
Proceedings

Available

79,00 €
ISBN 978-3-642-17615-9

Information Retrieval Technology

This book constitutes the refereed proceedings of the 6th Asia Information Retrieval Symposium, AIRS 2010, held in Taipei, Taiwan, in December 2010. The 26 revised full papers and 31 revised poster papers presented were carefully reviewed and selected from 120 submissions. All current aspects of information retrieval - in theory and practice - are addressed; the papers are organized in topical sections on information retrieval models, machine learning for information retrieval, user studies and evaluation, natural language processing for information retrieval, Web and question answering, and multimedia.

Features
This book constitutes the refereed proceedings of the 6th Asia Information Retrieval Symposium, AIRS 2010, held in Taipei, Taiwan, in December 2010. The 26 revised full papers and 31 revised poster papers presented were carefully reviewed and selected from 120 submissions. All current aspects of information retrieval - in theory and practice - are addressed; the papers are organized in topical sections on [...] [..]

Fields of interest
Information Storage and Retrieval; Information Systems and Communication Service; Information Systems Applications (incl.Internet); Algorithm Analysis and Problem Complexity; Data Structures; Data Storage Representation; Probability and Statistics in Computer Science

Target groups
Research

Type of publication
Proceedings

Available

54,00 €
ISBN 978-3-642-17079-9

Artificial Intelligence and Cognitive Science
20th Irish Conference, AICS 2009, Dublin, Ireland, August 19-21, 2009, Revised Selected Papers

This book constitutes the refereed proceedings of the 20th Irish Conference on Artificial Intelligence and Cognitive Science, AICS 2009, held in Dublin, Ireland in August 2009. The 32 papers presented were carefully reviewed and selected for inclusion in the book. The topics covered are classification techniques, biologically-inspired computation, natural language processing, and applications of AI techniques for the social Web and financial markets.

Features
This book constitutes the refereed proceedings of the 20th Irish Conference on Artificial Intelligence and Cognitive Science, AICS 2009, held in Dublin, Ireland in August 2009. The 32 papers presented were carefully reviewed and selected for inclusion in the book. The topics covered are classification techniques, biologically-inspired computation, natural language processing, and applications of AI [...] [..]

Fields of interest
Artificial Intelligence (incl. Robotics); Information Systems Applications (incl.Internet); Information Storage and Retrieval; Computation by Abstract Devices; Database Management; Computer Communication Networks

Target groups
Research

Type of publication
Proceedings

Available
2010. XI, 293 p. (Lecture Notes in Artificial Intelligence, Vol. 6206) Softcover

79,00 €
ISBN 978-3-642-17186-4
Current Trends in Web Engineering, ICWE 2010 Workshops

10th International Conference, ICWE 2010 Workshops, Vienna, Austria, July 5-6, 2010, Revised Selected Papers

This book constitutes the thoroughly refereed post-conference proceedings of the workshops held at the 10th International Conference on Web Engineering, ICWE 2010, in Vienna, Austria, in July 2010. The 60 revised full papers presented were carefully reviewed and selected from over 100 submissions made to 9 international workshops and held in cooperation with the ICWE 2010 main conference. Those 9 workshops were selected from 16 proposals and encompassed: MDWE 2010, the 6th model-driven Web engineering workshop; QVWE 2010, the first international workshop on quality in Web engineering; SWIM 2010, the second international workshop on semantic Web information management; SWEng 2010, the first international workshop on service Web engineering; ESW 2010, the first workshop on engineering the Web; and the ComposableWeb 2010, the second international workshop on lightweight composition on the Web; EC 2010, the first international workshop on enterprise crowdsourcing; TouchTheWeb 2010, the first [...] Features

This book constitutes the thoroughly refereed post-conference proceedings of the workshops held at the 10th International Conference on Web Engineering, ICWE 2010, in Vienna, Austria, in July 2010. The 60 revised full papers presented were carefully reviewed and selected from over 100 submissions made to 9 international workshops and held in cooperation with the ICWE 2010 main conference. Those 9 workshops [...] Features

This volume constitutes the proceedings of the 8th International Conference on Simulated Evolution and Learning, SEAL 2010, held in Kanpur, India, in December 2010. The 61 full papers and 19 short papers presented were carefully reviewed and selected from 141 submissions. The papers are organized in topical sections on theoretical development, evolutionary algorithms and applications, learning methodologies, multi-objective evolutionary algorithms and applications, hybrid algorithms, and industrial applications. Features

This volume constitutes the proceedings of the 8th International Conference on Simulated Evolution and Learning, SEAL 2010, held in Kanpur, India, in December 2010. The 61 full papers and 19 short papers presented were carefully reviewed and selected from 141 submissions. The papers are organized in topical sections on theoretical development, evolutionary algorithms and applications, learning methodologies, [...] Features

Fields of interest

Computation by Abstract Devices; Artificial Intelligence (incl. Robotics); Data Mining and Knowledge Discovery; Simulation and Modeling; Discrete Mathematics in Computer Science; Information Systems Applications (incl. Internet) Target groups

Research Type of publication

Proceedings Available


Verification and Validation in Systems Engineering Assessing UML/SysML Design Models

Verification and validation represents an important process used for the quality assessment of engineered systems and their compliance with the requirements established at the beginning of or during the development cycle. Debbabi and his coauthors investigate methodologies and techniques that can be employed for the automatic verification and validation of systems engineering design models expressed in standardized modeling languages. Their presentation includes a bird’s eye view of the most prominent modeling languages for software and systems engineering, namely the Unified Modeling Language (UML) and the more recent Systems Modeling Language (SysML). Moreover, it elaborates on a number of quantitative and qualitative techniques that synergistically combine automatic verification techniques, program analysis, and software engineering quantitative methods applicable to design models described in these modeling languages. Each of these techniques is additionally explained using a case study [...] Features

Verification and validation represents an important process used for the quality assessment of engineered systems and their compliance with the requirements established at the beginning of or during the development cycle. Debbabi and his coauthors investigate methodologies and techniques that can be employed for the automatic verification and validation of systems engineering design models expressed [...] Features

Contents


Fields of interest

Software Engineering; System Performance and Evaluation; Management of Computing and Information Systems Target groups

Research Type of publication

Monograph Available

Practical Signcryption

In today’s world, data must be sent around the world cheaply and securely, and that requires origin authentication, integrity protection, and confidentiality – the recipient of a message should be able to ascertain who sent the message, be sure that the message has not been changed en route, and be sure that the data arrives without having been read by anyone else. The second editor invented signcryption, an area of cryptography that studies systems that simultaneously provide origin authentication, integrity protection and confidentiality for data. Signcryption schemes combine the features of digital signature schemes with those of public-key encryption schemes and aim to provide security guarantees in a way that is provably correct and significantly less computationally expensive than the “encrypt-then-sign” method most commonly adopted in public-key cryptography. This is the first comprehensive book on signcryption, and brings together leading authors from the field of cryptography in a[...]

Features
In today’s world, data must be sent around the world cheaply and securely, and that requires origin authentication, integrity protection, and confidentiality – the recipient of a message should be able to ascertain who sent the message, be sure that the message has not been changed en route, and be sure that the data arrives without having been read by anyone else. The second editor invented signcryption, an[...]

Contents

Fields of interest
Data Structures, Cryptology and Information Theory; Information Systems and Communication Service

Target groups
Research

Type of publication
Monograph

Available


79,95 €
ISBN 978-3-540-89409-4

On the Move to Meaningful Internet Systems, OTM 2010

The two-volume set of LNCS 6426/6427 constitutes the refereed proceedings of 3 confederated international conferences on CoopIS (Cooperative Information Systems), DOA (Distributed Objects and Applications) and ODBASE (Ontologies, Databases and Applications of Semantics). These conferences were held in October 2009 in Greece, in Hersonissos on the island of Crete. CoopIS is covering the applications of technologies in an enterprise context as workflow systems and knowledge management. DOA is covering the relevant infrastructure-enabling technologies and finally, ODBASE is covering WEB semantics, XML databases and ontologies. The 83 revised full papers presented together with 3 keynote talks were carefully reviewed and selected from a total of 223 submissions. Corresponding to the OTM main conferences the papers are organized in topical sections on process models and management, modeling of cooperation, services computing, information processing and management, human-based cooperative systems,[...]

Features
The two-volume set of LNCS 6426/6427 constitutes the refereed proceedings of 3 confederated international conferences on CoopIS (Cooperative Information Systems), DOA (Distributed Objects and Applications) and ODBASE (Ontologies, Databases and Applications of Semantics). These conferences were held in October 2009 in Greece, in Hersonissos on the island of[...]

Fields of interest
Computer Communication Networks; Software Engineering; Information Systems Applications (incl.Internet); Artificial Intelligence (incl. Robotics); Algorithm Analysis and Problem Complexity; Management of Computing and Information Systems

Target groups
Professional/practitioner

Type of publication
Proceedings

Available


87,00 €
ISBN 978-3-642-16933-5

Inductive Databases and Constraint-Based Data Mining

This book presents inductive databases and constraint-based data mining, emerging research topics lying at the intersection of data mining and database research. The book provides an overview of the state-of-the-art in this novel research area. Of special interest are the recent methods for constraint-based mining of global models for prediction and clustering, the unification of pattern mining approaches through constraint programming, the clarification of the relationship between mining local patterns and global models, and the proposed integrated frameworks and approaches for inductive databases. On the application side, applications to practically relevant problems from bioinformatics are presented to attract additional attention from a wider audience. The primary audience consists of scientists and graduate students in computer science and bio-informatics. Potential readers are likely to attend conferences on databases, data mining/ machine learning, and bio-informatics.

Features
This book presents inductive databases and constraint-based data mining, emerging research topics lying at the intersection of data mining and database research. The book provides an overview of the state-of-the-art in this novel research area. Of special interest are the recent methods for constraint-based mining of global models for prediction and clustering, the unification of pattern mining approaches[...]

Contents

Fields of interest
Database Management; Data Mining and Knowledge Discovery; Artificial Intelligence (incl. Robotics); Computational Biology / Bioinformatics

Target groups
Research

Type of publication
Contributed volume

Available

2010. XVIII, 458 p. Hardcover

99,95 €
Graph Transformations and Model-Driven Engineering

Essays Dedicated to Manfred Nagl on the Occasion of his 65th Birthday

This festschrift volume, published in honor of Manfred Nagl on the occasion of his 65th birthday, contains 30 refereed contributions, edited by five of his academic descendants. The types of papers vary significantly, including classic research papers in the style of journal articles, surveys of focused research areas, essays reflecting on certain research topics, and papers summarizing long-term work conducted by Manfred Nagl. The volume is structured in five parts: graph transformations, software architectures and reengineering, process support, embedded systems engineering as well as engineering design applications.

Features

This festschrift volume, published in honor of Manfred Nagl on the occasion of his 65th birthday, contains 30 refereed contributions, edited by five of his academic descendants. The types of papers vary significantly, including classic research papers in the style of journal articles, surveys of focused research areas, essays reflecting on certain research topics, and papers summarizing long-term work [...]}

Contents

Graph Transformations and Model-Driven Engineering: The Merits of Manfred Nagl - The Edge of Graph Transformation—Graphs for Behavioural Specification.- Graph Transformation by Computational Category Theory.- On GS-Monoidal Theories for Graphs with Nesting.- Stochastic Modelling and Simulation of Mobile Systems.- Autonomous Units and Their Semantics – The Concurrent Case.- Parallel Independence of Amalgamated Graph Transformations Applied to Model Transformation.- Extended Triple Graph Grammars with Efficient and Compatible Graph Translators.- Controlling Reuse in Pattern-Based [...]}

Fields of interest

Software Engineering; Logics and Meanings of Programs; Programming Languages, Compilers, Interpreters; Computer Communication Networks; Programming Techniques; Mathematical Logic and Formal Languages

Target groups

Research

Type of publication

Contributed volume

Available


87.00 €

ISBN 978-3-642-17321-9

Qualitative Spatial Abstraction in Reinforcement Learning

W. -c. Fang, National Chiao Tung University, Hsinchu, Taiwan; M. Khurram Khan, King Saud University, Riyadh, Saudi Arabia; K.P. Annett, Mississippi State University, Mississippi State, MS, USA; H. -j. Kang, Mokwon University, Daegu, Korea; D. Slezak, University of Warsaw, Poland (Eds.)

Security Technology, Disaster Recovery and Business Continuity


This book constitutes the refereed proceedings of the International Conference on Security Technology, SeC Tech 2010, and the International Conference on Disaster Recovery and Business Continuity, DRBC 2010, both held as part of the Future Generation Information Technology Conference, FGIT 2010, in Jeju Island, Korea, in December 2010. The 57 full papers presented were carefully reviewed and selected from 250 submissions. The papers are focused on the various aspects of advances in both Security Technology as well as Disaster Recovery and Business Continuity.

Features

This book constitutes the refereed proceedings of the International Conference on Security Technology, SeC Tech 2010, and the International Conference on Disaster Recovery and Business Continuity, DRBC 2010, both held as part of the Future Generation Information Technology Conference, FGIT 2010, in Jeju Island, Korea, in December 2010. The 57 full papers presented were carefully reviewed and selected from 250 [...]}

Contents

An Aspectualizable State Space Representation.- RLPR – Reinforcement Learning.- Qualitative State Space Abstractions.- Index.

Fields of interest

Computer Communication Networks; Algorithm Analysis and Problem Complexity; Management of Computing and Information Systems; Information Systems Applications (incl.Internet); Data Encryption; Computers and Society

Target groups

Research

Type of publication

Proceedings

Available

2010. XIII, 300 p. (Communications in Computer and Information Science, Vol. 122) Softcover

64,00 €

ISBN 978-3-642-17609-8

L. Frommberger, University of Bremen, Germany

Qualitative Spatial Abstraction in Reinforcement Learning

Reinforcement learning has developed as a successful learning approach for domains that are not fully understood and that are too complex to be described in closed form. However, reinforcement learning does not scale well to large and continuous problems. Furthermore, acquired knowledge specific to the learned task, and transfer of knowledge to new tasks is crucial. In this book the author investigates whether deficiencies of reinforcement learning can be overcome by suitable abstraction methods. He discusses various forms of spatial abstraction, in particular qualitative abstraction, a form of representing knowledge that has been thoroughly investigated and successfully applied in spatial cognition research. With his approach, he exploits spatial structures and structural similarity to support the learning process by abstracting from less important features and stressing the essential ones. The author demonstrates his learning approach and the transferability of knowledge by having his system learn [...]}

Features

Reinforcement learning has developed as a successful learning approach for domains that are not fully understood and that are too complex to be described in closed form. However, reinforcement learning does not scale well to large and continuous problems. Furthermore, acquired knowledge specific to the learned task, and transfer of knowledge to new tasks is [...]}

Contents


Fields of interest

Artificial Intelligence (incl. Robotics); Control , Robotics, Mechatronics

Target groups

Research

Type of publication

Monograph

Available

2010. XIV, 174 p. (Cognitive Technologies) Hardcover

79,95 €

ISBN 978-3-642-16589-4
Handbook of Social Network Technologies and Applications

Social networking is a concept that has existed for a long time; however, with the explosion of the Internet, social networking has become a tool for people to connect and communicate in ways that were impossible in the past. The recent development of Web 2.0 has provided many new applications, such as Myspace, Facebook, and LinkedIn. The purpose of Handbook of Social Network Technologies and Applications is to provide comprehensive guidelines on the current and future trends in social network technologies and applications in the field of Web-based Social Networks. This handbook includes contributions from world experts in the field of social networks from both academia and private industry. A number of crucial topics are covered including Web and software technologies and communication technologies for social networks; Web-mining techniques, visualization techniques, intelligent social networks; Semantic Web, and many other topics are covered. Standards for social networks, case studies, and all [...] Features

Social networking is a concept that has existed for a long time; however, with the explosion of the Internet, social networking has become a tool for people to connect and communicate in ways that were impossible in the past. The recent development of Web 2.0 has provided many new applications, such as Myspace, Facebook, and LinkedIn. Handbook of Social Network Technologies and Applications [...] Contents

Web and software technologies for social networks; Social network analysis; Communication and P2P infrastructures for social networks; Standards for social networks; Web-mining techniques for social networks analysis; Visualizing online social networks; Mobile social networks; Social networks and semantic Web; Intelligent social network modeling; Privacy and security issues for social networks; Social network case studies; Social network applications; Online advertising on social networks; Future of the social networks on the Internet.

Fields of interest
Management of Computing and Information Systems; Information Systems Applications (incl.Internet); Computer Systems Organization and Communication Networks; Multimedia Information Systems; Computer Appl. in Social and Behavioral Sciences

Target groups
Research

Type of publication
Handbook

Available

2010. XVII, 716 p. 50 illus. Hardcover

149.95 €
Efficient Secure Two-Party Protocols

The authors present a comprehensive study of efficient protocols and techniques for secure two-party computation — both general constructions that can be used to securely compute any functionality, and protocols for specific problems of interest. The book focuses on techniques for constructing efficient protocols and proving them secure. In addition, the authors study different definitional paradigms and compare the efficiency of protocols achieved under these different definitions. The book opens with a general introduction to secure computation and then presents definitions of security for a number of different adversary models and definitional paradigms. In the second part, the book shows how any functionality can be securely computed in an efficient way in the presence of semi-honest, malicious and covert adversaries. These general constructions provide a basis for understanding the feasibility of secure computation, and they are a good introduction to design paradigms and proof techniques for...

Features

- The authors present a comprehensive study of efficient protocols and techniques for secure two-party computation — both general constructions that can be used to securely compute any functionality, and protocols for specific problems of interest.
- The book focuses on techniques for constructing efficient protocols and proving them secure.
- In addition, the authors study different definitional paradigms and compare the efficiency of protocols achieved under these different definitions.

Contents

- Introduction
- Definitions
- Semi-honest Adversaries
- Malicious Adversaries
- Covert Adversaries
- Oblivious Transfer and Applications
- The k-th Ranked Element
- Search Problems
- References
- Index

Fields of interest

- Data Structures, Cryptography and Information Theory
- Computer Communication Networks
- Data Mining and Knowledge Discovery

Target groups

Research

Type of publication

Monograph

Available


79,95 €
ISBN 978-3-642-14302-1
U- and E-Service, Science and Technology


This book constitutes the refereed proceedings of the International Conference on u- and e-Service, Science and Technology, UNESSST 2010, held as part of the Future Generation Information Technology Conference, FGIT 2010, in Jeju Island, Korea, in December 2010. The 50 full papers presented were carefully reviewed and selected from 223 submissions. The papers are focused on the multifaceted aspects of u- and e-Service, Science and Technology.

Features
This book constitutes the refereed proceedings of the International Conference on u- and e-Service, Science and Technology, UNESSST 2010, held as part of the Future Generation Information Technology Conference, FGIT 2010, in Jeju Island, Korea, in December 2010. The 50 full papers presented were carefully reviewed and selected from 223 submissions. The papers are focused on the multifaceted aspects of u- and e-Service, Science and Technology.

Fields of interest
Information Systems Applications (incl.Internet); Artificial Intelligence (incl. Robotics); Computer Communication Networks; Software Engineering; Information Storage and Retrieval; User Interfaces and Human Computer Interaction

Target groups
Research

Type of publication
Proceedings

Available
56,00 €
ISBN 978-3-642-17643-2

Future Generation Information Technology


This book comprises selected papers of the Second International Conference on Future Generation Information Technology, FGIT 2010, in Jeju Island, Korea, in December 2010. The 60 full papers presented together with 6 keynote presentations were carefully reviewed and selected from 1630 submissions and were selected from the following eight conferences: ASEA 2010 : International Conference on Advanced Software Engineering & Its Applications, BSBT 2010 : International Conference on Bio-Science and Bio-Technology, CA 2010 : International Conference on Control and Automation, DRBC 2010 : International Conference on Disaster Recovery and Business Continuity, DTA 2010 : International Conference on Database Theory and Application, FGIT 2010 : International Conference on Future Generation Information Technology, FGIT 2010, Jeju Island, Korea, in December 2010. The 50 full papers presented were carefully reviewed and selected from 223 submissions. The papers are focused on the multifaceted aspects of u- and e-Service, Science and Technology.

Features
This book comprises selected papers of the Second International Conference on Future Generation Information Technology, FGIT 2010, in Jeju Island, Korea, in December 2010. The 60 full papers presented together with 6 keynote presentations were carefully reviewed and selected from 1630 submissions and were selected from the following eight conferences: ASEA 2010 : International Conference on Advanced Software Engineering & Its Applications, BSBT 2010 : International Conference on Bio-Science and Bio-Technology, CA 2010 : International Conference on Control and Automation, DRBC 2010 : International Conference on Disaster Recovery and Business Continuity, DTA 2010 : International Conference on Database Theory and Application, FGIT 2010 : International Conference on Future Generation Information Technology, FGIT 2010, Jeju Island, Korea, in December 2010. The 50 full papers presented were carefully reviewed and selected from 223 submissions. The papers are focused on the multifaceted aspects of u- and e-Service, Science and Technology.

Fields of interest
Information Systems Applications (incl.Internet); Artificial Intelligence (incl. Robotics); Computer Communication Networks; Software Engineering; Information Storage and Retrieval; User Interfaces and Human Computer Interaction

Target groups
Research

Type of publication
Proceedings

Available
56,00 €
ISBN 978-3-642-17643-2

Social Robotics


This book constitutes the refereed proceedings of the Second International Conference on Social Robotics, ICSR 2010, held in Singapore, in November 2010. The 42 revised full papers presented were carefully reviewed and selected from numerous submissions. The papers are organized in design philosophies and software architectures for robotics; social acceptance for human-robot interaction; learning, adaptation and evolution of robot intelligence; mechatronics and intelligent control; HRI in assistive technologies for people with special needs; affective and cognitive sciences for interactive robots; and interaction and collaboration.

Features
This book constitutes the refereed proceedings of the Second International Conference on Social Robotics, ICSR 2010, held in Singapore, in November 2010. The 42 revised full papers presented were carefully reviewed and selected from numerous submissions. The papers are organized in design philosophies and software architectures for robotics; social acceptance for human-robot interaction; learning, adaptation and evolution of robot intelligence; mechatronics and intelligent control; HRI in assistive technologies for people with special needs; affective and cognitive sciences for interactive robots; and interaction and collaboration.

Fields of interest
Artificial Intelligence (incl. Robotics); User Interfaces and Human Computer Interaction; Computers and Society; Computer Appl. in Social and Behavioral Sciences; Computer Imaging, Vision, Pattern Recognition and Graphics; Special Purpose and Application-Based Systems

Target groups
Research

Type of publication
Proceedings

Available
2010. XV, 412 p. (Lecture Notes in Artificial Intelligence, Vol. 6414) Softcover
63,00 €
ISBN 978-3-642-17247-2
AI 2010: Advances in Artificial Intelligence

This book constitutes the refereed proceedings of the 23rd Australasian Joint Conference on Artificial Intelligence, AI 2010, held in Adelaide, Australia, in December 2010. The 52 revised full papers presented were carefully reviewed and selected from 112 submissions. The papers are organized in topical sections on knowledge representation and reasoning; data mining and knowledge discovery; machine learning; statistical learning; evolutionary computation; particle swarm optimization; intelligent agent; search and planning; natural language processing; and AI applications.

Features
This book constitutes the refereed proceedings of the 23rd Australasian Joint Conference on Artificial Intelligence, AI 2010, held in Adelaide, Australia, in December 2010. The 52 revised full papers presented were carefully reviewed and selected from 112 submissions. The papers are organized in topical sections on knowledge representation and reasoning; data mining and knowledge discovery; machine learning; [...] Features

Fields of interest
Artificial Intelligence (incl. Robotics); Information Systems Applications (incl. Internet); Information Storage and Retrieval; Database Management; Data Mining and Knowledge Discovery; Computation by Abstract Devices

Target groups
Research

Type of publication
Proceedings

Available
2011. XVI, 528 p. (Lecture Notes in Artificial Intelligence, Vol. 6464) Softcover
70,00 €
ISBN 978-3-642-17431-5

Advances in Web-Based Learning - ICWL 2010
9th International Conference, Shanghai, China, December 8-10, 2010, Proceedings

This book constitutes the refereed proceedings of the 9th International Conference on Web-Based Learning, ICWL 2010, held in Shanghai, China, in December 2010. The 36 revised full papers and 8 short papers presented were carefully reviewed and selected from 192 submissions. They deal with topics such as e-learning platforms and tools, technology enhanced learning, web-based learning for oriental languages, mobile/situated e-learning, learning resource deployment, organization and management, design, model and framework of e-learning systems, e-learning metadata and standards, collaborative learning and game-based learning, as well as practice and experience sharing and pedagogical Issues.

Features
This book constitutes the refereed proceedings of the 9th International Conference on Web-Based Learning, ICWL 2010, held in Shanghai, China, in December 2010. The 36 revised full papers and 8 short papers presented were carefully reviewed and selected from 192 submissions. They deal with topics such as e-learning platforms and tools, technology enhanced learning, web-based learning for oriental languages, [...] Features

Fields of interest
Artificial Intelligence (incl. Robotics); User Interfaces and Human Computer Interaction; Computers and Society; Multimedia Information Systems; Personal Computing

Target groups
Research

Type of publication
Proceedings

Available
62,00 €
ISBN 978-3-642-17406-3

Service-Oriented Computing

This book constitutes the refereed proceedings of the 8th International Conference, ICSOC 2010, held in San Francisco, CA, USA, in December 2010. The 33 revised full papers and three full industry papers, presented together with 18 short papers, three PhD symposium posters and four regular posters, were carefully reviewed and selected from 238 submissions. The papers are organized in topical sections on Service and Business Process Modeling; Service Management; Quality of Service; Service Science and Design; Service Development and Run-time Management; High-level Description Languages; Service Level Agreements; Service Engineering Methodologies; Service Security, Privacy, and Trust; Business Service Modeling; Formal Methods; and Service Applications.

Features
This book constitutes the refereed proceedings of the 8th International Conference, ICSOC 2010, held in San Francisco, CA, USA, in December 2010. The 33 revised full papers and three full industry papers, presented together with 18 short papers, three PhD symposium posters and four regular posters, were carefully reviewed and selected from 238 submissions. The papers are organized in topical sections on [...] Features

Fields of interest
Software Engineering; Computer Communication Networks; Information Systems Applications (incl. Internet); Information Storage and Retrieval; Management of Computing and Information Systems; Database Management

Target groups
Research

Type of publication
Proceedings

Available
87,00 €
ISBN 978-3-642-17357-8
Moving Objects Management
Models, Techniques and Applications

The continued advances in wireless communication and positioning technologies such as GPS have made new data management applications possible, such as location-based services (LBS) that store and manage the continuously changing positions of moving objects. "Moving Objects Management - Models, Techniques and Applications" focuses on moving objects management, from the location management perspective to the exploration of how the continuously changing locations affect the traditional database and data mining technology. Specifically, the book describes the topics of moving objects modeling and location updating, indexing and querying, clustering, location uncertainty and privacy issues, as well as their application to intelligent transportation systems. This book is intended for developers of database management systems and mobile applications, research scientists and advanced-level students in computer science and geography. Dr. Xiaofeng Meng is a professor at the School of Information, Renmin[...]

Features
The continued advances in wireless communication and positioning technologies such as GPS have made new data management applications possible, such as location-based services (LBS) that store and manage the continuously changing positions of moving objects. "Moving Objects Management - Models, Techniques and Applications" focuses on moving objects management, from the location management perspective to the [...]

Contents

Fields of interest
Database Management; Data Mining and Knowledge Discovery; Information Systems and Communication Service; Geographical Information Systems / Cartography

Target groups
Research

Type of publication
Monograph

Available
2010. 300 p. 50 illus. Hardcover
139,95 €
ISBN 978-3-642-13198-1

Sanskrit Computational Linguistics
4th International Symposium, New Delhi, India, December 10-12, 2010. Proceedings

This volume constitutes the refereed proceedings of the 4th International Symposium on Sanskrit Com- putational Linguistics, held in New Delhi, India, in December 2010. The 18 revised full papers presented were carefully reviewed and selected from numerous submissions. The papers can be categorized under following broad areas such as phonology and speech technology; morphology and shallow parsing; syntax, semantics and parsing; lexical resources, annotation and search; machine translation and ambiguity resolution.

Features
This volume constitutes the refereed proceedings of the 4th International Symposium on Sanskrit Computational Linguistics, held in New Delhi, India, in December 2010. The 18 revised full papers presented were carefully reviewed and selected from numerous submissions. The papers can be categorized under following broad areas such as phonology and speech technology; morphology and shallow parsing; syntax, [...]

Fields of interest
Language Translation and Linguistics; Mathematical Logic and Formal Languages; Artificial Intelligence (incl. Robotics); Discrete Mathematics in Computer Science; Algorithm Analysis and Problem Complexity; Special Purpose and Application-Based Systems

Target groups
Research

Type of publication
Proceedings

Available
2010. XI, 259 p. (Lecture Notes in Artificial Intelligence, Vol. 6460) Softcover
46,00 €
ISBN 978-3-642-17527-5

Bioinspired Computation in Combinatorial Optimization
Algorithms and Their Computational Complexity

Bioinspired computation methods such as evolutionary algorithms and ant colony optimization are being applied successfully to complex engineering problems and to problems from combinatorial optimization, and with this comes the requirement to more fully understand the computational complexity of these search heuristics. This is the first textbook covering the most important results achieved in this area. The authors study the computational complexity of bioinspired computation and show how runtime behavior can be analyzed in a rigorous way using some of the best-known combinatorial optimization problems -- minimum spanning trees, shortest paths, maximum matching, covering and scheduling problems. A feature of the book is the separate treatment of single- and multiobjective problems, the latter a domain where the development of the underlying theory seems to be lagging practical successes. This book will be very valuable for teaching courses on bioinspired computation and combinatorial optimization.[...]

Features
Bioinspired computation methods, such as evolutionary algorithms and ant colony optimization, are being applied successfully to complex engineering and combinatorial optimization problems, and it is very important that we understand the computational complexity of these search heuristics. This is the first book to explain the most important results achieved in this area. The [...]

Contents

Fields of interest
Algorithm Analysis and Problem Complexity; Optimization; Theory of Computation; Artificial Intelligence (incl. Robotics)

Target groups
Research

Type of publication
Graduate/advanced undergraduate textbook

Available
2010. XII, 216 p. (Natural Computing Series) Hardcover
79,95 €
ISBN 978-3-642-16543-6
Transactions on Computational Collective Intelligence II

These Transactions publish research in computer-based methods of computational collective intelligence (CCI) and their applications in a wide range of fields such as the Semantic Web, social networks and multi-agent systems. TCCI strives to cover new methodological, theoretical and practical aspects of CCI understood as the form of intelligence that emerges from the collaboration and competition of many individuals (artificial and/or natural). The application of multiple computational intelligence technologies such as fuzzy systems, evolutionary computation, neural systems, consensus theory, etc., aims to support human and other collective intelligence and to create new forms of CCI in natural and/or artificial systems. This second issue contains a collection of 10 articles selected from high-quality submissions addressing advances in the foundations and applications of computational collective intelligence.

Features
These Transactions publish research in computer-based methods of computational collective intelligence (CCI) and their applications in a wide range of fields such as the Semantic Web, social networks and multi-agent systems. TCCI strives to cover new methodological, theoretical and practical aspects of CCI understood as the form of intelligence that emerges from the collaboration and competition of many individuals (artificial and/or natural).

Fields of interest
Artificial Intelligence (incl. Robotics); Computer Communication Networks; Information Systems Applications (incl. Internet); Software Engineering; Information Storage and Retrieval; Computation by Abstract Devices

Target groups
Professional/practitioner

Type of publication
Proceedings

Available
2010. VII. 197 p. (Transactions on Computational Collective Intelligence, Vol. 6490) Softcover

63,00 €
ISBN 978-3-642-17154-3

S.B. Ors Yalcınc, Istanbul Technical University, Turkey (Ed.)

Radio Frequency Identification: Security and Privacy Issues
6th International Workshop, RFIDSec 2010, Istanbul, Turkey, June 8-9, 2010, Revised Selected Papers

This book constitutes the refereed proceedings of the 6th International Workshop Radio Frequency Identification: Security and Privacy Issues, RFIDSec 2010, held in Istanbul, Turkey, in June 2010. The 17 revised full papers presented together with 3 invited talks were carefully reviewed and selected from 47 submissions. The papers focus on approaches to solve security and data-protection issues in advanced contactless technologies like RFID. Topics addressed are new applications for secure RFID systems, data protection and privacy-enhancing techniques for RFID, cryptographic protocols for RFID, integration of secure RFID systems, resource-efficient implementation of cryptography, attacks on RFID systems, and RFID security hardware.

Features
This book constitutes the refereed proceedings of the 6th International Workshop Radio Frequency Identification: Security and Privacy Issues, RFIDSec 2010, held in Istanbul, Turkey, in June 2010. The 17 revised full papers presented together with 3 invited talks were carefully reviewed and selected from 47 submissions. The papers focus on approaches to solve security and data-protection issues in advanced contactless technologies like RFID. Topics addressed are new applications for secure RFID systems, data protection and privacy-enhancing techniques for RFID, cryptographic protocols for RFID, integration of secure RFID systems, resource-efficient implementation of cryptography, attacks on RFID systems, and RFID security hardware.

Fields of interest
Computer Communication Networks; Data Encryption; Systems and Data Security; Algorithm Analysis and Problem Complexity; Management of Computing and Information Systems; Special Purpose and Application-Based Systems

Target groups
Professional/practitioner

Type of publication
Proceedings

Available

46,00 €
ISBN 978-3-642-16821-5

S.K. Pal, Indian Statistical Institute, Kolkata, India; W.I. Grosky, University of Michigan, Dearborn, MI, USA; N. Pissinou, Florida International University, Miami, FL, USA; T.K. Shih, National Taipei University of Education, Taipei City, Taiwan; D. Skok, University of Warsaw and Infobright, Warsaw, Poland (Eds.)

Signal Processing and Multimedia

This book constitutes the refereed proceedings of the International Conference on Signal Processing, Image Processing and Pattern Recognition, SIP 2010, and the International Conference on Multimedia, Computer Graphics and Broadcasting, MulGraB 2010, both held as part of the Future Generation Information Technology Conference, FGIT 2010, in Jeju Island, Korea, in December 2010. The 53 full papers presented were carefully reviewed and selected from 225 submissions. The papers are focused on the various aspects of advances in both Signal Processing, Image Processing and Pattern Recognition as well as in Multimedia, Computer Graphics and Broadcasting.

Features
This book constitutes the refereed proceedings of the International Conference on Signal Processing, Image Processing and Pattern Recognition, SIP 2010, and the International Conference on Multimedia, Computer Graphics and Broadcasting, MulGraB 2010, both held as part of the Future Generation Information Technology Conference, FGIT 2010, in Jeju Island, Korea, in December 2010. The 53 full papers presented were carefully reviewed and selected from 225 submissions. The papers are focused on the various aspects of advances in both Signal Processing, Image Processing and Pattern Recognition as well as in Multimedia, Computer Graphics and Broadcasting.

Fields of interest
Image Processing and Computer Vision; Computer Communication Networks; Artificial Intelligence (incl. Robotics); Algorithm Analysis and Problem Complexity; Information Systems Applications (incl. Internet); Pattern Recognition

Target groups
Research

Type of publication
Proceedings

Available
2010. XIV. 328 p. (Communications in Computer and Information Science, Vol. 123) Softcover

64,00 €
ISBN 978-3-642-17640-1
The Seductive Computer

Why IT Systems Always Fail

IT systems explode budget estimates, bust production deadlines by years, and then fail to work properly. Why this IT-system crisis? Poor programmers? Inadequate project management? No. The Seductive Computer argues that the fundamental nature of programming technology itself is the real culprit; it promises perfection but can only deliver emergent chaos. It is also an insidiously compelling technology, peculiarly male oriented. IT systems, an unavoidable and increasing reality in all our lives, are something new to man - large-scale discrete complexity. The Seductive Computer explains this novelty that defies human understanding. This book illustrates in a simple yet thorough manner the underlying concepts necessary for understanding the IT-system crisis - not ‘How To Program’ but what the demands of programming are. It then proceeds to lay out the full gamut of issues - all stemming from the nature of the technology. From development to maintenance IT-system personnel are grappling with incipient[...]

Contents

Fields of interest
Computers and Society; Management of Computing and Information Systems; The Computing Profession; Software Engineering; Software Engineering / Programming and Operating Systems; Information Systems Applications (incl.Internet)

Target groups
Popular/general

Performance Analysis and Optimization of Multi-Traffic on Communication Networks

Promptly growing demand for telecommunication services and information interchange has led to the fact that communication became one of the most dynamical branches of an infrastructure of a modern society. The book introduces to the bases of classical MDP theory; problems of a finding optimal *** in models are investigated and various problems of improvement of characteristics of traditional and multimedia wireless communication networks are considered together with both classical and new methods of theory MDP which allow defining optimal strategy of access in teletraffic systems. The book will be useful to specialists in the field of telecommunication systems and also to students and post-graduate students of corresponding specialties.

Features
Promptly growing demand for telecommunication services and information interchange has led to the fact that communication became one of the most dynamical branches of an infrastructure of a modern society. The book introduces to the bases of classical MDP theory; problems of a finding optimal *** in models are investigated and various problems of improvement of characteristics of traditional and multimedia[...]

Contents

Fields of interest
System Performance and Evaluation; Electrical Engineering; Probability Theory and Stochastic Processes; Operation Research / Decision Theory; Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences

Target groups
Graduate

Type of publication
Monograph

Available
2010. XIV, 250 p. 70 illus. Hardcover
79,95 € ISBN 978-3-642-15457-7
Encyclopedia of Machine Learning

Features
This comprehensive encyclopedia, in A-Z format, provides easy access to relevant information for those seeking entry into any aspect within the broad field of Machine Learning. Most of the several hundred entries in this pre-eminent work include useful literature references, providing the reader with a portal to more detailed information on any given topic.

Contents

Fields of interest
Artificial Intelligence (incl. Robotics); Computing Methodologies; Data Mining and Knowledge Discovery; Pattern Recognition; Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences

Target groups
Research

Type of publication
Encyclopedia

Available
2010. XXV, 1012 p. 95 illus. in color. Hardcover
399,00 €

Tile-Based Geospatial Information Systems

Principles and Practices

Tile-based online mapping systems have replaced traditional Web GIS systems, because of their improved speed and usability. The trend towards tile-based systems was started by Internet services companies, such as Google, Yahoo, and Microsoft. They have been followed by the traditional GIS community, government organizations and open source development communities, because tile based systems yield faster and work stronger with 3-D mapping tools. TILE-BASED GEOSPATIAL INFORMATION SYSTEMS: Principles and Practices presents a detailed examination of the principles of tile-based systems. Topics include discussions of projections, coordinate systems, image processing, data basing and indexing requirements and web access. Attention is devoted to understanding and development of algorithms needed to make tile-based systems functional and efficient. In addition to the theoretical examination of the topic, this book includes detailed practical content helpful to those charged with implementation of tile-based...

Features
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Contents

Fields of interest
Information Systems Applications (incl.Internet); Geographical Information Systems / Cartography; Image Processing and Computer Vision; Database Management; Information Storage and Retrieval; Computer Applications in Earth Sciences

Target groups
Research

Type of publication
Monograph

Available
2010. XIV, 237 p. 86 illus. Hardcover
79,95 €
Sports Data Mining

Data mining is the process of extracting hidden patterns from data, and it’s commonly used in business, bioinformatics, counter-terrorism, and, increasingly, in professional sports. First popularized in Michael Lewis’ best-selling Moneyball: The Art of Winning An Unfair Game, it has become an intrinsic part of all professional sports the world over, from baseball to cricket to soccer. While an industry has developed based on statistical analysis services for any given sport, or even for betting behavior analysis on these sports, no research-level book had considered the subject in any detail until now. Sports Data Mining brings together in one place the state of the art as it concerns an international array of sports: baseball, football, basketball, soccer, greyhound racing are all covered, and the authors (including Hsinchun Chen, one of the most esteemed and well-known experts in data mining in the world) present the latest research, developments, software available, and applications for each.[…]

Features
Data mining is the process of extracting hidden patterns from data, and it’s commonly used in business, bioinformatics, counter-terrorism, and, increasingly, in professional sports. First popularized in Michael Lewis’ best-selling Moneyball: The Art of Winning An Unfair Game, it has become an intrinsic part of all professional sports the world over, from baseball to cricket to soccer. While an industry has […]

Reliable and Autonomous Computational Science

Increasing size and complexity of software and hardware systems makes it harder to ensure their reliability. At the same time, the issues of autonomous computing become more critical as we move more and more rely on software systems in our daily life. Such complexity is getting even more critical with the ubiquitous computing of embedded devices and other pervasive systems. These trends ask for techniques and tools for developing reliable and autonomous software which can support software engineers in their efforts. This book summarizes the state of the art in the diverse fields concerned, including novel designs, case studies and experimental as well as theoretical results.

Features
Increasing size and complexity of software and hardware systems makes it harder to ensure their reliability. At the same time, the issues of autonomous computing become more critical as we move more and more rely on software systems in our daily life. Such complexity is getting even more critical with the ubiquitous computing of embedded devices and other pervasive systems. These trends ask for techniques and tools for developing reliable and autonomous software which can support software engineers in their efforts. This book summarizes the state of the art in the diverse fields concerned, including novel designs, case studies and experimental as well as theoretical results.

Contents

Fields of interest
Software Engineering

Target groups
Research

Type of publication
Proceedings

Available
89.95 €
ISBN 978-3-0348-0030-3

Electronic Healthcare Information Security

The ever-increasing healthcare expenditure and pressing demand for improved quality and efficiency of patient care services are driving innovation in healthcare information management. The domain of healthcare has become a challenging testing ground for information security due to the complex nature of healthcare information and individual privacy. Electronic Healthcare Information Security explores the challenges of e-healthcare information and security policy technologies. It evaluates the effectiveness of security and privacy implementation systems for anonymization methods and techniques. The first comprehensive book dedicated to electronic healthcare information security also introduces new standards. Designed for practitioners and researchers in the healthcare sectors, this book is also suitable for advanced-level students in computer science and medicine, as a secondary textbook or reference.

Contents

Fields of interest
Systems and Data Security; Health Administration; Information Systems Applications (incl.Internet); e-commerce / e-business

Target groups
Professional/practitioner

Type of publication
Monograph

Available
79.95 €
ISBN 978-0-387-84817-4
Verification, Induction, Termination Analysis

Festschrift for Christoph Walther on the Occasion of His 60th Birthday

This Festschrift volume, published in honor of Christoph Walther, contains contributions written by some of his colleagues, former students, and friends. In celebration of the 60th birthdays of Alejandro P. Buchmann, Sorin A. Huss and Christoph Walther, a colloquium was held on November 19th, 2010 in Darmstadt, Germany. The articles collected herein cover some of the main topics of Christoph Walther’s research interests, such as formal modeling, theorem proving, induction, and termination analysis. Together they give a good overall perspective on the formal verification of the correctness of software systems.

Features

This Festschrift volume, published in honor of Christoph Walther, contains contributions written by some of his colleagues, former students, and friends. In celebration of the 60th birthdays of Alejandro P. Buchmann, Sorin A. Huss and Christoph Walther, a colloquium was held on November 19th, 2010 in Darmstadt, Germany. - cp [...]"
Computational Vision and Medical Image Processing

Recent Trends

This book contains extended versions of papers presented at the international Conference VIPIMAGE 2009 – ECCOMAS Thematic Conference on Computational Vision and Medical Image, that was held at Faculdade de Engenharia da Universidade do Porto, Portugal, from 14th to 16th of October 2009. This conference was the second ECCOMAS thematic conference on computational vision and medical image processing. It covered topics related to image processing and analysis, medical imaging and computational modelling and simulation, considering their multidisciplinary nature. The book collects the state-of-the-art research, methods and new trends on the subject of computational vision and medical image processing contributing to the development of these knowledge areas.

Features
This book contains extended versions of papers presented at the international Conference VIPIMAGE 2009 – ECCOMAS Thematic Conference on Computational Vision and Medical Image, that was held at Faculdade de Engenharia da Universidade do Porto, Portugal, from 14th to 16th of October 2009. This conference was the second ECCOMAS thematic conference on computational vision and medical image processing, it covered [...] 14.

Contents
Preface...Automatic Segmentation of the Optic Radiation Using DTT in Healthy Subjects and Patients with Glaucoma, by Ahmed El-Rafei, Tobias Engelhorn, Simone Waerntges, Arnd Doerfler, Joachim Hornegger, Georg Michelson.- Real Time Colour Based Player Tracking in Indoor Sports, by Catarina Hornegger, Georg Michelson.- In vivo DTI Atlas Construction... -15. The 23 papers presented together with 4 invited papers 2 system and tool presentations and 1 tutorial lecture were carefully reviewed and selected from 95 initial submissions. The papers are devoted to both foundational and practical issues in programming languages and systems and feature current research in the following areas: semantics, logics, foundational theory, design of languages and foundational calculi, type systems, compilers, interpreters, abstract machines, program derivation, analysis, transformation, software security, safety, verification, concurrency, constraints, domain-specific languages, as well as tools for programming, verification, and implementation.

Features
The 23 papers presented together with 4 invited papers 2 system and tool presentations and 1 tutorial lecture were carefully reviewed and selected from 95 initial submissions. The papers are devoted to both foundational and practical issues in programming languages and systems and feature current research in the following areas: semantics, logics, foundational theory, design of languages and foundational [...] 14.

Fields of interest
Programming Languages, Compilers, Interpreters; Software Engineering; Logics and Meanings of Programs; Systems and Data Security; Programming Techniques; Mathematical Logic and Formal Languages

Target groups
Professional/practitioner

Type of publication
Proceedings

Available
62,00 € ISBN 978-3-642-17163-5

Communication and Networking


This book constitutes the refereed proceedings of the International Conference on Future Generation Communication and Networking, FGCN 2010, held as part of the Future Generation Information Technology Conference, FGIT 2010, in Jeju Island, Korea, in December 2010. The 70 full papers presented were carefully reviewed and selected from 150 submissions. The papers are focused on the various aspects of advances in Communication and Networking, the topics include but will not be limited to Communication Basic and Infrastructure; Networks Basic and Management; Multimedia Application, Image, Video, Signal and Information Processing.

Features
This book constitutes the refereed proceedings of the International Conference on Future Generation Communication and Networking, FGCN 2010, held as part of the Future Generation Information Technology Conference, FGIT 2010, in Jeju Island, Korea, in December 2010. The 70 full papers presented were carefully reviewed and selected from 150 submissions. The papers are focused on the various aspects of advances [...] 14.

Fields of interest
Computer Communication Networks; Information Systems Applications (incl.Internet); Artificial Intelligence (incl. Robotics); Software Engineering; Algorithm Analysis and Problem Complexity; User Interfaces and Human Computer Interaction

Target groups
Research

Type of publication
Proceedings

Available
2010, XII, 471 p. (Communications in Computer and Information Science, Vol. 120) Softcover
72,00 € ISBN 978-3-642-17603-6
Machine Learning for Vision-Based Motion Analysis

Theory and Techniques

Techniques of vision-based motion analysis aim to detect, track, identify, and generally understand the behavior of objects in image sequences. With the growth of video data in a wide range of applications from visual surveillance to human machine interfaces, the ability to automatically analyze and understand object motions from video footage is of increasing importance. Among the latest developments in this field is the application of statistical machine learning algorithms for object tracking, activity modeling, and recognition. Developed from expert contributions to the first and second International Workshop on Machine Learning for Vision-Based Motion Analysis, this important text/reference highlights the latest algorithms and systems for robust and effective vision-based motion understanding from a machine learning perspective. Highlighting the benefits of collaboration between the communities of object motion understanding and machine learning, the book discusses the most active frontiers of [...]
Linking Enterprise Data

Enterprise data is growing at a much faster rate than traditional technologies allow. New enterprise architectures combining existing technologies are desperately needed. This book suggests a way forward by applying new techniques of the World Wide Web to enterprise information systems. Linking Enterprise Data is an edited volume contributed by worldwide leaders in Semantic Web and Linked Data research, standards development and adoption. Linking enterprise data is the application of World Wide Web architecture principles to real-world information management issues faced by commercial, not-for-profit and government enterprises. This book is divided into four sections: Benefits of applying Linked Data principles in enterprise settings, enterprise approval and support of Linked Data projects, specific Linked Data techniques and a number of real-world success stories from early enterprise adopters. Linking Enterprise Data targets professionals working as CTOs, CIOs, enterprise architects, project [...].

Safeguards in a World of Ambient Intelligence

Copy the following link for free access to the first chapter of this title: http://www.springerlink.com/content/j23468h304310755/fulltext.pdf This book is a warning. It aims to warn policy-makers, industry, academia, civil society organisations, the media and the public about the threats and vulnerabilities facing our privacy, identity, trust, security and inclusion in the rapidly approaching world of ambient intelligence (Aml). In the near future, every manufactured product – our clothes, money, appliances, the paint on our walls, the carpets on our floors, our cars, everything – will be embedded with intelligence, networks of tiny sensors and actuators, which some have termed ‘smart dust’. The Aml world is not far off. We already have surveillance systems, biometrics, personal communicators, machine learning and more. Aml will provide personalised services and know more about us – on a scale dwarfing anything hitherto available. In the Aml vision, ubiquitous computing, communications and [...].

Grid and Distributed Computing, Control and Automation

This book constitutes the refereed proceedings of the International Conference on Grid and Distributed Computing, GDC 2010, and the International Conference on Control and Automation, CA 2010, both held as part of the Future Generation Information Technology Conference, FGIT 2010, in Jeju Island, Korea, in December 2010. The 40 full papers presented were carefully reviewed and selected from 198 submissions. The papers are focused on the various aspects of advances in both Grid and Distributed Computing as well as Control and Automation.

Features

This book constitutes the refereed proceedings of the International Conference on Grid and Distributed Computing, GDC 2010, and the International Conference on Control and Automation, CA 2010, both held as part of the Future Generation Information Technology Conference, FGIT 2010, in Jeju Island, Korea, in December 2010. The 40 full papers presented were carefully reviewed and selected from 198 submissions. [...]
Locally Decodable Codes and Private Information Retrieval Schemes

Locally decodable codes (LDCs) are codes that simultaneously provide efficient random access retrieval and high noise resiliency by allowing reliable reconstruction of an arbitrary bit of a message by looking at only a small number of randomly chosen codeword bits. Local decodability comes with a certain loss in terms of efficiency – specifically, locally decodable codes require longer codeword lengths than their classical counterparts. Private information retrieval (PIR) schemes are cryptographic protocols designed to safeguard the privacy of database users. They allow clients to retrieve records from public databases while completely hiding the identity of the retrieved records from database owners. In this book the author provides a fresh algebraic look at the theory of locally decodable codes and private information retrieval schemes, obtaining new families of each which have much better parameters than those of previously known constructions, and he also proves limitations of two server PIRs.[...]

Features
Locally decodable codes (LDCs) are codes that simultaneously provide efficient random access retrieval and high noise resiliency by allowing reliable reconstruction of an arbitrary bit of a message by looking at only a small number of randomly chosen codeword bits. Local decodability comes with a certain loss in terms of efficiency – specifically, locally decodable codes require longer codeword lengths than [...]
Policies and Research in Identity Management

Second IFIP WG 11.6 Working Conference, IDMAN 2010, Oslo, Norway, November 18-19, 2010, Proceedings

This book constitutes the refereed proceedings of the Second IFIP WG 11.6 Working Conference on Policies and Research in Identity Management, IDMAN 2010, held in Oslo, Norway, in November 2010. The 10 thoroughly refereed papers presented were selected from numerous submissions. They focus on identity management in general and surveillance and monitoring in particular.

Features
This book constitutes the refereed proceedings of the Second IFIP WG 11.6 Working Conference on Policies and Research in Identity Management, IDMAN 2010, held in Oslo, Norway, in November 2010. The 10 thoroughly refereed papers presented were selected from numerous submissions. They focus on identity management in general and surveillance and monitoring in particular.

Fields of interest
Data Structures, Cryptology and Information Theory; Biometrics; Management of Computing and Information Systems

Target groups
Research

Type of publication
Proceedings

Available
78,00 €
ISBN 978-3-642-17302-8

Earth Sciences

Taphonomy

Process and Bias Through Time

Taphonomic bias is a pervasive feature of the fossil record. A pressing concern, however, is the extent to which taphonomic processes have varied through the ages. It is one thing to work with a biased data set and quite another to work with a bias that has changed with time. This book includes work from both new and established researchers who are using laboratory, field and data-base techniques to characterise and quantify the temporal and spatial variation in taphonomic bias. It may not provide all the answers but it will at least shed light on the right questions.

Features
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Contents
Full Seismic Waveform Modelling and Inversion

Recent progress in numerical methods and computer science allows us today to simulate the propagation of seismic waves through realistically heterogeneous Earth models with unprecedented accuracy. Full waveform tomography is a tomographic technique that takes advantage of numerical solutions of the elastic wave equation. The accuracy of the numerical solutions and the exploitation of complete waveform information result in tomographic images that are both more realistic and better resolved. This book develops and describes state of the art methodologies covering all aspects of full waveform tomography including methods for the numerical solution of the elastic wave equation, the adjoint method, the design of objective functionals and optimisation schemes. It provides a variety of case studies on all scales from local to global based on a large number of examples involving real data. It is a comprehensive reference on full waveform tomography for advanced students, researchers and professionals.

