Just Released New Books January 2013

English Titles

Sorted by author and title within the main subject
Adaptive and Maladaptive Aspects of Developmental Stress

Since the very early stages of life, we all experience some form of stress. Stressors can be mild to severe and can range from unsuccessfully longing for maternal milk in infancy, to recklessly wiggling on a motorbike to be on time to watch the NBA finals on TV, to breaking up a relationship. All those events that we call “stress” have the capability of perturbing a given state of psychological and physiological equilibrium and moving it to a different level. The transition from crawling to walking has to be considered a form of stress as much as losing a job. It is through a continuous cross-talk between environmental stressors and individual adaptations that we build our(...)
Applications of Biotechnology in Neurology

Culling together excerpts from a wide range of writings by Dr. Kewal K. Jain on biotechnology topics as they relate to disorders of the nervous system, Applications of Biotechnology in Neurology covers a variety of applications for those working in life sciences and the pharmaceutical sciences, particularly those developing diagnostics and therapeutics for the nervous system. This detailed volume delves into areas such as neurobiotechnology, like neurogenomics and neuroproteomics, molecular diagnostics, various methods of improving systemic administration of drugs for targeted delivery to the nervous system, including the use of nanobiotechnology, biotechnology-based strategies and...[

Features
Culling together excerpts from a wide range of writings by Dr. Kewal K. Jain on biotechnology topics as they relate to disorders of the nervous system, Applications of Biotechnology in Neurology covers a variety of applications for those working in life sciences and the pharmaceutical sciences, particularly those developing diagnostics and therapeutics for the nervous system. This detailed volume [...]
Clinical Cases in Primary Immunodeficiency Diseases

A Problem-Solving Approach

Primary immunodeficiency diseases (PIDs) are a heterogeneous group of inherited disorders characterized by different defects in the development and function of the immune system. This book aims to increase the clinical awareness and knowledge of practicing clinicians regarding the diagnosis and management of PIDs. In order to achieve this goal, about 90 cases drawn from real life are presented, along with approximately 300 related questions. The selected case reports are the result of the invaluable cooperation of more than 40 scientists in the field of immunodeficiency. They focus both on the presenting features of patients with PIDs and on the required further investigation and [...]
Epigenetic Approaches to Allergy Research

In recent years, epigenetic approaches to existing scientific problems have offered many new and exciting perspectives. This book focuses on epigenetic approaches to study asthma and allergy research. The authors briefly review cellular factors, immune signaling, and inflammatory pathways in allergy and asthma, as well as genetic influences in the pathogenesis of atopic disorders. Diseases that have been clearly linked to an epigenetic dysregulation will be discussed, as well as the role of epigenetics in the origin of complex diseases. The authors will examine the impact of environment factors in the predisposition to atopic disorders, and they will also describe the major unanswered questions.

Features

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Contents

Introduction.- Immune System and Atopic Disorders.- Epigenetics.- Epigenetics, Environment and Allergic Diseases.- Conclusions and Future Perspectives.

Fields of interest

Human Genetics; Gene Expression; Allergology

Target groups

Research

Type of publication

Brief

More on www.springer.com/978-1-4614-6365-8

Softcover


Usually dispatched within 3 to 5 business days.

Experimental and Clinical Metastasis

A Comprehensive Review

Metastatic disease is the most lethal aspect of human malignancies, making the understanding and continued research of the process of metastasis a crucial step in treating cancer. The proposed book, entitled “Experimental and Clinical Metastasis: A Comprehensive Review,” aims to provide a clear and extensive review of the clinical and experimental implications of metastatic disease. This work focuses on recent contributions to the field of metastasis, and will highlight crucial findings in the molecular understanding of disseminated disease as well as standard and personalized medicine currently being investigated in the clinic. Topics will include, among many, gene properties of metastatic cells.

Features

The primary cause of death related to cancers can be