Contents

Fields of interest
Geophysics / Geodesy; Geophysics and Environmental Physics; Applications of Mathematics; Math. Applications in Earth Sciences

Type of publication
Professional/practitioner

Available
2011, XX, 343 p. 70 illus. in color. (Advances in Geophysical and Environmental Mechanics and Mathematics) Hardcover

129,95 €
ISBN 978-3-642-15806-3
Atmospheric Greenhouse Gases: The Hungarian Perspective

Human induced global climate change is the biggest challenge humankind faces today. Increasing amount of atmospheric greenhouse gases play a crucial role in the evolution of the climate. Without the understanding of the contributing processes, feedbacks and interactions we cannot predict the future changes and develop effective mitigation strategies. To decrease the uncertainty of the global studies detailed regional studies are needed surveying the regional characteristics of the atmospheric greenhouse gas budget and the influencing factors. Atmospheric Greenhouse Gases: The Hungarian Perspective covers a coherent subset of the Hungarian climate change oriented research that is directly related to greenhouse gases. Topics discussed in the book range from the monitoring of the concentrations and fluxes of atmospheric greenhouse gases, through the modeling of atmosphere-biosphere interaction and greenhouse gas exchange processes, to the review of the anthropogenic contribution of Hungary to the [...]

Contents

Fields of interest
Biogeoosciences; Monitoring / Environmental Analysis; Climate Change; Environment (general)

Target groups
Graduate

Type of publication
Contributed volume

Available
2011, XIII, 393 p. Hardcover
129,95 €

Encyclopedia of Modern Coral Reefs
Structure, Form and Process

Coral reefs are the largest landforms built by plants and animals. Their study therefore incorporates a wide range of disciplines. This encyclopedia approaches coral reefs from an earth science perspective, concentrating especially on modern reefs. Currently coral reefs are under high stress, most prominently from climate change with changes to water temperature, sea level and ocean acidification particularly damaging. Modern reefs have evolved through the massive environmental changes of the Quaternary with long periods of exposure during glacially lowered sea level periods and short periods of interglacial growth. The entries in this encyclopedia condense the large amount of work carried out since Charles Darwin first attempted to understand reef evolution. Leading authorities from many countries have contributed to the entries covering areas of geography, geology and ecology, providing comprehensive access to the most up-to-date research on the structure, form and processes operating on [...]

Features
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Contents

Fields of interest
Biogeoosciences; Physical Geography; Freshwater & Marine Ecology; Climate Change

Target groups
Research

Type of publication
Monograph

Available
2011: XLI, 434 p. 60 illus. (Advances in Geophysical and Environmental Mechanics and Mathematics) Hardcover
129,95 €
ISBN 978-3-642-15177-4

Physics of Lakes
Volume 1: Foundation of the Mathematical and Physical Background

This first volume in the treatise on the Physics of Lakes deals with the formulation of the mathematical and physical background. A large number of lakes on Earth are described, presenting their morphology as well as the causes of their response to the driving environment. Because the physics of lakes cannot be described without the language used in mathematics, these subjects are introduced first by using the most simple approach and with utmost care, assuming only a limited college knowledge calculus and classical Newtonian physics, and continue with increasing complexity and elegance. Starting with the fundamental equations of Lake Hydrodynamics in the form of “primitive equations” and leading to a detailed treatment of angular momentum and vorticity.

Features
Info text

Contents

Fields of interest
Math. Applications in Earth Sciences; Geocology / Natural Processes; Classical Continuum Physics; Geophysics / Geodesy; Oceanography

Target groups
Research

Type of publication
Monograph

Available
2011: XLVII, 434 p. 60 illus. (Advances in Geophysical and Environmental Mechanics and Mathematics) Hardcover
399,00 €

Biogeosciences; Monitoring / Environmental Analysis; Climate Change; Environment (general)
In Extremis
Disruptive Events and Trends in Climate and Hydrology

The book addresses a weakness of current methodologies used in extreme value assessment, i.e. the assumption of stationarity, which is not given in reality. With respect to this issue a lot of new developed technologies are presented, i.e. influence of trends vs. internal correlations, quantitative uncertainty assessments, etc. The book not only focuses on artificial time series data, but has a close link to empirical measurements, in order to make the suggested methodologies applicable for practitioners in water management and meteorology.

Features
The book addresses a weakness of current methodologies used in extreme value assessment, i.e. the assumption of stationarity, which is not given in reality. With respect to this issue a lot of new developed technologies are presented, i.e. influence of trends vs. internal correlations, quantitative uncertainty assessments, etc. The book not only focuses on artificial time series data, but has a close link to empirical measurements.

Contents

Fields of interest
Oceanography; Climate Change; Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences; Environmental Physics; Meteorology / Climatology; Hydrogeology

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. XX, 400 p. 130 illus., 60 in color. Hardcover

119.95 €
ISBN 978-3-642-14862-0

Extreme Environmental Events
Complexity in Forecasting and Early Warning

Extreme Environmental Events is an authoritative single source for understanding and applying the basic tenets of complexity and systems theory, as well as the tools and measures for analyzing complex systems, to the prediction, monitoring, and evaluation of major natural phenomena affecting life on earth. These phenomena are often highly destructive, and include earthquakes, tsunamis, volcanoes, climate change, and weather. Early warning, damage, and the immediate response of human populations to these phenomena are also covered from the point of view of complexity and nonlinear systems. In 61 authoritative, state-of-the-art articles, world experts in each field apply such tools and concepts as fractals, cellular automata, solitons game theory, network theory, and statistical physics to an understanding of these complex geophysical phenomena.

Features
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Contents
Complexity in Earthquakes, Tsunamis, and Volcanoes, and Forecast.- Complexity in Human Reaction to Extreme Events.- Climate Modeling, Global Warming and Weather Prediction.

Fields of interest
Geophysics / Geodesy; Geophysics and Environmental Physics; Monitoring / Environmental Analysis; Climate Change; Computer Applications in Earth Sciences

Target groups
Professional/practitioner

Type of publication
Encyclo(a)edia

Available
2011. XXIV, 1218 p. 661 illus., 120 in color. In 2 volumes, not available separately. Hardcover

624.00 €

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Fields of interest
Geophysics / Geodesy; Geophysics and Environmental Physics; Monitoring / Environmental Analysis; Climate Change; Computer Applications in Earth Sciences

Target groups
Professional/practitioner

Type of publication
Encyclo(a)edia

Available
2011. XXIV, 1218 p. 661 illus., 120 in color. Print + eReference. In 2 volumes, not available separately. Hardcover

499.00 €
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Fields of interest
Geophysics / Geodesy; Geophysics and Environmental Physics; Monitoring / Environmental Analysis; Climate Change; Computer Applications in Earth Sciences

Target groups
Professional/practitioner

Type of publication
Encyclopedia

Available
2011, XCV, 1218 p. 661 illus., 120 in color. eReference. In 2 volumes, not available separately. 499,00 € ISBN 978-1-4419-7695-6

Watching Earth from Space
How Surveillance Helps Us – and Harms Us

Our planet is constantly monitored by hundreds of space-borne instruments. This book describes the technology of those instruments and the sciences that provide useful information from them. It also discusses the political implications of space-borne monitoring. From the moment satellites were launched into orbit their ability to see what was happening on a global scale was appreciated — and feared. This well researched book strives to answer such diverse questions as: Are satellites really a threat to individual privacy? How bad, really, is climate change and global warming? Why can’t we find Osama bin Laden? Does the world have enough fresh water? The military side of the story is linked to the big security issues that we face, such as terrorism and civil wars. The civilian side of the story involves numerous successful collaborations in weather forecasting, navigation, communications, and other such ‘peaceful’ uses of satellite surveillance. How the world handles the knowledge gained from these [...] [..]

Features
- Are satellites a threat to individual privacy? - How bad is climate change and global warming? - Why can we not find Osama bin Laden? - Does the world have enough fresh water? Watching Earth from Space gives you the answers to these and many other burning questions of the day. This is the story of how our planet is being monitored by hundreds of space-borne instruments for both military and peaceful [...] [..]

Contents
Author’s preface.- List of figures.- List of tables.- List of abbreviations.- Chapter 1: The threat of satellite images.- Chapter 2: Weather satellites.- Chapter 3: Climate change.- Chapter 4: Commercial surveillance mapping on a large scale.- Chapter 5: Society and survival.- Chapter 6: Where am I? Where are they?.- Chapter 7: Monitoring nuclear weapons.- Chapter 8: Military imaging satellites: long-range intelligence.- Chapter 9: Military radio surveillance from space.- Chapter 10: The future.- References.- Index.

Fields of interest
Remote Sensing / Photogrammetry; Popular Science in Nature and Environment; Measurement Science, Instrumentation; Aerospace Technology and Aeronautics

Target groups
Popular/general

Type of publication
Popular science

Available

Riverbank Filtration for Water Security in Desert Countries

Riverbank filtration is a low cost, yet efficient water treatment technology. It has most potential to provide safe drinking water to large cities located along rivers or lakes. In particular, it is ideal for large population centres in developing countries, where the cost of building extensive treatment facilities is prohibitive. Water filtration can be successfully implemented using naturally occurring sand and gravel along the river/lake banks. The cost of water produced by this means is much lower than that of water treated in conventional treatment plants. Authored by a multi-disciplinary team of experts, this volume addresses the scientific basis of the filtration process, and also numerous topics of importance for the planning, technical realization, and security of such plants. Their application for the removal of relevant chemical pollutants and a variety of pathogens is analysed in detail.

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Contents

Fields of interest
Hydrogeology; Geomorphology; Geochemistry; Applied Earth Sciences

Target groups
Graduate

Type of publication
Proceedings

Available
Riverbank Filtration for Water Security in Desert Countries

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Crossing Borders in East Asian Higher Education

This book examines issues that have emerged as higher education systems and individual institutions across East Asia confront and adapt to the changing economic, social, and educational environments in which they now operate. The book’s focus is on how higher education systems learn from each other and on the ways in which they collaborate to address new challenges. The sub-theme that runs through this volume concerns the changing nature of cross-border sharing. In particular, the provision of technical assistance by more industrialized countries to lower and middle income countries has given way to collaborations that place the latter’s participating institutions on a more equal footing.

Features
This book examines issues that have emerged as higher education systems and individual institutions across East Asia confront and adapt to the changing economic, social, and educational environments in which they now operate. The book’s focus is on how higher education [.]

Contents

Features
Multiple Perspectives on Problem Solving and Learning in the Digital Age

This edited volume with selected expanded papers from CELDA (Cognition and Exploratory Learning in the Digital Age) 2009 (http://www.celda.conf.org/) addresses the main issues concerned with problem solving, evolving learning processes, innovative pedagogies, and technology-based educational applications in the digital age. There have been advances in both cognitive psychology and computing that have affected the educational arena. The convergence of these two disciplines is increasing at a fast pace and affecting academia and professional practice in many ways. Paradigms such as just-in-time learning, constructivism, student-centered learning, and collaborative approaches have emerged and are being supported by technological advancements such as simulations, virtual reality and multiagents systems. These developments have created both opportunities and areas of serious concerns. This volume aims to cover both technological as well as pedagogical issues related to these developments.

Features
Oxford is one of the world’s great universities but this has not meant that it is exempt from pressures for change. On various fronts it has been required to meet the challenges that universities almost worldwide have to face. Given the retrenchment of public funding, especially to support undergraduate teaching, it has been required to augment its financial base, while at the same time deciding how to respond to pressure from successive governments determined to use higher education to achieve their own policy goals. While still consistently ranked as a world-class university, it has to decide how it is to acquire the funding to continue in this league, or whether this goal is worth pursuing. Oxford is a collegiate university, which means its colleges share with the university responsibility for the delivery of its central goals. Is this balance of authority shifting over time? If so, how is this to be accounted for, and what are the likely outcomes for the collegiate university? This book [...]
Multiple Perspectives on Difficulties in Learning Literacy and Numeracy

There are many approaches to researching the difficulties in learning that students experience in the key areas of literacy and numeracy. This book seeks to advance understanding of these difficulties and the interventions that have been used to improve outcomes. The book addresses the sometimes complementary and sometimes contradictory results, and generates new approaches to understanding and serving students with difficulties in literacy and numeracy. The book represents a departure from conventional wisdom as most scholars and graduate students draw upon ideas from only one of the three domains focal in the book and usually from one single or dominant theoretical frame. Typically, readers will affiliate with reading education, mathematics education, or learning disabilities and belong to one of the corresponding professional associations such as IRA, NCTM, or CLD. This book’s scope will open a scholarly forum for engaging readers with a familiarity with one of these domains while providing [...] Features

This book advances understandings of the difficulties in learning that students experience in the key areas of literacy and numeracy and the interventions that have been used to improve outcomes. By including authors drawn from several countries and with expertise in a variety of research traditions, the book addresses the sometimes complementary and sometimes contradictory results, and generates new [...] Contents

Contents. - Acknowledgements. - About the contributors. - List of figures. - List of tables. - Chapter 1: Theoretical frameworks and ways of seeing: Operating at the intersection—literacy, numeracy and learning difficulties. - Chapter 2: Learning difficulties, literacy and numeracy: Conversations across the fields. - Chapter 3: Researching the opportunities for learning for students with learning difficulties in classrooms: An ethnographic perspective. - Chapter 4: The new literacies of online reading comprehension: New opportunities and challenges for students with learning difficulties. [...] Fields of interest

Mathematics Education

Target groups

Research

Type of publication

Contributed volume

Available

2011. XII, 400 p. Hardcover

139,95 €
ISBN 978-1-4020-8863-6

Spatial Contact Problems in Geotechnics

Boundary Element Method

This book presents a systematic approach to numerical solution for a wide range of spatial contact problems of geotechnics. On the basis of the boundary element method new techniques and effective computing algorithms are considered. Special attention is given to the formulation and analysis of the spatial contact models for elastic bases. Besides the classical schemes of contact deformation, new contact models are discussed for spatially nonhomogeneous and nonlinearly elastic media properly describing soil properties.

Features

The book presents a systematic approach to the numeric solution of a broad class of spatial contact problem in geotechnics. New techniques and efficient computing algorithms are considered on the basis of the boundary element method – a modern method of structural mechanics and theory of elasticity. Their practical application enables complex-shaped foundations to be designed with high reliability, under [...] Contents


Theoretical and Applied Mechanics; Computer Applications in Earth Sciences; Mechanics; Computational Intelligence; Continuum Mechanics and Mechanics of Materials; Structural Mechanics

Target groups

Research

Type of publication

Monograph

Available


169,95 €

Multibody Dynamics

Computational Methods and Applications

The ECCOMAS Thematic Conference "Multibody Dynamics 2009" was held in Warsaw, representing the fourth edition of a series which began in Lisbon (2003), and was then continued in Madrid (2005) and Milan (2007), held under the auspices of the European Community on Computational Methods in Applied Sciences (ECCOMAS). The conference provided a forum for exchanging ideas and results of several topics related to computational methods and applications in multibody dynamics, through the participation of 219 scientists from 27 countries, mostly from Europe but also from America and Asia. This book contains the revised and extended versions of invited conference papers, reporting on the state-of-the-art in the advances of computational multibody models, from the theoretical developments to practical engineering applications. By providing a helpful overview of the most active areas and the recent efforts of many prominent research groups in the field of multibody dynamics, this book can be highly valuable [...] Features

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Vibration, Dynamical Systems, Control; Mechanical Engineering; Computational Intelligence

Target groups

Research

Type of publication

Monograph

Available


139,95 €
Intermediate Mechanics of Materials

This book covers the essential topics for a second-level course in strength of materials or mechanics of materials, with an emphasis on techniques that are useful for mechanical design. Design typically involves an initial conceptual stage during which many options are considered. At this stage, quick approximate analytical methods are crucial in determining which of the initial proposals are feasible. The ideal would be to get within 30% with a few lines of calculation. The designer also needs to develop experience as to the kinds of features in the geometry or the loading that are most likely to lead to critical conditions. With this in mind, the author tries wherever possible to give a physical and even an intuitive interpretation to the problems under investigation. For example, students are encouraged to estimate the location of weak and strong bending axes and the resulting neutral axis of bending before performing calculations, and the author discusses ways of getting good accuracy with a[...]

Features

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Contents

Introduction - 1.1 The Engineering design process; 1.2 Design optimization; 1.2.1 Predicting the behaviour of the component; 1.2.2 Approximate solutions; 1.3 Relative magnitude of different effects; 1.4 Formulating and solving problems; 1.4.1 Use of procedures; 1.4.2 Inverse problems; 1.4.3 Physical uniqueness and existence arguments; 1.5 Review of elementary mechanics of materials; 1.5.1 Definition of stress components; 1.5.2 Transformation of stress components; 1.5.3 Displacement and strain; 1.5.4 Hooke’s law; 1.5.5 Bending of beams; 1.5.6 Torsion of circular bars; 1.6[...]

Fields of interest

Continuum Mechanics and Mechanics of Materials; Characterization and Evaluation of Materials; Mechanical Engineering; Civil Engineering

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook

Available


99,95 €
ISBN 978-3-642-16204-6

Fusion Methods for Unsupervised Learning Ensembles

The application of a “committee of experts” or ensemble learning to artificial neural networks that apply unsupervised learning techniques is widely considered to enhance the effectiveness of such networks greatly. This book examines the potential of the ensemble meta-algorithm by describing and testing a technique based on the combination of ensembles and statistical PCA that is able to determine the presence of outliers in high-dimensional data sets and to minimize outlier effects in the final results. Its central contribution concerns an algorithm for the ensemble fusion of topology-preserving maps, referred to as Weighted Voting Superposition (WeVoS), which has been devised to improve data exploration by 2-D visualization over multi-dimensional data sets. This generic algorithm is applied in combination with several other models taken from the family of topology preserving maps, such as the SOM, ViSOM, SIM and Max-SIM. A range of quality measures for topology preserving maps that are proposed[...]

Features

The application of a “committee of experts” or ensemble learning to artificial neural networks that apply unsupervised learning techniques is widely considered to enhance the effectiveness of such networks greatly. This book examines the potential of the ensemble meta-algorithm by describing and testing a technique based on the combination of ensembles and statistical PCA that is able to determine the presence[...]

Contents

1 Introduction; 2 Modelling Human Learning: Artificial Neural Networks; 3 The Committee of Experts Approach: Ensemble Learning; 4 Use of Ensembles for Outlier Overcoming; 5 Ensembles of Topology Preserving Maps; 6 A Novel Fusion Algorithm for Topology-Preserving Maps; 7 Conclusions.

Fields of interest

Computational Intelligence; Artificial Intelligence (incl. Robotics)

Target groups

Research

Type of publication

Monograph

Available

2011. 166 p. (Studies in Computational Intelligence, Vol. 322) Hardcover

99,95 €
ISBN 978-3-642-16204-6

Reconfigurable Field Programmable Gate Arrays for Mission-Critical Applications

Embedded systems applications that are either mission or safety-critical usually entail low- to mid-production volumes, require the rapid development of specific tasks, which are typically computing intensive, and are cost bounded. The adoption of re-configurable FPGAs in such application domains is constrained to the availability of suitable techniques to guarantee the dependability requirements entailed by critical applications. This book describes the challenges faced by designers when implementing a mission- or safety-critical application using re-configurable FPGAs and it details various techniques to overcome these challenges. In addition to an overview of the key concepts of re-configurable FPGAs, it provides a theoretical description of the failure modes that can cause incorrect operation of re-configurable FPGA-based electronic systems. It also outlines analysis techniques that can be used to forecast such failures and covers the theory behind solutions to mitigate fault effects. This book[...]

Features

Reconfigurable Field Programmable Gate Arrays for Mission-Critical Applications by: Niccolò Battezzati Luca Sterpone Massimo Violante This book describes the challenges faced by designers when implementing a mission- or safety-critical application using re-configurable FPGAs and it details various techniques to overcome these challenges. In addition to an overview of the key concepts of re-configurable[...]

Contents

Introduction; Re-configurable Field Programmable Gate Arrays: basic concepts; Re-configurable Field Programmable Gate Arrays: failure modes and analysis; Re-configurable Field Programmable Gate Arrays: hardening solutions; Commercial off the shelf FPGAs; Radiation hardened SRAM-based FPGAs; Conclusion.

Fields of interest

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

Target groups

Research

Type of publication

Monograph

Available

2011. VII, 220 p. 100 illus. Hardcover

99,95 €

Features

Contents

Fields of interest
Communications Engineering, Networks, Automotive Engineering, Information Systems and Communication Service, Information and Communication, Circuits

Target groups
Professional/practitioner

Type of publication
Professional book

Available
2011. XII, 300 S. 165 Abb. (VDI-Buch) Hardcover
74,72 €
ISBN 978-3-540-88969-4

Low-Power Variation-Tolerant Design in Nanometer Silicon

Design considerations for low-power operations and robustness with respect to variations typically impose contradictory requirements. Low-power design techniques such as voltage scaling, dual-threshold assignment and gate sizing can have large negative impact on parametric yield under process variations. This book focuses on circuit/architectural design techniques for achieving low power operation under parametric variations. We consider both logic and memory design aspects and cover modeling and analysis, as well as design methodology to achieve simultaneously low power and variation tolerance, while minimizing design overhead. This book will discuss current industrial practices and emerging challenges at future technology nodes.

Features
Low-Power Variation-Tolerant Design in Nanometer Silicon Edited by: Swarup Bhunia Sibaal Mukhopadhyay Design considerations for low-power operations and robustness with respect to variations typically impose contradictory requirements. Low-power design techniques such as voltage scaling, dual-threshold assignment and gate sizing can have large negative impact on parametric yield under process variations. This book focuses on circuit/architectural design techniques for achieving low power operation under parametric variations. We consider both logic and memory design aspects and cover modeling and analysis, as well as design methodology to achieve simultaneously low power and variation tolerance, while minimizing design overhead. This book will discuss current industrial practices and emerging challenges at future technology nodes.

Contents

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

Target groups
Research

Type of publication
Monograph

Available
2011. X, 240 p. 100 illus. Hardcover
99,95 €
ISBN 978-1-4419-7417-4

Design Methodologies for Secure Embedded Systems

Festschrift in Honor of Prof. Dr.-Ing. Sorin A. Huss

Embedded systems have been almost invisibly pervading our daily lives for several decades. They facilitate smooth operations in avionics, automotive electronics, or telecommunication. New problems arise by the increasing employment, interconnection, and communication of embedded systems in heterogeneous environments: How secure are these embedded systems against attacks or break downs? Therefore, how can embedded systems be designed to be more secure? How can embedded systems autonomously react to threats? Facing these questions, Sorin A. Huss is significantly involved in the exploration of design methodologies for secure embedded systems. This Festschrift is dedicated to him and his research on the occasion of his 60th birthday.

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Contents

Fields of interest
Circuits and Systems; Control, Robotics, Mechatronics; Electrical Engineering; Special Purpose and Application-Based Systems

Target groups
Research

Type of publication
Proceedings

Available
2011. 204 p. (Lecture Notes in Electrical Engineering, Vol. 78) Hardcover
99,95 €
ISBN 978-3-642-16766-9
Renewable Energies in Germany's Electricity Market
A Biography of the Innovation Process

This cross-sectional, interdisciplinary study traces the "history of innovation" of renewable energies in Germany. It features five renewable energy sectors of electricity generation: biomass, photovoltaic, wind energy, geothermal energy and hydropower. The study tracks the development of the respective technologies as well as their contribution to electricity generation. It focuses on driving forces and constraints for renewable energies in the period between 1990 and today.

Features
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Contents

Fields of interest
Renewable and Green Energy; Political Science; Environment (general); Nature Conservation; Environmental Law / Policy / Ecojustice; Climate Change

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. XX, 408 p. 44 illus., 37 in color. Hardcover
129,95 €
ISBN 978-3-642-16792-8

Ultra-thin Chip Technology and Applications

Ultra-thin chips are the "smart skin" of a conventional silicon chip. This book shows how very thin and flexible chips can be fabricated and used in many new applications in microelectronics, Microsystems, biomedical and other fields. It provides a comprehensive reference to the fabrication technology, post-processing, characterization and the applications of ultra-thin chips.

Features
Ultra-thin Chip Technology and Applications edited by: Joachim N. Burghartz Ultra-thin chip technology has the potential to provide solutions for overcongesting bottlenecks in silicon technology and for leading to new applications. This book shows how very thin and flexible chips can be fabricated and used in many new applications in microelectronics, Microsystems, biomedical and other fields. It provides [...]

Contents
Fabrication technologies for ultra-thin chips - Post-processing techniques and issues - Properties of ultra-thin chips - Applications

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

Target groups
Research

Type of publication
Monograph

Available
2011. XXI, 467 p. 252 illus., 157 in color. Hardcover
129,95 €
ISBN 978-1-4419-7275-0

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[...]

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Contents

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

Target groups
Research

Type of publication
Monograph

Available
2011. 310 p. (Studies in Computational Intelligence, Vol. 329) Hardcover
129,95 €
ISBN 978-3-642-16792-8
Nano-Bio-Sensing

The application of circuits and systems and engineering principles to problems in the medicine has led to the emergence of biomedical circuits and systems as an exciting and rapidly growing area of research. Nanotechnology provides new nano-structured materials with amazing properties. The properties offered by nanomaterials can be applied to develop advanced instrumentation for biomedical diagnostics and personalized therapy, as well as biosensing in the environment. Biotechnology provides new biochemical materials with novel properties to be applied to develop new performances in sensing techniques. These advancements in Nano- and Biotechnologies will lead to new concepts and applications for nano-bio-sensing systems. This book offers an invaluable reference to the state-of-the-art applications of nano-bio-sensing. It brings together expertise of researchers from the fields of nano-electronics and bio-technology, providing multidisciplinary content from nano-structures fabrication to [...]}

Contents

Fields of interest
Circuits and Systems; Nanotechnology and Micro-engineering; Biomaterials

Target groups
Research

Type of publication
Monograph

Available
2011. X, 248 p. 100 illus. Hardcover
99.95 €
ISBN 978-1-4419-6168-6

Image-Based Computational Modeling of the Human Circulatory and Pulmonary Systems

Methods and Applications
Image-Based Computational Modeling of the Human Circulatory and Pulmonary Systems provides an overview of the current modeling methods and applications enhancing interventional treatments and computer-aided surgery. A detailed description of the techniques behind image acquisition, processing and three-dimensional reconstruction are included. Techniques for the computational simulation of solid and fluid mechanics and structure interaction are also discussed, in addition to various cardiovascular and pulmonary applications. Engineers and researchers involved with image processing and computational modeling of human organ systems will find this a valuable reference.

Features
Image-Based Computational Modeling of the Human Circulatory and Pulmonary Systems provides an overview of the current modeling methods and applications enhancing interventional treatments and computer-aided surgery. A detailed description of the techniques behind image acquisition, processing and three-dimensional reconstruction are included. Techniques for the computational simulation of solid and fluid [...]}

Contents

Fields of interest
Biomedical Engineering; Imaging / Radiology; Simulation and Modeling; Classical Continuum Physics; Signal, Image and Speech Processing

Target groups
Research

Type of publication
Monograph

Available
169.95 €
ISBN 978-1-4419-7349-8

Split Hopkinson (Kolsky) Bar

Design, Testing and Applications

The authors systematically describe the general principles of Kolsky bars, or split Hopkinson bars, which are widely used for obtaining dynamic material properties. Modifications are introduced for obtaining reliable data. Specific experiment design guidelines are provided to subject the specimen to desired testing conditions. Detailed Kolsky-bar examples are given for different classes of materials (brittle, ductile, soft, etc) and for different loading conditions (tension, torsion, triaxial, high/low temperatures, intermediate strain rate, etc). The Kolsky bars used for dynamic structural characterization are briefly introduced. A collection of dynamic properties of various materials under various testing conditions is included which may serve as a reference database. This book assists both beginners and experienced professionals in characterizing high-rate material response with high quality and consistency. Readers who may benefit from this work include university students, instructors, R & D [...]}

Features
The authors systematically describe the general principles of Kolsky bars, or split Hopkinson bars, which are widely used for obtaining dynamic material properties. Modifications are introduced for obtaining reliable data. Specific experiment design guidelines are provided to subject the specimen to desired testing conditions. Detailed Kolsky-bar examples are given for different classes of [...]}

Contents
Given for different classes of materials (brittle, ductile, soft, etc) and for different loading conditions (tension, torsion, triaxial, high/low temperatures, intermediate strain rate, etc). The Kolsky bars used for dynamic structural characterization are briefly introduced. A collection of dynamic properties of various materials under various testing conditions is included which may serve as a reference database. This book assists both beginners and experienced professionals in characterizing high-rate material response with high quality and consistency. Readers who may benefit from this work include university students, instructors, R & D [...]}

Fields of interest
Manufacturing, Machines, Tools; Continuum Mechanics and Mechanics of Materials; Mechanical Engineering

Target groups
Research

Type of publication
Monograph

Available
129.95 €
ISBN 978-1-4419-7981-0
Nonlinear Mechanics of Crystals

This book describes behavior of crystalline solids primarily using methods of modern continuum mechanics. Emphasis is given to geometrically nonlinear descriptions, i.e., finite deformations. Primary topics include anisotropic crystal elasticity, plasticity, and methods for representing effects of defects in the solid on the material’s mechanical response. Defects include crystal dislocations, point defects, twins, voids or pores, and micro-cracks. Thermoelectric, dielectric, and piezoelectric behaviors are addressed. Traditional and higher-order gradient theories of mechanical behavior of crystalline solids are discussed. Differential-geometric representations of kinematics of finite deformations and lattice defect distributions are presented. Multi-scale modeling concepts are described in the context of elastic and plastic material behavior. Representative substances towards which modeling techniques may be applied are single- and polycrystalline metals and alloys, ceramics, and minerals. This book...

Advances in Network-Embedded Management and Applications

Modern network devices are becoming increasingly “intelligent” and programmable. Examples range from router scripting environments to fully programmable server blades. As a result, networked applications are no longer constrained just to servers that are interconnected via a network, but can migrate into and become embedded within the network itself. This promises to accelerate the current trend towards systems that are increasingly autonomous and to a certain degree self-managing. However, the next frontier lies in applications that go beyond traditional management and control functions and that are becoming increasingly decentralized, not constrained in scope to individual systems. Examples include decentralized monitoring, gossip-based configuration, network event correlation inside the network across multiple systems, overlay control protocols, and network-aware multi-media applications.

Manufacturing Systems Modeling and Analysis

This text presents the practical application of queueing theory results for the design and analysis of manufacturing and production systems. This textbook makes accessible to undergraduates and beginning graduates many of the seemingly esoteric results of queueing theory. In an effort to apply queueing theory to practical problems, there has been considerable research over the previous few decades in developing reasonable approximations of queueing results. This text takes full advantage of these results and indicates how to apply queueing approximations for the analysis of manufacturing systems. Support is provided through the web site http://msma.tamu.edu. Students will have access to the answers of odd numbered problems and instructors will be provided with a full solutions manual, Excel files when needed for homework, and computer programs using Mathematica that can be used to solve homework and develop additional problems or term projects. In this second edition a separate appendix dealing with...

Features

This book describes behavior of crystalline solids primarily via methods of modern continuum mechanics. Emphasis is given to geometrically nonlinear descriptions, i.e., finite deformations. Primary topics include anisotropic crystal elasticity, plasticity, and methods for representing effects of defects in the...
New Trends in Vibration Based Structural Health Monitoring

This book is a collection of articles covering the six lecture courses given at the CISM School on this topic in 2008. It features contributions by established international experts and offers a coherent and comprehensive overview of the state-of-the-art research in the field, thus addressing both postgraduate students and researchers in aerospace, mechanical and civil engineering.

Features
This book is a collection of articles covering the six lecture courses given at the CISM School on this topic in 2008. It features contributions by established international experts and offers a coherent and comprehensive overview of the state-of-the-art research in the field, thus addressing both postgraduate students and researchers in aerospace, mechanical and civil engineering.

Fields of interest
Mechanical Engineering; Aerospace Technology and Astronautics; Civil Engineering; Vibration, Dynamical Systems, Control

Target groups
Graduate

Type of publication
Contributed volume

Available
2011. VIII, 302 p. 149 illus. (CISM International Centre for Mechanical Sciences, Vol. 520)

149,00 €
ISBN 978-3-7091-0398-2

Nonlinear Continuum Mechanics and Large Inelastic Deformations

The book provides a rigorous axiomatic approach to continuum mechanics under large deformation. In addition to the classical nonlinear continuum mechanics – kinematics, fundamental laws, the theory of functions having jump discontinuities across singular surfaces, etc. – the book presents the theory of co-rotational derivatives, dynamic deformation compatibility equations, and the principles of material indifference and symmetry, all in systematized form. The focus of the book is a new approach to the formulation of the constitutive equations for elastic and inelastic continua under large deformation. This new approach is based on using energetic and quasi-energetic couples of stress and deformation tensors. This approach leads to a unified treatment of large, anisotropic elastic, viscoelastic, and plastic deformations. The author analyses classical problems, including some involving nonlinear wave propagation, using different models for continua under large deformation, and shows how...

Features
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Contents

Fields of interest
Continuum Mechanics and Mechanics of Materials; Mechanical Engineering; Computational Intelligence; Classical Continuum Physics; Materials Science (general)

Target groups
Research

Type of publication
Monograph

Available

169,95 €
ISBN 978-94-007-0033-8

Pellets als Energieträger


Features
Dieses praxisorientierte Buch beschreibt die Technologie der Pelletierung aus nachwachsenden Rohstoffen und die Nutzung von Pellets. Der Autor geht darauf ein, welche Biomassen sich außer Holz für die Pelletierung eignen, wie sie hergestellt werden und wie sie in Form von Pellets energieisch genutzt werden. Angefangen bei den Grundlagen des Verbrennungs-, Vergasungs- und Pelletierprozesses werden die...

Contents

Fields of interest
Renewable and Green Energy

Target groups
Professional/practitioner

Type of publication
Professional book

Available
2011. XI, 257 S. Hardcover

65,37 €
ISBN 978-3-642-01623-3
Mass Customization
Engineering and Managing Global Operations

Mass customization (MC) has been hailed as a successful operations strategy across manufacturing and service industries for the past three decades. However, the wider implications of using MC approaches in the broader industrial and economic environment are not yet clearly understood. Mass Customization: Engineering and Managing Global Operations presents emerging research on the role of MC and personalization in today’s international operations context. The chapters cover MC in the context of global industrial economics and operations. Moreover, the book discusses MC topics that are relevant to the manufacturing and service sectors, such as: • product platforms; • learning curve modeling; • additive manufacturing; and • service customization. Case studies in manufacturing (e.g., apparel and transportation) and services (e.g., banking and virtual worlds) are also included. Mass Customization: Engineering and Managing Global Operations is a valuable text for mass customization researchers and practitioners.

Features
Mass customization (MC) has been hailed as a successful operations strategy across manufacturing and service industries for the past three decades. However, the wider implications of using MC approaches in the broader industrial and economic environment are not yet clearly understood. Mass Customization: Engineering and Managing Global Operations presents emerging research on the role of MC.

Contents

Fields of interest
Manufacturing, Machines, Tools; Operation Research / Decision Theory; Industrial Organization

Target groups
Research

Type of publication
Monograph

Available
129,95 €

Emotional Engineering
Service Development

In an age of increasing complexity, diversification and change, customers expect services that cater to their needs and to their tastes. Emotional Engineer describes how their expectations can be satisfied and managed throughout the product life cycle, if producers focus their attention more on emotion. Emotion plays a crucial role in value recognition, but it is also important for team work, which extends beyond human-human to human-machine and human-environment to enable people to cope with frequently and extensively changing situations. Emotional Engineering proposes the development of services beyond product realization and the creation of value on a lifetime, not just a one-off, basis. As emotion is very much multidisciplinary, chapters cover a wide range of topics that can be applied to product development, including: • emotional design in the virtual environment; • shape design and modeling; • emotional robot competence; and • affective driving. Emotional Engineering is intended for: [...] Features
In an age of increasing complexity, diversification and change, customers expect services that cater to their needs and to their tastes. Emotional Engineering describes how their expectations can be satisfied and managed throughout the product life cycle, if producers focus their attention more on emotion. Emotion plays a crucial role in value recognition, but it is also important for team [...] Contents
Engineering Economics, Organization, Logistics, Marketing; Production / Logistics; Computers and Society; Engineering Design

Available
2011. XVII, 278 p. 104 illus. Hardcover
129,95 €
ISBN 978-1-84996-422-7

Computational Methods for Microstructure-Property Relationships

Computational Methods for Microstructure-Property Relationships introduces state-of-the-art advances in computational modeling approaches for materials structure-property relations. Written with an approach that recognizes the necessity of the engineering computational mechanics framework, this volume provides balanced treatment of heterogeneous materials structures within the microstructural and component scales. Encompassing both computational mechanics and computational materials science disciplines, this volume offers an analysis of the current techniques and selected topics important to industry researchers, such as deformation, creep and fatigue of primarily metallic materials. Researchers, engineers and professionals involved with predicting performance and failure of materials will find Computational Methods for Microstructure-Property Relationships a valuable reference. Features
Computational Methods for Microstructure-Property Relationships introduces state-of-the-art advances in computational modeling approaches for materials structure-property relations. Written with an approach that recognizes the necessity of the engineering computational mechanics framework, this volume provides balanced treatment of heterogeneous materials structures within the microstructural and component [...] Contents
Continuum Mechanics and Mechanics of Materials; Characterization and Evaluation of Materials; Mechanics

Available
2011. X, 790 p. 150 illus. Hardcover
199,95 €
Rotor dynamics is an important branch of dynamics that deals with the behavior of rotating machines ranging from very large systems like power plant rotors, for example, a turbogenerator, to very small systems like a tiny dentist’s drill, with a variety of rotors such as pumps, compressors, steam/gas turbines, motors, turbopumps etc. as used for example in process industry, falling in between. The speeds of these rotors vary in a large range, from a few hundred RPM to more than a hundred thousand RPM. Complex systems of rotating shafts depending upon their specific requirements, are supported on different types of bearings. There are rolling element bearings, various kinds of fluid film bearings, foil and gas bearings, magnetic bearings, to name but a few. The present day rotors are much lighter, handle a large amount of energy and fluid mass, operate at much higher speeds, and therefore are most susceptible to vibration and instability problems. This has given rise to several interesting physical aspects.

Features
Rotor dynamics is an important branch of dynamics that deals with the behavior of rotating machines ranging from very large systems like power plant rotors, for example, a turbogenerator, to very small systems like a tiny dentist’s drill, with a variety of rotors such as pumps, compressors, steam/gas turbines, motors, turbopumps etc. as used for example in process industry, falling in between. The speeds of these rotors vary in a large range, from a few hundred RPM to more than a hundred thousand RPM. Complex systems of rotating shafts depending upon their specific requirements, are supported on different types of bearings. There are rolling element bearings, various kinds of fluid film bearings, foil and gas bearings, magnetic bearings, to name but a few. The present day rotors are much lighter, handle a large amount of energy and fluid mass, operate at much higher speeds, and therefore are most susceptible to vibration and instability problems. This has given rise to several interesting physical aspects.

Contents

Fields of interest
Vibration, Dynamical Systems, Control; Machinery and Machine Elements; Computational Intelligence; Mechanical Engineering; Statistical Physics, Dynamical Systems and Complexity

Target groups
Research

Type of publication
Proceedings

Available
149.95 €

MEMS Reliability

A. L. Hartzell, Littlestean Systems, Wilmington, MA, USA; M. G. da Silva, Analog Devices Inc., Wilmington, MA, USA; H. R. Shea, EPFL-LMT, Neuchâtel, Switzerland

MEMS Reliability

The successful launch of viable MEMS product hinges on MEMS reliability, the reliability and qualification for MEMS based products is not widely understood. Companies that have a deep understanding of MEMS reliability view the information as a competitive advantage and are reluctant to share it. MEMS Reliability, focuses on the reliability and manufacturability of MEMS at a fundamental level by addressing process development and characterization, material property characterization, failure mechanisms and physics of failure (POF), design strategies for improving yield, design for reliability (DFR), packaging and testing.

Features
Successfully bringing MEMS-based products to market hinges on engineering the component to have sufficient reliability for the intended application, yet the reliability and qualification methodology for MEMS based products is not widely understood. Companies that have a deep understanding of MEMS reliability because of specific high volume manufacturing experience generally view the details of a reliability [...]
Modeling Multiphase Materials Processes

Modeling Multiphase Materials Processes: Gas-Liquid Systems describes the methodology and application of physical and mathematical modeling to multi-phase flow phenomena in materials processing. The book focuses on systems involving gas-liquid interaction, the most prevalent in current metallurgical processes. The performance characteristics of these processes are largely dependent on transport phenomena. This volume covers the inherent characteristics that complicate the modeling of transport phenomena in such systems, including complex multiphase structure, intense turbulence, opacity of fluid, high temperature, coupled heat and mass transfer, chemical reactions in some cases, and poor wettability of the reactor walls. Also discussed are: solutions based on experimental and numerical modeling of bubbling jet systems, recent advances in the modeling of nanoscale multi-phase phenomena and multiphase flows in micro-scale and nano-scale channels and reactors.

Features
Modeling Multiphase Materials Processes: Gas-Liquid Systems describes the methodology and application of physical and mathematical modeling to multi-phase flow phenomena in materials processing. The book focuses on systems involving gas-liquid interaction, the most prevalent in current metallurgical processes. The performance characteristics of these processes are largely dependent on transport phenomena.

Fields of interest
Applied Mathematics / Computational Methods of Engineering; Surfaces and Interfaces, Thin Films; Engineering Thermodynamics, Heat and Mass Transfer

Target groups
Research

Type of publication
Monograph

Available

99,95 €

Thermo-Fluid Dynamics of Two-Phase Flow

Thermo-fluid Dynamics of Two-Phase Flow, Second Edition is focused on the fundamental physics of two-phase flow. The authors present the detailed theoretical foundation of multi-phase flow thermo-fluid dynamics as they apply to: Nuclear reactor transient and accident analysis; Energy systems; Power generation systems; Chemical reactors and process systems; Space propulsion; Transpor processes. This edition features updates on two-phase flow formulation and constitutive equations and CFD simulation codes such as FLUENT and CFX, new coverage of the lift force model, which is of particular significance for those working in the field of computational fluid dynamics, new equations and coverage of 1 dimensional drift flux models and a new chapter on porous media formulation.

Features
Thermo-Fluid Dynamics of Two-Phase Flow, Second Edition focuses on the fundamental physics of two-phase flow. The authors present the detailed theoretical foundation of multi-phase flow thermo-fluid dynamics as they apply to: Nuclear reactor transient and accident analysis; Energy systems;

Contents

Fields of interest
Engineering Fluid Dynamics; Energy Technology; Thermodynamics; Biochemical Engineering; Energy, general

Target groups
Research

Type of publication
Monograph

Available
2011. XVI, 518 p. 100 illus. Hardcover

129,95 €
ISBN 978-1-4419-7984-1

Machining with Abrasives

Abrasive machining is one of the most important processes used in manufacturing engineering to remove unwanted material and to obtain the desired geometry and surface quality. Abrasive machining processes are processes where material is removed from a work piece using a multitude of hard angular abrasive particles or grains which may or may not be bonded to form a tool. Abrasive Machining discusses the fundamentals and advances in the abrasive machining processes, and provides a complete overview of the newly developing areas in the field including but not limited to, high efficiency deep grinding and micro and nanogrinding.

Features
Abrasive machining is one of the most important processes used in manufacturing engineering. It is key to removing unwanted material, as well as to obtain the desired geometry and surface quality in manufacturing. "Machining with Abrasives" discusses the fundamentals and advances in the abrasive machining processes, and provides a complete overview of newly-developing areas in the field. Abrasive machining

Contents

Fields of interest
Operating Procedures, Materials Treatment; Electronics and Microelectronics, Instrumentation; Mechanical Engineering

Target groups
Research

Type of publication
Monograph

Available
2011. XIV, 423 p. Hardcover

129,95 €
ISBN 978-1-4419-7301-6
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 multibody 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.[...]

Features
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 multibody systems. The approach is useful in a wide range of applications including robotics, aerospace systems, articulated mechanisms, bio-mechanics and molecular dynamics simulation. [...]

Contents

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

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. X, 240 p. 100 illus. Hardcover
99,95 €

ROBUSTNESS
IN ELECTRONIC SYSTEMS
Mitigation of Hardware Failures, Soft Errors, and Electro-Magnetic Disturbances

This book covers the practical application of dependable electronic systems in real industry, such as space, train control and automotive control systems, and network servers/routes. The impact from intermittent errors caused by environmental radiation (neutrons and alpha particles) and EMI (Electro-Magnetic Interference) are introduced together with their most advanced countermeasures. Power Integration is included as one of the most important bases of dependability in electronic systems. Fundamental technical background is provided, along with practical design examples. Readers will obtain an overall picture of dependability from failure causes to countermeasures for their relevant systems or products, and therefore, will be able to select the best choice for maximum dependability.

Features
Dependability in Electronic Systems: Mitigation of Hardware Failures, Soft Errors, and Electro-Magnetic Disturbances by: Nobuyasu Kanekawa Eishi H. Ibe Takashi Suga Yukata Uematsu The importance of “dependability” in electronic systems is obvious, especially in safety-critical or mission-critical applications. Dependability hinges on matters such as failure causes and countermeasures for soft/hard [...]
Energy Harvesting Systems

Principles, Modeling and Applications

Kinetic energy harvesting converts movement or vibrations into electrical energy, enabling battery-free operation of wireless sensors and autonomous devices and facilitates their placement in locations where replacing a battery is not feasible or attractive. This book provides an introduction to operating principles and design methods of modern kinetic energy harvesting systems and explains the implications of harvested power on autonomous electronic systems design. It describes power conditioning circuits that maximize available energy and electronic systems design strategies that minimize power consumption and enable operation. The principles discussed in the book will be supported by real case studies such as battery-less monitoring sensors at waste plants, embedded battery-less sensors in automotive electronics and sensor networks built with ultra-low power wireless nodes suitable for battery-less applications.

Features

Energy Harvesting Systems: Principles, Modelling and Applications Edited by: Tom Kazmierski Steve Beeby Kinetic energy harvesting converts movement or vibrations into electrical energy, enabling battery-free operation of wireless sensors and autonomous devices and facilitates their placement in locations where replacing a battery is not feasible or attractive. This book provides an introduction to [...] contents

Contents


Fields of interest

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

Target groups

Research

Type of publication

Monograph

Available

2011. XI, 163 p. 100 illus. Hardcover

99.95 €


Operation of a Cryogenic Rocket Engine

An Outline with Down-to-Earth and Up-to-Space Remarks

This book presents the operational aspects of the rocket engine on a test facility. It will be useful to engineers and scientists who are in touch with the test facility. To aerospace students it shall provide an insight of the job on the test facility. And to interested readers it shall provide an impression of this thrilling area of aerospace.

Features

This book presents the operational aspects of the rocket engine on a test facility. It will be useful to engineers and scientists who are in touch with the test facility. To aerospace students it shall provide an insight of the job on the test facility. And to interested readers it shall provide an impression of this thrilling area of aerospace.

Contents


Fields of interest

Aerospace Technology and Astronautics; Engineering Thermodynamics, Heat and Mass Transfer

Target groups

Research

Type of publication

Monograph

Available

2011. XVI, 142 p. 80 illus., 5 in color. (Springer Aerospace Technology) Hardcover

99.95 €

ISBN 978-3-642-10564-7

IUTAM Symposium on Multiscale Modelling of Fatigue, Damage and Fracture in Smart Materials

Proceedings of the IUTAM Symposium on Multiscale Modelling of Fatigue, Damage and Fracture in Smart Materials, held in Freiberg, Germany, September 1-4, 2009

Today, multi-functional materials such as piezoelectric/ferroelectric ceramics, magnetostrictive and shape memory alloys are gaining increasing applications as sensors, actuators or smart composite materials systems for emerging high tech areas. The stable performance and reliability of these smart components under complex service loads is of paramount practical importance. However, most multi-functional materials suffer from various mechanical and/or electro-magnetical degradation mechanisms as fatigue, damage and fracture. Therefore, this exciting topic has become a challenge to intensive international research, provoking the interdisciplinary approach between solid mechanics, materials science and physics. This book summarizes the outcome of the above mentioned IUTAM-symposium, assembling contributions by leading scientists in this area. Particularly, the following topics have been addressed: (1) Development of computational methods for coupled electromechanical field analysis, especially [...] contents

Features

Today, multi-functional materials such as piezoelectric/ferroelectric ceramics, magnetostrictive and shape memory alloys are gaining increasing applications as sensors, actuators or smart composite materials systems for emerging high tech areas. The stable performance and reliability of these smart components under complex service loads is of paramount practical importance. However, most multi-functional [...] contents

Contents


Fields of interest

Continuum Mechanics and Mechanics of Materials; Mathematical Modeling and Industrial Mathematics; Quality Control, Reliability, Safety and Risk; Characterization and Evaluation of Materials

Target groups

Research

Type of publication

Proceedings

Available

Computation of Viscous Incompressible Flows

This monograph is intended as a concise self-contained guide to practitioners and graduate students for applying approaches in computational fluid dynamics (CFD) to real-world problems that require a quantification of viscous incompressible flows. In various projects related to NASA missions, the authors have gained CFD expertise over many years by developing and utilizing tools especially related to viscous incompressible flows. They are looking at CFD from an engineering perspective, which is especially useful when working on real-world applications. From that point of view, CFD requires two major elements, namely methods/algorithms and engineering/physical modeling. As for the methods, CFD research has been performed with great success. In terms of modeling/simulation, mission applications require a deeper understanding of CFD and flow physics, which has only been debated in technical conferences and to a limited scope. This monograph fills the gap by offering in-depth examples for students...

Features
This monograph is intended as a concise self-contained guide to practitioners and graduate students for applying approaches in computational fluid dynamics (CFD) to real-world problems that require a quantification of viscous incompressible flows. In various projects related to NASA missions, the authors have gained CFD expertise over many years by developing and utilizing tools especially related to ...

Contents
1. Introduction: Flow Physics; Computational Approach; What is Covered in This Monograph.
3. Pressure Projection Method in Generalized Coordinates: Overview; Formulation in Integral Form; Discretization; Solution Procedure; Validation of the Solution Procedure.

Fields of interest
Engineering Fluid Dynamics; Numerical and Computational Physics; Fluid- and Aerodynamics

Target groups
Research

Type of publication
Monograph

Available
2011. XVI, 319 p. (Scientific Computation) Hardcover

Humans in Outer Space - Interdisciplinary Perspectives

Following the first comprehensive transdisciplinary dialogue on humans in outer space which resulted in "Humans in Outer Space - Interdisciplinary Odysseys", the European Science Foundation (ESF), the European Space Agency (ESA), and the European Space Policy Institute (ESPI) have continued and deepened this transdisciplinary dialogue, which can now be found in Humans in Outer Space - Interdisciplinary Perspectives. Going further than regarding humans as better-than-robot tools for exploration, it investigates the human quest for odysseys beyond Earth’s atmosphere and reflects on arising issues related to Europe’s role among the States conducting human exploration. It provides perspectives related to governance, management of space exploration, space settlements, the role of astronauts in the future as well as related to the encounter of extraterrestrial life.

Features
Following the first comprehensive transdisciplinary dialogue on humans in outer space which resulted in "Humans in Outer Space - Interdisciplinary Odysseys", the European Science Foundation (ESF), the European Space Agency (ESA), and the European Space Policy Institute (ESPI) have continued and deepened this transdisciplinary dialogue, which can now be found in Humans in Outer Space - Interdisciplinary Perspectives...

Contents
Prefaces Frank De Winne, Milena Zic-Fuchs and Jean-Paul Swings Introduction: from "odysseys" to "perspectives" – towards new interdisciplinary approaches to humans in outer space. Ulrike Landfester, Nina-Louisa Remuss, Kai-Uwe Schrogl and Jean-Claude Worms CHAPTER 1 Politics and society 1.1 The political context for human space exploration. Kai-Uwe Schrogl 1.2 Who will own outer space? Governance over space resources in the age of human space exploration. Kurt Mills 1.3 Managing space, organising the sublime. Martin Parker 1.4 Astronauts: from envoys of mankind to combatants. Nina-Louisa...

Fields of interest
Aerospace Technology and Astronautics; Political Science

Target groups
Research

Type of publication
Contributed volume

Available

89,95 €
ISBN 978-3-7091-0279-4
Location, Localization, and Localizability

This book reflects up-to-date research, fundamental theories, and key techniques of wireless localization technology and error-controlling techniques. It also presents and discusses the issue of localizability, as well as privacy issues associated with LBS. This book encompasses the significant and quickly growing area of wireless localization technology. It presents comprehensive and up-to-date research in both fundamental theories and key techniques of network localization. In addition to localization approaches, it also is the first book to address the issue of localizability. The privacy issue of LBS technology is also discussed.

Features
Title: Location, Localization, Localizability Authors: Yunhao Liu Zheng Yang With the popularity of wireless networks, location-based service has become increasingly prevalent in our lives, and its applications range far and wide. For instance, E-911 in the United States, or corresponding E-112 in Europe, offers timely and accurate assistance to the emergency callers by locating them through mobile [...] Contents
Fields of interest
Signal, Image and Speech Processing; Communications Engineering; Networks; Information Systems and Communication Service
Target groups
Research
Type of publication
Monograph
Available
2011. XIII, 154 p. 100 illus. Hardcover

Nonlinear Science and Complexity

This book contains selected papers of NSC08, the 2nd Conference on Nonlinear Science and Complexity, held 28-31 July, 2008, Porto, Portugal. It focuses on fundamental theories and principles, analytical and symbolic approaches, computational techniques in nonlinear physics and mathematics. Topics treated include: Chaotic Dynamics and Transport in Classic and Quantum Systems; Complexity and Nonlinearity in Molecular Dynamics and Nano-Science; Complexity and Fractals in Nonlinear Biophysical Physics and Social Systems; Lie Group Analysis and Applications in Nonlinear Science; Nonlinear Hydrodynamics and Turbulence; Bifurcation and Stability in Nonlinear Dynamic Systems; Nonlinear Oscillations and Control with Applications; Celestial Physics and Deep Space Exploration; Nonlinear Mechanics and Nonlinear Structural Dynamics; Non-smooth Systems and Hybrid Systems; Fractional dynamical systems.
Features
This book contains selected papers of NSC08, the 2nd Conference on Nonlinear Science and Complexity, held 28-31 July, 2008, Porto, Portugal. It focuses on fundamental theories and principles, analytical and symbolic approaches, computational techniques in nonlinear physics and mathematics. Topics treated include: Chaotic Dynamics and Transport in Classic and Quantum Systems; Complexity and Nonlinearity in [...] Contents
Part I Nonlinear Dynamics of Continuous and Discontinuous Dynamical Systems; Part II Lie Group Analysis and Applications in Nonlinear Science; Part III Celestial Mechanics and Dynamical Astronomy: Methods and Applications; Part IV Mathematical Modeling of Nonlinear Structures in Bose-Einstein; Part V Mathematical Models in Engineering; Part VI Fractional Calculus Applications; Part VII Computational Techniques for Engineering Sciences; Part VIII Nonlinear Systems; Index
Fields of interest
Complexity; StatisticalPhysics, Dynamical Systems and Complexity; Computational Mathematics and Numerical Analysis; Applications of Mathematics
Target groups
Research
Type of publication
Monograph
Available
2011. XX, 434 p. Hardcover

Embedded System Design

Embedded Systems Foundations of Cyber-Physical Systems

Until the late 1980s, information processing was associated with large mainframe computers and huge tape drives. During the 1990s, this trend shifted toward information processing with personal computers, or PCs. The trend toward miniaturization continues and in the future the majority of information processing systems will be small mobile computers, many of which will be embedded into larger products and interfaced to the physical environment. Hence, these kinds of systems are called embedded systems. Embedded systems together with their physical environment are called cyber-physical systems. Examples include systems such as transportation and fabrication equipment. It is expected that the total market volume of embedded systems will be significantly larger than that of traditional information processing systems such as PCs and mainframes. Embedded systems share a number of common characteristics. For example, they must be dependable, efficient, meet real-time constraints and require customized [...] Features
Until the late 1980s, information processing was associated with large mainframe computers and huge tape drives. During the 1990s, this trend shifted toward information processing with personal computers, or PCs. The trend toward miniaturization continues and in the future the majority of information processing systems will be small mobile computers, many of which will be embedded into larger [...] Contents
Fields of interest
Circuits and Systems; Software Engineering / Programming and Operating Systems
Target groups
Research
Type of publication
Monograph
Available
2011. XXI, 400 p. (Embedded Systems) Softcover
59,95 € ISBN 978-94-007-0256-1
Spoken Dialogue Systems Technology and Design

Spoken Dialogue Systems Technology and Design covers key topics in the field of spoken language dialogue interaction from a variety of leading researchers. It brings together several perspectives in the areas of corpus annotation and analysis, dialogue system construction, as well as theoretical perspectives on communicative intention, context-based generation, and modelling of discourse structure. These topics are all part of the general research and development within the area of discourse and dialogue with an emphasis on dialogue systems; corpora and corpus tools and semantic and pragmatic modelling of discourse and dialogue.

Features

Spoken Dialogue Systems Technology and Design covers all key topics in spoken language dialogue interaction, through perspectives from a variety of leading researchers. This volume brings together valuable information in the areas of spoken dialogue analysis, processing emotions in dialogue, multimodality, as well as resources and evaluation. The book also highlights comprehensive [...]
Application-Specific Mesh-based Heterogeneous FPGA Architectures

This book presents a new exploration environment for mesh-based, heterogeneous FPGA architectures. It describes state-of-the-art techniques for reducing area requirements in FPGA architectures, which also increase performance and enable reduction in power required. Coverage focuses on reduction of FPGA area by introducing heterogeneous hard-blocks (such as multipliers, adders etc) in FPGA, and by designing application specific FPGA. Automatic FPGA layout generation techniques are employed to decrease non-recurring engineering (NRE) costs and time-to-market of application-specific heterogeneous FPGA architectures.

Features
- Low volume production of FPGA-based products is quite effective and economical because they are easy to design and program in the shortest amount of time. The generic reconfigurable resources in an FPGA can be programmed to execute a wide variety of applications at mutually exclusive times. However, the flexibility of FPGAs makes them much larger, slower, and more power consuming than their [...]
Globalization of Mobile and Wireless Communications

Today and in 2020

Globalization of Mobile and Wireless Communications is a collection of cutting-edge research in mobile and wireless communications with impact on developments as far forward as 2020 and beyond. The book draws upon the insights and performed research work of leading experts in the field. Topics of discussion are related but not limited to spectrum-efficient radio interface technologies, enabling technologies for reconfigurability, wireless sensor networks, cognitive networks, coherent wireless transmission, algorithmic design, middleware for novel services and applications. The material has been edited to provide a vision for the future of mobile and wireless, towards a dynamic communication system that breaks down the barriers between communications means; and evokes and integrates business models and culture to match the technological evolution. In addition, strategies on how to overcome the technological challenges for achieving that vision are also outlined.

Features
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Contents

Fields of interest
Communications Engineering, Networks; Computer Systems Organization and Communication Networks

Target groups
Research

Type of publication
Monograph

Available

249,00 €
ISBN 978-0-85729-023-6
Advances in Light Water Reactor Technologies

Advances in Light Water Reactor Technologies focuses on the design and analysis of advanced nuclear power reactors. This volume provides readers with thorough descriptions of the general characteristics of various advanced light water reactors currently being developed worldwide. Safety, design, development and maintenance of these reactors is the main focus, with key technologies like full MOX core design, next-generation digital I&C systems and seismic design and evaluation described at length. This book is ideal for researchers and engineers working in nuclear power that are interested in learning the fundamentals of advanced light water plants.

Features
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Fields of interest
Nuclear Engineering; Energy Technology; Nuclear Physics, Heavy Ions, Hadrons

Target groups
Research

Type of publication
Contributed volume

Available
2011. X, 190 p. Hardcover
99,95 €

Human Factors im Cockpit


Zur Unfallprävention gehört unbedingt das sicherheitsrelevante Verhalten, insbesondere das Crew Resource Management (CRM). Dies möchte die Vereinigung Cockpit unterstützen, indem im Buch zunächst die Inhalte des CRM möglichst vollständig definiert werden und anschließend aufgezeigt wird, wie diese Inhalte von der Theorieschulung über die notwendigen Seminare in das Cockpit übertragen werden können.

Features

Contents

Fields of interest
Aerospace Technology and Astronautics; Industrial and organisational psychology; Operation Research / Decision Theory

Target groups
Professional/practitioner

Type of publication
Professional book

Available
2010. XIV, 285 S. 60 Abb., 23 in Farbe. Hardcover
56,03 €
ISBN 978-3-642-15166-8

Finite Elemente Modelle der Statik und Festigkeitslehre


Features
Die praktische Anwendung der Finite Elemente Methode bei anspruchsvolleren Aufgaben an die Bedienung von FE-Softwaresystemen gebunden. Und es besteht die Notwendigkeit, reale Bauteile zu wirklichkeitsnahen FE-Modellen aufzubereiten. Die Modellbildung rückt also in den Mittelpunkt der Problemlösung. Dieses praxisorientierte Buch vermittelt nach einer kurzen Einführung in die Finite Elemente Methode [...] [..]

Contents

Fields of interest
Theoretical and Applied Mechanics; Engineering Design; Appl. Mathematics / Computational Methods of Engineering; Mathematical Modeling and Industrial Mathematics

Target groups
Professional/practitioner

Type of publication
Professional book

Available
2011. X, 490 S. Hardcover
65,37 €
ISBN 978-3-642-16620-4
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.

3D Integration for NoC-based SoC Architectures

This book presents the research challenges that are due to the introduction of the 3rd dimension in chips for researchers and covers the whole architectural design approach for 3D-SoCs. Nowadays the 3D-Integration technologies, 3D-Design techniques, and 3D-Architectures are emerging as interesting, truly hot, broad topics. The present book gathers the recent advances in the whole domain by renowned experts in the field to build a comprehensive and consistent book around the hot topics of three-dimensional architectures and micro-architectures. This book includes contributions from high level international teams working in this field.

Cloud Connectivity and Embedded Sensory Systems

Sensor networks are meant to create awareness in space and time. They may be measuring the presence of an object or a condition, characterizing an object stream or a situational pattern, or even detect abnormalities that are to occur. This book provides new theory on the design of wireless sensor networks, based on concepts developed for large-scale, distributed computing environments known as “cloud computing.” It provides a single-source entry into the world of intelligent sensory networks, with a step-by-step discussion of building case studies that capture the requirements, taking into account practical limitations of creating ambient intelligence. The reader will not only achieve a better understanding of sensory clouds, swarms and flocks but is also guided by examples of how to design such networks taking the typical characteristics of diverse application areas into account.

Cloud Connectivity and Embedded Sensory Systems
Progress in Wall Turbulence: Understanding and Modeling

Proceedings of the WALLTURB International Workshop held in Lille, France, April 21-23, 2009

This book will consist of a coherent collection of recent results on near wall turbulence including theory, new experiments, DNS, and modeling with RANS, LES and Low Order Dynamical Systems.

Features
This book brings together selected contributions from the WALLTURB workshop on “Understanding and modelling of wall turbulence” held in Lille, France, on April 21st to 23rd 2009. This workshop was organized by the WALLTURB consortium, in order to present to the relevant scientific community the main results of the project and to stimulate scientific discussions around the subject of wall turbulence. The [...]
Drives and Control for Industrial Automation

Drives and Control for Industrial Automation presents the material necessary for an understanding of servo control in automation. Beginning with a macroscopic view of its subject, treating drives and control as parts of a single system, the book then pursues a detailed discussion of the major components of servo control: sensors, controllers and actuators. Throughout, the mechatronic approach – a synergistic integration of the components – is maintained, in keeping with current practice. The authors’ holistic approach does not preclude the reader from learning in a step-by-step fashion – each chapter contains material that can be studied separately without compromising understanding. Drives are described in several chapters according to the way they are usually classified in industry, each comprised of its actuators and sensors. The controller is discussed alongside. Topics of recent and current interest – piezoelectricity, digital communications and future trends – are detailed in their own chapters.

Features
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Contents
- Overview of Servo Control
- Servo Hydraulic and Pneumatic Drives
- Electric Drives
- Piezoelectric Drives
- Motion Control
- Digital Communication Protocols
- Trends in Motion Control

Fields of interest
- Control
- Robotics
- Mechatronics
- Industrial and Production Engineering
- Energy Technology

Target groups
- Research

Type of publication
- Monograph

Available
- 2011. XII, 183 p. 122 illus. (Advances in Industrial Control) Hardcover
- 99.95 €

A Roadmap for Cognitive Development in Humanoid Robots

This book addresses the central role played by development in cognition. The focus is on applying our knowledge of development in natural cognitive systems, specifically human infants, to the problem of creating artificial cognitive systems in the guise of humanoid robots. The approach is founded on the three-fold premise that (a) cognition is the process by which an autonomous self-governing agent acts effectively in the world in which it is embedded, (b) the dual purpose of cognition is to increase the agent’s repertoire of effective actions and its power to anticipate the need for future actions and their outcomes, and (c) development plays an essential role in the realization of these cognitive capabilities. Our goal in this book is to identify the key design principles for cognitive development. We do this by bringing together insights from four areas: enactive cognitive science, developmental psychology, neuropsychology, and computational modelling. This results in roadmap comprising a set of

Features
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Contents
- Pre-natal Development and Core Abilities
- The Development of Cognitive Capabilities in Infants
- What Neuropsychology Teaches Us About Perception and Action
- Computational Models of Cognition
- A Research Roadmap
- The iCub Cognitive Architecture
- Conclusion

Fields of interest
- Robotics and Automation
- Computational Intelligence
- Artificial Intelligence (incl. Robotics)
- Cognitive Psychology
- Neurosciences

Target groups
- Research

Type of publication
- Monograph

Available
- 79.95 €
- ISBN 978-3-642-16903-8

Control of Integral Processes with Dead Time

Control of Integral Processes with Dead Time provides a unified and coherent review of the various approaches devised for the control of integral processes, addressing the problem from different standpoints. In particular, the book treats the following topics: How to tune a PID controller and assess its performance; How to design a two-degree-of-freedom control scheme in order to deal with both the set-point following and load disturbance rejection tasks; How to modify the basic Smith predictor control scheme in order to cope with the presence of an integrator in the process; and how to address the presence of large process dead times. The methods are presented sequentially, highlighting the evolution of their rationale and implementation and thus clearly characterising them from both academic and industrial perspectives.

Features
- Integral processes with dead time are frequently encountered in the process industry; typical examples include supply chains, level control and batch distillation columns. Special attention must be paid to their control because they lack asymptotic stability (they are not self-regulating) and because of their delays. As a result, many techniques have been devised to cope with these hurdles both in the

Contents
- Introduction
- Part I: PID Control Schemes
- PID Tuning Methods
- Stability Region under PI and PID Control
- Performance Assessment
- Plug&Control
- Part II: Two-degree of Freedom Control Schemes
- Noncausal Feedforward Control
- Schemes with an Inner Loop
- Smith-predictor-based Control Schemes
- Smith-principle-based PID-type Controller
- Disturbance-observer-based Control Scheme
- Quantitative Analysis
- Practical Issues

Fields of interest
- Control
- Robotics
- Mechatronics
- Industrial Chemistry/Chemical Engineering
- Industrial and Production Engineering

Target groups
- Research

Type of publication
- Monograph

Available
- 2011. XXVI, 268 p. 168 illus., 10 in color. (Advances in Industrial Control) Hardcover
- 99.95 €
- ISBN 978-0-85729-069-4
Bio-Medical CMOS ICs

This book is based on a graduate course entitled, Ubiquitous Healthcare Circuits and Systems, that was given by one of the editors at his university. It includes an introduction and overview to the field of biomedical ICs and provides information on the current trends in research. The material focuses on the design of biomedical ICs rather than focusing on how to use prepared ICs.

Features
Bio-Medical CMOS ICs provides readers with the basic operation principles and architectures as well as the most recent research results of low power CMOS ICs especially for biomedical applications. The book covers three parts: # Vital Signal Sensing and Processing from Neuronal Signal, Electrode and Readout IC, ADC to Bio-Signal Processor # Short Distance Bio-Medical Body Channel Communication and Wireless [...] Contents

Fields of interest
Circuits and Systems; Biomedical Engineering; Electronics and Microelectronics, Instrumentation

Type of publication
Monograph

Available

CMOS Circuits for Passive Wireless Microsystems

This book provides a comprehensive treatment of CMOS circuits for passive wireless Microsystems. Major topics include: an overview of passive wireless Microsystems, design challenges of passive wireless Microsystems, fundamental issues of ultra-low power wireless communications, radio-frequency power harvesting, ultra-low power modulators and demodulators, ultra-low power temperature-compensated current and voltage references, clock generation and remote calibration, and advanced design techniques for ultra-low-power analog signal processing.

Features
CMOS Circuits for Passive Wireless Microsystems By Fei Yuan This book provides a comprehensive treatment of the design principles and implementation of CMOS circuits and systems for passive wireless Microsystems. Major subjects covered in the book include: passive wireless Microsystems, radio-frequency power harvest, data encoding, modulators and demodulators, low-power precision voltage references, clock [...] Contents

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

Type of publication
Monograph

Available
2011. XVI, 279 p. 100 illus. Hardcover
Continuum Damage Mechanics and Numerical Applications

"Continuum Damage Mechanics and Numerical Applications" presents a systematic development of the theory of Continuum Damage Mechanics and its numerical engineering applications using a unified form of the mathematical formulations in anisotropic and isotropic damage models. The theoretical framework is based on the thermodynamic theory of energy and material dissipation and is described by a set of fundamental formulations of constitutive equations of damaged materials, development equations of the damaged state, and evolution equations of micro-structures. According to concepts of damage-dissipation of the material state and effective evolution of material properties, all these advanced equations, which take nonsymmetric effects of damage aspects into account, are developed and modified from the traditional general failure models so they are more easily applied and verified in a wide range of engineering practices by experimental testing. Dr. Wohua Zhang is a Professor at Engineering Mechanics.[...]

Features
"Continuum Damage Mechanics and Numerical Applications" presents a systematic development of the theory of Continuum Damage Mechanics and its numerical engineering applications using a unified form of the mathematical formulations in anisotropic and isotropic damage models. The theoretical framework is based on the thermodynamic theory of energy and material dissipation and is described by a set of [...]..

Contents

Fields of interest
Continuum Mechanics and Mechanics of Materials; Computational Intelligence

Target groups
Research

Type of publication
Monograph

Available
2011. 1000 p. 115 illus., 15 in color. (Advanced Topics in Science and Technology in China) Hardcover 249,00 € ISBN 978-3-642-04707-7

Low-Power High-Resolution Analog to Digital Converters

Design, Test and Calibration

With the fast advancement of CMOS fabrication technology, more and more signal-processing functions are implemented in the digital domain for a lower cost, lower power consumption, higher yield, and higher re-configurability. This has recently generated a great demand for low-power, low-voltage A/D converters that can be realized in a mainstream deep-submicron CMOS technology. However, the discrepancies between lithography wavelengths and circuit feature sizes are increasing. Lower power supply voltages significantly reduce noise margins and increase variations in process, device and design parameters. Consequently, it is steadily more difficult to control the fabrication process precisely enough to maintain uniformity. The inherent randomness of materials used in fabrication at nanoscale scales means that performance will be increasingly variable, not only from die-to-die but also within each individual die. Parametric variability will be compounded by degradation in nanoscale integrated circuits.[...]

Features
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Contents

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

Target groups
Research

Type of publication
Graduate/advanced undergraduate textbook

Available

Adaptive RF Front-Ends for Hand-held Applications

The RF front-end—antenna combination is a vital part of a mobile phone because its performance is very relevant to the link quality between hand-set and cellular network base-stations. The RF front-end performance suffers from changes in operating environment, like hand-effects, that are often unpredictable. Adaptive RF Front-Ends for Hand-Held Applications presents an analysis on the impact of fluctuating environmental parameters. In order to overcome undesired behavior two different adaptive control methods are treated that make RF front-ends more resilient: adaptive impedance control, and adaptive power control. Several adaptive impedance control techniques are discussed, using a priori knowledge on matching network properties, in order to simplify robust 2-dimensional control. A generic protection concept is presented, based on adaptive power control, which improves the ruggedness of a power amplifier or preserves its linearity under extremes. It comprises over-voltage, over-temperature, and [...]..

Features
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Contents

Fields of interest
Circuits and Systems; Solid State Physics; Input/Output and Data Communications; Microwaves, RF and Optical Engineering

Target groups
Research

Type of publication
Monograph

Available
Sustainable Land Management
Learning from the Past for the Future

Soil quality is threatened by many human-induced activities, but can also be improved by good land management. In the relatively short history of mankind on earth, the landscape and soils of the world have been drastically modified from their "natural" state. Landscapes altered by man’s activities are termed “Anthroscapes” which are inextricably linked to culture and history. The challenges for today's scientists are to devise and implement sustainable land management strategies in order to preserve the land for the benefit of future generations. This book is a valuable compendium of the research experiences so far gained in studies of the context and concept of the “Anthrocape” and highlights the potential future contributions of such research to sustainable development.

Features
Soil quality is threatened by many human-induced activities, but can also be improved by good land management. In the relatively short history of mankind on earth, the landscape and soils of the world have been drastically modified from their "natural" state. Landscapes altered by man’s activities are termed “Anthroscapes” which are inextricably linked to culture and history. The challenges for today’s [...] 

Fields of interest
Soil Science & Conservation; Agriculture; Landscape Ecology; Biogeoosciences; Geographical Information Systems / Cartography

Target groups
Research

Type of publication
Monograph

Available
2011. XX, 400 p. Hardcover
129,95 €
ISBN 978-3-642-14781-4

Contents
Preface. - 1 Geoarchives – why the view into the past? - 2 The Pirin Mountains as a model region. - 3 Holocene climate and landscape chronology. - 4 Climate data and geo-archives of the younger past. - 5 Specifics of the regional climate and landscape history. - 6 Conclusion and outlook. - Indices

Fields of interest
Geology / Natural Processes

Target groups
Graduate

Type of publication
Monograph

Available
2011. VIII, 161 p. Hardcover
99,95 €

First Principles of Meteorology and Air Pollution

This book’s main objective is to decipher for the reader the main processes in the atmosphere and the quantification of air pollution effects on humans and the environment, through first principles of meteorology and modelling/measurement approaches. The understanding of the complex sequence of events, starting from the emission of air pollutants into the atmosphere to the human health effects as the final event, is necessary for the prognosis of potential risk to humans from specific chemical compounds and mixtures of them. It fills a gap in the literature by providing a solid grounding in the first principles of meteorology and air pollution, making it particularly useful for undergraduate students. Its broad scope makes it a valuable text in many related disciplines, containing a comprehensive and integrated methodology to study the first principles of air pollution, meteorology, indoor air pollution, and human exposure. Problem-solving exercises help to reinforce concepts.

Features
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Contents

Fields of interest
Atmospheric Protection / Air Quality Control / Air Pollution; Meteorology / Climatology; Environmental Health

Target groups
Lower undergraduate

Type of publication
Monograph

Available
129,95 €
ISBN 978-94-007-0161-8
Physik unserer Umwelt: Die Atmosphäre


Dieses Buch ist aus einer zweisemestrigen Vorlesung über die Physik der Atmosphäre im Rahmen des Faches Umweltphysik und der Universität Heidelberg hervorgegangen. Es ist als einführendes Lehrbuch konzipiert und verfolgt zwei miteinander verzahnte Ziele: Es will das Funktionieren des Systems Atmosphäre verständlich machen. Diesem Zweck dienen Abschnitte über den Strahlungs- und Energiehaushalt, über die [...] Contents


Fields of interest

Atmospheric Protection / Air Quality Control / Air Pollution; Environmental Law / Policy / Ecosystemics; Ecotoxicology; Geocology / Natural Processes; Nature Conservation; Meteorology / Climatology

Target groups

Lower undergraduate

Type of publication

Undergraduate textbook

Available

2011. XI, 589 S. 180 Abb. Softcover

42,01 €

ISBN 978-3-642-15728-8

Environmental Heavy Metal Pollution and Effects on Child Mental Development

Risk Assessment and Prevention Strategies

Heavy metals can be emitted into environment by both natural and anthropogenic sources, mainly mining and industrial activity. Human exposure occurs through all environmental media. Infants are more susceptible to the adverse effects of exposure. Increasing attention is now being paid to the mental development of children exposed to heavy metals. The purpose of this book is to evaluate the existing knowledge on intellectual impairment in children exposed to heavy metals in their living environment and to identify the research needs in order to obtain a clearer picture of the situation in countries and regions at risk, in which the economy is closely related to metallurgy and heavy metals emission, and to recommend a strategy for human protection. In greater detail the main objectives could be formulated as follows: to review the principal sources of single, and complex mixtures of heavy metal pollutants in the environment; to identify suitable methodology for chemical analyses in the environment; [...] Features

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Preface. - Acknowledgements. - List of contributors. - Environmental Heavy Metals and Mental Disorders of Children in Developing Countries. - Exposure Assessment to Heavy Metals in the Environment. Measure to Eliminate or Reduce the Exposure to Critical Receptors. - Heavy Metals Activity Mechanisms at Cellular Level and Possible Action on Children Bodies. - Evolving Understanding of the Relationship between Mercury Exposure and Autism. - Hearing Changes in Children Exposed to Arsenic in Neurotoxicity Context. - Lead Occurrence in Children's Biological Fluids from Baia Mare Area, Romania. [...] Fields of interest

Environmental Chemistry; Environmental Health; Analytical Chemistry; Ecotoxicology; Industrial Pollution Prevention

Target groups

Graduate

Type of publication

Proceedings
Environmental Heavy Metal Pollution and Effects on Child Mental Development

Risk Assessment and Prevention Strategies

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Urban Airborne Particulate Matter
Origin, Chemistry, Fate and Health Impacts

This book presents the most up-to-date research and information regarding the origin, chemistry, fate and health impacts of airborne particulate matter in urban areas, a topic which has received a great deal of attention in recent years due to documented relationships between exposure and health effects such as asthma. With internationally recognised researchers and academics presenting their work and key concepts and approaches from a variety of disciplines, including environmental and analytical chemistry, biology, toxicology, mineralogy and the geosciences, this book addresses the topic of urban airborne particulate matter in a comprehensive, multidisciplinary manner. Topics and research addressed in the book range from common methodological approaches used to sample and analyse the composition of airborne particulates to our knowledge regarding their potential to impact human health and the various policy approaches taken internationally to regulate particulate matter levels.

Features
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Contents

Fields of interest
Environmental Chemistry; Climate Change; Ecotoxicology

Target groups
Research

Type of publication
Monograph

Available
2011. XIX, 656 p. (Environmental Science) Hardcover
199,95 €
ISBN 978-3-642-12277-4

General Science

Change and Continuity in Early Modern Cosmology

Viewed as a flashpoint of the Scientific Revolution, early modern astronomy witnessed a virtual explosion of ideas about the nature and structure of the world. This study explores these theories in a variety of intellectual settings, challenging our view of modern science as a straightforward successor to Aristotelian natural philosophy. It shows how astronomers dealt with celestial novelties by deploying old ideas in new ways and identifying more subtle notions of cosmic rationality. Beginning with the celestial spheres of Ptolemy and ending with the evolutionary implications of the new star Ceti, it surveys a pivotal phase in our understanding of the universe as a place of constant change that confirmed deeper patterns of cosmic order and stability.

Features
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Contents

Fields of interest
History of Science; Astronomy, Astrophysics and Cosmology; History of Philosophy; History of Mathematics

Target groups
Research

Type of publication
Contributed volume

Available
99,95 €
ISBN 978-94-007-0036-9

K. von Meyenn, MPI für Physik, München (Ed.)

Eine Entdeckung von ganz außerordentlichem Tragweite

Nachdem Schrödinger Anfang 1926 seine Wellenmechanik bekannt gegeben hatte, eröffnete er damit viele neue physikalische Ausblicke und Perspektiven, welche die weitere Entwicklung der Quantentheorie entscheidend beeinflusst haben. Auch heute noch bildet die Schrödinger-Gleichung die Grundlage der gesamten Mikrophysik und ihrer weit reichenden Anwendungen. Deshalb ist es sowohl für den Wissenschaftler als auch für den interessierten Laien höchst reizvoll, über die näheren Umstände und die Probleme bei ihrer Entstehung aus erster Hand informiert zu werden. Briefe berühmter Gelehrter und Forscher haben auch schon in der Vergangenheit das allgemeine Interesse des Publikums auf sich gezogen und mancher Wissenschaftler wurde durch die Lektüre solcher primärer Quellen zum Studium angeregt. Die hier vorgelegte Auswahl von ca. 300 Briefen beleuchtet insbesondere die Entstehung der Wellenmechanik und ihre noch immer kontroversen Deutungen. Eine ausführliche Einleitung, Kommentare, Anmerkungen, Abbildungen und...
Geography

L.P. Martins, University of Guelph, ON, Canada; W. Chesworth, University of Guelph, ON, Canada (Eds.)

Landscapes and Societies

Selected Cases

This book contains case histories intended to show how societies and landscapes interact. The range of interest stretches from the small groups of the earliest Neolithic, Bronze and Iron Age civilizations, to modern nation states. The co-existence is, of its very nature reciprocal, resulting in changes in both society and landscape. In some instances the adaptations may be judged successful in terms of human needs, but failure is common and even the successful cases are ephemeral when judged in the light of history. Comparisons and contrasts between the various cases can be made at various scales from global through inter-regional, to regional and smaller scales. At the global scale, all societies deal with major problems of climate change, sea-level rise, and with ubiquitous problems such as soil erosion and landscape degradation. Inter-regional differences bring out significant detail with one region suffering from drought when another suffers from widespread flooding. For example,[...]

Features

This book contains case histories intended to show how societies and landscapes interact. The range of interest stretches from the small groups of the earliest Neolithic, Bronze and Iron Age civilizations, to modern nation states. The co-existence is, of its very nature reciprocal, resulting in changes in both society and landscape. In some instances the adaptations may be [...] [Page]

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List of contributors
List of reviewers
Part I. Introduction
1. Summary of the contributions and a few considerations: I. Peter Martini and Ward Chesworth
2. A semantic introduction: Ward Chesworth
3. Womb, belly and landscape in the Anthropocene: Ward Chesworth
4. The Mediterranean and European world-arid Mediterranean lands
5. Human responses to climatically-driven landscape change and resource scarcity: Learning from the past and planning for the future: Nicholás Brooks
6. Human communities in a drying landscape: Holocene climate change and cultural response in the central[...]

Fields of interest

Physical Geography; Geology; Geoeconomy / Natural Processes; Archaeology; Climate Change; Landscape Ecology

Target groups

Research

Type of publication

Monograph

Available

2011. XVI, 478 p. 200 illus. Hardcover

129.95 €

Rural Electrification

Strategies for Distributed Generation

For those in developed nations, suddenly being without electricity is a disaster: power cuts have us fretting over the food stored in the freezer, and even a few hours without lights, televisions, or air conditioning is an ordeal. However, for an estimated 1.6 billion people worldwide, the absence of electricity is their daily experience. An untold number of others live with electricity that is erratic and of poor quality. How can electric power be brought into their lives when the centralized utility models that have evolved in developed nations are not an economically viable option? Poor, rural communities in developing nations cannot simply be ‘plugged in’ to a grid. Small-scale Distributed Generation (DG), ranging from individual solar home systems to village level grids run off diesel generators, could provide the answer, and this book compares around 20 DG enterprises and projects in Brazil, Cambodia and China, each of which is considered to be a ‘business model’ for distributed rural[...]

Features

For those in developed nations, suddenly being without electricity is a disaster: power cuts have us fretting over the food stored in the freezer, and even a few hours without lights, televisions, or air conditioning is an ordeal. However, for an estimated 1.6 billion people worldwide, the absence of electricity is their daily experience. An untold number of others live with electricity that is erratic and [...] [Page]

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Part I. Introduction
1. Rethinking Rural Electrification
2. Part II. Research design and Results
3. Distributed Rural Electrification Study Methods
4. Distributed Rural Electrification in Brazil
5. Distributed Rural Electrification in Cambodia
6. Distributed Rural Electrification in China
7. Understanding Success and Failure in Distributed Electrification
8. Moving Beyond Rhetoric and Failure to Electrify the World
9. The Dangers of Cheap Universal Service and a Vision for Distributed Electrification

Fields of interest

Economic Geography

Target groups

Research

Type of publication

Monograph

Available

2011. XII, 203 p. 7 illus., 2 in color. Hardcover

99.95 €
ISBN 978-90-481-9593-0

Law

H.-J. Heintze, Ruhr-Universität Bochum; K. Ipsen, Ruhr-Universität Bochum (Eds.)

Heutige bewaffnete Konflikte als Herausforderungen an das humanitäre Völkerrecht

20 Jahre Institut für Friedenssicherungsrecht und humanitäres Völkerrecht - 60 Jahre Genfer Abkommen


Features


Contents


Fields of interest

European Law / Public International Law

Target groups

Research

Type of publication

Proceedings

Available

2011. IX, 211 S. Hardcover

84,07 €
ISBN 978-3-642-14675-6
Dritt wirkung von Grundfreiheiten.
Ein Beitrag zu dem Konzept des Normaladessats im Gemein schaftsrecht


Features

Fields of interest
European Law / Public International Law; Constitution al Law; Public Law

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. XIV, 468 S. Softcover
90,85 €
ISBN 978-3-211-98887-9

Fallsammlung zum Steuerrecht


Features
Dieses Lernbuch richtet sich in erster Linie an Jurastudenten, die sich auf die steuerrechtlichen Klausuren im ersten und zweiten Examen vorbereiten. Es soll nicht nur dazu dienen, bereits erworbene Kenntnisse in Prüfungssituationen anzuwenden, sondern auch im Rahmen der Fallbearbeitung exam enrelevantes Wissen zu erlernen. Die Fälle wurden in der bekannten Heidelberger Examen vorbereitung erprobt und bilden [...] 

Contents
Einleitung. - Fallübersicht. - Lösungen steuer rechtlicher Schwerpunktbereiche.

Fields of interest
Financial Law / Fiscal Law; Business Taxation

Target groups
Upper undergraduate

Type of publication
German textbook

Available
2011. IX, 300 S. (Juristische Examensklausuren, Vol. 17) Softcover
18,64 €
ISBN 978-3-642-13128-8

The Role of the Regions in EU Governance

This publication compares for the first time how the regions in seven different countries (Austria, Bel gium, France, Germany, Italy, Spain and the UK) are involved in EU governance. It is also the first book which tackles this matter from two different perspectives: that of EU law and that of comparative law. It includes contributions both from well-established scholars in the field of EU law and from younger scholars.

Features
This book compares for the first time how the regions in seven different countries (Austria, Belgium, France, Germany, Italy, Spain and the UK) are involved in EU governance. It is also the first book which tackles this matter from two different perspectives: that of EU law and that of comparative law. It includes contributions both from well-established scholars in the field of EU law and from younger scholars.

Contents

Fields of interest
European Law / Public International Law; European Integration

Target groups
Research

Type of publication
Monograph

Available
99,95 €
ISBN 978-3-642-11902-6
Verfassungsrechtliche Vorgaben für Sonderabgaben des Banken- und Versicherungssektors

In der Schrift werden die verfassungs- und finanzrechtlichen Voraussetzungen für Sonderausgaben von Banken und Versicherungen als Folge der Finanzmarktkrise untersucht. Dabei wird insbesondere herausgearbeitet, dass wegen ökonomischer und rechtlicher Unterschiede, Banken und Versicherungen keine einheitliche Gruppe darstellen, die Pflichtige einer solchen Sonderabgaben sein könnten.

Features
In der Schrift werden die verfassungs- und finanzrechtlichen Voraussetzungen für Sonderausgaben von Banken und Versicherungen als Folge der Finanzmarktkrise untersucht. Dabei wird insbesondere herausgearbeitet, dass wegen ökonomischer und rechtlicher Unterschiede Banken und Versicherungen keine einheitliche Gruppe darstellen, die Pflichtige einer solchen Sonderabgaben sein könnten.

Contents

Fields of interest
Constitutional Law; Financial Law / Fiscal Law

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. XVI, 130 S. Hardcover

74,72 €
ISBN 978-3-642-16446-0

Wirtschaftsverträge rechtssicher gestalten

Verträge sollen wirtschaftliche Ziele verwirklichen. Das können sie nur deshalb, weil Regeln bestehen, welches Verhalten durch Verträge bewirkt, im Streitfall erzwungen werden kann. Diese Regel gibt das Recht vor. Wandelt sich das Recht - wie zuletzt gravierend durch das deutsche Schuldrechtmodernisierungsgesetz und die europäische Kartellrechtsverordnung - muss sich zwangsläufig auch die Wirkung von Verträgen ändern. Früher galt vornehmlich der Grundsatz, dass vor allem geschehen müsse, was die Vertragspartei gewollt haben. Heute gilt zunehmend, dass nur noch geschehen soll, was den Wertvorstellungen des Gesetzgebers entspricht. So wird die Inhaltskontrolle von Verträgen erzwungen. Gelten soll nur, was drei Faktoren - Auslegung, Billigkeitskontrolle von Allgemeinen Geschäftsbedingungen, Kartellrecht - ohne Beanstandungen passiert. Es ist nicht immer leicht zu überschauen, welche Konsequenzen die Inhaltskontrolle für die Verwirklichung der Ziele der Vertragsparteien hat. Aber die sichere Wertung der [...] Features

Verträge sollen wirtschaftliche Ziele verwirklichen. Das können sie nur deshalb, weil Regeln bestehen, welches Verhalten durch Verträge bewirkt, im Streitfall erzwungen werden kann. Diese Regel gibt das Recht vor. Wandelt sich das Recht - wie zuletzt gravierend durch das deutsche Schuldrechtmodernisierungsgesetz und die europäische Kartellrechtsverordnung - muss sich zwangsläufig auch die Wirkung von [...] Contents


Features

Contents

Stem Cells & Regenerative Medicine

From Molecular Embryology to Tissue Engineering

Defined as, “The science about the development of an embryo from the fertilization of the ovum to the fetus stage,” embryology has been a mainstay at universities throughout the world for many years. Throughout the last century, embryology became overshadowed by experimental-based genetics and cell biology, transforming the field into developmental biology, which replaced embryology in Biology departments in many universities. Major contributions in this young century in the fields of molecular biology, biochemistry and genomics were integrated with both embryology and developmental biology to provide an understanding of the molecular portrait of a “development cell.” That new integrated approach is known as stem-cell biology; it is an understanding of the embryology and development together at the molecular level using engineering, imaging and cell culture principles, and it is at the heart of this seminal book Stem Cells and Regenerative Medicine: From Molecular Embryology to Tissue Engineering.[...]

Features
Defined as, “The science about the development of an embryo from the fertilization of the ovum to the fetus stage,” embryology has been a mainstay at universities throughout the world for many years. Throughout the last century, embryology became overshadowed by experimental-based genetics and cell biology, transforming the field into developmental biology, which replaced embryology in Biology departments in [...]

Contents

Fields of interest
Cell Biology; Developmental Biology; Biophysics and Biological Physics; Animal Genetics and Genomics; Pharmacology / Toxicology; Biotechnology

Type of publication
Research

Available
2011. XXVIII, 632 p. 65 illus., 33 in color. (Stem Cell Biology and Regenerative Medicine) Hardcover

169,95 €
ISBN 978-1-60761-859-1

The Physical Basis of Biochemistry

The Physical Basis of Biochemistry: Solutions Manual to the Second Edition offers solutions to the problem sets from the second edition of The Physical Basis of Biochemistry. The Physical Basis of Biochemistry, Second Edition, emphasizes the interdisciplinary nature of biophysical chemistry by incorporating the quantitative perspective of the physical sciences without sacrificing the complexity and diversity of the biological systems, applies physical and chemical principles to the understanding of the biology of cells and explores the explosive developments in the area of genomics, and in turn, proteomics, bioinformatics, and computational and visualization technologies that have occurred in the past seven years. The book features problem sets and examples, clear illustrations, and extensive appendices that provide additional information on related topics in mathematics, physics and chemistry. The answers to these problem sets can be found in The Physical Basis of Biochemistry: Solutions Manual to[...]

Features
The Physical Basis of Biochemistry: Solutions Manual to the Second Edition offers solutions to the problem sets from the second edition of The Physical Basis of Biochemistry. The Physical Basis of Biochemistry is an introduction to the philosophy and practice of an interdisciplinary field in which biological systems are explored using the quantitative perspective of the physical [...]

Contents

Fields of interest
Biochemistry; Biophysics and Biological Physics; Physical Chemistry; Biomedicine (general)

Target groups
Research

Type of publication
Graduate/advanced undergraduate textbook

Available
2011. X, 146 p. 18 illus. Softcover

29,95 €
ISBN 978-1-4419-7363-4
Plant Breeding for Water-Limited Environments

This volume will be the only existing single-authored book offering a science-based breeder’s manual directed at breeding for water-limited environments. Plant breeding is characterized by the need to integrate information from diverse disciplines towards the development and delivery of a product defined as a new cultivar. Conventional breeding draws information from disciplines such as genetics, plant physiology, plant pathology, entomology, food technology and statistics. Plant breeding for water-limited environments and the development of drought resistant crop cultivars is considered as one of the more difficult areas in plant breeding while at the same time it is becoming a very pressing issue. This volume is unique and timely in that it develops realistic solutions and protocols towards the breeding of drought resistant cultivars by integrating knowledge from environmental science, plant physiology, genetics and molecular biology.

Contents

Fields of interest
Plant Breeding / Biotechnology; Plant Sciences; Plant Genetics and Genomics

Target groups
Graduate

Type of publication
Graduate/advanced undergraduate textbook

Available

2011. XV, 258 p. 23 illus. in color. Hardcover
69,95 €
ISBN 978-1-4419-7490-7

Chemical Communication in Crustaceans

The crustaceans are ecologically and economically important organisms. They constitute one of the dominant invertebrate groups on earth, particularly within the aquatic realm. Crustaceans include some of the preferred scientific model organisms, profitable aquaculture specimens, but in addition numerous species threatening native animal communities throughout the world. Chemoreception is the most important sensory modality of crustaceans, acquiring important information about their environment and picking up the chemical signals which mediate communication with conspecifics. Significant advances have been made in our understanding of crustacean chemical communication during the past decade. This includes knowledge about the identity, production, transfer, reception and behavioral function of chemical signals in selected crustacean groups. While it is well known that chemical communication is an integral part of the behavioral ecology of most living organisms, the intricate ways in which organisms[..]

Features
Crustaceans are ecologically and economically important. They are fished and farmed extensively for food and are model organisms for scientific research. However, as invasive species, some crustaceans also threaten native communities worldwide. Social interactions of these primarily aquatic invertebrates are generally mediated through chemical means. Hence, the study of chemical communication by crustaceans is[..]

Contents

Fields of interest
Animal Ecology; Invertebrates; Animal Biochemistry; Behavioural Sciences; Freshwater & Marine Ecology; Neurobiology

Target groups
Research

Type of publication
Contributed volume

Available

199,95 €

Delamination in Wood, Wood Products and Wood-Based Composites

In the last quarter century, delamination has come to mean more than just a failure in adhesion between layers of bonded composite plies that might affect their load-bearing capacity. Ever-increasing computer power has meant that we can now detect and analyze delamination between, for example, cell walls in solid wood. This fast-moving and critically important field of study is covered in a book that provides everyone from manufacturers to research scientists the state of the art in wood delamination studies. Divided into three sections, the book first details the general aspects of the subject, from basic information including terminology, to the theoretical basis for the evaluation of delamination. A settled terminology in this subject area is a first key goal of the book, as the terms which describe delamination in wood and wood-based composites are numerous and often confusing. The second section examines different and highly specialized methods for delamination detection such as confocal laser[..]

Features
In the last quarter century, delamination has come to mean more than just a failure in adhesion between layers of bonded composite plies that might affect their load-bearing capacity. Ever-increasing computer power has meant that we can now detect and analyze delamination between, for example, cell walls in solid wood. This fast-moving and critically important field of study is covered in a book that provides[..]

Contents

Fields of interest
Wood Science & Technology; Measurement Science, Instrumentation; Mechanics; Acoustics; Building Materials

Target groups
Research

Type of publication
Contributed volume

Available

2011. XV, 401 p. 94 illus. in color. Hardcover
149,95 €
Biophysical Chemistry of Proteins

An Introduction to Laboratory Methods

The book is structured in nine sections, each containing several chapters. The volume starts with an overview of analytical techniques and progresses through purification of proteins, protein modification and inactivation, protein size, shape, and structure; enzyme kinetics; protein-ligand interactions; industrial enzymology; and laboratory quality control. The book is targeted at all scientists interested in protein research.

Features
Undergraduate biochemistry courses cover what proteins do, as enzymes, receptors, hormones, motors or structural components. The much more interesting question is how can proteins achieve all these functions? Presented here is an overview of the methods used in such projects, their possible applications, and their limitations. Focusing on the biophysical chemistry of proteins, the text is accessible to those [...]

Contents

Fields of interest
Biochemistry; Cell Biology; Chemistry (general); Biomedicine (general); Biophysics and Biological Physics

Type of publication
Graduate

Available
149.95 €

Phosphorus in Action

Biological Processes in Soil Phosphorus Cycling

Phosphorus (P) is a finite resource which is essential for life. It is a limiting nutrient in many ecosystems but also a pollutant which can affect biodiversity in terrestrial ecosystems and change the ecology of water bodies. This book collects the latest information on biological processes in soil P cycling, which to date have remained much less understood than physico-chemical processes. The methods section presents spectroscopic techniques and the characterization of microbial P forms, as well as the use of tracers, molecular approaches, and modeling of soil-plant systems. The section on processes deals with mycorrhizal symbioses, microbial P solubilization, soil macrofauna, phosphatase enzymes, and rhizosphere processes. On the system level, P cycling is examined for grasslands, arctic and alpine soils, forest plantations, tropical forests, and dryland regions. Further, P management with respect to animal production and cropping, and the interactions between global change and P cycling, are treated.

Features
Phosphorus (P) is a finite resource which is essential for life. It is a limiting nutrient in many ecosystems but also a pollutant which can affect biodiversity in terrestrial ecosystems and change the ecology of water bodies. This book collects the existing, up-to-date information on biological processes in soil P cycling, which to date have remained much less understood than physico-chemical processes. The [...] Contents
Biochemistry; Plant Physiology; Microbiology; Agriculture; Soil Science & Conservation

Type of publication
Research

Available
159.00 €
ISBN 978-3-642-14118-8

Experimental Plant Virology

"Experimental Plant Virology" provides the updated methodology for studying the genomic characterization and mechanisms of infection, the quantitative determination as well as the diagnosis of plant pathogenic viruses. With illustrations showing viral symptoms and ultra-structures, clear and concise descriptions, the book presents the latest developments in experimental plant virology. This book is intended for researchers, university teaching staff, graduate students and undergraduates in plant science. Dr. Jishuang Chen is a professor of plant pathology at the Institute of Bioengineering, Zhejiang Sci-Tech University, China.

Features
"Experimental Plant Virology" provides the updated methodology for studying the genomic characterization and mechanisms of infection, the quantitative determination as well as the diagnosis of plant pathogenic viruses. With illustrations showing viral symptoms and ultra-structures, clear and concise descriptions, the book presents the latest developments in experimental plant virology. This book is intended [...]

Contents

Fields of interest
Plant Pathology; Plant Genetics and Genomics; Agriculture

Type of publication
Monograph

Available
149.95 €
ISBN 978-3-642-15270-2
Progenitor Cell Therapy for Neurological Injury

There are currently no reparative therapies for severe neurological injury, including brain injury, spinal cord injury and stroke. Actually, most treatments are designed simply to limit secondary damage. However, pre-clinical data supports the idea that exogenous stem and progenitor cells have the potential to promote a reparative response to severe neurological injuries. Progenitor Cell Therapy for Neurological Injury is a compilation of seminal essays that explore many unique aspects of neurological injury, focusing on the critical translational issues of cell delivery. Specifically, it discusses routes of administration, types of progenitor cells (alone and/or in combinations), timing of delivery and adjuncts to promote cell engraftment, survival and effectiveness. In addition, many chapters address measuring the effects of transplanted cells and cell tracking. The paradigms of how cell-based therapeutics affect neurological injury is changing rapidly. The developments in this field may...

Contents

Fields of interest
Stem Cells

Target groups
Professional/practitioner

Type of publication
Contributed volume

Available
2011. X, 255 p. 32 illus., 19 in color. (Stem Cell Biology and Regenerative Medicine) Hardcover

139,95 €

Optical Fluorescence Microscopy

From the Spectral to the Nano Dimension

In the last decade, fluorescence microscopy has evolved from a classical “retrospective” microscopy approach into an advanced imaging technique that allows the observation of cellular activities in living cells with increased resolution and dimensions. A bright new future has arrived as the nano era has placed a whole new array of tools in the hands of biophysicists who are keen to go deeper into the intricacies of how biological systems work. Following an introduction to the complex world of optical microscopy, this book covers topics such as the concept of white confocal, nonlinear optical microscopy, fluctuation spectroscopies, site-specific labeling of proteins in living cells, imaging molecular physiology using nanosensors, measuring molecular dynamics, muscle braking and stem cell differentiation.

Features
In the last decade, fluorescence microscopy has evolved from a classical “retrospective” microscopy approach into an advanced imaging technique that allows the observation of cellular activities in living cells with increased resolution and dimensions. A bright new future has arrived as the nano era has placed a whole new array of tools in the hands of biophysicists who are keen to go deeper into the ...

Contents

Fields of interest
Biological Microscopy; Cell Biology; Biophysics and Biological Physics; Biochemistry

Target groups
Research

Type of publication
Contributed volume

Available
2011. XII, 244 p. Hardcover

149,95 €
ISBN 978-3-642-15174-3

Predictive Species and Habitat Modeling in Landscape Ecology

Concepts and Applications

Most projects in Landscape Ecology, at some point, define a species-habitat association. These models are inherently spatial, dealing with landscapes and their configurations. Whether coding behavioral rules for dispersal of simulated organisms through simulated landscapes, or designing the sampling extent of field surveys and experiments in real landscapes, landscape ecologists must make assumptions about how organisms experience and utilize the landscape. These convenient working postulates allow modelers to project the model in time and space, yet rarely are they explicitly considered. The early years of landscape ecology necessarily focused on the evolution of effective data sources, metrics, and statistical approaches that could truly capture the spatial and temporal patterns and processes of interest. Now that these tools are well established, we reflect on the ecological theories that underpin the assumptions commonly made during species distribution modeling and mapping. This is crucial for...

Contents

Fields of interest
Landscape Ecology; Theoretical Ecology / Statistics; Fish & Wildlife Biology & Management; Conservation Biology / Ecology; Nature Conservation; Community & Population Ecology

Target groups
Professional/practitioner

Type of publication
Contributed volume

Available

149,95 €
ISBN 978-1-4419-7389-4
Loudness

Loudness is the primary psychological correlate of intensity. When the intensity of a sound increases, loudness increases. However, there exists no simple one-to-one correspondence between loudness and intensity; loudness can be changed by modifying the frequency or the duration of the sound, or by adding background sounds. Loudness also changes with the listener’s cognitive state. Loudness provides a basic reference for graduate students, consultants, clinicians, and researchers with a focus on recent discoveries. The book begins with an overview of the conceptual thinking related to the study of loudness, addresses issues related to its measurement, and later discusses the physiological effects of loud sounds, reaction times and electrophysiological measures that correlate with loudness. Loudness in the laboratory, loudness of steady-state sounds and the loudness of time-varying sounds are also covered, as are hearing loss and models.

Features

The topic of loudness is of considerable concern both in and outside of research laboratories. Most people have developed an opinion about some aspect of loudness, and many complain about the loudness of background sounds in their daily environments and their impacts on quality of life. Moreover, such sounds interfere with the ability to [...]
Adipose-Derived Stem Cells
Methods and Protocols

During the past decade, a wide range of scientific disciplines have adopted the use of adipose-derived stem/stromal cells (ASCs) as an important tool for research and discovery. In Adipose-Derived Stem Cells: Methods and Protocols, experts from the field, including members of the esteemed International Federation of Adipose Therapeutics and Science (IFATS), provide defined and established protocols in order to further codify the utilization of these powerful and accessible cells. With chapters organized around approaches spanning the discovery, pre-clinical, and clinical processes, much of the emphasis is placed on human ASC, while additional techniques involving small and large animal species are included. As a volume in the highly successful Methods in Molecular Biology™ series, the detailed contributions include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and notes on troubleshooting and troubleshooting.

Features
During the past decade, a wide range of scientific disciplines have adopted the use of adipose-derived stem/stromal cells (ASCs) as an important tool for research and discovery. In Adipose-Derived Stem Cells: Methods and Protocols, experts from the field, including members of the esteemed International Federation of Adipose Therapeutics and Science (IFATS), provide defined and established protocols in order to further codify the utilization of these powerful and accessible cells. With chapters organized around approaches spanning the discovery, pre-clinical, and clinical processes, much of the emphasis is placed on human ASC, while additional techniques involving small and large animal species are included. As a volume in the highly successful Methods in Molecular Biology™ series, the detailed contributions include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and notes on troubleshooting and troubleshooting.

Contents
Isolation and Culture of Rhesus Adipose-Derived Stem Cells.- Isolation of Human Adipose-Derived Stem Cells from Liposiripates.- Isolation of Murine Adipose-Derived Stem Cells.- In vitro Adult Rat Adipose Tissue-Derived Stromal Cell Isolation and Differentiation.- In vitro Adult Canine Adipose Tissue-Derived Stromal Cell Growth Characteristics.- Adipogenic Differentiation of Adult Equine Mesenchymal Stromal Cells.- Isolation and Culture of Porcine Adipose Tissue-Derived Somatic Stem Cells.- Automated Isolation and Processing of Adipose-Derived Stem and Regenerative Cells.- Methods for the...

Fields of interest
Cell Biology

Target groups
Professional/practitioner

Type of publication
Contributed volume

Available
2011, XVI, 474 p. 82 illus., 7 in color. (Methods in Molecular Biology, Vol. 696) Hardcover
109,95 €
ISBN 978-1-61737-959-8

Data Mining in Proteomics
From Standards to Applications

Through the rapid development of proteomics methods and technologies, an enormous amount of data was created, leading to a wide-spread rethinking of strategy design and data interpretation. In Data Mining in Proteomics: From Standards to Applications, experts in the field present these new insights within the proteomics community, taking the historical evolution as well as the most important international...
3D Cell Culture
Methods and Protocols

Developed for a range of tissues where the culture environment takes into account the spatial organization of the cells therein, 3D cell culture models serve to bridge the gap between in vivo studies at one extreme with that of simple cell monolayers at the other. In 3D Cell Culture: Methods and Protocols, international experts describe a number of basic and applied methodologies taken from a breadth of scientific and engineering disciplines, many of which deal with direct applications of 3D culture models, most notably in the formation of tissues for clinical purpose. Beginning with an overview of the biological and materials scaffold requirements for successfully creating 3D models, the book delves into topics such as general scaffold design and fabrication techniques, models for bone, skin, cartilage, nerve, bladder, and hair follicles, and chapters on bioreactor design, imaging, and stem cells. Written in the highly successful Methods in Molecular Biology® series format, chapters include brief...[

Contents

Fields of interest
Cell Biology; Cell Culture

Target groups
Professional/practitioner

Type of publication
Contributed volume

Available
2011. XI, 343 p. 104 illus., 6 m color. (Methods in Molecular Biology, Vol. 695) Hardcover
109,95 €

Transgenic Mouse Methods and Protocols

The generation of genetically modified mice is absolutely crucial to gene function studies today, primarily because mice are genetically similar to man and because gene function studies in mice are in the context of a whole organism, making them particularly useful. In Transgenic Mouse Methods and Protocols, Second Edition, expert research explore current advances in the field through detailed laboratory protocols. Chapters provide a general introduction outlining how to deal with mice and how to generate transgenic mouse models, explore the generation of conditional and induced knockout and transgenic mice, and offer alternative routes to studying gene function in mice. Composed in the highly successful Methods in Molecular Biology® series format, each chapter contains a brief introduction, step-by-step methods, a list of necessary materials, and a Notes section which shares tips on troubleshooting and avoiding known pitfalls. Comprehensive and state of the art, Transgenic Mouse Methods and...[

Contents
Introduction: Strategies for developing genetically modified mice.- Genetic Modification of the Mouse.- General Technology: Pronuclear and Blastocyst Injection.- Generation of chimeras by aggregation of embryonic stem cells with diplotid or tetraploid mouse embryos.- Cryopreservation of mouse spermatocytes and In vitro fertilization.- Autopsy and histological analysis of the transgenic mouse.- Transgene design.- Inducible Transgenic Mouse Models.- Lentiviral transgenesis.- Transgenesis in Mouse Embryonic Stem Cells.- Engineering BAC Reporter Gene Constructs for Mouse Transgenesis.- Targeting...[

Fields of interest
Animal Genetics and Genomics; Genetic Engineering; Gene Function

Target groups
Professional/practitioner

Type of publication
Contributed volume

Available
2011. XI, 352 p. 84 illus., 1 in color. (Methods in Molecular Biology, Vol. 693) Hardcover
109,95 €
ISBN 978-1-60761-973-4

Single-Pollen Genotyping

Pollination is one of the most important processes in plant reproduction. It directly influences reproductive success and fitness and the genetic structure of the plant population. Methods exist to infer the pattern and distance of pollen dispersal, but direct observation of the movements of individual pollen grains during pollination is not feasible owing to their small size. Single-pollen genotyping is a novel technique for genotyping a single pollen grain. In this book, the principles, the experimental protocol, and several applications of this method in studies of plant ecology, reproductive biology, and evolutionary genetics have been described. More specifically, the information is useful for the analysis of linkage disequilibrium, intraspecific genetic variation, chromosome mapping, and the origins of polyploidy. It is also essential for achieving sustainable and optimal crop yield and is vital to agriculture and forestry. Written by pioneer researchers, the book provides novel research...[

Contents

Fields of interest
Plant Ecology; Plant Sciences; Evolutionary Biology

Target groups
Research

Type of publication
Monograph

Available
2011. XII, 127 p. 41 illus. (Ecological Research Monographs) Hardcover
99,95 €
ISBN 978-4-431-53900-1
Mechanosensitivity and Mechanotransduction

This book presents the latest findings in the field of research of mechanosensitivity and mechanotransduction in different cells and tissues. Mechanosensitivity and mechanotransduction of the heart and vascular cells, in the lung, in bone and joint tissues, in sensor systems and in blood cells are described in detail. This Volume focuses on molecular mechanisms of mechanosensitivity and mechanotransduction via cytoskeleton. Integrin-mediated mechanotransduction, the role of actin cytoskeleton and the role of other cytoskeletal elements are discussed. It contains a detailed description of several stretch-induced signaling cascades with multiple levels of crosstalk between different pathways. It contains a description of the role of nitric oxide in regulation of cardiac activity and in regulation of mechanically gated channels in the heart. In the heart mechanical signals are propagated into the intracellular space primarily via integrin-linked complexes, and are subsequently transmitted from cell...

Features

This book presents the latest findings in the field of research of mechanosensitivity and mechanotransduction in different cells and tissues. Mechanosensitivity and mechanotransduction of the heart and vascular cells, in the lung, in bone and joint tissues, in sensor systems and in blood cells are described in detail. This Volume focuses on molecular ...

Contents


Fields of interest

Cell Biology; Medical Biochemistry; Human Physiology; Cardiology

Type of publication

Contributed volume

Available

2011, XV, 361 p. (Soil Biology, Vol. 24) Hardcover
149,95 €
ISBN 978-3-642-14635-0

Biology of Earthworms

Earthworms, which belong to the order Oligochaeta, comprise roughly 3,000 species grouped into five families. Earthworms have been called ‘ecosystem engineers’, much like human engineers, they change the structure of their environments. Earthworms are very versatile and are found in nearly all terrestrial ecosystems. They play an important role in forest and agricultural ecosystems. This Soil Biology volume describes the various facets of earthworms, such as their role in soil improvement, soil structure, and the biocontrol of soil-borne plant fungal diseases. Reviews discuss earthworms’ innate immune system, molecular markers to address various issues of earthworm ecology, earthworm population dynamics, and the influences of organic farming systems and tillage. Further topics include the characteristics of vermicompost, relationships between soil earthworms and enzymes, the role of spermathecae, copulatory behavior, and adjustment of the donated sperm volume.

Features

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Fields of interest

Terrestrial Ecology; Agriculture; Invertebrates; Soil Science & Conservation

Type of publication

Contributed volume

Available

2011, XV, 316 p. (Life Sciences) Hardcover
139,95 €
ISBN 978-3-642-14636-7

Cell-Penetrating Peptides

Methods and Protocols

In recent years, a new understanding of cell-penetrating peptides has emerged, helping researchers to expand beyond a number of long-held dogmas. In Cell-Penetrating Peptides: Methods and Protocols, expert researchers explore the latest information on cell-penetrating peptides (CPPs), providing insight into the most important and contemporary areas of CPP research. Chapters address the historical background of CPP studies, provide an overview of the growing field of research, investigate methods for testing CPP mechanisms, present a summary of methods that attempt to use properties of CPPs to study biochemical intracellular mechanisms of interaction and signal transduction, and include new ideas for turning CPP-based strategies into drugs. Composed in the highly successful Methods in Molecular Biology™ series format, each chapter contains a brief introduction, step-by-step methods, a list of necessary materials, and a Notes section which shares tips on troubleshooting and avoiding known...

Features

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Contents

Classes and prediction of cell-penetrating peptides. - Penetratin story: an overview. - Testing membrane interactions of CPPs. - Interactions of amphipathic CPPs with model membranes. - NMR studies of three-dimensional structure and positioning of CPPs in membrane model systems. - Measurements of the intracellular stability of CPPs. - Tools for predicting binding and insertion of CPPs into lipid bilayers. - Studies of proteoglycan involvement in CPP-mediated delivery. - Uptake Kinetics of cell-penetrating peptides. - Thermodynamics of lipid interactions with cell-penetrating peptides. - Calcium...

Fields of interest

Cell Biology

Type of publication

Professional/practitioner

Available

124,95 €
The Plant Cytoskeleton

Plant cells house highly dynamic cytoskeletal networks of microtubules and actin microfilaments. They constantly undergo remodeling to fulfill their roles in supporting cell division, enlargement, and differentiation. Following early studies on structural aspects of the networks, recent breakthroughs have connected them with more and more intracellular events essential for plant growth and development. Advanced technologies in cell biology (live-cell imaging in particular), molecular genetics, genomics, and proteomics have revolutionized this field of study. Stories summarized in this book may inspire enthusiastic scientists to pursue new directions toward understanding functions of the plant cytoskeleton. The Plant Cytoskeleton is divided into three sections: 1) Molecular Basis of the Plant Cytoskeleton; 2) Cytoskeletal Reorganization in Plant Cell Division; and 3) The Cytoskeleton in Plant Growth and Development. This book is aimed at serving as a resource for anyone who wishes to learn [...]}

Features
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Contents
Structural basis of the plant cytoskeleton. - Actin filaments and actin-binding proteins. - Actin-based motor myosins in plants. - Microtubules in plants. - Microtubule-associated proteins and microtubule organization. - Microtubule nucleation and organization in plant cells. - Microtubule plus end-binding proteins and microtubule dynamics. - Microtubule-based motor kinesins in plants. - Dynamics of cortical microtubules. - The cytoskeleton in organelle movement, cell division, and organelle division. - Myosins and organelle movement in plant cells. - Formation of acentrosomal spindles. [...]}

Fields of interest
Plant Sciences; Plant Anatomy / Development; Plant Genetics and Genomics

Research

Type of publication
Contributed volume

Available
2011. XII, 331 p. 59 illus., 21 in color. (Advances in Plant Biology, Vol. 2) Hardcover

149.95 €

Water and Food Security in Central Asia

Central Asia is vulnerable to water scarcity because it is located in semiarid and arid vegetation zones and large parts of its economy depend on water for irrigation and energy. Climate-change scenarios predict temperature increases and a rising number of extreme weather events, which will exacerbate water shortages in the future. In addition, the population of Central Asia is growing more rapidly than the rate of food production which is resulting in food insecurity in many parts of the region too. This volume reports the deliberations of politicians, scientists and representatives of water management organizations from throughout Central Asia. Their contributions not only highlight areas of concern, but also propose numerous ideas for improving the long-term water and food security in the region.

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Contents

Fields of interest
Agriculture; Agricultural Economics; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; International & Foreign Law; Ecology; Environmental Economics

Research

Type of publication
Proceedings

Available

139.95 €
ISBN 978-90-481-9973-0

Water and Food Security in Central Asia

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Contents

Fields of interest
Agriculture; Agricultural Economics; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; International & Foreign Law; Ecology; Environmental Economics

Research

Type of publication
Proceedings

Available

69.95 €
ISBN 978-94-007-0112-0
Microbial Plant Pathogens: Detection and Disease Diagnosis: Viral and Viroid Pathogens, Vol.3

The need for the development of techniques based on the characteristics of the viral proteins and genomic nucleic acids was realized in order to detect, identify, differentiate and quantify viruses in the infected plants/planting materials with or without symptoms of infection. Immunoassays have been successfully applied for the detection of viruses in crop and weed host plant species as well as in the vectors. Nucleic acid-based techniques have been demonstrated to be the most reliable and sensitive tests for detection, identification and differentiation of viruses and viroids present in plants and planting materials. Inclusion of numerous protocols in appropriate chapters as appendix is a unique feature of this volume.

Features
Viruses, with the primitive structural features are capable of causing diseases in all life forms on the earth. With limited morphological characteristics of the virus particles and lack of physiological functions, the need for the development of techniques based on the characteristics of the viral proteins and genomic nucleic acids was realized in order to detect, identify, differentiate and quantify viruses.

Contents
Chapter 1 Introduction.
1.1 Microbial plant pathogens as a major limiting factor of crop production.
1.2 Discovery of viruses and viroids as plant pathogens.
1.3 Detection of viral and viroid plant pathogens and disease diagnosis.
References.
Chapter 2 Detection of Viral and Viroid Pathogens in Plants.
2.1 Detection of viruses in plant organs.
2.2 Detection of viroids in plant organs.
2.3 Detection of viral pathogens in seeds and planting materials.
2.4 Detection of viroids in seeds and planting materials.
Appendix.
Chapter 3 Detection of Viral and Viroid Plant.

Fields of interest
Plant Pathology; Microbiology; Plant Breeding / Biotechnology; Entomology; Biological Techniques

Target groups
Research

Type of publication
Monograph

Available
2011. XXI, 321 p. 20 illus., 10 in color. Hardcover
139.95 €

Metagenomics of the Human Body

The book brings a completely different perspective than available books by combining the information gained from the human genome with that derived from parallel metagenomic studies, and new results from investigating the effects of these microbes on the host immune system. Although there are a number of books that focus on the human genome that are currently available, there are no books that bring to the forefront the mix of the human genome and the genomes and metagenomes of the microbial species that live within and on us.

Features
Metagenomics of the Human Body introduces readers to the major findings from the human genome project and at the same time presents the crossover to the human metagenome/microbiome, which we are only starting to understand through the advent of newly emerging technologies and other developments.

Contents
Preface: The Human Genome and the Human Microbiome.
Chapter 1: The Human Genome. Microbiome and Disease.
Chapter 2: Host Genotype and the effect on Microbial Communities.
Chapter 3: The Human Microbiome and Host-Pathogen Interactions.
Chapter 4: The Human Virome.
Chapter 5: Selection and Sequencing of Strains as References for Human Microbiome studies.
Chapter 6: The Human Vaginal Microbiome.
Chapter 7: The Human Lung Microbiome.
Chapter 8: The Human Skin Microbiome in Health and Skin Diseases.
Chapter 9: The Human Oral metagenome.
Chapter 10: Infectogenomics: aspect of Host...

Fields of interest
Microbial Ecology

Target groups
Professional/practitioner

Type of publication
Contributed volume

Available
2011. XVII, 351 p. 41 illus., 21 in color. Hardcover
149.95 €
ISBN 978-1-4419-7088-6

Embryonic Stem Cell Therapy for Osteo-Degenerative Diseases

Embryonic stem cells (ESCs) offer an unlimited self-renewing capacity, as opposed to the limits of adult stem cells; therefore, ESCs represent an almost bottomless resource for regenerative medicine and tissue engineering approaches. In Embryonic Stem Cell Therapy for Osteo-Degenerative Diseases: Methods and Protocols, accomplished investigators provide detailed descriptions on how to expand ESCs from the most commonly used species ex vivo, i.e. mouse and human, in static culture as well as in controllable bioreactor processes. The thorough and timely volume summarizes the methods that may be used to differentiate these cells along the desired lineage of choice, be it osteoblasts, osteoclasts, or chondrocytes, and consequently also offers analysis tools for the characterization of resulting cells and evaluation of differentiation effectiveness.

Features
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Contents
Embryonic Stem Cells for Osteo-Degenerative Diseases.
Methods for Culturing Mouse and Human Embryonic Stem Cells.
Serum-Free and Feeder free Culture Conditions for Human Embryonic Stem Cells.
Functional Assays for Human Embryonic Stem Cell Pluripotency.
Using Cadherin Expression to Assess Spontaneous Differentiation of Embryonic Stem Cells.
Generation of Human Embryonic Stem Cells Carrying Lineage Specific Reporters.
Manipulations of MicroRNA in Human Pluripotent Stem Cells and Their Derivatives.
Large-Scale Expansion of Mouse Embryonic Stem Cells on Microcarriers.
Embryoid Body...

Fields of interest
Cell Biology; Stem Cells

Target groups
Professional/practitioner

Type of publication
Contributed volume

Available
2011. XII, 336 p. 75 illus., 10 in color. (Methods in Molecular Biology, Vol. 692) Hardcover
109.95 €
ISBN 978-1-60761-961-1
Cell-Based Microarrays

Methods and Protocols

As a high throughput method for analyzing gene function, cell-based microarrays have proven to be of vital importance, allowing high throughput analysis of over expression and knock down of proteins. In Cell-Based Microarrays: Methods and Protocols, experts in the field provide an up to date synopsis of cell-based microarrays and meticulous coverage of all aspects of the array, including emerging technologies. Beginning with a detailed overview of the whole subject area, the volume continues with protocols for over-expression arrays and downstream functional assays, infectious disease research, increasing transfection efficiencies, as well as the development of cell-based array technology by use of microfluidic image cytometry for the analysis of small diagnostic samples with few cells. 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...

Features

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Contents

Cell-Based Microarrays: Overview.- Cell-Based Co-Transfection Microarrays for Use with HEK293T Cells on a Poly D-Lysine Polystryrene Coated Microplate.- Large-Scale Cell-Based Microarrays and Their Use with HEK293T Cells and Downstream Apoptotic Assays.- A Novel Fluorescent Transcriptional Reporter for Cell-Based Microarray Assays.- High-Throughput Subcellular Protein Localization Using Transfected-Cell Arrays.- Cell Arrays for the Measurement of Organelle Dynamics in Living Cells.- High-Throughput Immunofluorescence Microscopy Using Yeast Spheroplast Cell-Based Microarrays.- Cell-Based...

Fields of interest

Cell Biology

Target groups

Professional/practitioner

Type of publication

Contributed volume

Available


94,95 €

ISBN 978-1-61737-969-7

Diversity and Biotechnology of Ectomycorrhizae

Ectomycorrhizal fungi play multifunctional roles during symbioses with higher plants. They can serve as bioprotectors, biofertilizers, bioremedia tors and stress indicators. Further, they are the true “mycindicators” of forest ecosystems, where an enormous diversity of ectomycorrhizal fungi can be found. Some ectomycorrhizal fungi also produce edible sporocarps, i.e., fruiting bodies, which are important for the food industry. Ectomycorrhizal fungi also produce various metal chelating molecules, which are of remarkable biotechnological significance and which also secrete useful secondary metabolites. Molecular approaches are required for the identification and differentiation of fungi forming symbioses with higher plants, while molecular tools are important to understand how genes are expressed during symbiosis with higher plants. Students, researchers and teachers of botany, mycology, microbiology, forestry, and biotechnology will find a valuable source of information in this Soil Biology volume.

Features

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Contents

The importance of ectomycorrhizas for the growth of dipterocarps and the efficacy of ectomycorrhizal inoculation schemes.- The ectomycorrhizal symbiosis in South America: Morphology, colonization and diversity.- Ectomycorrhizal inoculum and inoculation techniques.- Systematic and ecology of tropical ectomycorrhizal fungi using molecular approaches.- The molecular ectomycorrhizal fungus essence in association: a review of differentially expressed fungal genes during symbiosis formation.- Agrobacterium tumefaciens-mediated transformation of ectomycorrhizal fungi.- Biotechnological...

Fields of interest

Agriculture; Soil Science & Conservation

Target groups

Research

Type of publication

Contributed volume

Available


139,95 €

ISBN 978-3-642-14895-8

Evolutionary Theory and the Creation Controversy

Evolutionary theory addresses the phenomenon of the origin and diversity of plant and animal species that we observe. In recent times, however, it has become a predominant ideology which has gained currency far beyond its original confines. Attempts to understand the origin and historical development of human culture, civilization and language, of the powers of human cognition, and even the origin of the moral and ethical values guiding and constraining everyday life in human societies are now cast in an evolutionary context. In “Evolutionary Theory and the Creation Controversy” the author examines evolutionary theory from a historical perspective, explaining underlying metaphysical backgrounds and fundamental philosophical questions such as the paradoxical problem of change, existence and creation. He introduces the scientists involved, their research results and theories, and discusses the evolution of evolutionary theory against the background of Creationism and Intelligent Design.

Features

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Contents


Fields of interest

Evolutionary Biology; History of Science; Anthropology

Target groups

Research

Type of publication

Monograph

Available

2011. X, 204 p. Hardcover

139,95 €

ISBN 978-3-642-14895-8
Quorum Sensing

Methods and Protocols

Since its early days in the 1990s, the Quorum Sensing (QS) field has grown from a few dozen laboratories, investigating the pathways, proteins, and chemicals that facilitate signaling in bacteria, to hundreds of groups that have integrated evolutionary biology, computer science, mathematics, engineering, and metagenomics to create an ever-expanding and dynamic field. In Quorum Sensing: Methods and Protocols, expert researchers provide an in-depth set of diverse protocols that span this broad area of study. Broken into three detailed sections, the volume covers the detection, isolation, and characterization of the QS signals made by both Gram- and Gram+ bacteria, determination of the function of QS signals in vivo, and the development of QS disruption strategies. Written in the highly successful ‘Methods in Molecular Biology’ series format, chapters include brief introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory…

Contents


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Contents

Primates of Gashaka

Socioculture and Conservation in Nigeria’s Biodiversity Hotspot

The Gashaka Primate Project has grown into one of the largest research and conservation activities in West Africa. At present, it keeps going on the initiative of the editors of this volume and their academic home institutions. The appearance of this volume marks the 10th anniversary of the Gashaka Primate Project.

Features
The remote Gashaka region of north-eastern Nigeria is still largely unexplored. In this premier wilderness, monkeys and apes survive in large numbers – part of a rich assemblage of wildlife at the interface between the dry sub-Saharan Guinea savannah and the moist Cameroonian highlands. Primates include the rarest chimpanzee subspecies, colobus, guenons and baboons. […]

Contents

Fields of interest
Zoology; Biodiversity; Animal Ecology; Applied Ecology; Environmental Management; Nature Conservation

Target groups
Research

Type of publication
Contributed volume

Available
2011. XVIII, 534 p. 93 illus., 6 in color. (Developments in Primatology: Progress and Prospects, Vol. 35) Hardcover
129,95 €
ISBN 978-1-4419-7402-0

Global Change and River Ecosystems - Implications for Structure, Function and Ecosystem Services

Rivers around the world are threatened by changes in land use, climate, hydrologic cycles, and biodiversity. Global changes in rivers include, but are not restricted to water flow interruptions, temperature increases, loss of hydrological connectivity, altered water residence times, changes in nutrient loads, increasing arrival of new chemicals, simplification of the physical structure of the systems, occurrence of invasive species, and biodiversity losses. All of them affect the structure and functioning of the river ecosystem, and thereby, their ecosystem services. Understanding the responses of river ecosystems and their services to global change is essential for protecting human well being in all corners of the planet. Rivers provide critical benefits by providing food from fisheries and irrigation, regulating biogeochemical balances, and enriching our aesthetic and cultural experience. Predicting responses of rivers to global change is challenged by the complexity of interactions among these […]

Features
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Fields of interest
Freshwater & Marine Ecology; Ecology; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; Marine & Freshwater Sciences

Target groups
Research

Type of publication
Contributed volume

Available
139,95 €
ISBN 978-94-007-0607-1

Biofuels

Global Impact on Renewable Energy, Production Agriculture, and Technological Advancements

This comprehensive volume developed under the guidance of guest editors Prakash Lakshmanan and David Songstad features broad coverage of the topic of biofuels and its significance to the economy and to agriculture. These chapters were first published by In Vitro Cellular and Developmental Biology In Vitro Plant in 2009 and consists of 15 chapters from experts who are recognized both for their scientific accomplishments and global perspective in their assigned topics.

Features
The biofuels area is one of the most discussed research areas in biotechnology. This volume summarizes the current state of the art in the context of economic, agricultural productivity and sustainability as well as global perspectives. This volume is an excellent resource of diverse biofuels knowledge organized in sections and specific topics in an easily accessible and readable format. The broad scope of […]

Contents
Chapter 1: Historical Perspective of Biofuels: Learning from the Past to Re-Discover the Future. - Chapter 2: The DOE BioEnergy Science Center - a U.S. Department of Energy Bioenergy Research Center. - Chapter 3: Drivers Leading to Higher Food Prices: Biofuels Are Not the Main Factor. - Chapter 4: The Economics of Current and Future Biofuels. - Chapter 5: A multiple species approach to biomass production from native herbaceous perennial feedstocks. - Chapter 6: Development and status of dedicated energy crops in the United States. - Chapter 7: Genetic improvement of C4 grasses as […]

Fields of interest
Plant Sciences; Plant Genetics and Genomics; Plant Anatomy / Development; Plant Biochemistry

Target groups
Graduate

Type of publication
Contributed volume

Available
2011. VIII, 357 p. 40 illus., 28 in color. Hardcover
139,95 €
Protein Chromatography
Methods and Protocols

A prerequisite for elucidating the structure and function of any protein is the prior purification of that protein. This necessity has led to the development of many purification schemes and chromatographic methods for the isolation of native proteins from complex sources. In Protein Chromatography: Methods and Protocols, leading researchers present clear protocol-style chapters that are suitable for newcomers and experts alike. The book opens with vital topics in protein biochemistry, addressing such areas as protein stability and storage, avoiding proteolysis during chromatography, protein quantitation methods including immuno-qPCR, and the contrasting challenges that microfluidics and scale-up production pose to the investigator, and then it segues into key methods involving the generation and purification of recombinant proteins through recombinant antibody production and the tagging of proteins, amongst other means, as well as many variations on classic techniques such as ion-exchange and [...] features. A prerequisite for elucidating the structure and function of any protein is the prior purification of that protein. This necessity has led to the development of many purification schemes and chromatographic methods for the isolation of native proteins from complex sources. In Protein Chromatography: Methods and Protocols, leading researchers present clear protocol-style chapters that are suitable for newcomers and experts alike. The book opens with vital topics in protein biochemistry, addressing such areas as protein stability and storage, avoiding proteolysis during chromatography, protein quantitation methods including immuno-qPCR, and the contrasting challenges that microfluidics and scale-up production pose to the investigator, and then it segues into key methods involving the generation and purification of recombinant proteins through recombinant antibody production and the tagging of proteins, amongst other means, as well as many variations on classic techniques such as ion-exchange and [...] features.

Contents

Available
2011, XII, 327 p. 51 illus. (Methods in Molecular Biology, Vol. 681) Hardcover
109.95 €

Bioinformatics for Comparative Proteomics

With the rapid development of proteomic technologies in the life sciences and in clinical applications, many bioinformatics methodologies, databases, and software tools have been developed to support comparative proteomics study. In Bioinformatics for Comparative Proteomics, experts in the field highlight the current status, challenges, open problems, and future trends for developing bioinformatics tools and resources for comparative proteomics research in order to deliver a definitive reference providing both the breadth and depth needed on the subject. Structured in three major sections, this detailed volume covers basic bioinformatics frameworks relating to comparative proteomics, bioinformatics databases and tools for proteomics data analysis, and integrated bioinformatics systems and approaches for studying comparative proteomics in the systems biology context. Written for the highly successful Methods in Molecular Biology® series, the contributions in this book provide the meticulous [...] features.

Contents

Available
109.95 €

Linguistics

The Geometry of Argument Structure

Linking - how semantic arguments map to the syntax - is one of the challenges for theories of the syntax-semantics interface. In this new approach, Janet Randall explores the hypothesis that the positions of syntactic arguments are strictly determined by lexical argument geometry. Yielding novel - if sometimes surprising - conclusions, her Isomorphic Linking Hypothesis establishes the linking patterns of a wide range of verbs and, with those results, shows how to reason 'backwards' from how a given verb's arguments link to what its lexical representation must be. Along the way, the investigation takes on thorny lexical issues - reformulating the Theta Criterion, revisiting the multiple lexical-entry debate, eliminating 'indirect' arguments and redefining unaccusativity. It offers new insights into how arguments are represented, assembles a host of argument/adjunct diagnostics, and re-examines the relation between arguments and predicates. The result of this incisive study is a simple and consistent [...] features.

Contents

Available
2010, XVI, 328 p. (Studies in Natural Language and Linguistic Theory, Vol. 74) Softcover
79,95 €
ISBN 978-94-007-0352-6
Phi-features and the Modular Architecture of Language

This monograph investigates the modular architecture of language through the nature of “uninterpretable” phi-features: person, number, gender, and Case. It provides new tools and evidence for the modular architecture of the human language faculty, a foundational topic of linguistic research. At the same time it develops a new theory for one of the core issues posed by the Minimalist Program: the relationship of syntax to its interfaces and the nature of uninterpretable features. The work sets out to establish a new cross-linguistic phenomenon to study the foregoing, person-governed last-resort repairs, which provides new insights into the nature of ergative/accusative Case and of Case licensing itself. This is the first monograph that explicitly addresses the syntactic vs. morphological status of uninterpretable phi-features and their relationship to interface systems in a similar way, drawing on person-based interactions among arguments as key data-base.

Contents
Acknowledgements. - Conventions and glosses. - Preface. - 1 Modularity, phi-features, and repairs. - 2 Phi-features in realizational morphology. - 3 Person Hierarchy interactions in syntax. - 4 Person Case Constraint repairs in French. - 5 Repairs and uninterpretable features. - 6 Phi in syntax and phi interpretation. - Name and Subject index.

Fields of interest
Linguistics (general); Syntax

Target groups
Research

Type of publication
Monograph

Available
99,95 €

Processing and Producing Head-final Structures

This book is the first collection of studies on an important yet under-investigated linguistic phenomenon, the processing and production of head-final syntactic structures. Until now, the remarkable progress made in the field of human sentence processing had been achieved largely by investigating head-initial languages such as English. The goal of the present volume is to deepen our understanding by examining head-final languages and offering a comparison of those results to findings from head-initial languages. This book brings together cross-linguistic investigations of languages with prominent head-final structures such as Basque, Chinese, German, Japanese, Korean, and Hindi. It will provide readers of linguistics with both theoretical and experimental backgrounds, as it provides accounts of previous studies, offers experimentally-based theoretical discussions, and includes experimental stimuli in the original languages.

Features
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Contents

Fields of interest
Psycholinguistics; Syntax

Target groups
Research

Type of publication
Proceedings

Available
119,95 €

Materials Science

E. Borsella, ENEA Research Centre of Frascati, Italy (Ed.)

BONSAI Project Symposium

Breakthroughs in Nanoparticles for Bio-Imaging

Particles on the nano-scale exhibit extraordinary properties and offer exciting opportunities in a wide range of applications, including visualization of cellular structures, receptors, inflammation, and characterisation of suspect lesions. The aim of this Symposium was to gather scientists active in the field (chemists, material scientists, physicists, engineers, clinicians and biochemists) to discuss new ideas, experimental results and insights ranging from the preparation to the applications of functional nanoparticles for bio-imaging and cell labelling.

Features
Particles on the nano-scale exhibit extraordinary properties and offer exciting opportunities in a wide range of applications, including visualization of cellular structures, receptors, inflammation, and characterisation of suspect lesions. The aim of this Symposium was to gather scientists active in the field (chemists, material scientists, physicists, engineers, clinicians and [...]
Biological Adhesive Systems
From Nature to Technical and Medical Application

There is a growing need for new adhesives for technical and medical applications! The nature uses adhesion in a host of ways and we can learn a great deal from this. Adhesive systems of potential interest need to be thoroughly analyzed and the common underlying principles and unique features of natural adhesives have to be understood. The first part of this book gives an overview of selected adhesive systems from the plant and animal kingdoms. It describes their structure (morphology), function (secretion), and what kinds of adhesives are produced (composition). Knowledge about biological adhesives raises the question as to how these systems can benefit our daily lives. The second part of this book focuses on technical and medical applications of biological adhesives and biomimetic systems. The use of renewable biological components in industrial adhesives is also highlighted as is the use of biomimetic and bio-adhesives in basic and applied research. Medical and surgical applications of these[..]

Features
There is a growing need for new adhesives for technical and medical applications! The nature uses adhesion in a host of ways and we can learn a great deal from this. Adhesive systems of potential interest need to be thoroughly analyzed and the common underlying principles and unique features of natural adhesives have to be understood. The first part of this book gives an overview of selected adhesive[..]

Contents

Fields of interest
Biomaterials; Animal Anatomy / Morphology / Histology; Characterization and Evaluation of Materials

Target groups
Research

Type of publication
Collected works

Available
2010. XI, 305 p. 156 illus., 85 in color. Hardcover

149,95 €
ISBN 978-3-7091-0141-4

International Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2009)

Nanoscale science and technology have occupied centre stage globally in modern scientific research and discourses in early twenty first century. The enabling nature of the technology makes it important in modern electronics, computing, materials, healthcare, energy and the environment. This volume contains some of the papers presented at the ICANN-2009, the first ever international conference on the subject held in the North-eastern part of India, with aims to promote sharing of new knowledge and exchange of the latest ideas in the field, through deliberations in the conference. The papers presented had been designed to represent the length and breadth of the field, with specific emphasis on the multidisciplinary nature of the subject. The peer reviewed articles contained herein are classified into several important subareas, e.g., nanomaterials and nanoscale functional materials, nanobiotechnology, nanocomposites, nanoelectronics and nanosensors, nanomagnetism,[..]

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Nanoscale science and technology have occupied centre stage globally in modern scientific research and discourses in early twenty first century. The enabling nature of the technology makes it important in modern electronics, computing, materials, healthcare, energy and the environment. This volume contains some of the papers presented at the ICANN-2009, the first ever international conference on the[..]

Fields of interest
Electrodynamics, Wave Phenomena

Contents
P. K. Giri, Indian Institute of Technology Guwahati, India; D.K. Goswami, Indian Institute of Technology Guwahati, India; A. Perumal, Indian Institute of Technology Guwahati, India; A. Chatopadhyay, Indian Institute of Technology Guwahati, India (Eds.)


Features
Nanoscale science and technology have occupied centre stage globally in modern scientific research and discourses in early twenty first century. The enabling nature of the technology makes it important in modern electronics, computing, materials, healthcare, energy and the environment. This volume contains some of the papers presented at the ICANN-2009, the first ever international conference on the subject held in the North-eastern part of India, with aims to promote sharing of new knowledge and exchange of the latest ideas in the field, through deliberations in the conference. The papers presented had been designed to represent the length and breadth of the field, with specific emphasis on the multidisciplinary nature of the subject. The peer reviewed articles contained herein are classified into several important subareas, e.g., nanomaterials and nanoscale functional materials, nanobiotechnology, nanocomposites, nanoelectronics and nanosensors, nanomagnetism,[..]

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Fields of interest
Biomaterials; Animal Anatomy / Morphology / Histology; Characterization and Evaluation of Materials

Target groups
Research

Type of publication
Monograph

Available

219,00 €
ISBN 978-0-7354-0825-8

Nanostructure Semiconductor Optical Amplifiers
Building Blocks for All-Optical Processing

"Nanostructure Semiconductor Optical Amplifiers" reviews all-optical processing methods currently available and presents semiconductor optical amplifiers (SOAs) as a new building block for this purpose. The authors discuss the overcomes of high frequency operation of SOAs and propose a new all-optical pumping method for the implementation of semiconductor optical amplifiers.

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"Nanostructure Semiconductor Optical Amplifiers" reviews all-optical processing methods currently available and presents semiconductor optical amplifiers (SOAs) as a new building block for this purpose. The authors discuss the overcomes of high frequency operation of SOAs and propose a new all-optical pumping method for the implementation of semiconductor optical amplifiers.

Fields of interest
Optical and Electronic Materials; Microwaves, RF and Optical Engineering; Semiconductors; Classical Electrodynamics, Wave Phenomena

Target groups
Research

Type of publication
Monograph

Available
2011. IX, 183 p. 4 illus. in color. (Engineering Materials) Hardcover

129,95 €
ISBN 978-3-642-14924-5
Nanoscale Photonics and Optoelectronics

The intersection of nanostructured materials with photonics and electronics shows great potential for clinical diagnostics, sensors, ultrafast telecommunication devices, and a new generation of compact and fast computers. Nanophotonics draws upon cross-disciplinary expertise from physics, materials science, chemistry, electrical engineering, biology, and medicine to create novel technologies to meet a variety of challenges. This is the first book to focus on novel materials and techniques relevant to the burgeoning area of nanoscale photonics and optoelectronics, including novel-hybrid materials with multifunctional capabilities and recent advancements in the understanding of optical interactions in nanoscale materials and quantum-confined objects. Leading experts provide a fundamental understanding of photonics and the related science and technology of plasmonics, polaritons, quantum dots for nanophotonics, nanoscale field emitters, near-field optics, nanophotonic architecture, and nanobiophotonics.

Features
The intersection of nanostructured materials with photonics and electronics shows great potential for clinical diagnostics, sensors, ultrafast telecommunication devices, and a new generation of compact and fast computers. Nanophotonics draws upon cross-disciplinary expertise from physics, materials science, chemistry, electrical engineering, biology, and medicine to create novel technologies to meet a variety.

Contents
1. Spontaneous Emission control in a Plasmonic Structures
2. Surface Plasmon enhanced Solid-State Emitting Devices
3. Polariton devices based on wide-bandgap semiconductor microcavities
4. Search for Negative Refraction in Visible by Fluorescent Microscopy of Quantum Dots Infiltrated into Regular and Inverse Synthetic Opals
5. Self-Assembled Guaninosine based nanoscale molecular photonic devices
6. Carbon Nanotubes for Optical Power Limiting Applications
7. Field Emission Properties of ZnO, ZnS and GaN Nanostructures
8. Growth, optical, and transport properties of...

Features

Contents

Fields of interest
Partial Differential Equations; Several Complex Variables and Analytic Spaces; Operator Theory

Target groups
Research

Type of publication
Contributed volume

Available
2011. 246 p. (C.I.M.E. Summer Schools, Vol. 75) Softcover
34.95 €
ISBN 978-3-642-11091-7

The Mathematics of Knots
Theory and Application

The present volume grew out of the Heidelberg Knot Theory Semester, organized by the editors in winter 2008/09 at Heidelberg University. The contributed papers bring the reader up to date on the currently most actively pursued areas of mathematical knot theory and its applications in mathematical physics and cell biology. Both original research and survey articles are presented; numerous illustrations support the text. The book will be of great interest to researchers in topology, geometry, and mathematical physics, graduate students specializing in knot theory, and cell biologists interested in the topology of DNA strands.

Features
The present volume grew out of the Heidelberg Knot Theory Semester, organized by the editors in winter 2008/09 at Heidelberg University. The contributed papers bring the reader up to date on the currently most actively pursued areas of mathematical knot theory and its applications in mathematical physics and cell biology. Both original research and survey articles are presented; numerous illustrations support the text.

Contents

Fields of interest
Topology; Manifolds and Cell Complexes (incl. Diff. Topology); Differential Geometry; Physiological, Cellular and Medical Topics; Numerical and Computational Physics

Target groups
Research

Type of publication
Contributed volume

Available
2011. X, 364 p. 28 illus. in color. (Contributions in Mathematical and Computational Sciences, Vol. 1) Hardcover
109.95 €
ISBN 978-3-642-15636-6

24.95 €
ISBN 978-0-85729-114-1
Topics in Algebraic and Topological K-Theory

This volume is an introductory textbook to K-theory, both algebraic and topological, and to various current research topics within the field, including Kasparov’s bivariant K-theory, the Baum-Connes conjecture, the comparison between algebraic and topological K-theory of topological algebras, the K-theory of schemes, and the theory of dg-categories.

Features
- This volume is an introductory textbook to K-theory, both algebraic and topological, and to various current research topics within the field.
- It includes topics such as Kasparov’s bivariant K-theory, the Baum-Connes conjecture, and the comparison between algebraic and topological K-theory of topological algebras.
- It covers the K-theory of schemes and the theory of dg-categories.

Contents
- K-theory for group C*-algebras
- Universal Coefficient Theorems and assembly maps in KK-theory
- Algebraic vs. topological K-theory: a friendly match
- Higher algebraic K-theory (after Quillen, Thomason and others)
- Lectures on DG-categories

Fields of interest
- K-Theory
- Target groups
- Graduate
- Type of publication
- Contributed volume

Available
- 44,95 €
- ISBN 978-3-642-15707-3

Mathematik im mittelalterlichen Islam


Features
- Dieses Buch enthält Episoden aus der Mathematik des mittelalterlichen Islam.
- Der Autor beschreibt das Thema in seinem historischen Zusammenhang.

Fields of interest
- History of Mathematics; Mathematics (general); Popular Science in Mathematics / Natural Science / Technology

Target groups
- Upper undergraduate

Type of publication
- German textbook

Available
- 2011. 200 S. Hardcover
- 27,99 €
Geometric Measure Theory and Minimal Surfaces

Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Varenna (Como), Italy, August 24 - September 2, 1972


Features


Contents


Fields of interest

Measure and Integration

Target groups

Research

Type of publication

Contributed volume

Available


34,95 €

ISBN 978-3-642-10969-0

Potential Theory

Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Varenna (Como), Italy, July 2-10, 1969


Features


Contents


Fields of interest

Potential Theory

Target groups

Research

Type of publication

Contributed volume

Available

2011. 248 p. (C.I.M.E. Summer Schools, Vol. 49) Softcover

34,95 €

ISBN 978-3-642-11083-2

Advances in Dynamic Games

Theory, Applications, and Numerical Methods for Differential and Stochastic Games

M. BRETON, HEC Montréal, QC, Canada; K. SZAJOWSKI, Wrocław University of Technology, Poland (Eds.)

This book focuses on various aspects of dynamic game theory, presenting state-of-the-art research and serving as a testament to the vitality and growth of the field of dynamic games and their applications. The selected contributions, written by experts in their respective disciplines, are outgrowths of presentations originally given at the 13th International Symposium of Dynamic Games and Applications held in Wrocław. The book covers a variety of topics, ranging from theoretical developments in game theory and algorithmic methods to applications, examples, and analysis in fields as varied as environmental management, finance and economics, engineering, guidance and control, and social interaction. Featured throughout are useful tools and valuable resources for researchers, practitioners, and graduate students interested in dynamic games and their applications in applied mathematics, engineering, economics, and management science. Also included in the volume is a special tribute to Arik Melikyan, [...]
Functional Analysis, Sobolev Spaces and Partial Differential Equations

This textbook is a completely revised, updated, and expanded English edition of the important Analyse fonctionnelle (1983). In addition, it contains a wealth of problems and exercises (with solutions) to guide the reader. Uniquely, this book presents in a coherent, concise and unified way the main results from functional analysis together with the main results from the theory of partial differential equations (PDEs). Although there are many books on functional analysis and many on PDEs, this is the first to cover both of these closely connected topics. Since the French book was first published, it has been translated into Spanish, Italian, Japanese, Korean, Romanian, Greek and Chinese. The English edition makes a welcome addition to this list.

Features

Uniquely, this book presents a coherent, concise and unified way of combining elements from two distinct "worlds," functional analysis (FA) and partial differential equations (PDEs), and is intended for students who have a good background in real analysis. This text presents a smooth transition from FA to PDEs by analyzing in general detail the simple case of one-dimensional PDEs (i.e., ODEs), a more manageable [...]
Mathematics for Finance
An Introduction to Financial Engineering

As with the first edition, Mathematics for Finance: An Introduction to Financial Engineering combi-ines financial motivation with mathematical style. Assuming only basic knowledge of probability and calculus, it presents three major areas of mathematical finance, namely Option pricing based on the no-arbitrage principle in discrete and continuous time setting, Markowitz portfolio optimisation and Capital Asset Pricing Model, and basic stochastic interest rate models in discrete setting. From the reviews of the first edition: “This text is an excellent introduction to Mathematical Finance. Armed with a knowledge of basic calculus and probability a student can use this book to learn about derivatives, interest rates and their term structure and portfolio management.” (Zentralblatt MATH) “Given these basic tools, it is surprising how high a level of sophistication the authors achieve, covering such topics as arbitrage-free valuation, binomial trees, and risk-neutral valuation.” (www.riskbook.com) “The...”

Features
As with the first edition, Mathematics for Finance: An Introduction to Financial Engineering combines financial motivation with mathematical style. Assuming only basic knowledge of probability and calculus, it presents three major areas of mathematical finance, namely option pricing based on the no-arbitrage principle in discrete and continuous time setting, Markowitz portfolio optimisation and the...”

Contents

Fields of interest
Quantitative Finance; Finance / Banking

Target groups
Upper undergraduate

Type of publication
Undergraduate textbook

Available
2011. XIII, 336 p. 66 illus. (Springer Undergraduate Mathematics Series) Softcover

39.95 €
ISBN 978-0-85729-081-6

Fixed Point Theory in Ordered Sets and Applications
From Differential and Integral Equations to Game Theory

This monograph provides a unified and comprehen-sive treatment of an order-theoretic fixed point the-ory in partially ordered sets and its various useful interactions with topological structures. The material progresses systematically, by presenting the preliminaries before moving to more advanced topics. In the treatment of the applications a wide range of mathematical theories and methods from nonlin-ear analysis and integration theory are applied; an outline of which has been given an appendix chap-ter to make the book self-contained. Graduate stu-dents and researchers in nonlinear analysis, pure and applied mathematics, game theory and mathematical economics will find this book useful.

Features
This monograph provides a unified and comprehen-sive treatment of an order-theoretic fixed point the-ory in partially ordered sets and its various useful interactions with topological structures. It begins with a discussion of some simple examples of the order-theoretic fixed point results along with simple applications from each of the diverse fields. The fixed point theory is then developed and...”

Contents

Fields of interest
Analysis; Game Theory, Economics, Social and Behav. Sciences; Game Theory / Mathematical Methods

Target groups
Graduate

Type of publication
Monograph

Available
2011. XIII, 477 p. 29 illus. Hardcover

89.95 €

Aspects of Mathematical Logic
Lectures given at a Summer School of the Centro Inter-nazionale Matematica Estivo (C.I.M.E.) held in Varemma (Como), Italy, September 9-17, 1968


Features

Contents

Fields of interest
Mathematical Logic and Foundations

Target groups
Research

Type of publication
Contributed volume

Available

34.95 €
ISBN 978-3-642-11078-8
Stochastic Differential Equations

Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Cortona (Arezzo), Italy, May 29-June 10, 1978


Contents

Fields of interest
Probability Theory and Stochastic Processes; Partial Differential Equations

Target groups
Research

Type of publication
Contributed volume

Available
2011. 249 p. (C.I.M.E. Summer Schools, Vol. 77) Softcover

34,95 €
ISBN 978-3-642-11077-1

Spectral Analysis

Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Varenna (Como), Italy, August 24-September 2, 1973


Features

Contents

Fields of interest

Arithmetic Geometry

Lectures given at the C.I.M.E. Summer School held in Cetraro, Italy, September 10-15, 2007

Arithmetic Geometry can be defined as the part of Algebraic Geometry connected with the study of algebraic varieties through arbitrary rings, in particular through non-algebraically closed fields. It lies at the intersection between classical algebraic geometry and number theory. A C.I.M.E. Summer School devoted to arithmetic geometry was held in Cetraro, Italy in September 2007, and presented some of the most interesting new developments in arithmetic geometry. This book collects the lecture notes which were written up by the speakers. The main topics concern diophantine equations, local-global principles, diophantine approximation and its relations to Nevanlinna theory, and rationally connected varieties. The book is divided into three parts, corresponding to the courses given by J.-L. Colliot-Thélène, Peter Swinnerton Dyer and Paul Vojta.

Features
Arithmetic Geometry can be defined as the part of ...

Contents
Variétés presque rationnelles, leurs points rationnels et leurs dégénérescences.- Topics in Diophantine Equations.- Diophantine Approximation and Nevanlinna Theory.

Fields of interest
Number Theory; Algebraic Geometry; Algebra

Target groups
Research

Type of publication
Contributed volume

Available

44,95 €
ISBN 978-3-642-15944-2
Modern Questions of Celestial Mechanics

Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Bressanone (Bolzano), Italy, May 21-31, 1967


Features
C. Agostinelli: Sul problema delle aurore boreali e il moto di un corpuscolo elettrozzato in presenza di un dipolo magnetico.- G. Colombo: Introduction to the theory of earth’s motion about its center of mass.- E.M. Gaposchkin: The motion of the pole and the earth’s elasticity as studied from the gravity field of the earth by means of artificial earth satellites.- I.I. Shapiro: Radar astronomy, general [...] (Bolzano), Italy, May 21-31, 1967

Contents

Fields of interest
Partial Differential Equations; Mechanics; Astronomy, Astrophysics and Cosmology

Target groups
Research

Type of publication
Contributed volume

Available
34,95 €
ISBN 978-3-642-11053-5

Calculus of Variations, Classical and Modern

Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Bressanone (Bolzano), Italy, June 10-18, 1966


Features
A. Blaquière: Quelques aspects géométriques des processus optimaux.- C. Castaing: Quelques problèmes de mesurabilité liés à la théorie des commandes.- L. Cesari: Existence theorems for Lagrange and Pontryagin problems of the calculus of variations and optimal control of more-dimensional extensions in Sobolev space.- H. Halkin: Optimal control as programming in infinite dimensional spaces.- C. Olech: The range [...] (Bolzano), Italy, June 10-18, 1966

Contents

Fields of interest
Calculus of Variations and Optimal Control; Optimization

Target groups
Research

Type of publication
Contributed volume

Available
34,95 €
ISBN 978-3-642-11041-2

Stochastic Analysis 2010

Stochastic Analysis aims to provide mathemati- cal tools to describe and model high dimensional random systems. Such tools arise in the study of Stochastic Differential Equations and Stochastic Partial Differential Equations, Infinite Dimensional Stochastic Geometry, Random Media and Interacting Particle Systems, Super-processes, Stochastic Filtering, Mathematical Finance, etc. Stochastic Analysis has emerged as a core area of late 20th century Mathematics and is currently undergoing a rapid scientific development. The special volume “Stochastic Analysis 2010” provides a sample of the current research in the different branches of the subject. It includes the collected works of the participants at the Stochastic Analysis section of the 7th ISACC Congress organized at Imperial College London in July 2009.

Features
Stochastic Analysis aims to provide mathemati- cal tools to describe and model high dimensional random systems. Such tools arise in the study of Stochastic Differential Equations and Stochastic Partial Differential Equations, Infinite Dimensional Stochastic Geometry, Random Media and Interacting Particle Systems, Super-processes, Stochastic Filtering, Mathematical Finance, etc. Stochastic Analysis has emerged [...] (Bolzano), Italy, May 21-31, 1967

Contents

Fields of interest
Probability Theory and Stochastic Processes

Target groups
Research

Type of publication
Contributed volume

Available
109,95 €
ISBN 978-3-642-15357-0
**Algorithmic Randomness and Complexity**

Intuitively, a sequence such as 10100101010101010... does not seem random, whereas 1010101011001010110... is, obtained using coin tosses, does. How can we reconcile this intuition with the fact that both are statistically equally likely? What does it mean to say that an individual mathematical object such as a real number is random, or to say that one real is more random than another? And what is the relationship between randomness and computational power? The theory of algorithmic randomness uses tools from computability theory and algorithmic information theory to address questions such as these. Much of this theory can be seen as exploring the relationships between three fundamental concepts: relative computability, as measured by notions such as Turing reducibility; information content, as measured by notions such as Kolmogorov complexity; and randomness of individual objects, as first successfully defined by Martin-Löf. Although algorithmic randomness has been studied for several decades, a dramatic [...]  

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**Contents**


**Fields of interest**

Algorithmics; Algorithm Analysis and Problem Complexity; Theory of Computation; Computation by Abstract Devices  

**Target groups**

Graduate  

**Type of publication**

Graduate/advanced undergraduate textbook

---

**Concrete Functional Calculus**

Concrete Functional Calculus focuses primarily on differentiability of some nonlinear operators on functions or pairs of functions. This includes composition of two functions, and the product integral, taking a matrix- or operator-valued coefficient function into a solution of a system of linear differential equations with the given coefficients. For nonlinear integral equations with respect to possibly discontinuous functions having unbounded variation, existence and uniqueness of solutions are proved under suitable assumptions. Key features and topics:  

**Extensive usage of p-variation of functions**  

**Applications to stochastic processes.** This work will serve as a thorough reference on its main topics for researchers and graduate students with a background in real analysis and, for Chapter 12, in probability.  

**Features**

Concrete Functional Calculus focuses primarily on differentiability of some nonlinear operators on functions or pairs of functions. This includes composition of two functions, and the product integral, taking a matrix- or operator-valued coefficient function into a solution of a system of linear differential equations with the given coefficients. For nonlinear integral equations with respect to [...]  

**Contents**


**Fields of interest**

Functional Analysis; Integral Equations; Operator Theory; Real Functions  

**Target groups**

Research  

**Type of publication**

Monograph

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Fourier Integral Operators

This volume is a useful introduction to the subject of Fourier Integral Operators and is based on the author's classic set of notes. Covering a range of topics from Hörmander's exposition of the theory, Duistermaat approaches the subject from symplectic geometry and includes application to hyperbolic equations (= equations of wave type) and oscillatory asymptotic solutions which may have caustics. This text is suitable for mathematicians and (theoretical) physicists with an interest in (linear) partial differential equations, especially in wave propagation, resp. WKB-methods. Familiarity with analysis (distributions and Fourier transformation) and differential geometry is useful. Additionally, this book is designed for a one-semester introductory course on Fourier integral operators aimed at a broad audience.

Features

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Contents


Target groups Graduate

Type of publication Graduate/advanced undergraduate textbook

Available

2011, 142 p. 9 illus. (Modern Birkhäuser Classics) Softcover
39,95 €
ISBN 978-0-8176-8107-4

Cantor und die Franzosen

Georg Cantor, Entdecker der Mengenlehre, hatte, während er sie entwickelte, lebhaften und regelmäßigen brieflichen Austausch mit zahlreichen französischen Mathematikern. Anhand dieser Briefe beschreibt die Autorin detailliert, wie die Briefpartner um mathematische Begriffe gerungen haben. Eingebettet in die jeweils historischen Kontexte Frankreichs und Deutschlands wird ein faszinierender Moment der mathematischen Geschichte wieder lebendig.

Features

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Fields of interest Foundations; Mathematics (general)

Target groups Research

Type of publication Monograph

Available

2010, 169 p. (Frontiers in Mathematics) Softcover
29,95 €
ISBN 978-3-0346-0175-7

The Geometry of Filtering

The geometry which is the topic of this book is that determined by a map of one space N onto another, M, mapping a diffusion process, or operator, on N to one on M. Filtering theory is the science of obtaining or estimating information about a system from partial and possibly flawed observations of it. The system itself may be random, and the flaws in the observations can be caused by additional noise. In this volume the randomness and noises will be of Gaussian white noise type so that the system can be modelled by a diffusion process; that is it evolves continuously in time in a Markovian way, the future evolution depending only on the present situation. This is the standard situation of systems governed by its type stochastic differential equations. The state space will be the smooth manifold, N, possibly infinite dimensional, and the "observations" will be obtained by a smooth map onto another manifold, M, say. We emphasise that the geometry is important even when both manifolds are Euclidean.

Features

The geometry which is the topic of this book is that determined by a map of one space N onto another, M, mapping a diffusion process, or operator, on N to one on M. Filtering theory is the science of obtaining or estimating information about a system from partial and possibly flawed observations of it. The system itself may be random, and the flaws in the observations can be caused by additional...

Contents


Fields of interest Differential Geometry; Probability Theory and Stochastic Processes

Target groups Research

Type of publication Monograph

Available

2010, 250 S. (Mathematik im Kontext, 0) Softcover
27,99 €
ISBN 978-3-642-14868-2
**Controllability and Observability**

Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Pontecchio (Bologna), Italy, July 1-9, 1968


**Contents**


**Fields of interest**

Systems Theory, Control; Calculus of Variations and Optimal Control; Optimization

**Target groups**

Research

**Type of publication**

Contributed volume

**Available**


34.95 €

ISBN 978-3-642-11062-7

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**Generalizations of Thomae’s Formula for Zn Curves**

Previous publications on the generalization of the Thomae formulae to Zn curves have emphasized the theory’s implications in mathematical physics and depended heavily on applied mathematical techniques. This book redevelops these previous results demonstrating how they can be derived directly from the basic properties of theta functions as functions on compact Riemann surfaces. "Generalizations of Thomae’s Formula for Zn Curves” includes several refocused proofs developed in a generalized context that is more accessible to researchers in related mathematical fields such as algebraic geometry, complex analysis, and number theory. This book is intended for mathematicians with an interest in complex analysis, algebraic geometry or number theory as well as physicists studying conformal field theory.

**Features**

This book provides a comprehensive overview of the theory of theta functions, as applied to compact Riemann surfaces, as well as the necessary background for understanding and proving the Thomae formulae. The exposition examines the properties of a particular class of compact Riemann surfaces, i.e., the Zn curves, and thereafter focuses on how to prove the Thomae formulae, which give a relation [...]

**Contents**


**Fields of interest**

Algebraic Geometry; Functions of a Complex Variable; Several Complex Variables and Analytic Spaces; Special Functions; Number Theory

**Target groups**

Research

**Type of publication**

Monograph

**Available**


89.95 €


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**Wave Propagation**

Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Bressanone (Bolzano), Italy, June 8-17, 1980


**Features**


**Contents**


**Fields of interest**

Partial Differential Equations

**Target groups**

Research

**Type of publication**

Contributed volume

**Available**


34.95 €

ISBN 978-3-642-11064-1
Mathematical Optimisation in Economics


Features

Contents

Fields of interest
Game Theory, Economics, Social and Behaviour Sciences; Operations Research, Mathematical Programming

Target groups
Research

Type of publication
Contributed volume

Available
34,95 €
ISBN 978-3-642-11038-2

Functional Equations and Inequalities


Features

Contents

Fields of interest
Game Theory, Economics, Social and Behaviour Sciences; Operations Research, Mathematical Programming

Target groups
Research

Type of publication
Contributed volume

Available
34,95 €
ISBN 978-3-642-11038-2

Statistical Mechanics


Features

Contents

Fields of interest
Game Theory, Economics, Social and Behaviour Sciences; Operations Research, Mathematical Programming

Target groups
Research

Type of publication
Contributed volume

Available
34,95 €
ISBN 978-3-642-11107-5
Theory of Group Representations and Fourier Analysis
Lectures given at a Summer School of the Centro Interazionale Matematico Estivo (C.I.M.E.) held in Montecatini Terme (Pistoia), Italy, June 25 - July 4, 1970


Features

Contents

Fields of interest
Topological Groups, Lie Groups

Target groups
Research

Type of publication
Contributed volume

Available

34,95 €
ISBN 978-3-642-11011-5

Complex Analysis
Lectures given at a Summer School of the Centro Interazionale Matematico Estivo (C.I.M.E.) held in Bressanone (Bolzano), Italy, June 3-12, 1973


Features

Contents

Fields of interest
Functions of a Complex Variable; Several Complex Variables and Analytic Spaces

Target groups
Research

Type of publication
Contributed volume

Available

44,95 €
ISBN 978-3-642-10963-8

Matematica e Arte
Forme del pensiero artistico
Il libro vuole saldare didattica e divulgazione su un tema di grande fascino come quello dei rapporti tra la matematica e l’espressione artistica cercando di andare oltre alle ovvietà che spesso circondano questo argomento, alle facili metafore, a esoterici misteri, con l’obiettivo di fornire un quadro concettuale matematico per quanto possibile rigoroso, accessibile a una cultura liceale, isolando quei temi per i quali non sia pretestuoso l’intreccio tra matematica e arte. Il Cd che accompagna il testo raccoglie il materiale didattico prodotto nella attività laboratoriale con gli studenti: schede di lavoro, animazioni, film, pagine di geometria dinamica, e può essere utilmente utilizzato da chi intenda riproporre nel proprio contesto didattico questa esperienza.

Features
Il libro vuole saldare didattica e divulgazione su un tema di grande fascino come quello dei rapporti tra la matematica e l’espressione artistica cercando di andare oltre alle ovvietà che spesso circondano questo argomento, alle facili metafore, a esoterici misteri, con l’obiettivo di fornire un quadro concettuale matematico per quanto possibile rigoroso, accessibile a una cultura liceale, isolando quei temi (…)

Fields of interest
Mathematics (general); Mathematics Education; Arts; History of Mathematics

Target groups
Lower undergraduate

Type of publication
Monograph

Available

22,07 €
Engineering Differential Equations

Theory and Applications

This book is a comprehensive treatment of engineering undergraduate differential equations as well as linear vibrations and feedback control. While this material has traditionally been separated into different courses in undergraduate engineering curricula. This text provides a streamlined and efficient treatment of material normally covered in three courses. Ultimately, engineering students study mathematics in order to be able to solve problems within the engineering realm. Engineering Differential Equations: Theory and Applications guides students to approach the mathematical theory with much greater interest and enthusiasm by teaching the theory together with applications. Additionally, it includes an abundance of detailed examples. Appendices include numerous C and FORTRAN example programs. This book is intended for engineering undergraduate students, particularly aerospace and mechanical engineers and students in other disciplines concerned with mechanical systems analysis and control. [...] 

Features

This book is a comprehensive treatment of engineering undergraduate differential equations as well as linear vibrations and feedback control. While this material has traditionally been separated into different courses in undergraduate engineering curricula. This text provides a streamlined and efficient treatment of material normally covered in three courses. Ultimately, engineering students study mathematics [...] 

Contents


Fields of interest

Ordinary Differential Equations; Applied Mathematics / Computational Methods of Engineering; Applications of Mathematics; Systems Theory, Control

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook

Available

2011. XVI, 748 p. 313 illus. Hardcover
69.95 €

Materials with Memory

Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Bressanone (Bolzano), Italy, June 2-11, 1977


Features


Contents


Fields of interest

Partial Differential Equations; Thermodynamics

Target groups

Research

Type of publication

Contributed volume

Available

34.95 €
ISBN 978-3-642-11095-5

Non-Linear Mechanics

Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Bressanone (Bolzano), Italy, June 4-13, 1972


Features


Contents


Fields of interest

Ordinary Differential Equations; Theoretical and Applied Mechanics; Theoretical, Mathematical and Computational Physics

Target groups

Research

Type of publication

Contributed volume

Available

44.95 €
ISBN 978-3-642-10975-1
Meshfree Methods for Partial Differential Equations V

The numerical treatment of partial differential equations with particle methods and meshfree discretization techniques is an extremely active research field, both in the mathematics and engineering communities. Meshfree methods are becoming increasingly mainstream in various applications. Due to their independence of a mesh, particle schemes and meshfree methods can deal with large geometric changes of the domain more easily than classical discretization techniques. Furthermore, meshfree methods offer a promising approach for the coupling of particle models to continuous models. This volume of LNCS is a collection of the papers from the proceedings of the Fifth International Workshop on Meshfree Methods, held in Bonn in August 2009. The articles address the different meshfree methods and their use in applied mathematics, physics, and engineering. The volume is intended to foster this highly active and exciting area of interdisciplinary research and to present recent advances and findings in this field.

Features
The numerical treatment of partial differential equations with particle methods and meshfree discretization techniques is an extremely active research field, both in the mathematics and engineering communities. Meshfree methods are becoming increasingly mainstream in various applications. Due to their independence of a mesh, particle schemes and meshfree methods can deal with large geometric changes of the [...]
Performance Models and Risk Management in Communications Systems

This volume covers recent developments in the design, operation, and management of telecommunication and computer network systems in performance engineering and addresses issues of uncertainty, robustness, and risk. Uncertainty regarding loading and system parameters leads to challenging optimization and robustness issues. Stochastic modeling combined with optimization theory ensures the optimum end-to-end performance of telecommunication or computer network systems. In view of the diverse design options possible, supporting models have many adjustable parameters and choosing the best set for a particular performance objective is delicate and time-consuming. An optimization-based approach determines the optimal possible allocation for these parameters. Researchers and graduate students working at the interface of telecommunications and operations research will benefit from this book. Due to the practical approach, this book will also serve as a reference tool for scientists and engineers.

Features
This volume covers recent developments in the design, operation, and management of telecommunication and computer network systems in performance engineering and addresses issues of uncertainty, robustness, and risk. Uncertainty regarding loading and system parameters leads to challenging optimization and robustness issues. Stochastic modeling combined with optimization theory ensures the optimum end-to-end performance.

Contents

Fields of interest
Operations Research, Mathematical Programming; System Performance and Evaluation; Communications Engineering, Networks; Optimization; Probability Theory and Stochastic Processes; Operation Research / Decision Theory

Target groups
Research

Type of publication
Contributed volume
**Integral Geometry and Radon Transforms**

In this text, integral geometry deals with Radon's problem of representing a function on a manifold in terms of its integrals over certain submanifolds—hence the term the Radon transform. Examples and far-reaching generalizations lead to fundamental problems such as: (i) injectivity, (ii) inversion formulas, (iii) support questions, (iv) applications (e.g., to tomography, partial differential equations and group representations). For the case of the plane, the inversion theorem and the support theorem have had major applications in medicine through tomography and CAT scanning. While containing some recent research, the book is aimed at beginning graduate students for classroom use or self-study. A number of exercises point to further results with documentation. From the reviews: "Integral Geometry is a fascinating area, where numerous branches of mathematics meet together. The contents of the book is concentrated around the duality and double vibration, which is realized through the masterful [...]"

**Features**

In this text, integral geometry deals with Radon's problem of representing a function on a manifold in terms of its integrals over certain submanifolds—hence the term the Radon transform. Examples and far-reaching generalizations lead to fundamental problems such as: (i) injectivity, (ii) inversion formulas, (iii) support questions, (iv) applications (e.g., to tomography, partial differential equations and [...]"

**Contents**

The Radon Transform on $\mathbb{R}^n$ - A Duality in Integral Geometry - The Radon Transform on Two-Point Homogeneous Spaces - The X-Ray Transform on a Symmetric Space - Orbital Integrals - The Mean-Value Operator - Fourier Transforms and Distribution: A Rapid Course - Lie Transformation Groups and Differential Operators - Bibliography - Notational Conventions - Index

**Fields of interest**

Differential Geometry; Integral Transforms, Operational Calculus; Global Analysis and Analysis on Manifolds; Topological Groups, Lie Groups

**Target groups**

Graduate

**Type of publication**

Graduate/advanced undergraduate textbook

**Available**

2011. XV, 301 p. 27 illus. Hardcover

59,95 €

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**Some Aspects of Ring Theory**

Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.), held in Varenna (Como), Italy, August 23-31, 1965


**Features**


**Contents**


**Fields of interest**

Associative Rings and Algebras; Several Complex Variables and Analytic Spaces

**Target groups**

Research

**Type of publication**

Contributed volume

**Available**


34,95 €
ISBN 978-3-642-11035-1

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**Spectral and High Order Methods for Partial Differential Equations**

Selected papers from the ICOSAHOM '09 conference, June 22-26, Trondheim, Norway

The book contains a selection of high quality papers, chosen among the best presentations during the International Conference on Spectral and High-Order Methods (2009), and provides an overview of the depth and breadth of the activities within this important research area. The carefully reviewed selection of the papers will provide the reader with a snapshot of state-of-the-art and help initiate new research directions through the extensive bibliography.

**Features**

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**Fields of interest**

Computational Mathematics and Numerical Analysis; Computational Science and Engineering; Numerical and Computational Physics; Engineering Fluid Dynamics

**Target groups**

Research

**Type of publication**

Proceedings

**Available**


109,95 €
ISBN 978-3-642-15336-5
Probability Measures on Semigroups

Convolution Products, Random Walks and Random Matrices

This second edition presents up-to-date material on the theory of weak convergence of convolution products of probability measures in semigroups, the theory of random walks on semigroups, and their applications to products of random matrices. In addition, this unique work examines the essentials of abstract semigroup theory and its application to concrete semigroups of matrices. This substantially revised text includes exercises at various levels at the end of each section and includes the best available proofs on the most important theorems used in a book, making it suitable for a one semester course on semigroups. In addition, it could also be used as a main text or supplementary material for courses focusing on probability on algebraic structures or weak convergence. This book is ideally suited to graduate students in mathematics, and students in other fields, such as engineering and the sciences with an interest in probability. Students in statistics using advanced probability will also[...]

Contents


Fields of interest

Semigroup Theory and Stochastic Processes; Probability and Statistics in Computer Science; Topological Groups, Lie Groups; Analysis

Target groups

Research

Type of publication

Monograph

Available


89.95 €

ISBN 978-0-387-77547-0
Representation Theory of the Virasoro Algebra

The Virasoro algebra is an infinite dimensional Lie algebra that plays an increasingly important role in mathematics and theoretical physics. This book describes some fundamental facts about the representation theory of the Virasoro algebra in a self-contained manner. Topics include the structure of Verma modules and Fock modules, the classification of (unitarizable) Harish-Chandra modules, tilting equivalences, and the rational vertex operator algebras associated to the so-called minimal series representations. Covering a wide range of material, this book has three appendices which provide background information required for some of the chapters. The authors organize fundamental results in a unified way and refine existing proofs. For instance in chapter three, a generalization of Jantzen filtration is reformulated in an algebraic manner, and geometric interpretation is provided. Statements, widely believed to be true, are collated, and results which are known but not verified are proven, such as the [...]  

Contents  

Fields of interest  
Algebra; Non-associative Rings and Algebras; Theoretical, Mathematical and Computational Physics; Topological Groups, Lie Groups; Special Functions; Combinatorics

Target groups  
Research

Type of publication  
Monograph

Available  
2011. XX, 467 p. 15 illus. (Springer Monographs in Mathematics) Hardcover

159,95 €  
ISBN 978-3-642-16207-7

Automation, Communication and Cybernetics in Science and Engineering 2009/2010

The book presents a representative selection of all publications published between 01/2009 and 06/2010 in various books, journals and conference proceedings by the researchers of the institute cluster: IMA - Institute of Information Management in Mechanical Engineering ZLW - Center for Learning and Knowledge Management IU - Institute for Management Cybernetics, Faculty of Mechanical Engineering, RWTH Aachen University. The contributions address the cluster’s five core research fields: suitable processes for knowledge- and technology-intensive organizations, next-generation teaching and learning concepts for universities and the economy, cognitive IT-supported processes for heterogeneous and cooperative systems, target group-adapted user models for innovation and technology development processes, semantic networks and ontologies for complex value chains and virtual environments. Innovative fields of application such as cognitive systems, autonomous truck convoys, telemedicine, ontology engineering, [...]  

Fields of interest  
Computational Science and Engineering; Applied Mathematics / Computational Methods of Engineering; Information Systems and Communication Service

Target groups  
Research

Type of publication  
Proceedings

Available  
2011. XX, 682 p. 218 illus., 4 in color. Hardcover

159,95 €  
ISBN 978-3-642-16207-7

A Friendly Guide to Wavelets

This volume is designed as a textbook for an introductory course on wavelet analysis and time-frequency analysis aimed at graduate students or advanced undergraduates in science and engineering. It can also be used as a self-study or reference book by practicing researchers in signal analysis and related areas. Since the expected audience is not presumed to have a high level of mathematical background, much of the needed analytical machinery is developed from the beginning. The only prerequisites for the first eight chapters are matrix theory, Fourier series, and Fourier integral transforms. Each of these chapters ends with a set of straightforward exercises designed to drive home the concepts just covered, and the many graphics should further facilitate absorption.  

Features  
I wholeheartedly recommend this book for a solid and friendly introduction to wavelets, for anyone who is comfortable with the mathematics required of undergraduate electrical engineers. The book’s appeal is that it covers all the fundamental concepts of wavelets in an elegant, straightforward way. It offers truly enjoyable (friendly!) mathematical exposition that is rich in intuitive explanations. [...]  

Contents  

Fields of interest  
Applications of Mathematics; Signal, Image and Speech Processing; Mathematical Methods in Physics; Fourier Analysis

Target groups  
Graduate

Type of publication  
Graduate/advanced undergraduate textbook

Available  
2011. XVIII, 300 p. 33 illus. (Modern Birkhäuser Classics) Softcover

49,95 €  
ISBN 978-0-8176-8110-4
Stochastic Linear Programming

Models, Theory, and Computation

This new edition of Stochastic Linear Programming: Models, Theory and Computation has been brought completely up to date, either dealing with or at least referring to new material on models and methods, including DEA with stochastic outputs modeled via constraints on special risk functions (generalizing chance constraints, ICC’s and CVaR constraints), material on Sharpe-ratio, and Asset Liability Management models involving CVaR in a multi-stage setup. To facilitate use as a text, exercises are included throughout the book, and web access is provided to a student version of the authors’ SLP-IOR software. Additionally, the authors have updated the Guide to Available Software, and they have included newer algorithms and modeling systems for SLP. The book is thus suitable as a text for advanced courses in stochastic optimization, and as a reference to the field. From Reviews of the First Edition: "The book presents a comprehensive study of stochastic linear optimization problems and their[...]

Features

This new edition of Stochastic Linear Programming: Models, Theory and Computation has been brought completely up to date, either dealing with or at least referring to new material on models and methods, including DEA with stochastic outputs modeled via constraints on special risk functions (generalizing chance constraints, ICC’s and CVaR constraints), material on Sharpe-ratio, and Asset Liability Management models involving CVaR in a multi-stage setup. To facilitate use as a text, exercises are included throughout the book, and web access is provided to a student version of the authors’ SLP-IOR software. Additionally, the authors have updated the Guide to Available Software, and they have included newer algorithms and modeling systems for SLP. The book is thus suitable as a text for advanced courses in stochastic optimization, and as a reference to the field. From Reviews of the First Edition: "The book presents a comprehensive study of stochastic linear optimization problems and their[...]

Contents


Fields of interest

Optimization; Operations Research, Mathematical Programming; Applied Mathematics / Computational Methods of Engineering; Probability Theory and Stochastic Processes; Operation Research / Decision Theory; Applications of Mathematics

Type of publication

Graduate/advanced undergraduate textbook

Available


89,95 €

ISBN 978-1-4419-7728-1

A Modern Approach to Functional Integration

This text takes advantage of recent developments in the theory of path integration to provide an improved treatment of quantization of systems that either have no constraints or instead involve constraints with demonstratively improved procedures. The modern treatment used by the author is an attempt to make a major paradigm shift in how the art of functional integration is practiced. The techniques developed in the work will prove valuable to graduate students and researchers in physics, chemistry, mathematical physics, and applied mathematics who find it necessary to deal with solutions to wave equations, both quantum and beyond. A Modern Approach to Functional Integration offers insight into a number of contemporary research topics, which may lead to improved methods and results that cannot be found elsewhere in the textbook literature. Exercises are included in most chapters, making the book suitable for a one-semester graduate course on functional integration; prerequisites consist mostly of[...]

Features

This text takes advantage of recent developments in the theory of path integration to provide an improved treatment of quantization of systems that either have no constraints or instead involve constraints with demonstratively improved procedures. Strong emphasis is placed on the coherent state form of the path integral, which typically is only briefly mentioned in the textbook literature. Also of prime[...]

Contents


Fields of interest

Measure and Integration; Quantum Physics; Functional Analysis; Theoretical, Mathematical and Computational Physics; Several Complex Variables and Analytic Spaces; Applications of Mathematics

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook

Available


49,95 €


The Noether Theorems

Invariance and Conservation Laws in the Twentieth Century

In 1915 and 1916 Emmy Noether was asked by Felix Klein and David Hilbert to assist them in understanding issues involved in any attempt to formulate a general theory of relativity, in particular the new ideas of Einstein. She was consulted particularly over the difficult issue of the form a law of conservation of energy could take in the new theory, and she succeeded brilliantly, finding two deep theorems. But between 1916 and 1950, the theorem was poorly understood and Noether’s name disappeared almost entirely. People like Klein and Einstein did little more than mention her name in the various popular or historical accounts they wrote. Worse, earlier attempts which had been eclipsed by Noether’s achievements were remembered, and sometimes figure in quick historical accounts of the time. This book carries a translation of Noether’s original paper into English, and then describes the strange history of its reception and the responses to her work. Ultimately the theorems became decisive in a shift[...]

Features

In 1915 Emmy Noether was invited by Klein and Hilbert to Göttingen to assist them in understanding the law of conservation of energy in Einstein’s new general theory of relativity. She succeeded brilliantly. In the Invariante Variationsprobleme, published in 1918, she proved a fundamental theorem linking invariance properties and conservation laws in any theory formulated in terms of a variational[...]

Contents


Fields of interest

History of Mathematics

Target groups

Research

Type of publication

Monograph

Available

2011. XIII, 205 p. 8 illus. (Sources and Studies in the History of Mathematics and Physical Sciences) Hardcover

79,95 €

Measure-Valued Branching Markov Processes

Measure-valued branching processes arise as high density limits of branching particle systems. The Dawson-Watanabe superprocess is a special class of those. The author constructs superprocesses with Borel right underlying motions and general branch- ing mechanisms and shows the existence of their Borel right realizations. He then uses transforma- tions to derive the existence and regularity of several different forms of the superprocesses. This treat- ment simplifies the constructions and gives useful perspectives. Martingale problems of superprocesses are discussed under Feller type assumptions. The most important feature of the book is the systematic treatment of immigration superprocesses and gen- eralized Ornstein-Uhlenbeck processes based on skew convolution semigroups. The volume addresses researchers in measure-valued processes, branching processes, stochastic analysis, biological and genetic models, and graduate students in probability theory and stochastic processes.

Contents

Fields of interest
Probability Theory and Stochastic Processes

Target groups
Graduate

Type of publication
Graduate/advanced undergraduate textbook

Available
59,95 €
ISBN 978-3-642-11056-6

Numerical Analysis of Partial Differential Equations

Lectures given at a Summer School of the Centro Inter- nazionale Matematico Estivo (C.I.M.E.) held in Isera (Varasse), Italy, July 3-11, 1967


Features

Contents

Fields of interest
Probability Theory and Stochastic Processes

Target groups
Graduate

Type of publication
Graduate/advanced undergraduate textbook

Available
59,95 €
ISBN 978-3-642-11056-6

A First Course in Differential Equations

This concise and up-to-date textbook is designed for the standard sophomore course in differential equations. It treats the basic ideas, models, and solution methods in a user friendly format that is accessible to engineers, scientists, economists, and mathe- matics majors. It emphasizes analytical, graphical, and numerical techniques, and it provides the tools needed by students to continue to the next level in applying the methods to more advanced problems. There is a strong connection to applications with motivations in mechanics and heat transfer, circuits, biology, economics, chemical reactors, and other areas. Exceeding the first edition by over one hun- dred pages, this new edition has a large increase in the number of worked examples and practice exer- cises, and it continues to provide templates for MAT- LAB and Maple commands and codes that are useful in differential equations. Sample examination ques- tions are included for students and instructors. Solu- tions of many of the exercises are contained.[...]

Features
This concise and up-to-date textbook is designed for the standard sophomore course in differential equations. It treats the basic ideas, models, and solution methods in a user friendly format that is accessible to engineers, scientists, economists, and mathe- matics majors. It emphasizes analytical, graphical, and numerical techniques, and it provides the tools needed by students to continue to the next level in applying the methods to more advanced problems. There is a strong connection to applications with motivations in mechanics and heat transfer, circuits, biology, economics, chemical reactors, and other areas. Exceeding the first edition by over one hundred pages, this new edition has a large increase in the number of worked examples and practice exercises, and it continues to provide templates for MATLAB and Maple commands and codes that are useful in differential equations. Sample examination questions are included for students and instructors. Solutions of many of the exercises are contained.[...]

Contents

Fields of interest
Ordinary Differential Equations; Applications of Mathematics; Mathematical Modeling and Industrial Mathematics

Target groups
Lower undergraduate

Type of publication
Undergraduate textbook

Available
2011. XVII, 386 p. 82 illus. (Undergraduate Texts in Mathematics) Hardcover
59,95 €
ISBN 978-1-4419-7591-1

A First Course in Differential Equations

This concise and up-to-date textbook is designed for the standard sophomore course in differential equa- tions. It treats the basic ideas, models, and solution methods in a user friendly format that is accessible to engineers, scientists, economists, and mathe- matics majors. It emphasizes analytical, graphical, and numerical techniques, and it provides the tools needed by students to continue to the next level in applying the methods to more advanced problems. There is a strong connection to applications with motivations in mechanics and heat transfer, circuits, biology, economics, chemical reactors, and other areas. Exceeding the first edition by over one hun- dred pages, this new edition has a large increase in the number of worked examples and practice exer- cises, and it continues to provide templates for MAT- LAB and Maple commands and codes that are useful in differential equations. Sample examination ques- tions are included for students and instructors. Solu- tions of many of the exercises are contained.[...]

Features
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Contents

Fields of interest
Ordinary Differential Equations; Applications of Mathematics; Mathematical Modeling and Industrial Mathematics

Target groups
Lower undergraduate

Type of publication
Undergraduate textbook

Available
2011. XVII, 386 p. 82 illus. (Undergraduate Texts in Mathematics) Hardcover
59,95 €
ISBN 978-1-4419-7591-1
Recursion Theory and Computational Complexity

Contents

S. Homer: Admissible recursion theory.
B.E. Jacobs: Computational complexity and recursion theory.
G.E. Sacks: Priority arguments in Higlger recursion.
R.I. Soare: Construction in the recursively enumerable degrees.
W. Maass: Recursively invariant recursion theory.

Features

S. Homer: Admissible recursion theory.
B.E. Jacobs: Computational complexity and recursion theory.
G.E. Sacks: Priority arguments in Higlger recursion.
R.I. Soare: Construction in the recursively enumerable degrees.
W. Maass: Recursively invariant recursion theory.

Fields of interest

Mathematical Logic and Foundations

Target groups

Research

Type of publication

Contributed volume

Available


34.95 €
ISBN 978-3-642-11071-9

Introduction to Quantum Groups

The quantum groups discussed in this book are the quantized enveloping algebras introduced by Drinfeld and Jimbo in 1985, or variations thereof. It is shown that these algebras have natural integral forms which can be specialized at roots of 1 and yield new objects which include quantum versions of the semi-simple groups over fields of positive characteristic. The theory of quantum groups has led to a new, extremely rigid structure, in which the objects of the theory are provided with canonical bases with rather remarkable properties. The book contains an extensive treatment of the theory of canonical bases in the framework of perverse sheaves. The theory developed in the book includes the case of quantum affine enveloping algebras and, more generally, the quantum analogs of the Kac—Moody Lie algebras. This book will be of interest to mathematicians working in the representation theory of Lie groups and Lie algebras, knot theorists and to theoretical physicists and graduate students. Since large...

Features

The quantum groups discussed in this book are the quantized enveloping algebras introduced by Drinfeld and Jimbo in 1985, or variations thereof. It is shown that these algebras have natural integral forms which can be specialized at roots of 1 and yield new objects, which include quantum versions of the semi-simple groups over fields of positive characteristic. The theory of quantum groups has led to a new, extremely rigid structure, in which the objects of the theory are provided with canonical bases with rather remarkable properties. The book contains an extensive treatment of the theory of canonical bases in the framework of perverse sheaves. The theory developed in the book includes the case of quantum affine enveloping algebras and, more generally, the quantum analogs of the Kac—Moody Lie algebras. This book will be of interest to mathematicians working in the representation theory of Lie groups and Lie algebras, knot theorists and to theoretical physicists and graduate students. Since large...

Contents

Preface.
Part I: The Drinfel’d—Jimbo Algebras U.:
Part II: Geometric Realization of f.:
Part III: Kashiwara’s Operators and Applications.
Part IV: Canonical Basis of U.:
Part V: Change of Rings:
Part VI: Braid Group Action:
Index of Notation:
Index of Terminology.

Fields of interest

Group Theory and Generalizations; Quantum Physics; Topological Groups; Lie Groups; Algebra; Mathematical Methods in Physics

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook

Available

2010. 346 p. (Modern Birkhäuser Classics) Softcover

54.95 €

Questions on Algebraic Varieties

Contents

Contributions to the problem of equi-singularity.
O. Zariski:
Report on analytic product.
C.S. Seshadri:
Moduli of p-vector bundles over an algebraic curve.
O. Zariski:
Contributions to the problem of equi-singularity.

Features

Contributions to the problem of equi-singularity.
O. Zariski:
Report on analytic product.
C.S. Seshadri:
Moduli of p-vector bundles over an algebraic curve.
O. Zariski:
Contributions to the problem of equi-singularity.

Fields of interest

Algebraic Geometry; Algebraic Topology

Target groups

Research

Type of publication

Contributed volume

Available


34.95 €
ISBN 978-3-642-11014-6
**Classi caratteristiche e questioni connesse**

*Lectures given at a Summer School of the Centro Inter-nazionale Matematico Estivo (C.I.M.E.) held in L’Aquila, Italy, September 2-10, 1966*


**Features**

**Contents**

**Fields of interest**
Differential Geometry; Algebraic Geometry

**Target groups**
Research

**Type of publication**
Contributed volume

**Available**
34,95 €
ISBN 978-3-642-11047-4

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**Geometric Design of Linkages**

This book is an introduction to the mathematical theory of design for articulated mechanical systems known as linkages. The focus is on sizing mechanical constraints that guide the movement of a work piece, or end-effector, of the system. The function of the device is prescribed as a set of positions to be reachable by the end-effector; and the mechanical constraints are formed by joints that limit relative movement. The goal is to find all the devices that can achieve a specific task. Formulated in this way the design problem is purely geometric in character. Robot manipulators, walking machines, and mechanical hands are examples of articulated mechanical systems that rely on simple mechanical constraints to provide a complex workspace for the end-effector. The principles presented in this book form the foundation for a design theory for these devices. The emphasis, however, is on articulated systems with fewer degrees of freedom than that of the typical robotic system, and therefore, less...

**Features**
This book is an introduction to the mathematical theory of design for articulated mechanical systems known as linkages. The focus is on sizing mechanical constraints that guide the movement of a work piece, or end-effector, of the system. The function of the device is prescribed as a set of positions to be reachable by the end-effector; and the mechanical constraints [...]

**Contents**

**Fields of interest**
Systems Theory, Control; Robotics and Automation; Control; Algebraic Geometry

**Target groups**
Graduate

**Type of publication**
Graduate/advanced undergraduate textbook

**Available**
89,95 €

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**Dual Tableaux: Foundations, Methodology, Case Studies**

This book presents logical foundations of dual tableaux together with a number of their applications both to logics traditionally dealt with in mathematics and philosophy (such as modal, intuitionistic, relevant, and many-valued logics) and to various applied theories of computational logic (such as temporal reasoning, spatial reasoning, fuzzy-set-based reasoning, order-of-magnitude reasoning, reasoning about programs, threshold logics, logics of conditional decisions). The distinguishing feature of most of these applications is that the corresponding dual tableaux are built in a relational language which provides useful means of presentation of the theories. In this way modularity of dual tableaux is ensured. We do not need to develop and implement each dual tableau from scratch, we should only extend the relational core common to many theories with the rules specific for a particular theory.

**Features**
The book presents logical foundations of dual tableaux together with a number of their applications both to logics traditionally dealt with in mathematics and philosophy (such as modal, intuitionistic, relevant, and many-valued logics) and to various applied theories of computational logic (such as temporal reasoning, spatial reasoning, fuzzy-set-based reasoning, order-of-magnitude reasoning, rough-set-based reasoning, order-of-magnitude reasoning, reasoning about programs, threshold logics, logics of conditional decisions). The distinguishing feature of most of these applications is that the corresponding dual tableaux are built in a relational language which provides useful means of presentation of the theories. In this way modularity of dual tableaux is ensured. We do not need to develop and implement each dual tableau from scratch, we should only extend the relational core common to many theories with the rules specific for a particular theory.

**Contents**

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

**Target groups**
Research

**Type of publication**
Monograph

**Available**
169,95 €
ISBN 978-94-007-0004-8
Topological Methods in Data Analysis and Visualization

Theory, Algorithms, and Applications

Topological methods are of increasing importance in the analysis and visualization of datasets from a wide variety of scientific domains such as biology, physics, engineering, and medicine. Current challenges of topology-based techniques include the management of time-dependent data, the representation of large and complex datasets, the characterization of noise and uncertainty, the effective integration of numerical methods with robust combinatorial algorithms, etc. The editors have brought together the most prominent and best recognized researchers in the field of topology-based data analysis and visualization for a joint discussion and scientific exchange of the latest results in the field. This book contains the best 20 peer-reviewed papers resulting from the discussions and presentations at the third workshop on “Topological Methods in Data Analysis and Visualization”, held 2009 in Snowbird, Utah, US. The 2009 “TopoInVis” workshop follows the two successful workshops in 2005 (Slovakia)[…]

Features

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Contents


Fields of interest

Visualization; Topology; Geometry; Computer Graphics; Mechanical Engineering; Computational Intelligence

Target groups

Research

Type of publication

Contributed volume

Available

2011. VIII, 300 p. 146 illus., 122 in color. (Mathematics and Visualization) Hardcover

89,95 €
ISBN 978-3-642-15013-5

A Survey of the Almagest

With Annotation and New Commentary by Alexander Jones

The Almagest, by the Greek astronomer and mathematician Ptolemy, is the most important surviving treatise on early mathematical astronomy, offering historians valuable insight into the astronomy and mathematics of the ancient world. Pedersen’s 1974 publication, A Survey of the Almagest, is the most recent in a long tradition of companions to the Almagest. Part paraphrase and part commentary, Pedersen’s work has earned the universal praise of historians and serves as the definitive introductory text for students interested in studying the Almagest. In this revised edition, Alexander Jones, a distinguished authority on the history of early astronomy, provides supplementary information and commentary to the original text to account for scholarship that has appeared since 1974. This revision also incorporates various corrections to Pedersen’s original text that have been identified since its publication. This volume is intended to provide students of the history of astronomy with a self-contained[…]

Features

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Contents

Preface.- The almagest through the ages: Physics and philosophy in the almagest.- Ptolemy as a mathematician.- Spherical astronomy in the almagest.- The motion of the sun.- The theories of the moon.- Parallaxes and eclipses.- The fixed stars.- The superior planets.- The inferior planets.- Retrograde motions and maximum elongations.- Latitudes and visibility periods.- Epilogue—The other Ptolemy.- Appendix A: dated observations.- Appendix B: numerical parameters.- Bibliography.- Index of names.- Index of subjects.- Supplementary notes.- Supplementary[…]

Fields of interest

History of Mathematics; Astronomy, Observations and Techniques

Target groups

Professional/practitioner

Type of publication

Monograph

Available


109,95 €

Contextual Computing

Models and Applications

Recent advances in the fields of knowledge representation, reasoning and human-computer interaction have paved the way for a novel approach to treating and handling context. The field of research presented in this book addresses the problem of contextual computing in artificial intelligence based on the state of the art in knowledge representation and human-computer interaction. The author puts forward a knowledge-based approach for employing high-level context in order to solve some persistent and challenging problems in the chosen showcase domain of natural language understanding. Specifically, the problems addressed concern the handling of noise due to speech recognition errors, semantic ambiguities, and the notorious problem of underspecification. Consequently the book examines the individual contributions of contextual composing for different types of context. Therefore, contextual information stemming from the domain at hand, prior discourse, and the specific user and real world situation are[…]
Problems in Non-Linear Analysis

Lectures given at a Summer School of the Centro Internazionale di Matematica Estivo (C.I.M.E.) held in Varennna (Como), Italy, August 20-29, 1970


Features

Non-linear Continuum Theories in Mechanics and Physics and their Applications

Lectures given at a Summer School of the Centro Inter-nazionale Matematico Estivo (C.I.M.E.) held in Bressanone (Bolzano), Italy, September 3-11, 1969


Features


Contents


Fields of interest

Partial Differential Equations; Thermodynamics; Continuum Mechanics and Mechanics of Materials; Mechanics

Target groups

Research

Type of publication

Contributed volume

Available


34,95 €

ISBN 978-3-642-10978-2

Categories and Commutative Algebra

Lectures given at a Summer School of the Centro Inter-nazionale Matematico Estivo (C.I.M.E.) held in Varenna (Como), Italy, September 12-21, 1971


Features


Contents


Fields of interest

Category Theory, Homological Algebra; Commutative Rings and Algebras

Target groups

Research

Type of publication

Contributed volume

Available

2011. 338 p. (C.I.M.E. Summer Schools, Vol. 65) Softcover

34,95 €

ISBN 978-3-642-10984-5

Stability Problems

Lectures given at a Summer School of the Centro Inter-nazionale Matematico Estivo (C.I.M.E.) held in Bressanone (Bolzano), Italy, June 2-11, 1974


Features


Contents


Fields of interest

Dynamical Systems and Ergodic Theory

Target groups

Research

Type of publication

Contributed volume

Available

2011. 209 p. (C.I.M.E. Summer Schools, Vol. 60) Softcover

34,95 €

ISBN 978-3-642-10948-5
Boundary Element Methods

This work presents a thorough treatment of boundary element methods (BEM) for solving strongly elliptic boundary integral equations obtained from boundary reduction of elliptic boundary value problems in $\mathbb{R}^3$. The book is self-contained, the prerequisites on elliptic partial differential and integral equations being presented in Chapters 2 and 3. The main focus is on the development, analysis, and implementation of Galerkin boundary element methods, which is one of the most flexible and robust numerical discretization methods for integral equations. For the efficient realization of the Galerkin BEM, it is essential to replace time-consuming steps in the numerical solution process with fast algorithms. In Chapters 5-9 these methods are developed, analyzed, and formulated in an algorithmic way.

Features

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Fields of interest

Computational Mathematics and Numerical Analysis; Partial Differential Equations

Target groups

Research

Type of publication

Monograph

Available

89,95 €

Handbook of Mathematical Methods in Imaging

The Handbook of Mathematical Methods in Imaging provides a comprehensive treatment of the mathematical techniques used in imaging science. The material is grouped into two central themes, namely, Inverse Problems (Algorithmic Reconstruction) and Signal and Image Processing. Each section within the themes covers applications (modeling), mathematics, numerical methods (using a case example) and open questions. Written by experts in the area, the presentation is mathematically rigorous. The entries are cross-referenced for easy navigation through connected topics. Available in both print and electronic forms, the handbook is enhanced by more than 150 illustrations and an extended bibliography. It will benefit students, scientists and researchers in applied mathematics. Engineers and computer scientists working in imaging will also find this handbook useful.

Features

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Contents


Fields of interest

Applications of Mathematics; Image Processing and Computer Vision; Signal, Image and Speech Processing; Numerical Analysis; Imaging / Radiology

Target groups

Research

Type of publication

Handbook

Available

2011. XVII, 1688 p. 150 illus. In 3 volumes, not available separately. Hardcover
499,00 €
ISBN 978-0-387-92919-4

Matrices

Theory and Applications

In this book, Denis Serre begins by providing a clean and concise introduction to the basic theory of matrices. He then goes on to give many interesting applications of matrices to different aspects of mathematics and also other areas of science and engineering. With forty percent new material, this second edition is significantly different from the first edition. Newly added topics include: Dunford decomposition, tensor and exterior calculus, polynomial identities, regularity of eigenvalues for complex matrices, functional calculus and the Dunford–Taylor formula, numerical range, Weyl’s and von Neumann’s inequalities, and Jacobi method with random choice. The book mixes together algebra, analysis, complexity theory and numerical analysis. As such, this book will provide many scientists, not just mathematicians, with a useful and reliable reference. It is intended for advanced undergraduate and graduate students with either applied or theoretical goals. This book is based on [...]

Features

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Contents


Fields of interest

Linear and Multilinear Algebras, Matrix Theory; Numerical Analysis; Topological Groups, Lie Groups; Operator Theory

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook

Available

2010. XV, 289 p. 2 illus. (Graduate Texts in Mathematics, 216) Hardcover
59,95 €
ISBN 978-1-4419-7682-6
Ramsey Theory

Yesterday, Today, and Tomorrow

Ramsey theory is a relatively “new,” approximately 100 year-old direction of fascinating mathematici-

cal thought that touches on many classic fields of

mathematics such as combinatorics, number theory, geometry, ergodic theory, topology, combinatorial

graph theory, and measure theory. Ramsey theory possesses its own unifying ideas, and some of

its results are among the most beautiful theorems of mathematics. The underlying theme of Ramsey

theory can be formulated as: any finite coloring of a large enough system contains a monochromatic

subsystem of higher degree of organization than the system itself, or as T.S. Motzkin famously put it,

absolute disorder is impossible. Ramsey Theory: Yes-

terday, Today, and Tomorrow explores the theory’s history, recent developments, and some promising

future directions through invited surveys written by prominent researchers in the field. The first three

surveys provide historical background on the sub-

ject; the last three address Euclidean Ramsey theory and.[…]

Features

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ject; the last three address Euclidean Ramsey theory and.[…]

Contents

How This Book Came into Being.- Table of Con-

vents.- Ramsey Theory before Ramsey, Prehistory and Early History: An Essay in 13 Parts.- Eighty

Years of Ramsey R(3, k), … and Counting.- Ramsey Numbers Involving Cycles.- On the function of

Erds and Rogers.- Large Monochromatic Compo-
nents in Edge Colorings of Graphs.- Szam’s Lemma: Mutant Offspring of a Euclidean Ramsey Problem: From 1973, with Numerous Applications.- Open Problems in Euclidean Ramsey Theory.- Chromatic Number of the Plane and Its Relatives, His-
tory, Problems and Results: An Essay in 11 Parts.- Euclidean Distance Graphs.[…]

Fields of interest

Combinatorics, Dynamical Systems and Ergodic Theory; Convex and Discrete Geometry

Target groups

Graduate

Type of publication

Monograph

Available


59.95 €

ISBN 978-0-8176-8091-6

Mean Field Models for Spin Glasses

Volume I: Basic Examples

This is a new, completely revised, updated and enlarged edition of the author’s Ergebnisse vol. 46: ‘Spin Glasses: A Challenge for Mathematicians’. This

new edition will appear in two volumes, the present

first volume presents the basic results and methods, the

second volume is expected to appear in 2011. In the

eighties, a group of theoretical physicists intro-
duced several models for certain disordered systems,
called ‘spin glasses’. These models are simple and rather canonical random structures, of consider-
able interest for several branches of science (statisti-
cal physics, neural networks and computer science).
The physicists studied them by non-rigorous meth-
ods and predicted spectacular behaviors. This book

introduces in a rigorous manner this exciting new area to the mathematically minded reader. It requires

no knowledge whatsoever of any physics. The first

volume of this new and completely rewritten edition

presents six fundamental models and the basic tech-
niques to study them.

Features

Not applicable. There is no back cover text for the

Ergebnisse series.

Contents

Introduction.- 1. The Sherrington-Kirkpatrick

Model.- 2. The Perceptron Model.- 3. The

Shcherbina and Tirozzi Model.- 4. The Hopfield

Model.- 5. The V-statistics Model.- 6. The Diluted

SK Model and the K-Sat Problem.- 7. An Assign-

ment Problem.- A. Appendix: Elements of Probabil-

ity Theory.- References.- Index.- Glossary.

Fields of interest

Probability Theory and Stochastic Processes; Math-

ematical Methods in Physics; Condensed Matter

Physics

Target groups

Research

Type of publication

Monograph

Available

2011. XV, 485 p. (Ergebnisse der Mathematik und ihrer Grenz-
gebiete. 3. Folge A Series of Modern Surveys in Mathematics, Vol 54) Hardcover

139,95 €

ISBN 978-3-642-15201-6
This second in the series of three volumes builds upon the basic theory of linear PDE given in volume 1, and pursues more advanced topics. Analytical tools introduced here include pseudodifferential operators, the functional analysis of self-adjoint operators, and Wiener measure. The book also develops basic differential geometrical concepts, centered about curvature. Topics covered include spectral theory of elliptic differential operators, the theory of scattering of waves by obstacles, index theory for Dirac operators, and Brownian motion and diffusion.

Features
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Singularities of Analytic Spaces
Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Bressanone (Bolzano), Italy, June 16-25, 1974

F. Lazzeri: Analytic singularities.
V. Poénaru: Lectures on the singularities of \( C^r \) mappings.
A. Tognoli: About the set of non coherence of a real analytic variety. Pathology and imbedding problems for real analytic spaces.

Features
F. Lazzeri: Analytic singularities.
V. Poénaru: Lectures on the singularities of \( C^r \) mappings.
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Contents
F. Lazzeri: Analytic singularities.
V. Poénaru: Lectures on the singularities of \( C^r \) mappings.
A. Tognoli: About the set of non coherence of a real analytic variety. Pathology and imbedding problems for real analytic spaces.

Fields of interest
Several Complex Variables and Analytic Spaces

Target groups
Research

Type of publication
Contributed volume

Available
19.95 €
ISBN 978-3-642-10942-3

Algebraic Surfaces
Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Cortona (Arezzo), Italy, June 22-30, 1977

Lectures:
A. Beauville: Surfaces algébriques complexes.
F. A. Bogomolov: The theory of invariants and its applications to some problems in the algebraic geometry.
E. Bombieri: Methods of algebraic geometry in Char. P and their applications.
Seminars:
S. Helgason: Solvability of invariant differential operators on homogeneous manifolds.

Features
Lectures:
A. Beauville: Surfaces algébriques complexes.
F. A. Bogomolov: The theory of invariants and its applications to some problems in the algebraic geometry.
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E. Bombieri: Methods of algebraic geometry in Char. P and their applications.
Seminars:
S. Helgason: Solvability of invariant differential operators on homogeneous manifolds.

Fields of interest
Algebraic Geometry

Target groups
Research

Type of publication
Contributed volume

Available
2011. 300 p. (C.I.M.E. Summer Schools, Vol. 76) Softcover
34.95 €
ISBN 978-3-642-11113-6

Differential Operators on Manifolds
Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Varenna (Como), Italy, August 24 - September 2, 1975

Lectures:
M. F. Atiyah: Classical groups and classical differential operators on manifolds.
R. Bott: Some aspects of invariant theory in differential geometry.
E. M. Stein: Singular integral operators and nilpotent groups.
Seminars:
P. Malliavin: Diffusion et géométrie différentielle globale.
S. Helgason: Solvability of invariant differential operators on homogeneous manifolds.

Features
Lectures:
M. F. Atiyah: Classical groups and classical differential operators on manifolds.
R. Bott: Some aspects of invariant theory in differential geometry.
E. M. Stein: Singular integral operators and nilpotent groups.
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E. M. Stein: Singular integral operators and nilpotent groups.
Seminars:
P. Malliavin: Diffusion et géométrie différentielle globale.
S. Helgason: Solvability of invariant differential operators on homogeneous manifolds.

Fields of interest
Mathematics (general)

Target groups
Research

Type of publication
Contributed volume

Available
2011. 310 p. (C.I.M.E. Summer Schools, Vol. 70) Softcover
34.95 €
ISBN 978-3-642-11113-6
Differential Topology
Lectures given at a Summer School of the Centro Internazionale Matematico Estivo (C.I.M.E.) held in Varenna (Como), Italy, August 25 - September 4, 1976


Contents
Metabolic Basis of Obesity

The obesity epidemic has generated immense interest in recent years due to the wide-ranging and significant adverse health and economic consequences that surround the problem. Much attention has been focused on behaviors that lead to obesity, in particular to overconsumption of energy-dense food and to sedentary lifestyle. However, obesity is an extremely complex condition with poorly defined pathogenesis. Thanks to greatly enhanced research in the area, the discovery of pathways in the brain and peripheral organs that mediate energy homeostasis has provided a framework for understanding the biological basis of obesity. Metabolic Basis of Obesity adds an important new dimension to the growing literature on obesity by offering a comprehensive review of specifically how metabolic imbalance culminates in obesity. Developed by a team of expert authors, this important title discusses the principles of energy balance, genetics of body weight regulation, hormones and adipokines, and metabolic pathways in obesity.

Features
- The obesity epidemic has generated immense interest in recent years due to the wide-ranging and significant adverse health and economic consequences that surround the problem.
- Much attention has been focused on behaviors that lead to obesity, in particular to overconsumption of energy-dense food and to sedentary lifestyle.
- Obesity is an extremely complex condition with poorly defined pathogenesis.

Contents
- 2. Intermediary metabolism of carbohydrate, protein, and fat.
- 3. Adipose tissue development, structure, function.
- 4. Adipokines in health and disease.
- 5. Neural control of feeding and energy homeostasis.
- 6. Gastointestinal hormones and obesity.
- 8. Classical hormones linked to obesity.
- 9. Inflammation and adipocyte dysfunction.
- 10. Insulin resistance in the metabolic syndrome.
- 12. Nonalcoholic fatty liver disease and the metabolic syndrome.
- 13. [...]
Annoncer un cancer
Diagnostic, traitements, rémission, rechute, guérison, abstention...


Features

Fields of interest
Oncology; Psychiatry; Neurology; Internal Medicine; General Practice / Family Medicine

Type of publication
Contributed volume

Available
37,91 €


Behandlungsfehler und Haftpflicht in der Viszeralchirurgie


Features

Contents
Operative Anatomy of the Heart

Operative Anatomy of the Heart covers unique data and artwork on the morphological description of cardiovascular surgery and surgical procedures. Topics covered include the entire anatomy of the human chest. An appendix presents the cross sections of the human body including the thoracic, abdominal and pelvic cavity. These sections are presented as morphological guidelines for better interpretation of the computer scans.

Contents

Fields of interest
Cardiac Surgery; Vascular Surgery; Thoracic Surgery; Minimally Invasive Surgery; Anatomy

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. XVI, 544 p. 1070 illus., 1028 in color. Hardcover
149,95 €
ISBN 978-3-540-69227-0

Anästhesie bei seltenen Erkrankungen

Operative Anatomy of the Heart provides unique data and artwork on the morphological description of cardiovascular surgery and surgical procedures. Topics covered include the entire anatomy of the human chest. An appendix presents the cross sections of the human body including the thoracic, abdominal and pelvic cavity. These sections are presented as morphological guidelines for better interpretation of the computer scans.

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Cardiac Surgery; Vascular Surgery; Thoracic Surgery; Minimally Invasive Surgery; Anatomy

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. XVI, 544 p. 1070 illus., 1028 in color. Hardcover
149,95 €
ISBN 978-3-540-69227-0

Pathologie

Pathologie


Features

Contents

Fields of interest
Pathology; Gynecology; Oncology

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. XIX, 673 S. 570 Abb., 510 in Farbe. Hardcover
279,44 €
ISBN 978-3-642-04561-5

Pathologie

Zytopathologie


Features

Contents
Anästhesie bei seltenen Erkrankungen


Fields of interest
Pathology; Gynecology; Oncology

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. XIX, 673 S. 570 Abb., 510 in Farbe. Hardcover
279,44 €
ISBN 978-3-642-04561-5
Three-dimensional Echocardiography

Three-dimensional echocardiography is the most recent fundamental advancement in echocardiography. Since real-time 3D echocardiography became commercially available in 2002, it has rapidly been accepted into clinical practice worldwide. This book offers an extensive and comprehensive description of its basic principles, practical aspects of clinical application, and detailed descriptions of specific uses in the broad spectrum of clinically important cardiovascular disease. The book was written by a group of well-recognized international experts in the field, who have not only been involved in the scientific and clinical development of 3D echocardiography since its inception but are also intensively involved in expert training courses. As a result, the clear focus of this book is on the practical application of 3D echocardiography in daily clinical routine with tips and tricks for both beginners and experts, accompanied by more than 150 case examples.

Features

- Three-dimensional echocardiography is the most recent fundamental advancement in echocardiography. Since real-time 3D echocardiography became commercially available in 2002, it has rapidly been accepted into clinical practice worldwide.
- This book offers an extensive and comprehensive description of its basic principles, practical aspects of clinical application, and detailed descriptions of specific uses in the broad spectrum of clinically important cardiovascular disease.

Contents

- Introduction
- Three-dimensional echocardiography: lessons in overcoming time and space
- Basic principles and practical application: Left ventricular function
- Three-dimensional stress echocardiography: Cardiac dyssynchrony - The right ventricle - Valvular heart disease - Insufficiencies - Valvular heart disease - Stenoses
- Three-dimensional echocardiography in adult congenital heart disease: Congenital heart disease in children
- Cardiac tumors and sources of embolism: Monitoring and guiding cardiac interventions and surgery

Fields of Interest

- Cardiology
- Cardiac Surgery
- Imaging / Radiology
- Internal Medicine

Target groups

- Professional/practitioner

Type of publication

- Professional book

Available

2011. XVI, 272 p. 248 illus. in color. With DVD. Hardcover

199,95 €
ISBN 978-3-642-11178-5

Anatomic Basis of Echocardiographic Diagnosis

The aim of this book is to provide a systematic approach to echocardiographic diagnosis based upon a comprehensive understanding of cardiac anatomy. We shall provide abundant anatomic correlates of echocardiographic findings throughout the book. The book will be divided into three sections. Each chapter will cover both normal and pathological findings on echocardiography with anatomic correlation. The first section will address the normal findings which can be appreciated by current day echocardiography. The second section, specific cardiac diseases will be discussed. The differentiating features between normal and pathologic conditions will be discussed. The last section will address specific clinical settings where echocardiography is pivotal for diagnosis and patient management.

Features

- Echocardiography is a versatile imaging modality that can be performed at the bedside to promptly provide reliable anatomic and functional information useful for the management of patients with heart disease. There have been many technological advances in echocardiography, resulting in an improvement in image quality and new insights into cardiac mechanics. In order to fully appreciate and utilize these ...

Contents

- Normal findings and age related changes - Normal cardiac anatomy - orientation and imaging approach
- Impact of age upon cardiac structure
- Cardiac Diseases - Aortic valve, Mitral valve, Tricuspid and pulmonic valve, Cardiomyopathies, Coronary artery disease
- Right ventricular diseases
- Diseases of the aorta, Pericardial diseases
- Special Clinical Settings - Prosthetic heart valves, Endocarditis and valvular thrombi, Cardiac tumors, Congenital heart disease, Suspected cardiac source of embolism, Diastolic heart failure, Cardiac involvement of systemic diseases, Interventional procedures...

Fields of interest

- Cardiology
- Ultrasound
- Internal Medicine

Target groups

- Professional/practitioner

Type of publication

- Manual

Available

2011. XIV, 491 p. 662 illus., 330 in color. Hardcover

179,95 €

Comparative Interpretation of CT and Standard Radiography of the Chest

Standard radiography of the chest remains one of the most widely used imaging modalities but it can be difficult to interpret. The possibility of producing cross-sectional, reformatted 2D and 3D images with CT makes this technique an ideal tool for reinterpreting standard radiography of the chest. The aim of this book is to provide a comprehensive overview of chest radiography interpretation by means of a side-by-side comparison between chest radiographs and CT images. Introductory chapters address the indications for and difficulties of chest radiography as well as the technical and practical aspects of CT reconstruction and image comparison. Thereafter, the radiographic and CT presentations of both anatomical variants and a wide range of diseases and disorders are illustrated and discussed by renowned experts in thoracic imaging. The book is complemented by online extra material which provides many further educational examples.

Features

- Standard radiography of the chest remains one of the most widely used imaging modalities but it can be difficult to interpret. The possibility of producing cross-sectional, reformatted 2D and 3D images with CT makes this technique an ideal tool for reinterpreting standard radiography of the chest.
- The aim of this book is to provide a comprehensive overview of chest radiography interpretation by means of a side-by-side comparison between chest radiographs and CT images.

Contents


Fields of interest

- Imaging / Radiology

Target groups

- Professional/practitioner

Type of publication

- Monograph

Available

2011. XII, 480 p. 359 illus., 170 in color. With online files/update. (Diagnostic Imaging) Hardcover

239,00 €
**Type 2 Diabetes, Pre-Diabetes, and the Metabolic Syndrome**

Diagnosing and managing type 2 diabetes presents an enormous challenge to the primary care provider confronted with multiple emerging scientific insights, therapeutic strategies and risk reduction principles. In *Type 2 Diabetes, Pre-Diabetes, and the Metabolic Syndrome: The Primary Care Guide to Diagnosis and Management*, Second Edition, Ronald A. Codario, M.D., FACP - a well-known and highly respected authority on diabetes - details the state-of-the-art in diagnosing, managing and attenuating risks in patients with this disease. Utilizing his extensive experience in private practice, medical education and clinical research for over 35 years, Dr. Codario explains in simple clinical terms, the current understanding of the pathophysiology of diabetes, the latest clinical trials, developing controversies, updates on new medications and an expanded section on Special Populations. With his unique, multiple board certifications in clinical hypertension, vascular medicine, internal medicine, vascular[...]

**Features**

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**Contents**


**Fields of interest**

- Oncology

**Target groups**

- Professional/practitioner

**Type of publication**

- Contributed volume

**Available**

- 2011. XII, 368 p. 2 illus. in color. (Current Clinical Practice) Hardcover

- 69,95 €
  - ISBN 978-1-60327-440-1


- 139,95 €
  - ISBN 978-3-642-04230-0

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**Dating Neurological Injury**

*Dating Neurological Injury: A Forensic Guide for Radiologists, Other Expert Medical Witnesses, and Attorneys* presents a unique way to approach the dating of neurological injury as imaged by modern computed tomography (CT), magnetic resonance (MR) and ultrasound (US). Chapters are presented in a logical progression beginning with the general appearance of normal brain and progressing to the way abnormalities manifest themselves. The emphasis in these discussions is on the appearance of edema and of hemorrhage, as these two findings are the brain’s most common response to injury. This volume presents in a systematic fashion the principles involved in the interpretation of images of the central nervous system specifically in a medical-legal setting where concern exists about the occurrence and timing of an injury. *Dating Neurological Injury: A Forensic Guide for Radiologists, Other Expert Medical Witnesses, and Attorneys* is a welcome addition to institutional, medical, and legal libraries.[...]

**Features**

- Dating Neurological Injury: A Forensic Guide for Radiologists, Other Expert Medical Witnesses, and Attorneys presents a unique way to approach the dating of neurological injury as imaged by modern computed tomography (CT), magnetic resonance (MR) and ultrasound (US). Chapters are presented in a logical progression beginning with the general appearance of normal brain and progressing to the way[...]

**Contents**

- Structure of the Normal Brain and its Appearance on Imaging. - General Appearance of Edema and Hemorrhage on computed tomography, magnetic resonance and ultrasound. - The Basics of Contrast and its Role in Dating. - How the Imaging Appearance of Edema and Hemorrhage Change over Time on computed tomography, magnetic resonance and ultrasound-- Dynamic (Acute) Dating. - Patterns of Parenchymal Ischemic injury--Pattern (Chronic) Dating. - Principles of Dynamic Dating in the Medical Legal Setting. - Principles of Pattern Dating in the Medical Legal Setting. - Therefore, What can be said -- What[...]

**Fields of interest**

- Diagnostic Radiology; Radiotherapy; Neurology; Neurosurgery; Pathology

**Target groups**

- Professional/practitioner

**Type of publication**

- Contributed volume

**Available**

- 2011. XI, 126 p. 252 illus, 2 in color. Hardcover

- 139,95 €
  - ISBN 978-1-60761-249-0
Deep pelvic endometriosis is one of the most severe expressions of a disease that may involve all the pelvic organs – bladder, ureters, rectosigmoid colon – causing debilitating symptoms and leading to impaired quality of life in young women. The chapters cover both diagnostic and therapeutic aspects of this disease. The central role of diagnostic imaging in surgical decision making is highlighted, as well as the difficulties involved in careful planning of surgical treatment, and special attention is paid to minimally invasive techniques. The paramount importance of a multidisciplinary team, involving the expertise of radiologists, gynaecologists, and psychologists, as well as the skills of the gynaecologist, urologist, and colorectal surgeon is underlined throughout the text.

Features
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Contents
1 Introduction 1.1 Definition, Prevalence, and Epidemiology. 1.2 Pathogenesis. 1.3 Deep Endometriosis: 1.4 Classification 2 Diagnosis 2.1 Clinical Features. 2.2 Symptoms. 2.3 Physical Findings. 2.4 Serum Markers. 2.5 Laparoscopy. 2.6 Instrumental Diagnosis. 2.7 Conclusion 3 Treatment 3.1 Medical Therapy. 3.2 Surgery 4 The Experience of Living with Endometriosis 4.1 Introduction. 4.2 Diagnosis of Endometriosis. 4.3 Sexuality. 4.3.1 Dyspareunia. 4.3.2 Fertility. 4.4 Uncertainty. 4.5 Impact on Social Life and Relationships. 4.6 Interactions with Health Professionals. 4.7 Treatments. 4.8 Summary

Fields of interest
Gynecology; Colorectal Surgery; Urology / Andrology; Diagnostic Radiology; Ultrasound

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. X, 94 p. 50 illus., 20 in color. Hardcover

Information Technology Essentials for Behavioral Health Clinicians

The purpose of this book is to be the premier resource for behavioural health clinicians who are considering adopting technology into their practice. Written by experts and policy makers in the field this book will be recognized as the gold standard. Other books currently in this field are extremely technical and are geared primarily to policy makers, researchers and informaticians. While this book will be a useful adjunct to that audience, it is primarily designed for the over 5 million behavioural health clinicians in the U.S. and the millions others around the world. Adoption of technology is slow in behavioural healthcare, and this book will enhance the adoption and utilization of various technologies in practice. I.T. vendors may also purchase this book for their customers.

Features
“Technology will drive behavioral health innovations in efficiency and quality, this book is great primer for clinicians, students, and decision makers on how to approach technology in behavioral health” David K. Nace M.D. Vice President, Clinical Development, McKesson Health Solutions, Philadelphia, PA, USA
Information Technology is only beginning to innovate and transform the practice and performance of...

Contents

Fields of interest
Health Informatics; Psychiatry; Psychotherapy

Target groups
Professional/practitioner

Type of publication
Professional book

Available
2011. XX, 213 p. 7 illus., 6 in color. (Health Informatics) Hardcover
Cardiac CT

Computed tomography of the heart has become a highly accurate diagnostic modality that is attracting increasing attention. This extensively illustrated book aims to assist the reader in integrating cardiac CT into daily clinical practice, while also reviewing its current technical status and applications. Clear guidance is provided on the performance and interpretation of imaging using the latest technology, offering greater coverage, better spatial resolution, and faster imaging. The specific features of scanners from all four main vendors, including those that have only recently become available, are presented. Among the wide range of applications and issues to be discussed are coronary artery bypass grafts, stents, plaques, and anomalies, cardiac valves, congenital and acquired heart disease, and radiation exposure. Upcoming clinical uses of cardiac CT, such as plaque imaging and functional assessment, are also explored.

Features
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Contents

Fields of interest
Imaging / Radiology; Cardiology; Internal Medicine

Target groups
 Professional/practitioner

Type of publication
Monograph

Available
2011. XIII, 333 p. 270 illus., 162 in color. Hardcover
129.95 €
ISBN 978-3-642-14021-1

Imaging of Brain Tumors with Histological Correlations

This volume provides a deeper understanding of the diagnosis of brain tumors by correlating radiographic imaging features with the underlying pathological abnormalities. All modern imaging modalities are used to complete a diagnostic overview of brain tumors with emphasis on recent advances in diagnostic neuroradiology. High-quality illustrations depicting common and uncommon imaging characteristics of a wide range of brain tumors are presented and analysed, drawing attention to the ways in which these characteristics reflect different aspects of pathology. Important theoretical considerations are also discussed. Since the first edition, chapters have been revised and updated and new material has been added, including detailed information on the clinical application of functional MRI and fusion tensor imaging. Radiologists and other clinicians interested in the current diagnostic approach to brain tumors will find this book to be an invaluable and enlightening clinical tool.

Features
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Contents

Fields of interest
Imaging / Radiology; Neuroradiology; Pathology; Oncology

Target groups
 Professional/practitioner

Type of publication
Monograph

Available
2011. 392 p. Softcover
112.80 €

Ligatures et sutures chirurgicales

De tout temps l’homme fut confronté aux traitements des plaies, les peuples Babyloniens, Égyptiens et Indiens furent il y a 2000 ans les premiers à nous transmettre leur savoir. Aujourd’hui, le futur des ligatures et des sutures se décline dans l’espace et l’homme peut être suppléé par des « télémanipulateurs » cependant la connaissance des techniques de ligatures et de sutures reste indispensable. C’est le mérite de ce travail de réunir dans un même livre, des rappels historiques et anatomiques, et les bases des principales techniques chirurgicales modernes. Étudiants, chirurgiens et infirmières de blocs trouveront dans cet ouvrage un complément essentiel à leur formation s’appuyant sur un texte clair et concis ainsi qu’une riche iconographie.

Features
De tout temps l’homme fut confronté aux traitements des plaies, les peuples Babyloniens, Égyptiens et Indiens furent il y a 2 000 ans les premiers à nous transmettre leur savoir. Aujourd’hui, le futur des ligatures et des sutures se décline dans l’espace et l’homme peut être suppléé par des « télémanipulateurs » cependant la connaissance des techniques de ligatures et de sutures reste [...]}

Fields of interest
Surgery; General Surgery; Plastic Surgery; Dermatology; History of Medicine

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. 392 p. Softcover
112.80 €
Psychoendokrinologie und Psychoimmunologie

Klinikmanual Kinder- und Jugendpsychiatrie und -psychotherapie


Features

Fields of interest
Psychiatry; Psychotherapy; Pediatrics

Target groups
Professional/practitioner

Type of publication
Professional book

Available
2011. 400 S.
27,99 €
ISBN 978-3-540-68318-6

Long-Term Care Medicine

Long-Term Care Medicine: A Pocket Guide lessens the uncertainty involved in caring for patients in a long-term care facility. This practical pocket guide is divided into four sections: Introduction, Common Clinical Conditions, Psychosocial Aspects, and Special Issues in Long-Term Care. The chapters address all the varied components of the LTC system as well as how to take care of the patients and residents living within it. The contributors to this easy-to-read guide are passionate about LTC and many have worked within the American Medical Directors Association to create and disseminate a knowledge base for practitioners. Long-Term Care Medicine: A Pocket Guide is an invaluable resource for clinicians, practitioners, and educators who are seeking to optimize the care and living experience of residents in LTC by providing resident-centered care as well as resident choice, well-being, dignity, and an improved quality of life.

Features
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Fields of interest
Geriatrics; Gerontology; Internal Medicine; General Practice; Family Medicine; Primary Care Medicine; Rehabilitation Medicine; Cardiology

Target groups
Professional/practitioner

Type of publication
Contributed volume

Available
2011. XIII, 351 p. 12 illus., 5 in color. (Current Clinical Practice) Softcover
29,95 €
ISBN 978-1-60761-141-7

Work and Cancer Survivors

Cancer survivors are returning to the workplace in higher numbers than ever before. This is a positive outcome of the “war on cancer”, however, many of these cancer survivors face the possibility of illness- or treatment-related complications; employer discrimination or harassment; and other serious concerns. Cancer Survivorship and Work reviews many of the issues relevant to cancer survivors in the workplace from the survivors’, employers’, and global perspectives. This interdisciplinary and international volume brings together experts in fields as varied as epidemiology, economics, rehabilitation, psychology, human factors and ergonomics; law, and public policy to create a unique, up-to-date reference of what is currently known and what needs to be considered in the future. With this knowledge, challenges faced by this growing population can be better addressed by health care providers, employers, survivors and their families.

Features
Work and Cancer Survivors Edited by Michael Feuerstein, Uniformed Services University of the Health Sciences, Bethesda, Maryland Cancer survivors are returning to the workplace in higher numbers than ever before. This is a positive outcome of the “war on cancer”, however, many of these cancer survivors face the possibility of illness- or treatment-related complications; employer discrimination or harassment; and other serious concerns. Cancer Survivorship and Work reviews many of the issues relevant to cancer survivors in the workplace from the survivors’, employers’, and global perspectives. This interdisciplinary and international volume brings together experts in fields as varied as epidemiology, economics, rehabilitation, psychology, human factors and ergonomics; law, and public policy to create a unique, up-to-date reference of what is currently known and what needs to be considered in the future. With this knowledge, challenges faced by this growing population can be better addressed by health care providers, employers, survivors and their families.

Fields of interest
Rehabilitation; Public Health; Oncology; Labor Economics; Demography

Target groups
Research

Type of publication
Contributed volume

Available
2011. XXIII, 350 p. Softcover
59,95 €
ISBN 978-1-4419-8155-4

- Translation by a language model
Aesthetic Applications of Intense Pulsed Light

The book is structured into eight chapters: 1. Skin anatomy. This chapter is intended to describe the pertinent anatomy related to IPL applications. In addition to the described main structural elements of the skin, the chapter has important points about skin aging and histological aspects which gives the reader a better understanding of the etiology of skin lesions and the need for Intense Pulsed Light (IPL) treatment. 2. Light-tissue interaction. This chapter describes the interaction between IPL and different skin structures. Target skin structures (chromophores) are described in detail. The results of this interaction are detailed as being important to understanding the goals and principles of IPL treatment. 3. IPL safety and legal issues. This chapter describes the needs of the environment for a safe treatment. The necessary equipment and things to avoid pitfalls which may lead to lawsuits are detailed. Several aspects of IPL legal issues are also described: how to avoid medical liabilities.[..]

Contents

Fields of interest
Dermatology; Surgery; Plastic Surgery

Target groups
Professional/practitioner

Type of publication
Professional book

Available
2011. XI, 133 p. 228 illus. in color. Hardcover
99,95 €

Interventional Radiology Procedures in Biopsy and Drainage

The Techniques in Interventional Radiology series of handbooks describes in detail the various interventional radiology procedures and therapies that are in current practice. The series comprises four titles, which in turn cover procedures in angioplasty and stenting, transcatheter embolization and therapy, biopsy and drainage and ablation. Forthcoming are volumes on pediatric interventional radiology and neurointerventional radiology. Each book is laid out in bullet point format, so that the desired information can be located quickly and easily. Interventional radiologists at all stages, from trainees through to specialists, will find this book a valuable asset for their practice. Interventional Radiology Procedures in Biopsy and Drainage presents the full array of operations using these techniques. The book is split into two sections – one dedicated to biopsy procedures and the other to drainage procedures. Dr. Debra Gervais is Director of Pediatric Imaging and Associate Director of[..]

Contents

Fields of interest
Interventional Radiology; Imaging / Radiology; Diagnostic Radiology

Target groups
Professional/practitioner

Type of publication
Professional book

Available
2011. XV, 199 p. 62 illus., 8 in color. (Techniques in Interventional Radiology) Softcover
39,95 €
ISBN 978-1-84800-898-4

#### Functional Electromyography

**Provenctive Maneuvers in Electrodiagnosis**

Functional Electromyography: Provocative Maneuvers in Electrodiagnosis integrates electrophysiology further into the physical examination than ever before. It introduces the use of electrodagnostic studies to quantify the neurological changes brought about by three provocative maneuvers commonly used in contemporary medicine. This widens the scope of electromyography while sharpening physicians’ diagnostic acuity. The book presents nerve conduction velocity (NCV) and H-reflex techniques to identify common conditions that are difficult to diagnose by any other means, often using the needle exam (EMG), MRI or musculoskeletal ultrasound to verify their clinical utility. Functional electromyography successfully diagnoses some cases of thoracic outlet syndrome, nearly all cases of piriformis syndrome, and offers a method for determining whether spinal stenosis or radiculopathy is the main pain generator when both are present in a single patient, even at the same level. This is particularly valuable[..]

**Features**

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**Contents**

Chapter 1: Electricity in Medicine - Philosophy meets physiology. - Chapter 2: Electrodagnosis and the Physical Examination - Casting a fine net widely. - Chapter 3: Functional electrodagnosis - Provocative Maneuvers define Diagnoses of Exclusion, and refine Dual Diagnoses. - Chapter 4: Neuropathic Pain - Nerve Sparing and the Physical Examination - Casting a fine net widely. - Chapter 5: Neural Functional Electromyography: Provocative Maneuvers in Electrodiagnosis integrates electrophysiology further into the physical examination than ever before. It introduces the use of electrodagnostic studies to quantify the neurological changes brought about by three provocative maneuvers commonly used in contemporary medicine. This widens the scope of electromyography while sharpening physicians’ diagnostic acuity. The book presents nerve conduction velocity (NCV) and H-reflex techniques to identify common conditions that are difficult to diagnose by any other means, often using the needle exam (EMG), MRI or musculoskeletal ultrasound to verify their clinical utility. Functional electromyography successfully diagnoses some cases of thoracic outlet syndrome, nearly all cases of piriformis syndrome, and offers a method for determining whether spinal stenosis or radiculopathy is the main pain generator when both are present in a single patient, even at the same level. This is particularly valuable[..]

**Fields of interest**

Neurology; Orthopedics; Neurosurgery; Pain Medicine; Anesthesiology; Internal Medicine

**Target groups**

Professional/practitioner

**Type of publication**

Monograph

Available

2011. XVI, 232 p. 48 illus. Hardcover
139,95 €
Bortezomib in the Treatment of Multiple Myeloma

Multiple Myeloma (MM) is the second most common type of blood cancer, resulting from an overproduction of cancerous infection-fighting white blood cells, known as plasma cells. Plasma cells are a crucial part of the immune system responsible for the production of antibodies. Bortezomib is a promising anticancer drug targeting the proteasome. This proteasome inhibitor induces cell stress and apoptosis in the cancer cells. While multiple mechanisms are likely to be involved, proteasome inhibition may prevent the degradation of pro-apoptotic factors, permitting activation of programmed cell death in neoplastic cells dependent upon the suppression of proapoptotic pathways. This monograph on bortezomib is a valuable source of information for researchers and clinicians from the fields of oncology and pharmacology, working either in academia or the pharmaceutical industry.

Features
Multiple Myeloma (MM) is the second most common type of blood cancer, resulting from an overproduction of cancerous infection-fighting white blood cells, known as plasma cells. Plasma cells are a crucial part of the immune system responsible for the production of antibodies. Bortezomib is a promising anticancer drug targeting the proteasome. This proteasome inhibitor induces cell stress and apoptosis in the [..]

Contents

- Fields of interest
  Oncology; Cancer Research; Pharmacology / Toxicology; Apoptosis

Target groups
Research

Type of publication
Contributed volume

Available
2011. VIII, 179 p. (Milestones in Drug Therapy) Hardcover
139.95 €
ISBN 978-3-7643-8947-5

Chronic Liver Failure

Mechanisms and Management

Chronic liver failure is a frequent condition in clinical practice that encompasses all manifestations of patients with end-stage liver diseases. Chronic liver failure is a multiorgan syndrome that affects the liver, kidneys, brain, heart, lungs, adrenal glands, and vascular, coagulation, and immune systems. Chronic Liver Failure: Mechanisms and Management covers for the first time all aspects of chronic liver failure in a single book, from pathogenesis to current management. Each chapter is written by a worldwide known expert in their area and all provide the latest state-of-the-art knowledge. This volume is specifically designed to provide answers to clinical questions to all doctors dealing with patients with liver diseases, not only clinical gastroenterologists and hepatologists, but also to internists, nephrologists, intensive care physicians, and transplant surgeons.

Features
Chronic liver failure is a frequent condition in clinical practice that encompasses all manifestations of patients with end-stage liver diseases. Chronic liver failure is a multiorgan syndrome that affects the liver, kidneys, brain, heart, lungs, adrenal glands, and vascular, coagulation, and immune systems. Chronic Liver Failure: Mechanisms and Management covers for the first time all aspects of chronic liver [...]

Contents

- Bodies in the liver. Functions in health and disease.
- Physiology of liver function.
- Assessment of liver function in clinical practice.
- Physiology of the splanchnic and hepatic circulations.
- Fibrosis as main mechanisms of chronic liver disease.
- Stem cells in the liver.
- The role of inflammatory mediators in liver failure.
- Genomics of the liver in health and disease.
- Hepatic encephalopathy and alterations of cerebral function.
- Bacterial translocation and alterations of the digestive system.
- SIIS, bacterial infections and alterations of the immune system.
- Extracellular fluid volume

Fields of interest
Gastroenterology; Hepatology; Transplant Surgery

Target groups
Professional/practitioner

Type of publication
Contributed volume

Available
2011. XVII, 190 p. 80 illus., 43 in color. (Clinical Gastroenterology) Hardcover
179.95 €

Guide to Pediatric Urology and Surgery in Clinical Practice

Guide to Pediatric Urology and Surgery in Clinical Practice addresses the surgical and urological problems in children that may be encountered in the primary care clinic. Divided into two sections on urology and surgery, the chapters give a synopsis of a particular condition, its management in primary care, indications for referral and timing of referral. Complications of a particular procedure and its management if presenting to primary care is also discussed. The book is illustrated throughout and key points are provided at the beginning of each chapter for quick and easy reference. A concise assembly of all those pediatric surgical and urological conditions commonly encountered in primary care, this book provides a quick reference guide for use in clinical practice.

Features
Guide to Pediatric Urology and Surgery in Clinical Practice addresses the surgical and urological problems in children that may be encountered in the primary care clinic. Divided into two sections on urology and surgery, the chapters give a synopsis of a particular condition, its management in primary care, indications for referral and timing of referral. Complications of a particular procedure and its [..]

Contents

Section I: Pediatric Urology.
- Urinary Tract Infection: USA.
- Urinary Tract Infection: United Kingdom.
- Urinary Tract Infection: Europe.
- Urinary Tract Infection: Australasia.
- Abnormalities of the Scrotum.
- Problems of the Penis and ForeSkin.
- Hypoplasias.
- Undescended Testes.
- Circumcision.
- Disorders of the Female External Genitalia.
- Voiding Dysfunction.
- Nocturnal Enuresis.
- Constipation.
- Hematuria and Proteinuria.
- Abdominal Pain – Urological Aspects.
- Section II: Pediatric Surgery.
- External Angular Dermoid and Pilomatricoma.

Fields of interest
Pediatric Surgery; Urology / Andrology; Surgery

Target groups
Professional/practitioner

Type of publication
Professional book

Available
2011. XV, 282 p. 92 illus., 72 in color. Softcover
39.95 €

Features
Kopflausmittel auf Basis von Dimeticon läuten durch ihr physikalisches Wirkprinzip einen Paradigmenwechsel in der Kopflautherapie ein. NYDA® ist einer der Vorreiter dieser innovativen Präparatklasse. Aufgrund seiner besonderen physikalischen Eigenschaften dringt das effektive 2-Stufen-Dimeticon in das gesamte Tracheensystem der Kopfläuse und Nymphen (Larven) sowie in die Atemöffnungen der Eier (Nissen) ein. […]

Contents
Kopflausbefall in der Praxis; NYDA® – Produktvorstellung; NYDA® – Studienübersicht; NYDA® in der Praxis; Zusammenfassung und Ausblick

Fields of interest
Dermatology

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. X, 50 S. Softcover
4,63 €
ISBN 978-3-642-14630-5

Vulvodinia
Strategie di diagnosti e cura

Il dolore cronico vulvare, o “vulvodinia”, è una patologia diffusa che può avere un forte impatto sul benessere della donna. Nonostante sia frequentemente osservata nella pratica clinica quotidiana, resta un disturbo trascurato e può richiedere anche molti anni per essere correttamente diagnosticato. Il volume offre un panorama conciso delle ultimissime acquisizioni sulla diagnosi e la cura della vulvodinia e delle sue numerose comorbilità, ha un formato facile da leggere, con molti consigli pratici, e aiuta ad affrontare rapidamente ed efficacemente tutte le complessi e delicate problematiche che sottendono il disturbo. Questo libro si rivolge ai medici motivati a migliorare la qualità di vita delle donne che sof- frono di vulvodinia, e in particolare ai Ginecologi e ai Medici di Medicina Generale.

Features
Il dolore cronico vulvare, o “vulvodinia”, è una patologia diffusa che può avere un forte impatto sul benessere della donna. Nonostante sia frequentemente osservata nella pratica clinica quotidiana, resta un disturbo trascurato e può richiedere anche molti anni per essere correttamente diagnosi.[…]

Contents
1 Epidemiologia del dolore vulvare e comorbilità sessuali 2 Vulvodinia: chi è e in realtà Caratteristiche del dolore;Definizioni Impatto della vulvodinia sulla salute fisica e psicosessuale Conclusioni 3 Vulvodinia e dispareunia: come affrontare Affrontare i problemi sessuali nel setting clinico Vaginismo e dispareunia: come affrontare le interrogazioni. Ces textes ont déjà fait l’objet d’une parution dans la publication officielle de la Société Française de Gériatrie et Gérontologie, L’Année Gérontologique.

Features
Le lecteur trouvera dans cet ouvrage un état des lieux de l’oncogériatrie en France. L’évolution de l’épidémiologie des cancers chez les sujets âgés ainsi que les progrès dans les domaines de la gériatrie clinique et de l’oncologie nécessitent une prise en charge hautement individualisée. Pour le cancérologue, il convient alors d’ajuster ces soins oncologiques théoriques avec les perspectives de la SFGG, permet de faire le point sur ces nombreuses interrogations. Ces textes ont déjà fait l’objet d’une parution dans la publication officielle de la Société Française de Gériatrie et Gérontologie.

Contents
Editorial .- I- Vieillissement et cancer.- II- Struc- turation de la filière de soins en Oncogériatrie.- III- Syndrômes gériatриques et cancers.- IV- Principaux cancers du sujet âgé.- V- Particularités de l’usage des thérapeutiques anti-cancéreuses.- VI- Soins de sup- port en Oncogériatrie.

Fields of interest
Medicine (general)

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. 172 p. Softcover
28,44 €
ISBN 978-2-8178-0141-4
Pflegediagnosen für die Kitteltasche

Als Ergänzung zu den Lehrbüchern und dem Profibuch „Menschen pflegen“ finden Pflegende hier schnell alle notwendigen pflegerischen Informationen zu der betreffenden Pflegediagnose:

Features
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Contents
Aus dem Inhalt: A1 Aktivitätsintoleranz, Gefahr/ Aktivitätsintoleranz.- A2 Allergische Reaktion, Gefahr/Allergische Reaktion.- A3 Angst/ Furcht A4 Anpassung beeinträchtigt.- A5 Aspi rationsgefahr und Aspiration.- A6 Atmestörung, Gefahr/Atmestörung.- B1 Beschäftigungsdefizit.- B2 Bewusstsein gestört.- C1 Copingdefizit (Bewältigungsvorverlegung).- D1 Denkpseudo gestört.- D2 Durchblutungsstörungen/venöse Ablussstörung (arterielle Durchblutung und/oder venöser Aabfluss gestört).- D3 Dysreflexie autonom, Gefahr/Dysreflexie autonom.- E1 Elterliche Fürsorge beeinträchtigt, Gefahr/Elterliche Fürsorge[..]

Fields of interest
Nursing

Target groups
Professional/practitioner

Type of publication
Professional book

Available
2011, X, 385 S. 10 Abb. (Menschen pflegen, 0) Hardcover
23,32 €
ISBN 978-3-642-01318-8

Microbial Zoonoses and Sapronoses

This book presents the state of art in the field of microbial zoonoses and sapronoses. It could be used as a textbook or manual in microbiology and medical zoology for students of human and veterinary medicine, including Ph.D. students, and for biomedicine scientists and medical practitioners and specialists as well. Surprisingly, severe zoonoses and sapronoses still appear that are either entirely new (e.g., SARS), newly recognized (Lyme borreliosis), resurging (West Nile fever in Europe), increasing in incidence (campylobacteriosis), spatially expanding (West Nile fever in the Americas), with a changing range of hosts and/or vectors, with changing clinical manifestations or acquiring antibiotic resistance. The collective term for those diseases is (re)emerging infections, and most of them represent zoonoses and sapronoses (the rest are anthropopoulos). The number of known zoonotic and sapronotic pathogens of humans is continually growing # over 800 today. In the introductory part, short[..]

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Contents

Fields of interest
Infectious Diseases

Target groups
Research

Type of publication
Monograph

Available
2011, X, 457 p. Hardcover
149,95 €

Dual Energy CT in Clinical Practice

Dual-energy CT is a novel, rapidly emerging imaging technique which offers important new functional and specific information. In this book, physicists and specialists from different CT manufacturers provide an insight into the technological basis of, and the different approaches to, dual-energy CT. Renowned medical scientists in the field explain the pathophysiological and molecular background of the technique, discuss its applications, provide detailed advice on how to obtain optimal results, and offer hints regarding clinical interpretation. The main focus is on the use of dual-energy CT in daily clinical practice, and individual sections are devoted to imaging of the vascular system, the thorax, the abdomen, and the extremities. Evaluations and recommendations are based on personal experience and peer-reviewed literature. Plenty of carefully chosen high-quality images are included to illustrate the clinical benefits of the technique.

Features
Dual-energy CT is a novel, rapidly emerging imaging technique which offers important new functional and specific information. With implementation of the technology in commercially available scanners, many clinical applications are now feasible. In this book, physicists and specialists from different CT manufacturers provide an insight into the technological basis of, and the different[..]

Contents

Fields of interest
Imaging / Radiology; Diagnostic Radiology; Internal Medicine; Cardiology; Angiology

Target groups
Professional/practitioner

Type of publication
Contributed volume

Available
2011, X, 216 p. 109 Illus., 10 in color. (Diagnostic Imaging) Hardcover
179,95 €
ISBN 978-3-642-01739-1
MRI of Cardiovascular Malformations

MRI is a non-invasive and non-ionizing imaging modality that is perfectly suited for the diagnosis and follow-up of both pediatric and adult congenital heart disease. It provides a large field of view and has the unique ability to depict complex cardiac and vascular anatomy and to measure cardiac function and flow within one examination. MRI is the ideal complement to echocardiography whenever the information provided by the latter is limited. This book has been conceived as a self-teaching manual that will assist qualified radiologists, cardiologists, and pediatricians, as well as those in training. It is richly illustrated with numerous images and drawings that cover all usual and most unusual anomalies. The principal author, Professor Bruno Kastler, is head of radiology at Besançon University Hospital, France and is board certified in both radiology and cardiology.

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Contents


Fields of interest

Imaging / Radiology; Cardiology; Pediatrics

Target groups

Professional/practitioner

Type of publication

Professional book

Available

2011. XXVI, 256 p. 201 illus. Hardcover

129,95 €
ISBN 978-3-540-30701-3

MRI of Cardiovascular Malformations

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Imaging / Radiology; Cardiology; Pediatrics

Target groups

Professional/practitioner

Type of publication

Professional book

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Fields of interest

Imaging / Radiology; Cardiology; Pediatrics

Target groups

Professional/practitioner

Type of publication

Professional book

Available

2011. XXVI, 256 p. 201 illus. Hardcover

129,95 €
ISBN 978-3-540-30701-3
### Addiction Recovery Management

**Theory, Research and Practice**

Addiction Recovery Management: Theory, Research, and Practice is the first book on the recovery management approach to addiction treatment and post-treatment support services. Distinctive in combining theory, research, and practice within the same text, this ground-breaking title includes authors who are the major theoreticians, researchers, systems administrators, clinicians and recovery advocates who have developed the model. State-of-the-art and the definitive text on the topic, Addiction Recovery Management: Theory, Research, and Practice is mandatory reading for clinicians and all professionals who work with patients in recovery or who are interested in the field.

**Features**
- Addiction Recovery Management: Theory, Research, and Practice is the first book on the recovery management approach to addiction treatment and post-treatment support services.
- Distinctive in combining theory, research, and practice within the same text, this ground-breaking title includes authors who are the major theoreticians, researchers, systems administrators, clinicians and recovery advocates who have developed the model.

**Contents**
- Addiction Treatment and Recovery Careers
- Integrating addiction treatment and mutual aid recovery resources
- Processes that promote recovery from addictive disorders
- Recovery Management: What if we really believed addiction was a chronic disorder?
- Recovery Management Checkups with Adult Chronic Substance Users
- Assertive Continuing Care for Adolescents
- Long-term trajectories of adolescent recovery
- Residential recovery homes/Oxford Houses
- Continuing Care and Recovery
- Recovery-focused behavioral health system transformation: A framework for change and lessons learned from

**Fields of interest**
- Psychiatry
- Neurology
- Internal Medicine
- General Practice
- Family Medicine
- Rehabilitation Medicine

**Target groups**
- Professional/practitioner

**Type of publication**
- Contributed volume

<table>
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<tr>
<th>Available</th>
<th>2011. XI, 326 p. 22 illus., 4 in color</th>
<th>Current Clinical Psychiatry Softcover</th>
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<tr>
<td>ISBN</td>
<td>978-1-60327-959-8</td>
<td>39.95 €</td>
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### Basic Sciences of Nuclear Medicine

**Nuclear medicine has become an ever-changing and expanding diagnostic and therapeutic medical profession.** The day-to-day innovations seen in the field are, in great part, due to the integration of many scientific bases with complex technologic advances. The aim of this reference book, Basic Sciences of Nuclear Medicine, is to provide the reader with a comprehensive and detailed discussion of the scientific bases of nuclear medicine, covering the different topics and concepts that underlie many of the investigations and procedures performed in the field. Topics include radiation and nuclear physics, Tc-99m chemistry, single-photon radiopharmaceuticals and PET chemistry, radiobiology and radiation dosimetry, image processing, image reconstruction, quantitative SPECT imaging, quantitative cardiac SPECT, small animal imaging (including multimodality hybrid imaging, e.g., PET/CT, SPECT/CT, and PET/MRI), compartmental modeling, and tracer kinetics.

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- The aim of this reference book, Basic Sciences of Nuclear Medicine, is to provide the reader with a comprehensive and detailed discussion of the scientific bases.

**Contents**
- Medical statistics
- Basic physics of nuclear medicine
- Radiation physics
- Interaction of radiation with matter
- Radiochemistry and radiopharmaceuticals
- Production of radionuclides
- Technetium radiopharmaceuticals
- Iodinated radiopharmaceuticals
- Radionuclides used for therapy
- Quality control of radiopharmaceuticals
- PET radiopharmaceuticals
- Radiation detection instruments
- Radiation dosimetry
- Radiation and nuclear physics
- Tc-99m chemistry
- Single-photon and planar scintigraphy
- PET chemistry
- PET/SPECT imaging
- Quantitative cardiac SPECT
- Small animal imaging
- Radiochemistry and radiopharmaceuticals
- PET radiopharmaceuticals
- Radiation detection instruments
- Radiation dosimetry
- Radiation and nuclear physics
- Tc-99m chemistry
- Single-photon and planar scintigraphy
- PET chemistry
- PET/SPECT imaging
- Quantitative cardiac SPECT
- Small animal imaging

**Fields of interest**
- Nuclear Medicine

**Target groups**
- Professional/practitioner

**Type of publication**
- Monograph

<table>
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<tr>
<th>Available</th>
<th>2011. XII, 423 p. 255 illus., 150 in color</th>
<th>Hardcover</th>
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<tbody>
<tr>
<td>ISBN</td>
<td>978-3-540-85961-1</td>
<td>159.95 €</td>
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</table>

### Encyclopedia of Heart Diseases

The fully revised second edition of the Encyclopedia of Heart Diseases is an ideal resource for practicing clinicians and researchers. Available in print, online, and with dual access, it is a clear and comprehensive aggregation of the most crucial information and essential data on cardiovascular diseases and therapeutics.

**Features**
- Over 95 entries, including entries such as ACE Inhibitors, Beta Blockers Hypertension Controversy, Blood Pressure, Clinical Trials, Diabetes Caused by Diuretics and Beta Blockers, Erectile Dysfunction and the Heart, Marfan Syndrome, Murmurs and Heart Disease, Pulmonary Hypertension, Women and Heart Disease.

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**Fields of interest**
- Cardiology
- Cardiac Surgery
- Angiology
- Internal Medicine

**Target groups**
- Research

**Type of publication**
- Encyclopedia(s)edia

**Available**
- 2011. XXII, 900 p. 255 illus. In 2 volumes, not available separately. Hardcover
Converging Disciplines

A Transdisciplinary Research Approach to Urban Health Problems

As urban populations grow, new health problems evolve in tandem with longstanding issues. And as a welter of social, environmental, and access factors further complicate the picture, workable solutions require increasingly sophisticated understanding and innovative methods—generally beyond the scope of one professional field. Converging Disciplines introduces the concept of transdisciplinary research as a multidimensional, research-to-practice approach to urban health issues, not only bringing researchers together but also linking stakeholders, from practitioners to policymakers to community members. This immediately accessible volume differentiates transdisciplinary research from multi- and interdisciplinary strategies, as well as from popular community-based models, and brings a uniquely North American set of perspectives to the concept. Chapter authors explore the theory behind the methods as well as their application in meeting chronic problems (e.g., domestic violence, substance abuse) and [...]

Schermerzpsychotherapie


Features

Wenn der Schmerz die Psyche beeinflusst, sind rein somatische Therapieansätze wirkungslos. Die Schmerzpsychotherapie ist mittlerweile von allen führenden Fachgesellschaften anerkannt und fester Bestandteil eines modernen multimodalen Behandlungskonzeptes bei Schmerzpatienten. Das Standardwerk für Ihre Aus- und Fortbildung in seiner 6. aktualisierten Auflage zeigt praxisnah und verständlich [...]

Contents


Fields of interest

Psychiatry; Criminology & Criminal Justice; Psychology; Law; Criminal Law

Target groups

Professional/practitioner

Type of publication

Handbook

Available

2011, XVII.737 S. 11 Abb. Hardcover
93,41 €
ISBN 978-3-7985-1447-8
A Dictionary of Neurological Signs

The first two editions of the Dictionary of Neurological Signs were very well received by readers and reviewers alike. Like those editions, this Third Edition, updated and expanded, can be almost as well described in terms of what the book is not, along with details about what it is. The Dictionary is not a handbook for treatment of neurological disorders. While many entries provide the latest treatment options, up-to-the-minute therapies are not discussed in bedside level detail. The Dictionary is not a board review book because it is not in Q&A format but could easily serve in that capacity since each entry is a fairly complete snapshot of a specific disorder or disease. The Dictionary is an alphabetically listing of commonly presenting neurological signs designed to guide the physician toward the correct clinical diagnosis. The Dictionary is focused, problem-based, concise and practical. The structured entries in this practical, clinical resource provide a thumbnaill of a wide range of signs. 

**Features**

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**Fields of interest**

Neurology

**Target groups**

Professional/practitioner

**Type of publication**

Professional book

**Available**

2011. XVI, 400 p. Softcover

39,95 €


Sports Cardiology Essentials

Evaluation, Management and Case Studies

This book presents an invaluable symptoms-based approach to sports cardiology for sports medicine physicians, primary care physicians, and cardiologists. Edited by an authority in the field, the text offers sought-after insight on caring for the cardiac health of athletes. The first part of the book covers diagnostic tools and treatments. Readers will learn the fundamentals of the preparticipation exam, cardiac screening, and ECG use. Cardiac imaging and electrophysiological testing are addressed as well. To aid with diagnosis, the second part of the book is organized by symptom and sign. Chapters on common signs such as shortness of breath, chest pain, and syncope provide guidance on which tests to perform and how to formulate a clinical workup. Referral is also noted. The third part of the book ties the text together and outlines specific cardiac diseases and disorders. Sudden cardiac arrest, congenital heart disease, and hypertension are among the topics discussed. Case studies are featured.

**Features**

Sports Cardiology Essentials: Evaluation, Management and Case Studies is a comprehensive resource for any physician responsible for the cardiac health of active or athletic patients. The first section of the book discusses the basics of sudden cardiac arrest in athletes, including screening and echocardiography. The second section is divided into chapters that address particular signs and symptoms, such as

**Contents**

Sudden cardiac death in athletics: scope of the problem and emergency response. - Cardiovascular screening of athletes: Focused exam, ECGs, and limited echocardiograms. - Echocardiography and advanced cardiac imaging in athletes. - Exercise training and prescription. - Role of genetic testing for sudden death predisposing heart conditions in athletes. - Shortness of breath. - Chest pain in the athlete: Differential diagnosis, evaluation and treatment. - The collapsed athlete. - Syncope and near-syncope in the competitive athlete. - Electrophysiological approach to syncope and near-syncope in the...

**Fields of interest**

Sports Medicine; Cardiology; Primary Care Medicine; General Practice / Family Medicine; Internal Medicine

**Target groups**

Professional/practitioner

**Type of publication**

Professional book

**Available**

2011. XVI, 465 p. 128 illus., 8 in color. Softcover

49,95 €


A Pattern Approach to Lymph Node Diagnosis

While a pattern approach to diagnosis is taught and practiced with almost every other tissue or organ in the body, the lymph node remains a mystery to most residents starting out in pathology and those pathologists with limited experience in the area. A Pattern Approach to Lymph Node Diagnosis demonstrates that a systematic approach to lymph node examination can be achieved through recognition of morphological patterns produced by different disease processes. It presents a combination of knowledge-based assessment and pattern recognition for diagnosis covering the major primary neoplastic and non neoplastic diseases and metastatic tumors in lymph nodes. This volume demonstrates that lymph node compartments can be recognized histologically especially with the aid of immunohistological markers and how this knowledge can be employed effectively to localize and identify pathological changes in the different compartments in order to facilitate histological diagnosis. It also defines histological...

**Features**

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**Contents**


**Fields of interest**

Pathology; Hematology

**Target groups**

Professional/practitioner

**Type of publication**

Monograph

**Available**

2011. X, 290 p. 459 illus. in color. Hardcover

139,95 €

Seelische Gesundheit im Langzeitverlauf - Die Mannheimer Kohortenstudie

Ein 25-Jahres-Follow-up


Um die Veränderungen im richtigen Kontext zu sehen, wird der Text von einem Historiker begleitet und kommentiert. Zudem kommt eine Probandin zu Wort, die seit Beginn der Studie dabei ist und die ihre Sicht der letzten 30 Jahre dokumentiert.

Contents

Features

Public Health Perspectives on Disability

Traditionally, the public health viewpoint on disability was geared toward primary prevention of disabling conditions or events. More recently, with the movement for disability rights and the emergence of disability studies, the challenge to the field has been to promote positive health outcomes in this underserved community. Such a change in public health culture must start at the educational level, yet training programs have generally been slow in integrating this perspective—with its potential for enriching the field—into their curricula. Public Health Perspectives on Disability meets this challenge with an educational framework for rethinking disability in public health study and practice, and for attaining the competencies that should accompany this knowledge.

This reference balances history and epidemiology, scientific advances, advocacy and policy issues, real-world insights, and progressive recommendations, suitable especially to disability-focused courses, or to add disability-related […]

Features
Public Health Perspectives on Disability. Donald J. Lollar, Elena Andreessen. Traditionally, the public health viewpoint on disability was geared toward primary prevention of disabling conditions or events. More recently, with the movement for disability rights and the emergence of disability studies, the challenge to the field has been to promote positive health outcomes in this underserved […]

Contents

Fields of interest
Health Promotion and Disease Prevention

Hematopoietic Growth Factors in Oncology

Progress in the treatment of cancer over the past two decades has been rapid with many new and novel therapeutic modalities arriving at an unprecedented pace. Overall cancer mortality rates have actually begun to fall in parallel with progress in the diagnosis and treatment of malignant disease. Despite our advances in the understanding of the biology and molecular genetics of cancer, as well as the availability of an increasing array of effective therapies, cancer treatment today and for the foreseeable future will include the traditional modalities of surgery, radiation therapy and chemotherapy.

Features
No area of cancer supportive care better illustrates the advances in our understanding of cellular and molecular biology, genetic engineering and the development of more effective yet often more toxic cancer treatments than that of hematopoietic growth factors. Myelosuppressive agents, with their potential hematopoietic toxicities, remain the mainstay of systemic treatment for both metastatic and early stage cancer. The complications of cancer chemotherapy have serious impact on a patient’s well being and overall quality of life. Fortunately, advances in cancer treatment have been accompanied by equally impressive progress in the availability of a wide array of […]

Features
Hematopoietic Growth Factors in Oncology.

Contents

Fields of interest
Oncology

Type of publication
Contributed volume

Available
2011. XXVII, 262 p. Hardcover
89,95 €
Comprehensive Electrocardiology

New edition of the classic complete reference book for cardiologists and trainee cardiologists on the theory and practice of electrocardiography, one of the key modalities used for evaluating cardiology patients and deciding on appropriate management strategies.

Features
New edition of the classic complete reference book for cardiologists and trainee cardiologists on the theory and practice of electrocardiography, one of the key modalities used for evaluating cardiology patients and deciding on appropriate management strategies.

Contents

Fields of interest
Cardiology; Human Physiology

Target groups
Research

Type of publication
Handbook

Available
2011. XVIII, 2291 p. 1100 illus. In 4 volumes, not available separately.
699.00 €
ISBN 978-1-84882-045-6

The Philosophy and Practice of Medicine and Bioethics

A Naturalistic-Humanistic Approach

This book challenges the unchallenged methods in medicine, such as “evidence-based medicine,” which claim to be, but often are not, scientific. It completes medical care by adding the comprehensive humanistic perspectives and philosophy of medicine. No specific or absolute recommendations are given regarding medical treatment, moral approaches, or legal advice. Given rather is discussion about each issue involved and the strongest arguments indicated. Each argument is subject to further critical analysis. This is the same position as with any philosophical, medical or scientific view. The argument that decision-making in medicine is inadequate unless grounded on a philosophy of medicine is not meant to include all of philosophy and every philosopher. On the contrary, it includes only sound, practical and humanistic philosophy and philosophers who are creative and critical thinkers and who have concerned themselves with the topics relevant to medicine. These would be those philosophers who engage [...] 

Features
This book explores currently unchallenged methods in medicine, such as “evidence-based medicine,” from the perspectives of humanism and philosophy of medicine. The book discusses issues of medical treatment and moral approaches and indicates the strongest arguments. These arguments are subsequently subjected to critical analysis. The book includes new ways of thinking and explains, uses and exemplifies the [...] 

Contents

Fields of interest
Theory of Medicine / Bioethics

Target groups
Research

Type of publication
Monograph

Available
169.95 €

Imaging of Pediatric Bone and Joint Trauma

Multiauthored book dealing comprehensively with the various aspects of imaging of pediatric musculoskeletal trauma. The work is subdivided in three main sections: Overview of lesions; Imaging of traumatic injuries according to body region; typical traumatic injuries of early infancy. The third section includes also legal aspects of child abuse (battered child) and will indicate current international medical-legal guidelines. The didactical approach and the wide-ranging account of the subject makes the book particularly valuable to practitioners from various disciplines, involved in diagnosis and management of trauma of pediatric bone and joint

Features
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Contents

Fields of interest
Imaging / Radiology; Orthopedics; Pediatrics; Forensic Medicine; Maternal and Child Health

Target groups
Professional/practitioner

Type of publication
Monograph

Available
2011. XVII, 210 p. 180 illus., 80 in color. Hardcover
99.95 €
The Human Brain
Prenatal Development and Structure

This book is unique among the current literature in that it systematically documents the prenatal structural development of the human brain. It is based on lifelong study using essentially a single staining procedure, the classic rapid Golgi procedure, which ensures an unusual and desirable uniformity in the observations. The book is amply illustrated with 81 large, high-quality color photomicrographs never previously reproduced. These photomicrographs, obtained at 6, 7, 11, 15, 18, 20, 25, 30, 35, and 40 weeks of gestation, offer a fascinating insight into the sequential prenatal development of neurons, blood vessels, and glia in the human brain.

Features
This book is unique among the current literature in that it systematically documents the prenatal structural development of the human brain. It is based on lifelong study using essentially a single staining procedure, the classic rapid Golgi procedure, which ensures an unusual and desirable uniformity in the observations. The book is amply illustrated with 81 large, high-quality color photomicrographs never previously reproduced. These photomicrographs, obtained at 6, 7, 11, 15, 18, 20, 25, 30, 35, and 40 weeks of gestation, offer a fascinating insight into the sequential prenatal development of neurons, blood vessels, and glia in the human brain.

Contents

Features
Der „MLK“ hat sich mittlerweile zum psychiatrischen Standardwerk entwickelt. Diesem rundum vollständigen Nachschlagewerk gelingt es, auf alle Fragen detaillierte Antworten zu geben – und nicht nur mit einigen Stichwörtern, sondern ausführlich und verständlich. Die Neuauflage wurde komplett überarbeitet, aktualisiert und [...]
<table>
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<th>162 Medicine</th>
<th>springer.com</th>
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M.N. Pamir, Achademy University, Istanbul, Turkey; V. Seifert, Johann Wolfgang Goethe University, Frankfurt, Germany; T. Kins, Istanbul Medical Faculty, Turkey (Eds.)

**Intraoperative Imaging**

Presents and discusses technological advances, clinical applications, and socioeconomics aspects of intraoperative imaging.

**Features**

Presents and discusses technological advances, clinical applications, and socioeconomics aspects of intraoperative imaging.

**Fields of interest**

Neurosurgery

**Target groups**

Research

**Type of publication**

Collected works

|-----------|--------------------------------------------------------------------------------------------|

179,95 €

ISBN 978-3-642-10793-1

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**Health Care Financing and Insurance**

**Options for Design**

As a contribution to the search for suitable and sustainable solutions to finance rising medical care expenditures, the book proposes a typology of healthcare financing and insurance schemes, based on the dimensions of basic vs. supplementary services and mandatory vs. voluntary coverage, to analyse the design and the complex interactions between various financing and insurance arrangements in several OECD countries. This study provides a better understanding of the strengths and weaknesses of the financial and organisational structures of different countries’ healthcare financing and insurance schemes. Its main contributions are the development of a novel and rigorous theoretical framework analysing the economic rationales for the optimal design of healthcare financing and insurance schemes, and an empirical and institutional analysis investigating the consequences for efficiency and affordability of the complex interactions between basic and supplementary sources of financing.

**Features**

As a contribution to the search for suitable and sustainable solutions to finance rising medical care expenditures, the book proposes a typology of healthcare financing and insurance schemes, based on the dimensions of basic vs. supplementary services and mandatory vs. voluntary coverage, to analyse the design and the complex interactions between various financing and insurance arrangements in several OECD countries.

**Contents**

- General Introduction.
- The Design of Health Care Financing Schemes in Different Countries.
- Competition and Solidarity in Health Insurance Markets: An Economic Analysis of the EC Legal Framework.
- Risk Selection Via Health Insurance in Universal Mandatory Health Insurance for Basic Services: A Five-Country Comparison.
- Conclusions and Discussion.

**Fields of interest**

Public Health; Public Finance & Economics; Population Economics; Finance / Banking; Social Policy

**Target groups**

Research

**Type of publication**

Monograph

|-----------|-----------------------------------------------------------------------------------------|

89,95 €

ISBN 978-3-642-10793-1

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**Vascular CT Angiography Manual**

Despite the exponential growth in the use of peripheral CTA in the diagnosis and follow-up of vascular disease patients, practical sources from which to gain valuable expertise in this field remain scarce. There is becoming a great need for experts in the field of peripheral CTA, yet learning this imaging modality may be intimidating and time consuming. Very few if any, small, concise and portable books exist to ease training in this field and current books in this field are overwhelming, difficult to manage, text books that often combine CTA and MRI. A so-called “how to manual” and reference guide to explain this technique from beginning to end, which compiles valuable, and difficult to obtain clinical pearls and descriptions of disease processes will be of tremendous value. The Peripheral CT Angiography Manual aims to make learning this intimidating technique and the diseases for which it applies simple and fun.

**Features**

Vascular medicine is an ever changing and rapidly advancing field, and with the onset of state of the art diagnostic and imaging modalities, we are recognizing that vascular illness is more prevalent than once thought. The proper diagnosis and treatment of this vascular illness may prevent stroke, salvage a limb and even save a life. Advancements in CT angiography have made vascular CT angiography the modality [...]

Fractures in the Elderly: A Guide to Practical Management provides geriatricians and other medical specialists who provide care for older adults with the vital guidance and most current data and opinions regarding the treatment of elderly patients who sustain a variety of fractures. It also provides orthopaedic surgeons with the necessary information and most current data and opinions regarding assessment and management of geriatric conditions that predispose the elderly to fracture, perioperative complications and subsequent functional decline. Each chapter is both readable and appealing not only to geriatricians and orthopaedic surgeons but to all clinicians that have contact with elderly patients who have sustained or are at high risk of sustaining a fracture. Emphasis is placed on the fact that although in some cases pre- and post-operative care in elderly fracture patient may proceed as it does in younger individuals, often there are considerations owing to functional status, pre-existing [...] Features

Fractures in the Elderly: A Guide to Practical Management provides geriatricians and other medical specialists who provide care for older adults with the vital guidance and most current data and opinions regarding the treatment of elderly patients who sustain a variety of fractures. It also provides orthopaedic surgeons with the necessary information and most current data and opinions regarding assessment and [...] Contents


Geriatrics / Gerontology; Orthopedics; Internal Medicine

Target groups

Professional/practitioner

Type of publication

Contributed volume

Available

2011. XII, 335 p. 55 illus., 3 in color. (Aging Medicine) Hardcover

159.95 €

ISBN 978-1-60327-466-1

New Solutions for the Heart: An Update in Advanced Perioperative Protection

Although cardiac surgery has made an enormous progress during the last decades, the discipline has to cope with essential changes. Patients are increasingly cared for by cardiologists and therefore referred to the surgeon in a later stage of disease. Consequently, they are more often in an increasingly serious state or in advanced age with significant comorbidities. In order to meet the requirements of these different patient groups, cardio-surgical treatments require special protectional strategies for the heart in order to perform the planned operations safely. This book presents the latest knowledge of modern techniques of myocardial protection taking into consideration the different patient groups and current scientific strategies. Furthermore, it discusses present and future scientific approaches in myocardial protection and preservation. Features

Although cardiac surgery has made an enormous progress during the last decades, the discipline has to cope with essential changes. Patients are increasingly cared for by cardiologists and therefore referred to the surgeon in a later stage of disease. Consequently, they are more often in an increasingly serious state or in advanced age with significant comorbidities. In order to meet the requirements [...] Contents


Cardiac Surgery; Transplant Surgery; Cardiology; Anesthesiology

Target groups

Professional/practitioner

Type of publication

Professional book

Available

2011. XVI, 287 p. 30 illus. in color. Hardcover

149.95 €

ISBN 978-3-211-85547-8

Radiological Imaging of the Kidney

This book provides a unique and comprehensive analysis of the normal anatomy and pathology of the kidney and upper urinary tract from the modern diagnostic imaging point of view. The first part is dedicated to the embryology and normal radiological anatomy of the kidney and anatomic variants. The second part presents in detail all of the imaging modalities which can be employed to assess the kidney and the [...] Contents


Chronic [...] Fields of interest

Imaging / Radiology; Diagnostic Radiology; Urology / Andrology; Nephrology; Internal Medicine; Nuclear Medicine

Target groups

Professional/practitioner

Type of publication

Monograph

Available

2011. XV, 914 p. 776 illus., 227 in color. (Diagnostic Imaging) Hardcover

299.00 €

ISBN 978-3-540-87596-3
In una statistica comparsa qualche anno fa su un autorevole giornale di cardiologia sperimentale, il numero di errori di ortografia e sintassi nei manoscritti sottomessi per pubblicazione veniva messo a confronto per i vari paesi. Chi c’era in testa alla classifica per frequenza di errori (e in coda alla classifica della frequenza di accettazione)? C’eravamo noi, i cardiologi italiani. Modesta a parte, ci riconosciamo ovunque per il nostro marchio di fabbrica lessicale, lo “spaghetti-English”. Un buon inglese non aiuta forse a farsi accettare il lavoro, ma un cattivo inglese lo “spaghetti-English”. Un buon inglese non aiuta ovunque per il nostro marchio di fabbrica lessicale, e già questo sarà un ottimo risultato per il lettore. (dalla presentazione di Eugenio Picano)

**Features**

In una statistica comparsa qualche anno fa su un autorevole giornale di cardiologia sperimentale, il numero di errori di ortografia e sintassi nei manoscritti sottomessi per pubblicazione veniva messo a confronto per i vari paesi. Chi c’era in testa alla classifica per frequenza di errori (e in coda alla classifica della frequenza di accettazione)? C’eravamo noi, […]

**Fields of interest**

Cardiology

**Target groups**

Professional/practitioner

**Type of publication**

Monograph

**Available**

2011. XV, 350 pagg. 20 figg. Softcover

23,99 €

ISBN 978-88-470-1859-4

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**Auditory and Vestibular Efferents**

Efferent sensory systems have emerged as major components of processing by the central nervous system. Whereas the afferent sensory systems bring environmental information into the brain, efferent systems function to monitor, sharpen, and attend selectively to certain stimuli while ignoring others. This ability of the brain to implement these functions enables the organism to make fine discriminations and to respond appropriately to environmental conditions so that survival is enhanced. Our focus will be on auditory and vestibular efferents, topics linked together by the inner ear connection. The biological utility of the efferent system is striking. How it functions is less well understood, and with each new discovery, more questions arise. The book that is proposed here reflects our vision to share what is known on the topic by authors who actually have made the observations.

**Features**

The biology of auditory and vestibular efferent systems encompasses a wide range of issues where exploration requires knowledge of basic anatomy, electrophysiology, and pharmacology of the inner ear. These topics lead into discussions of development and evolution of efferent systems. The functional significance of these systems is highlighted by an overview of central […]

**Contents**

Overviews.- Olivocochlear Efferents: Structure of the medial and lateral olivocochlear systems.- Olivocochlear Efferents: Physiology of the medial and lateral olivocochlear systems.- Olivocochlear Efferents: Chemistry of the medial and lateral olivocochlear systems.- Cholinergic inhibition of hair cells in the inner ear.- Vestibular Efferents.- Development of efferent systems.- Exuberant efferent innervation of the auditory receptors.- Comparative studies of the efferent system.- Descending projections.- Efferent modulation of brainstem activity.- Efferent effects on the central […]

**Fields of interest**

Ototorhinolaryngology; Neurosciences; Acoustics

**Target groups**

Research

**Type of publication**

Contributed volume

**Available**


109,95 €


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Deutsch für Pflegekräfte: Kommunikationstraining für den Pflegealltag


Features

Contents

Fields of interest
Nursing  

Target groups
Professional/practitioner  

Type of publication
Professional book  

Work Accommodation and Retention in Mental Health

Growing interest in the field of mental health in the workplace among policy makers, clinicians, and researchers alike has been fueled by equal employment rights legislation and increasing disability statistics in mental health. The importance of addressing this topic is underscored by the fact that depression now ranks second on the hierarchy of occupational disabilities. The problem is compounded by a host of factors, including major difficulties in job retention and productivity experienced by persons with mental health disabilities; younger age and higher education of persons with mental health problems; and labor shortages and an aging workforce in many industrialized countries. In addition, particularly in the United States, the vocational needs of army veterans returning from duty with mental health disorders require system-based solutions and new rehabilitation approaches. The pressure created by these powerful legislative, societal, and economic forces has not been matched by the state of [...]  

Features
Work Accommodation and Retention in Mental Health  

Contents

Fields of interest
Occupational Medicine / Industrial Medicine; Health Psychology; Labor Economics; Occupational Therapy; Health Administration  

Target groups
Research  

Type of publication
Contributed volume  

Cardiovascular disease is the major cause of mortality and morbidity in the Western Hemisphere. While significant progress has been made in treating a major sub-category of cardiac disease, arrhythmias, significant unmet needs remain. In particular, every day, thousands of patients die because of arrhythmias in the US alone and atrial fibrillation is the most common arrhythmia affecting millions of patients in the US alone at a given time. Therefore, there is a public need to continue to develop new and better therapies for arrhythmias. Accordingly, an ever increasing number of biomedical, pharmaceutical, and medical personnel is interested in studying various aspects of arrhythmias at a basic, translational, and applied level, both in industry (ie Biotech, Pharmaceutical and device), and in academia. Not only has our overall understanding of molecular bases of disease dramatically increased, but so has the number of available and emerging molecular, pharmacological or device treatment based [...]  

Features
Biomedical, pharmaceutical and medical personnel are interested in studying aspects of arrhythmias at a basic, translational and applied level. The overall understanding of the molecular basis of disease has dramatically increased, as well as the number of available and emerging molecular, pharmacological and device treatment based therapies. Cardiovascular Electrophysiology Methods and Models will review key [...]  

Contents

Fields of interest
Cardiology  

Target groups
Professional/practitioner  

Type of publication
Handbook  

Available
2010: XII, 475 p. 172 illus., 93 in color. Softcover  

69,95 €  
Kidney and Pancreas Transplantation

A Practical Guide

The transplant physicians and surgeons at Cleveland Clinic have collaborated to produce, Kidney and Pancreas Transplantation: A Practical Guide. This volume is devoted to kidney and pancreas transplantation and is well grounded in scientific principles, quantitative clinical reasoning, clinical pharmacology, tested clinical practices and overall clinical applicability. Also addressed are key aspects in the initiation, maintenance and sustained growth of viable clinical programs in kidney and pancreas transplantation. Kidney and Pancreas Transplantation: A Practical Guide will be of great value to transplant physicians as well as medical and surgical fellows who intend to pursue an interest in transplantation.

Features

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Contents


Fields of interest

Urology / Andrology; Transplant Surgery; Abdominal Surgery; Surgery

Target groups

Professional/practitioner

Type of publication

Professional book

Available

2011, XI, 441 p. 99 illus., 54 in color. (Current Clinical Urology) Hardcover

179,95 €

Herz-Kreislauf


Contents


Fields of interest

Internal Medicine

Target groups

Upper undergraduate

Type of publication

German textbook

Available

2011: XIV, 176 S. 204 Abb. in Farbe. (Springer-Lehrbuch) Softcover

18,64 €
ISBN 978-3-642-16717-1

Radiology of Non-Spinal Pain Procedures

A Guide for the Interventionalist

This handy, well-illustrated manual has been designed to meet the need of interventional pain physicians to understand the radiologic imaging involved in the performance of non-splanal pain procedures. It provides information on such topics as radiologic anatomy, the radiologic manifestations of indications and contraindications to interventional procedures, and the radiologic appearance of complications that may arise from these procedures. In addition, it will be useful for the diagnostic radiologist, who may be unaware of many of the interventional pain procedures. The chosen format will ensure that the reader is quickly able to reference any given procedure. As this is a guidebook, it does not encompass every pathologic entity that may be encountered; however, the commonly performed non-spinal pain procedures are included. This text will prove essential for any interventionalist who does not have easy access to a radiologist and vice versa.

Features

Most interventionalists are not radiologists and most radiologists do not understand interventional pain procedures. Nevertheless, interventionalists order extensive diagnostic imaging in the workup prior to any intervention. Against this background, this handy, well-illustrated manual has been designed to meet the major need of interventional pain physicians to understand the radiologic imaging involved in [...]}

Contents


Fields of interest

Pain Medicine; Interventional Radiology; Radiotherapy; Diagnostic Radiology

Target groups

Professional/practitioner

Type of publication

Monograph

Available

2011: XII, 203 p. 303 illus., 35 in color. Softcover

79,95 €
ISBN 978-3-642-00480-3
Tendon transfer for irreparable cuff tear

Treatment of symptomatic irreparable cuff tear is rare, but represents a difficult challenge for the surgeon. Tendon transfer from periscapular muscles group is a therapeutic option. Many tendon transfers are reported as latissimus dorsi, teres major, split of anterior deltoid and pectoralis major. The goal of this book is to remind the biomechanical and anatomical basis of these tendon transfers and to report tips and tricks and results of these techniques. A treatment algorithm is proposed in patients who have both pain and weakness or have loss of active forward elevation or external rotation. Moreover, tendon transfer can be combined with reverse shoulder prosthesis in patients with an unstable glenohumeral arthritis.

Features
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Infectious Disease Informatics and Biosurveillance

This book on Infectious Disease Informatics (IDI) and biosurveillance is intended to provide an integrated view of the current state of the art, identify technical and policy challenges and opportunities, and promote cross-disciplinary research that takes advantage of novel methodology and what we have learned from innovative applications. This book also fills a systemic gap in the literature by emphasizing informatics driven perspectives (e.g., information system design, data standards, computational aspects of biosurveillance algorithms, and system evaluation). Finally, this book attempts to reach policy makers and practitioners through the clear and effective communication of recent research findings in the context of case studies in IDI and biosurveillance, providing "hands-on" in-depth opportunities to practitioners to increase their understanding of value, applicability, and limitations of technical solutions. This book collects the state of the art research and modern perspectives of [...]
Hybrid Logic and its Proof-Theory

This is the first book-length treatment of hybrid logic and its proof-theory. Hybrid logic is an extension of ordinary modal logic which allows explicit reference to individual points in a model (where the points represent times, possible worlds, states in a computer, or something else). This is useful for many applications, for example when reasoning about time one often wants to formulate a series of statements about what happens at specific times. There is little consensus about proof-theory for ordinary modal logic. Many modal-logical proof systems lack important properties and the relationships between proof systems for different modal logics are often unclear. In the present book we demonstrate that hybrid-logical proof-theory remedies these deficiencies by giving a spectrum of well-behaved proof systems (natural deduction, Gentzen, tableaux, and axiom systems) for a spectrum of different hybrid logics (propositional, first-order, intensional first-order, and intuitionistic).

Features
This is the first book-length treatment of hybrid logic and its proof-theory. Hybrid logic is an extension of ordinary modal logic which allows explicit reference to individual points in a model (where the points represent times, possible worlds, states in a computer, or something else). This is useful for many applications, for example when reasoning about time one often wants to formulate a series of [...]
Peace Through Commerce
A Multisectoral Approach

The papers that comprise this book could hardly been conceived of 10 years ago. The idea of commercial republics having a positive impact on peaceful international relations was, of course, not new. Kant and Montesquieu argued for the idea and the idea that trade and peace might be linked has been standard political rhetoric in the west for decades. These were macro-level analyses of commerce and peace. This remains a field in its infancy and this book provides a foundation for further in-depth analysis and inquiry. Previously published in the Journal of Business Ethics, Volume 89 Supplement 4, 2009

Features
The papers that comprise this book could hardly been conceived of 10 years ago. The idea of commercial republics having a positive impact on peaceful international relations was, of course, not new. Kant and Montesquieu argued for the idea and the idea that trade and peace might be linked has been standard political rhetoric in the west for decades. These were macro-level analyses of commerce and peace.

Contents

Fields of interest
Ethics; Business & Economics (general); Philosophy (general)

Target groups
Research

Type of publication
Contributed volume

Available
2011, VI, 270 p. 12 illus. Hardcover
69.95 €
ISBN 978-94-007-0236-3

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 affect 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[...]

Features
Leonardo’s Choice: Genetic Technologies and Animals is an edited collection of twelve essays and one dialogue focusing on the profound affect 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.

Contents

Fields of interest
Ethics; Genetic Engineering; Interdisciplinary Studies; Humanities; Philosophy of Science

Target groups
Professional/practitioner

Type of publication
Contributed volume

Available
2011, XVIII, 256 p. Softcover
49.95 €
ISBN 978-94-007-0523-4

Reality and Negation - Kant’s Principle of Anticipations of Perception
An Investigation of its Impact on the Post-Kantian Debate

Kant, in the Critique of pure reason, only dedicates a few pages to the principle of Anticipations of Perception and only a few critical studies are outspokenly dedicated to this issue in recent critical literature. But if one considers the history of post-Kantian philosophy, one can immediately perceive the great importance of the new definition of the relationship between reality and negation, which Kant’s principle proposes. Critical philosophy is here radically opposed to the pre-critical metaphysical tradition: “Reality” no longer appears as absolutely positive being, which excludes all negativity from itself, and “negation” is not reduced to being a simple removal, the mere absence of being. Instead, reality and negation behave as an equally positive something in respect to one another such that negation is itself a reality that is actively opposed to another reality. Such a definition of the relation between reality and negation became indispensable for post-Kantian Philosophy and represents[...]

Features
Kant, in the Critique of pure reason, only dedicates a few pages to the principle of Anticipations of Perception and only a few critical studies are outspokenly dedicated to this issue in recent critical literature. But if one considers the history of post-Kantian philosophy, one can immediately perceive the great importance of the new definition of the relationship between reality and negation, which[...]

Contents
1. From the Anticipationen der Wahrnehmung to the Dynamic Conception of Matter.- Anticipation as a priori Knowledge.- Perception and Sensation.- The Quantity of Quality: Degree or Intensive Magnitude.- The Two Formulations of the Principle.- The Category of Reality.- The Distinction between realis phenomenon and realitas noumenon.- The Critique of the Concept of Gradus Perfectionis.- From the Ontological Meaning to the Physical Meaning of the Concept of Degree.- Force and Sensation.- The Dynamic Conception of Matter 2. From Real Opposition to the Problem of Change.- Logical Opposition[...]

Fields of interest
History of Philosophy; Modern Philosophy

Target groups
Research

Type of publication
Monograph

Available
99.95 €
Philosophy, Phenomenology, Sciences

Essays in Commemoration of Edmund Husserl

This volume is a broad anthology addressing many if not most major topics in phenomenology and philosophy in general: from foundational and methodological concerns to investigations in anthropology, ethics and theology, from highly specialized research into typically Husserlian topics to the complex relations among pure phenomenology, phenomenological psychology and cognitive science. Many contributions are the product and synthesis of a life-long engagement with phenomenology by leading and established scholars. The volume also has a strong international orientation, acknowledging the variety of perspectives and receptions of Husserl’s works in different philosophical cultures and contexts, bringing together researchers from across the globe.

Features
This volume brings together essays by leading phenomenologists and Husserl scholars in which they engage with the legacy of Edmund Husserl’s philosophy. It is a broad anthology addressing many major topics in phenomenology and philosophy in general, including articles on phenomenological method, investigations in anthropology, ethics, and theology, highly specialized research into typically Husserlian topics.

Contents
Preface: U. Melle; Acknowledgements.
- Le sens de la phénoménologie: M. Richir.
- Transzendentals: R. Bernet.
- Husserl and the Absolute: D. Zahavi.
- Beweis für den transzendentalen Idealismus: U. Melle.
- 6 Phenomenology: A Prehistory: S. Luft.
- Der methodologische Transzendentalismus der L. Tengely: II Theory

Fields of interest
Phenomenology; History of Philosophy; Epistemology; Philosophy of Mind; Philosophy of Science; Metaphysics

Target groups
Research

Type of publication
Contributed volume

Available
199.95 €
ISBN 978-94-007-0070-3

continental Philosophy and Philosophy of Religion

This is the first book that provides access to twelve Continental philosophers and the consequences of their thinking for the philosophy of religion. Basically, in the second half of the twentieth century, it has been treated from within the Anglo-American school of philosophy, which deals mainly with proofs and truths, and questions of faith. This approach is more concerned with human experience, and pays more attention to historical context and cultural influences. As such, it provides challenging questions about the way forward for philosophy of religion in the twenty-first century.

Features
This book is a survey of the work of twentieth-century Continental philosophy and its potential impact on philosophy of religion as it is has been practiced predominantly in English-speaking countries. Major French thinkers such as Ricoeur, Levinas, Derrida, Foucault and Marion are included, as well as Lucie Irigaray and Julia Kristeva. The influence of...

Contents

Fields of interest
Philosophy of Religion; Religious Studies; Phenomenology; Modern Philosophy; Ontology

Target groups
Research

Type of publication
Contributed volume

Available
99.95 €
ISBN 978-94-007-0058-1

Genomics, Obesity and the Struggle over Responsibilities

This volume addresses the overlapping aspects of the fields of genomics, obesity and (non-) medical ethics. It is unique in its examination of the implications of genomics for obesity from an ethical perspective. Genomics covers the sciences and technologies involved in the pathways that DNA takes until the organism is completely built and sustained: the range of genes (DNA), transcriptors factors, enhancers, promoters, RNA (copy of DNA), proteins, metabolism of cell, cellular interactions, organisms. Genomics offers a holistic approach, which, when applied to obesity, can have surprising and disturbing implications for the existing networks tackling this phenomenon. The ethical concerns and consideration presented are inspired by the interaction between the procedural perspective emphasizing the necessity of consultative and participatory organizational relationships in the new gray zones between medicine and food, and the substantive perspective that both cherishes individual autonomy and embeds...[

Contents
Content. - Contributors. - Acknowledgements. - Editor’s Preface. - Part I Introduction. - 1 Challenges of Genomics to Obesity and Traditional Ethics: Michel Korthals. - Part II Concepts of Obesity and Genomics: what can Genomics imply for Society?: - 3 Behaviour, Environment or Body: Three Discourses on Obesity: Tjalling Swierstra. - 4 Contesting the Obesity Epidermic: Elements of a Counter Discourse: Henk van den Belt. - 5 Three Main Areas of Concern, Four Trends in Genomics and Existing Deficiencies in Academic...

Fields of interest
Ethics; Human Genetics; Public Health

Target groups
Research

Type of publication
Monograph

Available
2011. XV, 240 p. 6 illus., 4 in color. (The International Library of Environmental, Agricultural and Food Ethics, Vol. 18) Hardcover
99.95 €
ISBN 978-94-007-0126-7
Belief Revision meets Philosophy of Science

Belief revision theory and philosophy of science both aspire to shed light on the dynamics of knowledge – on how our view of the world changes (typically) in the light of new evidence. Yet these two areas of research have long seemed strangely detached from each other, as witnessed by the small number of cross-references and researchers working in both domains. One may speculate as to what has brought about this surprising, and perhaps unfortunate, state of affairs. One factor may be that while belief revision theory has traditionally been pursued in a bottom-up manner, focusing on the endeavors of single inquirers, philosophers of science, inspired by logical empiricism, have tended to be more interested in science as a multi-agent or agent-independent phenomenon.

Features
Belief revision theory and philosophy of science both aspire to shed light on the dynamics of knowledge – on how our view of the world changes (typically) in the light of new evidence. Yet these two areas of research have long seemed strangely detached from each other, as witnessed by the small number of cross-references and researchers working in both domains. One may speculate as to what has brought about this surprising, and perhaps unfortunate, state of affairs. One factor may be that while belief revision theory has traditionally been pursued in a bottom-up manner, focusing on the endeavors of single inquirers, philosophers of science, inspired by logical empiricism, have tended to be more interested in science as a multi-agent or agent-independent phenomenon.

Contents

Fields of interest
Philosophy of Science; Logic

Target groups
Research

Type of publication
Contributed volume

Available
139,95 €

Kant’s Idealism

New Interpretations of a Controversial Doctrine

This key collection of essays sheds new light on long-debated controversies surrounding Kant’s doctrine of idealism and is the first book in the English language that is exclusively dedicated to the subject. Well-known Kantians Karl Ameriks and Manfred Baum present their considered views on this most topical aspect of Kant’s thought. Several essays by acclaimed Kant scholars broach a vastly neglected problem in discussions of Kant’s idealism, namely the relation between his conception of logic and idealism: The standard view that Kant’s logic and idealism are wholly separable comes under scrutiny in these essays. A further set of articles addresses multiple facets of the notorious notion of the thing in itself, which continues to hold the attention of Kant scholars. The volume also contains an extensive discussion of the often overlooked chapter in the Critique of Pure Reason on the Transcendental Ideal. Together, the essays provide a whole new outlook on Kantian idealism. No one with a serious[...]

Features
This key collection of essays sheds new light on long-debated controversies surrounding Kant’s doctrine of idealism and is the first book in the English language that is exclusively dedicated to the subject. Well-known Kantians Karl Ameriks and Manfred Baum present their considered views on this most topical aspect of Kant’s thought. Several essays by acclaimed Kant scholars broach a vastly neglected problem[...]

Contents
Preface.- About the Contributors.- Kant’s Idealism: the Current Debate.- An Introductory Essay; Dennis Schulting.- Part I: Interpreting Transcendental Idealism.- Kant’s Idealism on a Moderate Interpretation; Karl Ameriks.- Objects and Objectivity in the First Critique; Manfred Baum.- Transcendental Idealism in the Critique of the Power of Judgment; Ido Geiger.- Part II: Transcendental Idealism & Logic.- Transcendental Idealism and the Transcendental Deduction; Lucy Allais.- Transcendental Idealism and Transcendental Apperception; Gary Banham.- Marks, Images, and Rules: Concepts and[...]

Fields of interest
History of Philosophy; Epistemology; Metaphysics; Modern Philosophy; Ontology

Target groups
Research

Type of publication
Contributed volume

Available
99,95 €

Globalization and the Good Corporation

Recent trends in globalization have conclusively demonstrated that economic and socio-political problems of the 21st century would need to be confronted in the context of the inter-dependent nature of the world and its inhabitants. The emerging global economic order has once again brought capitalism and its principal actor, the large multinational corporation, to the apex of social institutions. The 25 papers represent a diversity of viewpoints and are indicative of one of the major goals, i.e., to create a meaningful discourse that goes beyond rhetoric. Instead, it emphasizes a search for feasible solutions in the context of real world problems, resource constraints, and human frailties. Previously published in the Journal of Business Ethics, Volume 87 Supplement 1, 2009

Features
Recent trends in globalization have conclusively demonstrated that economic and socio-political problems of the 21st century would need to be confronted in the context of the inter-dependent nature of the world and its inhabitants. The emerging global economic order has once again brought capitalism and its principal actor, the large multinational corporation, to the apex of social[...]

Contents

Fields of interest
Ethics; Economics; Philosophy (general)

Target groups
Research

Type of publication
Contributed volume

Available
2011, VI, 366 p. 20 Illus. Hardcover
79,95 €
ISBN 978-94-007-0239-4
Diagrammatology
An Investigation on the Borderlines of Phenomenology, Ontology, and Semiotics

Diagrammatology investigates the role of diagrams for thought and knowledge. Based on the general doctrine of diagrams in Charles Peirce’s mature work, Diagrammatology claims diagrams to constitute a centerpiece of epistemology. The book reflects Peirce’s work on the issue in Husserl’s contemporaneous doctrine of ‘categorical intuition’ and charts the many unnoticed similarities between Peircean semiotics and early Husserlian phenomenology. Diagrams, on a Peircean account, allow for observation and experimentation with ideal structures and objects and thus furnish the access to the synthetic a priori of the regional and formal ontology of the Husserlian tradition. The second part of the book focuses on three regional branches of semiotics: biosemiotics, picture analysis, and the theory of literature. Based on diagrammatology, these domains appear as accessible for a diagrammatological approach which leaves the traditional relativism and culturalism of semiotics behind and hence constitutes a realist [...]  

Features
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Contents

Fields of interest
Epistemology; Pragmatism; Phenomenology; Comparative Literature; Philosophy of Biology  

Target groups
Research  

Type of publication
Monograph

Available
2010. XXII, 522 p. 55 illus., 3 in color (Synthese Library, Vol. 336) Softcover

69.95 €
ISBN 978-94-007-0531-9

Bioethics with Liberty and Justice
Themes in the Work of Joseph M. Boyle

Joseph M. Boyle Jr. has been a major contributor to the development of Catholic bioethics over the past thirty five years. Boyle’s contribution has had an impact on philosophers, theologians, and medical practitioners, and his work has in many ways come to be synonymous with analytically rigorous philosophical bioethics done in the Catholic intellectual tradition. Four main themes stand out as central to Boyle’s contribution: the sanctity of life and bioethics; Boyle has elaborated a view of the ethics of killing at odds with central tenets of the euthanasia mentality, double effect and bioethics; Boyle is among the pre-eminent defenders of a role for double-effect in medical decision making and morality; the right to health care; Boyle has moved beyond the rhetoric of social justice to provide a natural law grounding for a political right to health care; and the role of natural law and the natural law tradition in bioethics; Boyle’s arguments have been grounded in a particularly fruitful approach. [...]  

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Contents

Fields of interest
Ethics; Theory of Medicine / Bioethics; Quality of Life Research; Philosophy of Religion; Religious Studies; Philosophy of Medicine  

Target groups
Research  

Type of publication
Contributed volume

Available

99.95 €

Reason, Spirit and the Sacral in the New Enlightenment
Islamic Metaphysics Revived and Recent Phenomenology of Life

Rationality in its various expressions and innumerable applications sustains understanding and our sense of reality. It is traditionally differentiated according to its sources in the soul: in consciousness, in reason, in experience, and in elevation. Such a functional approach, however, leaves us searching for the common foundation harmonizing these rationalities. The perennial quest to resolve the aporias of rationality is finding in contemporary science’s focus on origins, on the generative roots of reality, tantalizing hints as to how this may be accomplished. This project is enhanced by the wave of recent phenomenology/ontopoiesis of life, which reveals the workings of the logos at the root of beingness and all rationality, whereby we gaze upon the prospect of a New Enlightenment. In the rays of this vision the revival of the intuitions of classical Islamic metaphysics, particularly intuition of the continuity of beingness in the gradations of life, receive fresh confirmation.  

Features
Rationality in its various expressions and innumerable applications sustains understanding and our sense of reality. It is traditionally differentiated according to its sources in the soul: in consciousness, in reason, in experience, and in elevation. Such a functional approach, however, leaves us searching for the common foundation harmonizing these rationalities. The perennial quest to resolve the aporias of [...]  

Contents

Fields of interest
Philosophy (general); Non-Western Philosophy; Metaphysics; Philosophy of Religion; Ethics  

Target groups
Research  

Type of publication
Contributed volume

Available
Classic Issues in Islamic Philosophy and Theology Today

This collection of classic issues in Islamic theology and philosophy, authored by young Islamic scholars, is for Islamic and Occidental readers alike. While the questions are classic, these studies are not focused on historical matters. They proceed from the authors’ personal quest, prompted by contemporary concerns as they seek to understand the old themes afresh as relevant to inherited Islamic wisdom. These studies strike us as initiating its contribution to the New Enlightenment, which emerges from the technologico-pragmatic turn of today’s universal situation, loosening its grip. Firstly, by their response to the present day call to revivify metaphysics, benefiting from the evolution of knowledge. Secondly, the search for renewed Islamic illumination is manifested in our authors’ sharing their reflection in encounters with Occidental thinkers, renewing the precious ties between East and West that were formed in the Middle Ages and then disrupted.

Features
This collection of studies in classic issues of Islamic theology and philosophy, authored primarily by young Islamic scholars, is directed to Islamic and Occidental readers alike. While the questions here explored are classic, these studies are definitely not narrowly focused on historical matters or the delineation of the filiation of ideas. Rather they proceed from the personal quest of each of the [...]
Impact of Network Ethics on Business Practices

This book on network ethics offers 15 scholarly chapters from a variety of disciplines and fields of study, all aimed at exploring some important aspect of how networks develop, enact, and enforce ethical norms. The chapters are ordered according to the levels of analysis each deals with, ranging from the cognitive/intrapersonal to the systemic/societal. Taken together, these chapters provide a fresh look at how networks are changing the way business is done and the way we think about ethics. Earlier versions of some chapters in this book were presented at the Conference “Network Ethics: The New Challenge in Business, ICT and Education,” hosted by the Center for Ethics, Business and Economics of the School of Business and Economics of the Catholic University of Portugal, in collaboration with Carnegie Mellon University and the University of Northern Iowa. Previously published in the Journal of Business Ethics, Volume 90 Supplement 4, 2009.

Features

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Contents

Introduction to the Special Issue on the Impact of Network Ethics on Business Practices; Antonino Vaccaro, Adele Santana and Donna J. Wood - Adam Smith’s Vision of the Ethical Manager; George Bragues - Hierarchical Motive Structures and Their Role in Moral Choices; Richard P. Bagozzi, Leslie E. Sekora, Vanessa Hill - The Practice of Networking: An Ethical Approach; Domenic Melé - Web 2.0 Social Networks: The Role of Trust; Sonja Grabner-Kräuter - Corporate Responsibilities in Internet-Enabled Social Networks; Stephen Chen - Deception in Business Networks: Is It Easier to Lie Online? [...]

Fields of interest

Ethics; Business & Economics (general); Philosophy (general)

Target groups

Research

Type of publication

Contributed volume

Available

2011, VI, 242 p. 10 illus. Hardcover

79.95 €
ISBN 978-94-007-0379-7

Introduction to the Physics of Electrons in Solids

This textbook sets out to enable readers to understand fundamental aspects underlying quantum macroscopic phenomena in solids, primarily through the modern experimental techniques and results. The classic independent-electrons approach for describing the electronic structure in terms of energy bands helps explain the occurrence of metals, insulators and semiconductors. It is underlined that superconductivity and magnetism can only be understood by taking into account the interactions between electrons. The text recounts the experimental observations that have revealed the main properties of the superconductors and were essential to track its physical origin. While fundamental concepts are underlined, those which are required to describe the high technology applications, present or future, are emphasized as well. Problem sets involve experimental approaches and tools which support a practical understanding of the materials and their behaviour.

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Contents


Fields of interest

Condensed Matter Physics; Magnetism, Magnetic Materials; Physical Chemistry; Optical and Electronic Materials

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook

Available

2011, XXVI, 630 p. 400 illus., 51 in color. (Graduate Texts in Physics) Hardcover

89.95 €
ISBN 978-3-642-13564-4

Biophysics of Human Hair

This book presents the biophysics of hair. It deals with the structure of hair, its mechanical properties, the nanomechanical characterization, tensile deformation, tribological characterization, the thickness distribution and binding interactions on hair surface. It is the first book on the biophysical properties of hair.

Features

This book presents the biophysics of hair. It deals with the structure of hair, its mechanical properties, the nanomechanical characterization, tensile deformation, tribological characterization, the thickness distribution and binding interactions on hair surface. Another important topic of the book is the health of hair, human hair and skin, hair care, cleaning and conditioning treatments and damaging [...]

Contents


Fields of interest

Biophysics and Biological Physics; Biomaterials; Nanoscale Science and Technology; Biomedical Engineering; Nanotechnology and Microengineering; Dermatology

Target groups

Graduate

Type of publication

Monograph

Available

2010, IX, 192 p. 100 illus. (Biological and Medical Physics, Biomedical Engineering) Hardcover

99.95 €
ISBN 978-3-642-15900-8
Beyond Einstein Gravity
A Survey of Gravitational Theories for Cosmology and Astrophysics

Beyond Einstein’s Gravity is a graduate level introduction to extended theories of gravity and cosmology, including variational principles, the weak-field limit, gravitational waves, mathematical tools, exact solutions, as well as as cosmological and astrophysical applications. The book provides a critical overview of the research in this area and unifies the existing literature using a consistent notation. Although the results apply in principle to all alternative gravities, a special emphasis is on scalar-tensor and f(R) theories. They were studied by theoretical physicists from early on, and in the 1980s they appeared in attempts to renormalize General Relativity and models of the early universe. Recently, these theories have seen a new lease of life, in both their metric and metric-affine versions, as models of the present acceleration of the universe without introducing the mysterious and exotic dark energy. The dark matter problem can also be addressed in extended gravity. These applications...[

Features
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Contents

Fields of interest
Astronomy, Astrophysics and Cosmology; Classical and Quantum Gravitation, Relativity Theory; Applications of Mathematics

Target groups
Research

Type of publication
Monograph

Available
2011, XII, 448 p. (Fundamental Theories of Physics, Vol. 170)
Hardcover
119,95 €
ISBN 978-94-007-0164-9
Theory of Particle and Cluster Emission

Nowadays experimental nuclear physics pushes its limits towards highly unstable nuclei. The theoretical description of proton-rich and neutron-rich nuclei or superheavy elements has become an important part of the modern nuclear physics. The main tool to investigate such unstable nuclei concerns radioactive decays, from proton emission to fission processes. We review the main theoretical methods describing decay processes induced by the strong interaction, like Coupled channels method for Gamow resonances, R-matrix theory, Distorted wave approach, Semiclassical approach, Multi step and Two center shell model. Thus, most of the book is addressed to a broad audience within the nuclear physics community. Secondly, this book is an attempt to clarify some fundamental aspects connected with the fine structure or anisotropy in alpha decay and ternary cold fission. Finally, the self consistent microscopic theory of the alpha decay is analyzed.

Features
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Contents

Fields of interest
Nuclear Physics, Heavy Ions, Hadrons

Target groups
Research

Type of publication
Monograph

Available
69,95 €
ISBN 978-3-642-14405-9

Atoms, Molecules and Photons

An Introduction to Atomic-, Molecular- and Quantum Physics

This introduction to Atomic and Molecular Physics explains how our present model of atoms and molecules has been developed over the last two centuries, both by many experimental discoveries and, from the theoretical side, by the introduction of quantum physics to the adequate description of micro-particles. It illustrates the wave model of particles by many examples and shows the limits of classical description. The interaction of electromagnetic radiation with atoms and molecules and its potential for spectroscopy is outlined in great detail and, in particular, lasers as modern spectroscopic tools are discussed thoroughly. Many examples and problems with solutions are offered to encourage readers to actively participate in applying and adapting the fundamental physics presented in this textbook to specific situations.

Features
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Contents

Fields of interest
Atomic, Molecular, Optical and Plasma Physics; Condensed Matter Physics; Physical Chemistry; Quantum Physics

Target groups
Graduate

Type of publication
Graduate/advanced undergraduate textbook

Available
2010. XVII, 589 p. (Graduate Texts in Physics) Hardcover
89,95 €
ISBN 978-3-642-10297-4

Localized States in Physics: Solitons and Patterns

Systems driven far from thermodynamic equilibrium can create dissipative structures through the spontaneous breaking of symmetries. A particularly fascinating feature of these pattern-forming systems is their tendency to produce spatially confined states. These localized wave packets can exist as propagating entities through space and/or time. Various examples of such systems will be dealt with in this book, including localized states in fluids, chemical reactions on surfaces, neural networks, optical systems, granular systems, population models, and Bose-Einstein condensates. This book should appeal to all physicists, mathematicians and electrical engineers interested in localization in far-from-equilibrium systems. The authors - all recognized experts in their fields - strive to achieve a balance between theoretical and experimental considerations thereby giving an overview of fascinating physical principles, their manifestations in diverse systems, and the novel technical applications on the horizon.

Features
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Contents

Fields of interest
Statistical Physics, Dynamical Systems and Complexity.- Quantum Optics, Quantum Electronics, Nonlinear Optics; Phase Transitions and Multiphase Systems; Soft and Granular Matter, Complex Fluids and Microfluidics

Target groups
Research

Type of publication
Monograph

Available
99,95 €
ISBN 978-3-642-16548-1
Synergies between Solar and Stellar Modelling

This work is intended to give a comprehensive overview of the current state of knowledge in solar and stellar modelling. The aim of the work is to compare and extend what is known from detailed solar modelling, made possible by helioseismic tools and by recent analysis of the solar spectrum, to modelling and understanding of generic stellar structures and their evolution. The book focuses on how the tools developed for the Sun are applied to other stars. The emphasis is mainly on the role of the input physics, and its relevant uncertainties, in the construction of stellar models, and on the resulting predictions for general observable quantities, and for asteroseismology.

Features
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Experimentalphysik 1

Kraft, Energie, Bewegung Physik Denken


Features
Die Physik stellt die Beobachtung, die Erklärung und die Vorhersage von Naturvorgängen in den direkten Zusammenhang mit der Mathematik. Physikalisches Denken erfordert deshalb fundierte Kenntnisse über die experimentellen Methoden, die Interpretation von Messungen und die physikalischen Konzepte, die auf mathematischer Basis entwickelt werden. Die Lehr- und Lernmodule ...

Contents

Fields of interest
Mechanics

Target groups
Lower undergraduate

Type of publication
Undergraduate textbook

Available

18,64 €
ISBN 978-3-642-13080-9

Experimentalphysik 3

Schwingungen, Wellen, Körperrwendung Physik Denken


Features
Die Physik stellt die Beobachtung, die Erklärung und die Vorhersage von Naturvorgängen in den direkten Zusammenhang mit der Mathematik. Physikalisches Denken erfordert deshalb fundierte Kenntnisse über die experimentellen Methoden, die Interpretation von Messungen und die physikalischen Konzepte, die auf mathematischer Basis entwickelt werden. Die Lehr- und Lernmodule ...

Contents
Dynamik starrer Körper, - Schwingungen, - Wellen, - Lösungen zu den Aufgaben.

Fields of interest
Mechanics, Classical Continuum Physics

Target groups
Lower undergraduate

Type of publication
German textbook

Available

2011. VII, 125 S. 83 Abb. (Springer-Lehrbuch) Softcover
18,64 €
ISBN 978-3-642-14311-3

Information Optics and Photonics

Algorithms, Systems, and Applications

This book will address the advances, applications, research results, and emerging areas of optics, photonics, computational approaches, nano-photonics, bio-photonics, with applications in information systems. The objectives are to bring together novel approaches, analysis, models, and technologies that enhance sensing, measurement, processing, interpretation, and visualization of information. The book will concentrate on new approaches to information systems, including integration of computational algorithms, bio-inspired models, photonics technologies, information security, bio-photonics, and nano-photonics. Applications include bio-photonics, digitally enhanced sensing and imaging systems, multi-dimensional optical imaging and image processing, bio-inspired imaging, 3D visualization, 3D displays, imaging on nano-scale, quantum optics, super resolution imaging, photonics for biological applications, microscopy, information optics, and holographic information systems.

Features
This book addresses applications, recent advances, and emerging areas in fields with applications in information optics and photonics systems. The objective of this book is to illustrate and discuss novel approaches, analytical techniques, models, and technologies that enhance sensing, measurement, processing, interpretation, and visualization of information using free space optics and photonics. The material ...

Contents

Fields of interest
Applied Optics, Optoelectronics, Optical Devices; Image Processing and Computer Vision; Optical and Electronic Materials; Signal, Image and Speech Processing

Target groups
Graduate

Type of publication
Monograph

Available

2010. XV, 261 p. 153 illus., 76 in color. Hardcover
99,95 €
The Dynamics of Heat
A Unified Approach to Thermodynamics and Heat Transfer

Based on courses for students of science, engineering, and systems science at the Zurich University of Applied Sciences at Winterthur, this text approaches the fundamentals of thermodynamics from the point of view of continuum physics. By describing physical processes in terms of the flow and balance of physical quantities, the author achieves a unified approach to hydraulics, electricity, mechanics and thermodynamics. In this way, it becomes clear that entropy is the fundamental property that is transported in thermal processes (i.e., heat), and that temperature is the corresponding potential. The resulting theory of the creation, flow, and balance of entropy provides a foundation of a dynamical theory of heat. This extensively revised and updated second edition includes new material on dynamical chemical processes, thermoelectricity, and explicit dynamical modeling of thermal and chemical processes. To make the book more useful for courses on thermodynamics and physical chemistry at different levels.

Features
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Contents
PART I: Fluids, Electricity, and Energy.
- Storage and Flow of Fluids.
- Electricity, Fluids, and Oscillatory Systems.
- Energy in Physical Processes.
PART II: Thermal and Chemical Processes.
- Storage, Flow, and Production of Heat.
- Transport of Substances.
- The Response of Gases and Radiation to Heat.
化学 Reaction and Heat.
- Transport of Heat.
Minimization of Entropy Production.
- Thermodynamics of Uniform Processes.
- Chemical processes in uniform fluid systems.
Laws of balance in continuous changes.

Fields of interest
Thermodynamics; Engineering Thermodynamics; Heat and Mass Transfer; Energy, general; Classical Continuum Physics; Physical Chemistry

Target groups
Graduate

Type of publication
Graduate/advanced undergraduate textbook

Available
2010, XI, 734 p. 229 illus. (Graduate Texts in Physics) Hardcover
99,95 €
ISBN 978-3-642-11545-5

Quantitative Sociodynamics
Stochastic Methods and Models of Social Interaction Processes

This new edition of Quantitative Sociodynamics presents a general strategy for interdisciplinary model building and its application to a quantitative description of behavioral changes based on social interaction processes. Originally, the crucial methods for the modeling of complex systems (stochastic methods and nonlinear dynamics) were developed in physics and mathematics, but they have very often proven their explanatory power in chemistry, biology, economics and the social sciences as well. Quantitative Sociodynamics provides a unified and comprehensive overview of the different stochastic methods, their interrelations and properties. In addition, it introduces important concepts from nonlinear dynamics (e.g. synergetics, chaos theory). The applicability of these fascinating concepts to social phenomena is carefully discussed. By incorporating decision-theoretical approaches, a fundamental dynamic model is obtained, which opens new perspectives in the social sciences. It includes many...features.

Contents
Introduction and Summary.
- Dynamic Decision Behavior.
- Stochastic Methods and Non-Linear Dynamics: Master Equation in State Space.
- Boltzmann-Like Equations.
- Master Equation in Configuration Space.
- The Fokker-Planck Equation.
- Langevin Equations and Non-Linear Dynamics.
- Problems and Terminology.
- Decision-Theoretical Specification of the Transition Rates.
- Opinion Formation Models.
- Social Fields and Social Forces.
- Evolutionary Game Theory.
- Determination of the Model Parameters from Empirical Data.
- List of Symbols.

Features
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Fields of interest
Socio- and Econophysics, Population and Evolutionary Models; Operation Research / Decision Theory; Game Theory, Economics, Social and Behavioral Sciences; Probability Theory and Stochastic Processes; Social Sciences (general)

Target groups
Research

Type of publication
Monograph

Available
2010, XVI, 340 p. 110 illus. in color. (Biological and Medical Physics, Biomedical Engineering) Hardcover
119,95 €
ISBN 978-3-642-12531-7

Biomaterials
A Tantalus Experience

Replacement of a failing hip joint or other defective organs in the human body by artificial ‘spare parts’ has significantly improved our quality of life. These spare parts have to meet a wide spectrum of mechanical, chemical and design requirements. In this book, the properties and selection of materials for such ‘spare parts’ are deduced from case studies at the start of each chapter. Hard tissue replacements (joints, long bones, dental, soft tissue (heart valves)) and tissue engineering are included. The chapters also detail the three generic classes of materials: alloys (including shape memory alloys), ceramics & glasses and polymers. Separate chapters are devoted to the toxicity of implants, the metals zirconium (zirconium oxide), tantalum, niobium and metallic glasses, soluble metals and Rapid Prototyping techniques for the fabrication of custom made prostheses. The book concludes by a chapter on water as water is always ‘there’ and conditions the interaction between body and implant. Water..."
High-Tc Superconductors Based on FeAs Compounds

Physical properties and models of electronic structure are analyzed for a new class of high-TC superconductors which belong to iron-based layered compounds. Despite their variable chemical composition and differences in the crystal structure, these compounds possess similar physical characteristics, due to electron carriers in the FeAs layers and the interaction of these carriers with fluctuations of the magnetic order. A tremendous interest towards these materials is explained by the prospects of their practical use. In this monograph, a full picture of the formation of physical properties of these materials, in the context of existing theory models and electron structure studies, is given. The book is aimed at a broad circle of readers: physicists who study electronic properties of the FeAs compounds, chemists who synthesize them and specialists in the field of electronic structure calculations in solids. It is helpful not only to researchers active in the fields of superconductivity and [...]
The Sky at Night

The Sky at Night book series, formerly published by Philips, documents the 40 most recent episodes of Sir Patrick Moore’s record-breaking TV program of the same name. This program is the only major long-running TV program featuring astronomy topics in both the U.S. and the U.K. Each episode reviews current events and hot topics in the field of astronomy. As in the twelve earlier volumes, each of the episodes has been re-written into short, punchy essays from the past four years of broadcasting. Each chapter covers the subject of a particular show in The Sky at Night TV series. As such, this book presents a synopsis of the most significant events in astronomy during this 40-episode period. Patrick Moore has fans the world over, for whom these volumes are essential reading. The Sky at Night programs (and, of course, the books) feature many of the greatest living astronomers, astrophysicists, cosmologists, and astronauts - people such as Sir Martin Rees (President of the U.K.’s prestigious Royal)[…]

Features
For more than 50 years now Sir Patrick Moore has presented the BBC Television series Sky at Night; not a month has been missed – a record for any television series, and a record which may never be broken. Every three years or so a book is published covering the main events in both astronomy and space research. This is the 13th volume, not only a record of the programmes but also of the great advances and research. This is the 13th volume, not only a record of the programmes but also of the great advances and research. This is the 13th volume, not only a record of the programmes but also of the great advances and research. This is the 13th volume, not only a record of the programmes but also of the great advances and research.

Contents

Fields of interest
Astronomy, Astrophysics and Cosmology; Popular Science in Astronomy

Target groups
Popular/general

Type of publication
Popular science

Available
2010. XV, 169 p. 43 illus., 33 in color. Softcover
29,95 €

Nanoscience and Engineering in Superconductivity

For emerging energy saving technologies superconducting materials with superior performance are needed. Such materials can be developed by manipulating the "elementary building blocks" through nanostructuring. For superconductivity the "elementary blocks" are Cooper pair and fluxon (vortex). This book presents new ways how to modify superconductivity and vortex matter through nanostucturing and the use of nanoscale magnetic templates. The basic nano-effects, vortex and vortex-antivortex patterns, vortex dynamics, Josephson phenomena, critical currents, and interplay between superconductivity and ferromagnetism at the nanoscale are discussed. Potential applications of nanostructured superconductors are also presented in the book.

Features
For emerging energy saving technologies superconducting materials with superior performance are needed. Such materials can be developed by manipulating the "elementary building blocks" through nanostructuring. For superconductivity the "elementary blocks" are Cooper pair and fluxon (vortex). This book presents new ways how to modify superconductivity and vortex matter through nanostucturing and the use of [...]
Proceedings of the 2009 Joint Annual Conference of the National Society of Black Physicists and the National Society of Hispanic Physicists

The Joint Annual Conferences of the National Society of Black Physicists and National Society of Hispanic Physicists brings together over 500 African American and Hispanic American physics students and professionals. This conference has a cutting-edge scientific program as well as a student professional development program that includes mentor-protégé match-making and a recruiting fair. The scientific program includes over 120 oral and poster presentations covering the following topics: Astronomy and Astrophysics; Atomic and Molecular Physics; Chemical and Biological Physics; Mathematical and Computational Physics; Condensed Matter and Materials Physics; Cosmology; Gravitation and Relativity; Fluid and Plasma Physics; Physics Education Research; Photonics and Optics; Health Physics; Medical Physics; Space and Earth Systems Physics; Nuclear and Particle Physics; Physics in Africa, Latin America and the Caribbean; Physics and Public Policy; Technology Transfer.

Features
The Joint Annual Conferences of the National Society of Black Physicists and National Society of Hispanic Physicists brings together over 500 African American and Hispanic American physics students and professionals. This conference has a cutting-edge scientific program as well as a student professional development program that includes mentor-protégé match-making and a recruiting fair. [...] |

Contents

Fields of Interest
Laser Technology and Physics; Photonics; Engineering Fluid Dynamics; Image Processing and Computer Vision; Fluid- and Aerodynamics; Signal, Image and Speech Processing

Target groups
Research

Type of publication
Proceedings

Available
169.95 €

Magnetothermal Properties near Quantum Criticality in the Itinerant Metamagnet Sr3Ru2O7

The compound Sr3Ru2O7 of the strontium ruthenate family has been intensely studied because experimental evidence suggests that quantum fluctuations dominate the magnetic phase diagram in the vicinity of a novel low-temperature phase. In order to understand the interplay between the quantum critical fluctuations and the phase formation, comprehensive thermodynamic information is essential. This thesis reports the results of both specific-heat and magnetocaloric experiments carried out with a bespoke experimental apparatus whose design particularly addresses the demanding constraints of the low-temperature, high-magnetic-field environment. The experimental data give evidence for unusual thermodynamic properties of the novel phase and its bounding phase transitions. Furthermore they show that the phase formation takes place against a background of strongly peaking entropy, suggesting that quantum criticality plays a key role in the physics of this system.

Features
The compound Sr3Ru2O7 of the strontium ruthenate family has been intensely studied because experimental evidence suggests that quantum fluctuations dominate the magnetic phase diagram in the vicinity of a novel low-temperature phase. In order to understand the interplay between the quantum critical fluctuations and the phase formation, comprehensive thermodynamic information is essential. This thesis reports [...] |

Contents

Fields of Interest
Magnetism, Magnetic Materials

Target groups
Research

Type of publication
Monograph

Available
2010. X. 141 p. 64 illus., 17 in color. (Springer Theses) Hardcover
99.95 €
ISBN 978-3-642-14523-0
This book is meant for observers who see a deep-sky object – either by star-hopping or by using a Go-To telescope – but do not observe it in detail because they don’t know what to look for. It provides photographic images of all the objects discussed… not just images, but images that look exactly like the visual view through the eyepiece of telescopes of various apertures. Usually, deep-sky objects almost always look quite unlike the usual CCD images published in astronomical guides. The human eye doesn’t see color at such low light levels, and the contrast of extended objects (such as nebulae and galaxies) is completely different. The author lives in a less-than-ideal location for visual observing, with the city of London only about twenty miles to the south. He uses this to his advantage, and amateur astronomers will find this book invaluable because it shows them what they will actually see from a typical suburban location, not a rare view under perfect skies.

Features
How many times have you ‘found’ a deep-sky object (DSO), tucked it off the list, and moved on, or used the ‘Tour’ function on your GO-TO ‘scope and said, ‘Oh that’s a just a smudge’ or ‘Can’t see it – I’ll move on to the next one.’ If this has happened to you, then this book is for you. It will challenge you to go back to the ‘smudge’ and really look. Can you see the faint wisps or the detail in the […]

Contents

Fields of interest
Astronomy, Observations and Techniques; Popular Science in Astronomy; Photography

Target groups
Popular/general

Type of publication
Popular science

Available
44,95 €

S. Rumistrzewicz, South Bedfordshire, UK

A Pocket Field Guide

Quality and Reliability of Large-Eddy Simulations II

The second Workshop on ‘Quality and Reliability of Large-Eddy Simulations’, QLES2009, was held at the University of Pisa from September 9 to September 11, 2009. Its predecessor, QLES2007, was organized in 2007 in Leuven (Belgium). The focus of QLES2009 was on issues related to predicting, assessing and assuring the quality of LES. The main goal of QLES2009 was to enhance the knowledge on error sources and on their interaction in LES and to devise criteria for the prediction and optimization of simulation quality, by bringing together mathematicians, physicists and engineers and providing a platform specifically addressing these aspects for LES. Contributions were made by leading experts in the field. The present book contains the written contributions to QLES2009 and is divided into three parts, which reflect the main topics addressed at the workshop: (i) SGS modeling and discretization errors; (ii) Assessment and reduction of computational errors; (iii) Mathematical analysis and foundation for[...]

Features
The second Workshop on ‘Quality and Reliability of Large-Eddy Simulations’, QLES2009, was held at the University of Pisa from September 9 to September 11, 2009. Its predecessor, QLES2007, was organized in 2007 in Leuven (Belgium). The focus of QLES2009 was on issues related to predicting, assessing and assuring the quality of LES. The main goal of QLES2009 was to enhance the knowledge on error sources and on[...]

Contents

Fields of interest
Numerical and Computational Physics; Statistical Physics, Dynamical Systems and Complexity; Theoretical and Computational Chemistry; Computational Mathematics and Numerical Analysis; Physical Chemistry

Target groups
Graduate

Type of publication
Graduate/advanced undergraduate textbook

Available
189,95 €
ISBN 978-94-007-0230-1

M.V. Salvetti, University of Pisa, Italy; B. Geurts, University of Twente, Enschede, The Netherlands; J. Meyers, Katholieke Universiteit Leuven, Belgium; P. Sagaut, Université Pierre et Marie Curie, Paris, France (Eds.)

Computational Physics
Simulation of Classical and Quantum Systems

This book encapsulates the coverage for a two-semester course in computational physics. The first part introduces the basic numerical methods while omitting mathematical proofs but demonstrating the algorithms by way of numerous computer experiments. The second part specializes in simulation of classical and quantum systems with instructive examples spanning many fields in physics, from a classical rotor to a quantum bit. All program examples are realized as Java applets ready to run in your browser and do not require any programming skills.

Features
This book encapsulates the coverage for a two-semester course in computational physics. The first part introduces the basic numerical methods while omitting mathematical proofs but demonstrating the algorithms by way of numerous computer experiments. The second part specializes in simulation of classical and quantum systems with instructive examples spanning many fields in physics, from a classical rotor to a […]

Contents

Fields of interest
Numerical and Computational Physics; Statistical Physics, Dynamical Systems and Complexity; Theoretical and Computational Chemistry; Computational Mathematics and Numerical Analysis; Physical Chemistry

Target groups
Graduate

Type of publication
Graduate/advanced undergraduate textbook

Available
69,95 €
ISBN 978-3-642-13989-5

P.O.J. Scheer, Technische Universitat München, Garching, Germany

Optical Science and Engineering; Computational Science and Engineering; Engineering Statistics and Probability; Simulation and Modeling; Fluid- and Aerodynamics; Simulation and Modeling; Numerical and Computational Physics; Statistical Physics, Dynamical Systems and Complexity; Theoretical and Computational Chemistry; Computational Mathematics and Numerical Analysis; Physical Chemistry

Target groups
Graduate or advanced undergraduate students

Type of publication
Graduate/advanced undergraduate textbook

Available
99,95 €
ISBN 978-3-540-73422-0

P. J. Schröder, Technische Universität München, Garching, Germany

Optical Science and Engineering; Computational Science and Engineering; Engineering Statistics and Probability; Simulation and Modeling; Fluid- and Aerodynamics; Simulation and Modeling; Numerical and Computational Physics; Statistical Physics, Dynamical Systems and Complexity; Theoretical and Computational Chemistry; Computational Mathematics and Numerical Analysis; Physical Chemistry

Target groups
Graduate or advanced undergraduate students

Type of publication
Graduate/advanced undergraduate textbook

Available
99,95 €
ISBN 978-3-540-73423-7

P. J. Schröder, Technische Universität München, Garching, Germany

Optical Science and Engineering; Computational Science and Engineering; Engineering Statistics and Probability; Simulation and Modeling; Fluid- and Aerodynamics; Simulation and Modeling; Numerical and Computational Physics; Statistical Physics, Dynamical Systems and Complexity; Theoretical and Computational Chemistry; Computational Mathematics and Numerical Analysis; Physical Chemistry

Target groups
Graduate or advanced undergraduate students

Type of publication
Graduate/advanced undergraduate textbook

Available
G. Schilling, Amersfoort, The Netherlands

Caccia al Pianeta X

Nuovi mondi e il destino di Plutone

Govert Schilling, giornalista scientifico olandese, autore di una quarantina di libri, collaboratore di riviste prestigiose come Science, New Scientist, Sky & Telescope, non solo è un divulgatore preciso e scrupoloso, ma ha pure una scrittura raffinata ed avvincente capace di presentare ogni scoperta scientifica per quello che è: una straordinaria avventura della mente. Il libro coglie lo spunto del declasamento di Plutone quale pianeta per raccontare le più recenti scoperte effettuate ai confini del Sistema Solare, con l’osservazione di centinaia di nuovi corpi celesti come Quaoar, Sedna, Xena, Eris. Quant’è vero, i piani del Sistema Solare? Quanto è concreto il pericolo per la Terra di un impatto asteroidale? Esiste Nemesis, la stella compagna del Sole? Questi sono alcuni degli argomenti che Schilling affronta con il suo stile caratteristico: raccontare i fatti scientifici attraverso gli uomini che ne sono i protagonisti.

Features

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Fields of interest

Astronomy, Observations and Techniques; Popular Science in Astronomy; Astronomy, Astrophysics and Cosmology

Target groups

Popular/general

Type of publication

Monograph

Available

2011. X, 310 p. (Le Stelle) Softcover

26,92 €

Linear Isentropic Oscillations of Stars

Theoretical Foundations

The study of stellar oscillations is the preeminent way to investigate the stability of stars and to interpret their variability. The theory of the linear, isentropic oscillations of isolated gaseous stars, and thus of compressible spherically symmetric equilibrium configurations, has largely been developed from the viewpoint of the hypothesis of the physical radial pulsations of stars. Written for doctoral students and researchers, this monograph aims to provide a systematic and consistent survey of the fundamentals of the theory of free, linear, isentropic oscillations in spherically symmetric, gaseous equilibrium stars. The first part of the book presents basic concepts and equations, the distinction between spheroidal and toroidal normal modes, the solution of Poisson’s differential equation for the perturbation of the gravitational potential, and Hamilton’s variational principle. The second part is devoted to the possible existence of waves propagating in the radial direction, the origin and […]

Features

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Fields of interest

Astrophysics and Astroparticles; Mechanics; Thermodynamics; Acoustics

Target groups

Research

Type of publication

Monograph

Available


119,95 €
ISBN 978-3-642-13029-8

Thermodynamik

Von der Mikrophysik zur Makrophysik


Features

Das Verständnis der Thermodynamik ist Voraussetzung für die moderne Physik, Chemie, Biologie und die heutige Technik sowie für das Energiesystem, dem sich die Menschheit gegenüber sieht. Dieses Buch vermittelt eine Einführung in die Prinzipien, Methoden und Ergebnisse der Thermodynamik auf der Basis einer mikroskopischen Begründung: die Größen Temperatur, Wärme und Entropie werden auf die Eigenschaften […]

Contents


Fields of interest

Thermodynamics; Physical Chemistry; Statistical Physics, Dynamical Systems and Complexity

Target groups

Upper undergraduate

Type of publication

German textbook

Available

2010. XVI, 627 S. 300 Abb. (Springer-Lehrbuch) Softcover

42,01 €
ISBN 978-3-642-05097-8
Mathematik für Physiker 1

Basiswissen für das Grundstudium der Experimentalphysik


Features


Contents


Fields of interest

Theoretical, Mathematical and Computational Physics, Analysis

Target groups

Graduate

Type of publication

German textbook

Available

2011, XVI, 296 S. 231 Abb. Mit online files/update. (Springer-Lehrbuch) Softcover

37,44 €
ISBN 978-3-642-15526-0

Progress in Ultrafast Intense Laser Science VI

The PUILS series delivers up-to-date reviews of progress in Ultrafast Intense Laser Science, a newly emerging interdisciplinary research field spanning atomic and molecular physics, molecular science, and optical science, which has been stimulated by the recent developments in ultrafast laser technologies. Each volume compiles peer-reviewed articles authored by researchers at the forefront of each their own subfields of UILS. Every chapter opens with an overview of the topics to be discussed, so that researchers unfamiliar to the subfield, as well as graduate students, can grasp the importance and attractions of the research topic at hand; these are followed by reports of cutting-edge discoveries. This sixth volume covers a broad range of topics from this interdisciplinary research field, focusing on responses of molecules to ultrashort intense laser pulses, generation and characterization of attosecond pulses and high-order harmonics, and filamentation and laser-plasma interaction.

Features

The PUILS series delivers up-to-date reviews of progress in Ultrafast Intense Laser Science, a newly emerging interdisciplinary research field spanning atomic and molecular physics, molecular science, and optical science, which has been stimulated by the recent developments in ultrafast laser technologies. Each volume compiles peer-reviewed articles authored by researchers at the forefront of each their own [...]
Mastering Your PhD
Survival and Success in the Doctoral Years and Beyond

"Mastering Your PhD: Survival and Success in the Doctoral Years and Beyond" helps guide PhD students through their graduate student years. Filled with practical advice on getting started, communicating with your supervisor, staying the course, and planning for the future, this book is a handy guide for graduate students who need extra bit of help getting started and making it through. While mainly directed at PhD students in the sciences, the book's scope is broad enough to encompass the obstacles and hurdles that almost all PhD students face during their doctoral training. Who should read this book? Students of the physical and life sciences, computer science, math, and medicine who are thinking about entering a PhD program; doctoral students at the beginning of their research; and any graduate student who is feeling frustrated and stuck. It's never too early -- or too late! This second edition contains a variety of new material, including additional chapters on how to communicate better with...[–]

Features
"Mastering Your PhD: Survival and Success in the Doctoral Years and Beyond" helps guide PhD students through their graduate student years. Filled with practical advice on getting started, communicating with your supervisor, staying the course, and planning for the future, this book is a handy guide for graduate students who need extra bit of help getting started and making it through. While mainly...[–]

Contents

Fields of interest
Popular Science in Mathematics / Natural Science / Technology; Popular Science in Astronomy; Popular Science in Medicine and Health; Popular Science in Nature and Environment; Science

Target groups
Popular/general

Type of publication
Popular science

Available
2010. XII, 239 p. 7 illus. Softcover
34.95 €
ISBN 978-1-4419-0882-7

Radio astronomy is far from being beyond the scope of amateur astronomers, and this practical, self-contained guide for the newcomer to practical radio astronomy is an ideal introduction. This guide is a must for anyone who wants to join the growing ranks of 21st Century backyard radio astronomers. The first part of the book provides background material and explains (in a non-mathematical way) our present knowledge of the stronger radio sources -- those observable by amateurs -- including the Sun, Jupiter, Meteors, Galactic and extra-galactic sources. The second part of the book deals not only with observing, but -- assuming no prior technical knowledge of electronics or radio theory -- takes the reader step-by-step through the process of building and using a backyard radio telescope. There are complete, detailed plans and construction information for a number of amateur radio telescopes, the simplest of which can be put together and working -- using only simple tools -- in a weekend. For other...[–]

Features
We have learned a great deal about our universe not only by looking at the sky through optical telescopes but also by listening to it! Although in the past most of the great discoveries have been made by professional radio astronomers using large radio telescopes built for institutions, today even amateurs can build and use small radio telescopes and make discoveries that can contribute to the general store...[–]

Contents

Fields of interest
Popular Science in Astronomy; Astronomy, Observations and Techniques

Target groups
Popular/general

Type of publication
Popular science

Available
2010. XII, 258 p. Hardcover
89.95 €

Peace is one of the most sought after commodities around the world, and as a result, individuals and countries employ a variety of tactics to obtain it. One of the most common practices used to accomplish peace is negotiation. With its elevated role in the dialogue surrounding peace, negotiation is often steeped in politics and focused on managing parties in conflict. However, the art and science of negotiation can and should be viewed more broadly to include a psychological and cognitive approach. Psychological and Political Strategies for Peace Negotiation gathers the foremost authors in the field and combines their expertise into a volume which addresses the complexity of peace negotiation strategies. To further underscore the importance of successful negotiation strategies, the editors have also included the unique perspective of authors with personal experience with political upheaval in Serbia and Lebanon. Though each chapter focuses on a different topic, they are integrated to create a...[–]

Features
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Contents

Fields of interest
Cross Cultural Psychology; Clinical Psychology; Political Science

Target groups
Research

Type of publication
Contributed volume

Available
2011. XXVIII, 258 p. Hardcover
89.95 €
Denken - Urteilen, Entscheiden und Problemlösen. Reihe Allgemeine Psychologie für Bachelor (Lehrbuch mit Online-Materialien)

Die allgemeine Psychologie in 4 kompakten Bänden! - Stellen Sie sich je nach Studien- und Prüfungsschwerpunkten aus dieser neuen Reihe die Module zusammen, die Sie benötigen. Dieser Band enthält alle prüfungsrelevanten Themen des Faches „Denken“.

Contents

Fields of interest
General Psychology; Neurosciences; Biological Psychology

Target groups
Lower undergraduate

Type of publication
German textbook

Available

2011, XII, 222 S. 33 Abb. Mit online files/update. (Springer-Lehrbuch) Softcover

23,32 €
ISBN 978-3-642-12473-0

2010 XI, 214 p. 14 illus. (Nebraska Symposium on Motivation) Softcover

59,95 €
ISBN 978-1-4419-8124-0

Emotion and the Law
Psychological Perspectives

From questions surrounding motives to the concept of crimes of passion, the intersection of emotional states and legal practice has long interested professionals as well as the public—recent cases involving extensive pretrial publicity, highly charged evidence, and instances of jury nullification continue to make the subject particularly timely. With these trends in mind, Emotion and the Law brings a rich tradition in social psychology into sharp forensic focus in a unique interdisciplinary volume. Emotion, mood and affective states, plus patterns of conduct that tend to arise from them in legal contexts, are analyzed in theoretical and practical terms, using real-life examples from criminal and civil cases. From these complex situations, contributors provide answers to bedrock questions—what roles affect plays in legal decision making, when these roles are appropriate, and what can be done so that emotion is not misused or exploited in legal procedures—and offer complementary legal and [...] Features

Contents

Fields of interest
Personality and Social Psychology; Clinical Psychology; Psychology and Law

Target groups
Professional/practitioner

Type of publication
Contributed volume

Available

2011. XX, 155 p. Hardcover

89,95 €
ISBN 978-1-4419-7247-7
Measuring Race and Ethnicity

Racial and ethnic issues stand at the core of social, political, and economic concerns in an increasingly diverse America. Accordingly, how individuals from the various ethnic groups regard themselves—and others—is a salient focus of research studies across the disciplines. Measuring Race and Ethnicity gathers psychological measures of common phenomena such as racial identity, acculturation, and intra- and intergroup relations enabling researchers to compare concepts across groups and better evaluate differences and disparities. Researchers in psychology, social work, and public health examining cultural and race-related topics will find an immediately relevant source of valid and reliable scales in Measuring Race and Ethnicity.

Features

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Contents


Fields of interest

Personality and Social Psychology

Target groups

Research

Type of publication

Monograph

Available

2011. XVIII, 198 p. Hardcover

89,95 €
ISBN 978-1-4419-6696-4

The Concept of Race and Psychotherapy

Is our society color-blind? Trans-racial? Post-racial? And what—if anything—should this mean to professionals in clinical practice with diverse clients? The ambitious volume The Concept of Race and Psychotherapy probes these questions, compelling readers tolook differently at their clients (and themselves), and offering a practical framework for more effective therapy. By tracing the racial "folk taxonomies" of eight cultures in the Americas and the Caribbean, the author elegantly defines race as a fluid construct, dependent on local social, political, and historical context for meaning but meaningless in the face of science. This innovative perspective informs the rest of the book, which addresses commonly held assumptions about problem behavior and the desire to change, and presents a social-scientific approach to therapy, applicable to a wide range of current approaches, that emphasizes both cultural patterns and client uniqueness. Among the highlights of the coverage: Common elements in therapy and...[

Features

Is our society color-blind? Trans-racial? Post-racial? And what—if anything—should this mean to professionals in clinical practice with diverse clients? The ambitious volume The Concept of Race and Psychotherapy probes these questions, compelling readers to look...[

Contents


Fields of interest

Clinical Psychology; Psychotherapy; Cross Cultural Psychology

Target groups

Professional/practitioner

Type of publication

Monograph

Available

2011. XIX, 550 p. Hardcover

89,95 €
ISBN 978-1-4419-7307-8

Systems of Psychotherapy

Dialectical Tensions and Integration

Psychotherapy today encompasses a broad spectrum of approaches that focus to a varying extent on psychophysiological, behavioral, environmental, or other aspects of human problems. Despite the overlap that exists between many of these approaches, there is no method that integrates more than a few of these aspects. It is therefore important to understand the inherent advantages and disadvantages of each therapy system, and how each helps people to solve their problems. Systems of Psychotherapy: Dialectical Tensions and Integration provides an in-depth overview of the major therapeutic systems in practice today and outlines the philosophical differences and opportunities for integration among them. This volume also considers the new ideas and approaches to therapy stemming from the postmodernist and integrative movements. By highlighting the unique merits of each system, readers are encouraged to combine factors present in the various systems to create a comprehensive view of human nature and...[

Features

Psychotherapy today encompasses a broad spectrum of approaches that focus to a varying extent on psychophysiological, behavioral, environmental, or other aspects of human problems. Despite the overlap that exists between many of these approaches, there is no method that integrates more than a few of these aspects. It is therefore important to understand the inherent advantages and disadvantages of each therapy system...[

Contents


Fields of interest

Clinical Psychology; Psychotherapy; Social Work

Target groups

Professional/practitioner

Type of publication

Monograph

Available


119,95 €
ISBN 978-1-4419-7307-8
<table>
<thead>
<tr>
<th>Encyclopedia of Child Behavior and Development</th>
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<tr>
<td>This major reference work will break new ground as an electronic resource for students, educators, researchers and professionals. Encyclopedic in breath Child Behavior and Development will serve as a reference repository of knowledge in the field as well as a frequently updated conduit of new knowledge long before such information trickles down from research to standard textbooks. Child Behavior and Development will consist of three volumes divided by the major conceptual areas of child development: Learning, Behavior, and Emotions. Taking advantage of the techniques offered by the electronic medium, Child Behavior and Development will offer an extensive cross referencing system facilitating search and retrieval of information.</td>
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<td><strong>Features</strong></td>
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<td>This major reference work will break new ground as an electronic resource for students, educators, researchers and professionals. Encyclopedic in breath Child Behavior and Development will serve as a reference repository of knowledge in the field as well as a frequently updated conduit of new knowledge long before such information trickles down from research to standard textbooks. Child Behavior and Development will offer an extensive cross referencing system facilitating search and retrieval of information.</td>
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<tr>
<td><strong>Fields of interest</strong></td>
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<td>Child and School Psychology; Learning and Instruction; Education (general); Developmental Psychology</td>
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<td><strong>Target groups</strong></td>
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<td>Professional/practitioner</td>
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<td><strong>Type of publication</strong></td>
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<td>Encyclopedia</td>
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<td><strong>Available</strong></td>
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<td>699,00 €</td>
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<td>ISBN 978-0-387-77579-1</td>
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<th>Financial Planning and Counseling Scales</th>
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<td>The personal, household, and consumer finance field is growing quite rapidly, especially as universities and policy makers see the need for additional research and clinical application in this dynamic area of study. Currently, the profession is advancing towards the stage where professional practice becomes increasingly evidenced-based. Financial Planning and Counseling Scales provides educators, researchers, students, and practitioners with a much needed review of reliable and valid personal assessment scales and instruments that can be used for both research and clinical practice. In addition to presenting actual scales and instruments with applicable psychometric details, the book also includes an overview of measurement issues and psychometric evaluation.</td>
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<tr>
<td><strong>Features</strong></td>
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<td>A salient trend during the current economic crisis is the increasing number of consumers paying closer attention to their spending and saving habits in efforts to control their finances. Not surprisingly, these same uncertain times are witnessing the growth not only of financial planning services, but of financial counseling and therapy. Accompanying the move toward professional standards and an academic [...]</td>
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<td><strong>Contents</strong></td>
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<td><strong>Fields of interest</strong></td>
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<td>Monograph</td>
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<td><strong>Available</strong></td>
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<tr>
<td>2011. XXII, 647 p. 5 illos. Hardcover</td>
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<td>ISBN 978-1-4419-6907-1</td>
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<tr>
<th>The Cinematic Mirror for Psychology and Life Coaching</th>
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<td>Cinema both reflects life and contours life—that is its psychological power. And for decades, clinicians and educators have recognized the value of this power, using it to respectively heal in therapy and educate in the classroom. The Cinematic Mirror for Psychology and Life Coaching mines the illustrative value of cinema, offering therapists and life coaches access to ideas that can motivate and enlighten clients. Although many movie guides exist, this volume complements the available literature by adding positive psychology, mental health, and wellness perspectives to the clinical/educational/coaching mix. The serious intent to cull from cinema its underlying psychological value has motivated noted clinicians, life coaches, and cultural critics to offer science-based analysis and intervention strategies. Readers may add their own movie insights and professional expertise to this rich foundation. The volume covers international as well as domestic cinema in a variety of genres, providing a range of [...]</td>
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<tr>
<td><strong>Features</strong></td>
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<td>Cinema both reflects life and contours life—that is its psychological power. And for decades, clinicians and educators have recognized the value of this power, using it to respectively heal in therapy and educate in the classroom. The Cinematic Mirror for Psychology and Life Coaching mines the illustrative value of cinema, offering therapists and life coaches access to ideas that can motivate and [...]</td>
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<td><strong>Fields of interest</strong></td>
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<tr>
<td>Clinical Psychology</td>
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<td><strong>Target groups</strong></td>
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<td>59,95 €</td>
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<td>ISBN 978-1-4419-8156-1</td>
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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,[...]

Features

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[...]

Contents


Fields of interest

Clinical Psychology; Psychotherapy; Social Work

Target groups

Research

Type of publication

Monograph

Available

2010. XXIV, 312 p. Softcover

96.95 €

Embitterment

Societal, psychological, and clinical perspectives

Embitterment is a distinct state of mood known to everyone. It can be seen in the context of exceptional though “normal” negative life events. It is an emotional reaction e.g. to humiliation, to being severely disappointed by others, or to violations of basic values. Embitterment is accompanied by other emotions like feelings of hopelessness and helplessness, poor moods and a lack of drive, and aggregation towards oneself and others. It can end in suicide or even murder-suicide and in a distinct pathological state known as “Posttraumatic Embitterment Disorder (PTED)”. But despite the high prevalence rates, the detrimental effects on individuals and its forensic and societal importance, embitterment has yet to receive due scientific attention. In this book pioneers in embitterment research summarize the current knowledge on embitterment, its triggers, phenomenology and consequences. The work is intended to stimulate international debate and to contribute to a better understanding of embitterment and[...]

Features

Embitterment is a distinct state of mood known to everyone. It can be seen in the context of exceptional though “normal” negative life events. It is an emotional reaction e.g. to humiliation, to being severely disappointed by others, or to violations of basic values. Embitterment is accompanied by other emotions like feelings of hopelessness and[...]

Contents


Fields of interest

Clinical Psychology; Psychiatry; Psychology Research

Target groups

Research

Type of publication

Contributed volume

Available

2011. XVII, 328 p. 21 illus., 5 in color. Hardcover

99.95 €
ISBN 978-3-211-99740-6

A Practical Guide to Building Professional Competencies in School Psychology

Designed as a research-based yet matter-of-fact guide for beginning and future scientist-practitioners, A Practical Guide to Building Professional Competencies in School Psychology skillfully augments the reader’s training, supervision, and experience by providing a framework for honing essential skills in the field. This reader-friendly, evidence-based text encourages the continuing development of expertise in communication and collaborative skills, diversity awareness, technical knowledge, and other domains critical to building and maintaining an ethical, meaningful practice. Each chapter in this must-have volume examines a core area of expertise in depth, and provides checklists (linked to competencies set out in NASP’s Blueprint III) and the Development and Enhancement of Competencies Assessment Form are included to enable readers to gain a more complete understanding of their professional strengths and needs. The skill sets covered include: Developing cross-cultural competencies. Evaluating[...]

Features

Designed as a research-based yet matter-of-fact guide for beginning and future scientist-practitioners, A Practical Guide to Building Professional Competencies in School Psychology skillfully augments the reader’s training, supervision, and experience by providing a framework for honing essential skills in the field. This reader-friendly, evidence-based text encourages the continuing development of expertise in communication and collaborative skills, diversity awareness, technical knowledge, and other domains critical to building and maintaining an ethical, meaningful practice. Each chapter in this must-have volume examines a core area of expertise in depth, and provides checklists (linked to competencies set out in NASP’s Blueprint III) and the Development and Enhancement of Competencies Assessment Form are included to enable readers to gain a more complete understanding of their professional strengths and needs. The skill sets covered include: Developing cross-cultural competencies. Evaluating[...]

Contents


Fields of interest

Child and School Psychology; Education (general)

Target groups

Professional/practitioner

Type of publication

Contributed volume

Available


119.95 €

M. Linden, A. Maercker (Eds.)
Developing and Evaluating Educational Programs for Students with Autism

Recent years have witnessed a marked increase both in the number of children diagnosed with autism spectrum disorders (ASDs) and those placed alongside their typically developing peers in general education classrooms. These events bring with them a plethora of challenges, particularly in the areas of program design and educational practices. Developing and Evaluating Educational Programs for Students with Autism offers systematic, evidence-based guidelines—as well as tools, checklists, and other resources—for creating effective learning environments for students across the autism spectrum and the grade span. Planning, development, implementation, and continuous evaluation are examined in detail in this practical volume, which features: An overview of the ASDs, with an emphasis on effective educational practice. In-depth discussion of the ASD Program Development and Evaluation Protocol. A staff training model for personnel working with students with ASD. A detailed framework for student support teams and...[...]

Contents

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

Target groups
Professional/practitioner

Type of publication
Professional book

Available
2011. XXV, 297 p. 20 illus. Hardcover
89,95 €
ISBN 978-1-4419-6302-4

Avoiding Treatment Failures in the Anxiety Disorders

Extensive studies have shown cognitive-behavioral therapy to be highly effective in treating anxiety disorders, improving patients' social functioning, job performance, and quality of life. Yet every CBT clinician faces some amount of client resistance, whether in the form of "This won't work," "I'm too depressed," or even "You can't make me!" Avoiding Treatment Failures in the Anxiety Disorders analyzes the challenges presented by non-compliance, and provides strategies to address the impediments and removing the obstacles that derail therapy. Making use of extensive clinical expertise and current empirical findings, expert contributors offer cutting-edge understanding of the causes of treatment complications—and innovative strategies for their resolution—in key areas, including: The therapeutic alliance, The full range of anxiety disorders (i.e., panic, PTSD, GAD), Comorbidity issues (i.e., depression, personality disorders, eating disorders, substance abuse,...[...]

Features
Extensive studies have shown cognitive-behavioral therapy to be highly effective in treating anxiety disorders, improving patients' social functioning, job performance, and quality of life. Yet every CBT clinician faces some amount of client resistance, whether in the form of "This won't work," "I'm too depressed," or even "You can't make me!" Avoiding Treatment Failures in the Anxiety Disorders analyzes the challenges presented by non-compliance, and provides strategies to address the impediments and removing the obstacles that derail therapy. Making use of extensive clinical expertise and current empirical findings, expert contributors offer cutting-edge understanding of the causes of treatment complications—and innovative strategies for their resolution—in key areas, including: The therapeutic alliance, The full range of anxiety disorders (i.e., panic, PTSD, GAD), Comorbidity issues (i.e., depression, personality disorders, eating disorders, substance abuse,...[...]

Contents

Fields of interest
Clinical Psychology; Psychotherapy

Target groups
Professional/practitioner

Type of publication
Professional book

Available
2010. XIV, 405 p. (Series in Anxiety and Related Disorders) Softcover
59,95 €
ISBN 978-1-4419-8169-1

Personality and Psychopathology

Critical Dialogues with David Shapiro

With his penetrating theory of personality and his nuanced understanding of the psychotherapeutic relationship, David Shapiro has influenced clinicians across the theoretical spectrum since the publication of Neurotic Styles in 1965. This influence is on vivid display in Personality and Psychopathology, as noted contemporary theorists critically evaluate his work in a fascinating dialogue with Shapiro himself. Starting with a crucial therapeutic observation—the centrality of the relationship between what the client says in session and how it is said—contributors revisit his core concepts regarding personality development, the prevolitional aspects of psychopathology, the limits to self-understanding, and the defensive uses of self-deception in light of current psychodynamic, evolutionary, and systems theory. Shapiro's replies, and the contributors' rejoinders, highlight points of departure and agreement and provide further clarification and extension of his ideas on a wide range of salient topics,...[...]

Features
With his penetrating theory of personality and his nuanced understanding of the psychotherapeutic relationship, David Shapiro has influenced clinicians across the theoretical spectrum since the publication of Neurotic Styles in 1965. This influence is on vivid display in Personality and Psychopathology, as noted contemporary theorists critically evaluate his work in a fascinating dialogue with Shapiro himself. [...]"
Adherence to Pediatric Medical Regimens

It used to be called noncompliance, and the patients themselves referred to it as difficult. But regardless of the terminology, children’s reluctance or failure to commit to prescribed regimens reduces the effectiveness of treatment, often leading to additional care, higher costs, and serious, even deadly, complications. Reflecting a single, authoritative voice, the Second Edition of Adherence to Pediatric Medical Regimens analyzes in comprehensive clinical detail the factors that affect children’s and teens’ commitment to treatment – from developmental issues to the influence of parents, peers, and others in their orbit – and offers empirically sound guidelines for encouraging adherence. It cautions against viewing young clients as miniature grownups or scaling down adult data, advocating instead for a more nuanced understanding of the relationship between practitioner and client. Critical areas of interest to clinicians and researchers in pediatrics are brought into[...]

Features
It used to be called noncompliance, and the patients themselves referred to it as difficult. But regardless of the terminology, children’s reluctance or failure to commit to prescribed regimens reduces the effectiveness of treatment, often leading to additional care, higher costs, and serious, even deadly, complications. Reflecting a single, authoritative voice, the Second Edition of[...]

Contents
Definitions, Types, and Prevalence of Nonadherence. - Consequences, and Correlates. - Adherence Definitions, Types, and Prevalence of Nonadherence. - References. - Consequences, and Correlates. - Adherence

Fields of interest
Child and School Psychology; Pediatrics; Clinical Psychology; Health Psychology; Psychiatry

Digital Youth
The Role of Media in Development

Youth around the world are fittingly described as digital natives because of their comfort and skill with technological hardware and content. Recent studies indicate that an overwhelming majority of children and teenagers use the Internet, cell phones, and other mobile devices. Equipped with familiarity and unprecedented access, it is no wonder that adolescents consume, create, and share copious amounts of content. But is there a cost? Digital Youth: The Role of Media in Development recognizes the important role of digital tools in the lives of teenagers and presents both the risks and benefits of these new interactive technologies. From social networking to instant messaging to text messaging, the authors create an informative and relevant guidebook that goes beyond description to include developmental theory and implications. Also woven throughout the book is an international sensitivity and understanding that clarifies how, despite the widespread popularity of digital communication, technology use[...]

Features
Youth around the world are fittingly described as digital natives because of their comfort and skill with technological hardware and content. Recent studies indicate that an overwhelming majority of children and teenagers use the Internet, cell phones, and other mobile devices. Equipped with familiarity and unprecedented access, it is no wonder that adolescents consume, create, and share copious[...]

Contents
Risk and Resilience in U.S. Military Families

War related separations challenge military families in many ways. The worry and uncertainty associated with absent family members exacerbates the challenges of personal, social, and economic resources on the home front. U.S. military operations in Iraq and Afghanistan have sent a million service personnel from the U.S. alone into conflict areas leaving millions of spouses, children and others in stressful circumstances. This is not a new situation for military families, but it has taken a toll of magnified proportions in recent times. In addition, medical advances have prolonged the life of those who might have died of injuries. As a result, more families are caring for those who have experienced amputation, traumatic brain injury, and profound psychological wounds. The Department of Defense has launched unprecedented efforts to support service members and families before, during, and after deployment in all locations of the country as well as in remote locations. Stress in U.S. Military [...] Features Among the costs of the ongoing wars in Afghanistan and Iraq are the human losses — over 5,000 dead and over 35,000 wounded. Additionally, service personnel often return with traumatic brain injuries, missing limbs, and severe psychological disorders. All of this exacerbates the stress that family members have had to endure since initial deployment. Written by military and civilian scholars across the [...] Contents U.S. Military Families Under Stress: What We Know and What We Need to Know.- 1. Marital Functioning.- Introduction.- Does Deployment Keep Marriages Together or Break Them Apart? Evidence from Afghanistan and Iraq.- Couple Functioning and PTSD in Returning OIF Soldiers: Preliminary Findings from the Readiness and Resilience in National Guard Soldiers Project.- Distress in Spouses of Combat Veterans with PTSD: The Importance of Interpersonally Based Cognitions and Behaviors.- Empirically Guided Community Intervention for Partner Abuse, Child Maltreatment, Suicidality, and Substance [...] Fields of interest Psychotherapy and Counseling Target groups Research Type of publication Monograph Available 2011. XX, 369 p. illus. Hardcover 119,95 € ISBN 978-1-4419-7063-3

Disability and Aging Discrimination

Two things are certain in the contemporary workplace: the aging of employees, and negative attitudes toward them — especially those with disabilities—by younger colleagues and supervisors. Yet related phenomena seem less clear: how do negative stereotypes contribute to discrimination on the job? And how are these stereotypes perceived in legal proceedings? Bringing theoretical organization to an often unfocused literature, Disability and Aging Discrimination offers research in these areas at the same level of rigor as research into racial and gender discrimination. The book applies Social Analytic Jurisprudence, a framework for testing legal assumptions regarding behavior, and identifies controversies and knowledge gaps in age-discrimination and disability law. Chapters provide historical background or present-day context for the prevalence of age and disability prejudices, and shed light on the psychosocial concepts that must be understood, in addition to medical considerations, to make [...] Features Two things are certain in the contemporary workplace: the aging of employees, and negative attitudes toward them — especially those with disabilities—by younger colleagues and supervisors. Yet related phenomena seem less clear: how do negative stereotypes contribute to discrimination on the job? And how are these stereotypes perceived in legal proceedings? Bringing theoretical organization to an often [...] Contents Finding the Assumptions in the Law: Social Analytic Jurisprudence, Disabled, and Aging Workers.- Part I: Aging and Discrimination.- Ageism: The Strange Case of Prejudice Against the Older You.- Disability and Aging: Historical and Contemporary Views.- The Aging Workforce and Paid Time Off.- Baby Boomers at Work: Growing Older and Working More.- Part II: Disability and Discrimination.- The Relationship Between Disability Discrimination and Age Discrimination in Workers’ Compensation.- The Stigma of Disabilities and the Americans With Disabilities Act.- Age and Disability Within the Scope [...] Fields of interest Psychology and Law; Aging; Psychiatry Target groups Research Type of publication Contributed volume Available 2011. X, 270 p. illus. Hardcover 89,95 € ISBN 978-1-4419-6292-8
Trade Policy in the Asia-Pacific

The Role of Ideas, Interests, and Domestic Institutions

East Asian countries are now pursuing greater formal economic institutionalization, weaving a web of bilateral and minilateral preferential trade agreements. Scholarly analysis of “formal” East Asian regionalism focuses on international political and economic factors such as the end of the Cold War, the Asian financial crisis, or the rising Sino-Japanese rivalry. Yet this work pays inadequate attention to the strategies of individual government agencies, business groups, labor unions, and NGOs across the region. Moreover, most studies also fail to adequately characterize different types of trade arrangements, often lumping together bilateral accords with minilateral ones, and transregional agreements with those within the region. To fully understand this cross-national variance, this book argues that researchers must give greater attention to the domestic politics within East Asian countries and the U.S., involving the interplay of these subnational players. With contributions from leading[...]

Features
East Asian countries are now pursuing greater formal economic institutionalization, weaving a web of bilateral and minilateral preferential trade agreements. Scholarly analysis of “formal” East Asian regionalism focuses on international political and economic factors such as the end of the Cold War, the Asian financial crisis, or the rising Sino-Japanese rivalry. Yet this work pays inadequate attention to[...]

Contents

Fields of interest
Political Science; International Economics

Target groups
Research

Type of publication
Contributed volume

Available
2011. XVI, 250 p. 4 illus. (The Political Economy of the Asia Pacific) Hardcover

99,95 €
ISBN 978-1-4419-6832-6

Control of Violence

Historical and International Perspectives on Violence in Modern Societies

The Control of Violence in Modern Society, starts from the hypothesis that in modern society we face an increasing loss of control over certain phenomena of violence. This leads to unpredictable escalations and violence can no longer be contained adequately by the relevant control regimes, such as police, state surveillance institutions, national repression apparatuses and international law. However, before investigating this hypothesis from an internationally and historically comparative perspective, the terms and “tools” for this undertaking have to be rendered more precisely. Since both “control” and “violence” are all but clear-cut terms but rather highly debatable and contested concepts that may take multiple connotations. The main question is whether an increase in certain forms of violence can be explained by the failure or, in turn, “overeffectiveness” of certain control mechanisms. It is asked, for instance, which contribution religion can make to limit violence and, in turn, which[...]

Features
Modern societies are increasingly confronted with forms of violence that appear unpredictable and uncontrollable. Are the existing control regimes such as police, state surveillance institutions, and legal systems able to effectively contain phenomena such as school shootings, terrorism, or violence in fragile states, and what would help them become more effective? What is the relationship between state rule[...]

Contents
1. Theoretical and analytical framework. 2. Control and loss of control in an historical perspective Policing youth protests and juvenile delinquency in Germany from the 1950s until 1980s Anarchist terrorism in imperial Germany and third Republic FranceDeescalation by Communication? Dealing with Left-Wing Terrorism in the 1970s and 1980sEthnic riots in situations of loss of control: regime change, civil war and revolution as opportunity structures for anti-Jewish violence in 19-20th century EuropeControl of violence by gun-control. Concepts and activities in the German Empire 1871[...]

Fields of interest
Criminology & Criminal Justice; Political Science

Target groups
Research

Type of publication
Contributed volume

Available
2011. XVI, 626 p. Hardcover

119,95 €

Social Sciences

V.K. Aggarwal, Berkeley APEC Study Center, University of California, Berkeley, CA, 94720-1970 USA; S. Lee, Department of Political Science, Chung-Ang University, 221 Heukseok-dong, Dongdaemun-gu, Seoul 156-756, South Korea (Eds.)

Handbook of European Societies

Social Transformations in the 21st Century

European integration is one of the most ambitious and socially far-reaching developments in world politics and in world economics. Against growing opposition and despite increasing social heterogeneity, the European Union continues to expand and to acquire new competences. But to what extent is the self-proclaimed ever closer union among the peoples of Europe a social reality? In which ways is the political European project anchored in social developments? How does social change impinge upon political integration? Societal trends in multi-cultural, multi-ethnic, multi-lingual and socially diverse Europe have never been studied systematically. Handbook of European Societies: Social Transformations in the 21st Century sets to rectify this neglect of societal developments in Europe, providing a groundwork for the sociology of European integration. The book portrays social life and social relations in the enlarged Europe, and gives a prospective view on the European Union as an evolving social[...]

Features
European integration is one of the most ambitious and socially far-reaching developments in world politics and in world economics. Against growing opposition and despite increasing social heterogeneity, the European Union continues to expand and to acquire new competences. But to what extent is the self-proclaimed ever closer union among the peoples of Europe a social reality? In which ways is the[...]

Contents

Fields of interest
Sociology; European Integration; Quality of Life Research

Target groups
Research

Type of publication
Handbook

Available
2010. XXV, 672 p. Softcover

109,00 €
ISBN 978-1-4419-8128-8
Hazardous Child Labour in Latin America

In order to bridge the lack of information on child labour and to stimulate policy interventions the IRES-WOC Foundation (International Research on Working Children) has undertaken action-based research in the field of the worst forms of child labour in Latin America. In 2006 and 2007 a comparative study on the Worst Forms of Child Labour was carried out in 7 different economic sectors in Bolivia, Guatemala and Peru focussing on the hazardous worst forms. The central research objectives were as follows: • to map the working and living situations of children who are working in specific economic sectors and what the consequences of this work are for their physical and emotional wellbeing, • to investigate the reasons why these children are working in these worst forms sectors. The research results were expected to give important insights into the currently polarised debate between those who state that child labour is above all related to cultural considerations and those who state that economic reasons are [...] 

Features

From children working on Bolivian sugar cane plantations to child miners in Peru, child labour lingers on in many parts of the world, including Latin America. There are various reasons as to why child labour continues to be such a tenuous social problem. There is disagreement on its causes and thus also disagreement on the solutions. There is even disagreement on the extent of the problem. In order to [...] 

Contents


Fields of interest

Quality of Life Research; Labor Economics; Ethics; Maternal and Child Health 

Target groups

Research

Type of publication

Contributed volume 

Available

2011. XV, 200 p. Hardcover 

99,95 € 

Why Is Everyone Else Wrong?

Explorations in Truth and Reason

Especially when there is a lot of political rhetoric in the air, those of us with strong political convictions are inclined to reflect on just why we hold certain views even as others who are basically like us hold very different ones. Social scientists and other thinkers struggle to explain it, but the puzzle remains — in part because they, too, disagree so much with one another. Whether the arena is politics, religion, business, scientific research, or education, individuals who operate in the same environment and experience the same conditions may have radically different interpretations of the facts and diametrically opposed convictions about how to react to them. When faced with a fundamental disagreement, we ask ourselves: Why are these folks so wrong? And how can they be so convinced that we are wrong? In this provocative monograph, Tibor Machan explores the principles of truth, reason, and ideology, with particular respect to the profound political, economic, and social crises gripping the [...] 

Features

Especially when there is a lot of political rhetoric in the air, those of us with strong political convictions are inclined to reflect on just why we hold certain views even as others who are basically like us hold very different ones. Social scientists and other thinkers struggle to explain it, but the puzzle remains — in part because they, too, disagree so much with one another. Whether the arena is [...] 

Fields of interest

Political Science; Political Philosophy; Ethics; Logic 

Target groups

Research 

Type of publication

Brief 

Available

2011. XIII, 29 p. (SpringerBriefs in Political Science) Softcover 

49,95 € 

Methodological Choice and Design

Scholarship, Policy and Practice in Social and Educational Research

Beginning and well-seasoned researchers alike face significant challenges in understanding the complexities of research designs arising from both within and across methodological paradigms, and in applying them in ways that maximise impact on knowledge, practice, and policy. This volume engages educational and social researchers in a scholarly debate offering some crucial re-interpretations of established research methodologies in light of contemporary conditions and critical introduction to some contemporary research approaches yet to gain general recognition. This book is a contemporary vademecum for researchers, practitioners and graduate students on research methodologies and designs for educational and social change in today’s world. The chapters chart and analyse the conceptual and practical complexities of a variety research designs for contemporary educational and social work research. This anthology, taken overall, provides readers with the knowledge and understanding needed not only to [...] 

Features

Beginning and well-seasoned researchers alike face major challenges in understanding the complexities of research designs arising from within and across methodological paradigms as well as in applying them in ways that maximize impact on knowledge, practice and policy. This volume offers crucial reinterpretations of established research methodologies in light of contemporary conditions. It also presents a [...] 

Contents


Fields of interest

Methodology of the Social Sciences; Education (general); Social Work; Social Sciences (general); Psychological Methods / Evaluation 

Target groups

Research 

Type of publication

Contributed volume 

Available


139,95 € 

L. Markauskaite, University of Sydney, NSW, Australia; P. Freebody, University of Sydney, NSW, Australia; J. Irwin, University of Sydney, NSW, Australia (Eds.)
Confronting Genocide

“Never again” stands as one the central pledges of the international community following the end of the Second World War, upon full realization of the massive scale of the Nazi extermination programme. Genocide stands as an intolerable assault on a sense of common humanity embodied in the Universal Declaration of Human Rights and other fundamental international instruments, including the Convention on the Prevention and Punishment of the Crime of Genocide and the United Nations Charter. And yet, since the Second World War, the international community has proven incapable of effectively preventing the occurrence of more genocides in places like Cambodia, Yugoslavia, Rwanda and Sudan. Is genocide actually preventable, or is “ever again” a more accurate catchphrase to capture the reality of this phenomenon? The essays in this volume explore the complex nature of genocide and the relative promise of various avenues identified by the international community to attempt to put a definitive end to it.[…]

Features

“Never again” stands as one the central pledges of the international community following the end of the Second World War, upon full realization of the massive scale of the Nazi extermination programme. Genocide stands as an intolerable assault on a sense of common humanity embodied in the Universal Declaration of Human Rights and other fundamental international instruments, including the Convention on the […]

Contents

Moving From Repression to Prevention of Genocide; Payam Akhavan and René Provost.- PART I: RECONCEPTUALIZING GENOCIDE.- 1 From Irish Famine to Congo Reform: Nineteenth-Century Roots of International Human Rights Law and Activism; Ben Kiernan.- 2 Darfur: Genocidal Theory and Practical Atrocities; Gérard Prunier.- 3 Sovereignty as Responsibility for the Prevention of Genocide; Francis M. Deng.- 4 Citizenship, National Identity, and Genocide; Douglas Greenberg.- 5 Incitement, Prevention and Media Rights; Mark Thompson.- PART II: UN/PREVENTED GENOCIDE.- 6 Some Problems of Genocide[…]

Fields of interest

Political Science; Criminology & Criminal Justice; International & Foreign Law

Target groups

Research

Type of publication

Contributed volume

Available

2011. XX, 374 p. (Ius Gentium: Comparative Perspectives on Law and Justice, Vol. 7) Hardcover

99,95 €

The Indirect Estimation of Migration

Methods for Dealing with Irregular, Inadequate, and Missing Data

This unique book introduces an essential element in applied demographic analysis: a tool-kit for describing, smoothing, repairing and - in instances of totally missing data - inferring directional migration flows. Migration rates combine with fertility and mortality rates to shape the evolution of human populations. Demographers have found that all three generally exhibit persistent regularities in their age and spatial patterns, when changing levels are controlled for. Drawing on statistical descriptions of such regularities, it is often possible to improve the quality of the available data by smoothing irregular data, imposing the structures of borrowed and related data on unreliable data, and estimating missing data by indirect methods. Model migration schedules and log-linear models are presented as powerful methods for helping population researchers, historical demographers, geographers, and migration analysts work with the data available to them.

Features

This unique book introduces an essential element in applied demographic analysis: a tool-kit for describing, smoothing, repairing and - in instances of totally missing data - inferring directional migration flows. Migration rates combine with fertility and mortality rates to shape the evolution of human populations. Demographers have found that all three generally exhibit persistent regularities in their […]

Contents


Fields of interest

Migration; Demography; Quantitative Geography; Statistics for Social Science, Behavioral Science, Education, Public Policy, and Law; Sociology

Target groups

Research

Type of publication

Monograph

Available


49,95 €
ISBN 978-94-007-0451-0

Contested Cultural Heritage

Religion, Nationalism, Erasure, and Exclusion in a Global World

Cultural heritage is material – tangible and intangible – that signifies a culture’s history or legacy. It has become a venue for contestation, ranging in scale from protesting to violently claimed and destroyed. But who defines what is to be preserved and what is to be erased? As cultural heritage becomes increasingly significant across the world, the number of issues for critical analysis and, hopefully, mediation, arise. The issue stems from various groups: religious, ethnic, national, political, and others come together to claim, appropriate, use, exclude, or erase markers and manifestations of their own and others’ cultural heritage as a means for asserting, defending, or denying critical claims to power, land, and legitimacy. Can cultural heritage be well managed and promoted while at the same time kept within parameters so as to diminish contestation? The cases herein range from Greece, Spain, Egypt, the UK, Syria, Zimbabwe, Italy, the Balkans, Benin, and Central America.

Features

Cultural heritage is material – tangible and intangible – that signifies a culture’s history or legacy. It has become a venue for contestation, ranging in scale from protesting to violently claimed and destroyed. But who defines what is to be preserved and what is to be erased? As cultural heritage becomes increasingly significant across the world, the number of issues for critical analysis and, hopefully, […]

Contents


Fields of interest

Archaeology; Cultural Heritage

Target groups

Research

Type of publication

Contributed volume

Available

2011. X, 300 p. 40 illus. Hardcover

89,95 €

2011. XX, 374 p. (Ius Gentium: Comparative Perspectives on Law and Justice, Vol. 7) Hardcover

99,95 €
Statistics

Statistics of Financial Markets

An Introduction

Statistics of Financial Markets offers a vivid yet concise introduction to the growing field of statistical application in finance. The reader will learn the basic methods of evaluating option contracts, analysing financial time series, selecting portfolios and managing risks making realistic assumptions of the market behaviour. The focus is both on the fundamentals of mathematical finance and financial time series analysis and on applications to given problems of financial markets, thus making the book the ideal basis for lectures, seminars and crash courses on the topic. For the third edition the book has been updated and extensively revised. Several new aspects have been included: new chapters on long memory models, copulae and CDO valuation. Practical exercises have been added, the solutions of which are provided in the book by S. Borak, W. Härdle and B. Lopez Cabrera (2010) ISBN 978-3-642-11133-4. Both R and Matlab Code, together with the data, can be downloaded at www.springer.com/978-3-642-16520-7

Features
Statistics of Financial Markets offers a vivid yet concise introduction to the growing field of statistical application in finance. The reader will learn the basic methods of evaluating option contracts, analysing financial time series, selecting portfolios and managing risks making realistic.[…]

Contents

Fields of interest
Statistics for Business, Economics, Mathematical Finance, Insurance; Quantitative Finance; Finance / Banking

Target groups
Graduate

Type of publication
Graduate/advanced undergraduate textbook

Available
2011. XII, 599 p. (Universitext) Softcover
74,95 €
ISBN 978-3-642-16520-7

Statistik für Ökonomen

Das Buch richtet sich an diejenigen, die Statistik in wirtschaftswissenschaftlich orientierten Studiengängen studieren. Der leicht verständliche Text ist mit vielen Beispielen und Übungen ergänzt. Die praxisnahe Darstellung der Methoden wird durch die Erklärung und Anwendung der Statistiksoftware R (open source Programm) und SPSS vervollständigt. Im Text sind für beide Programme viele Programmanweisungen enthalten. Die Autoren haben kompakt alle elementaren statistischen Verfahren für die Ökonomie anschaulich erklärt.

Features
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Contents

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Fields of interest
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Target groups
Research

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Proceedings

Available
2010. XXX, 621 p. Softcover

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Statistics and Data Analysis for Financial Engineering

D. Ruppert, Cornell University, Ithaca, NY, USA

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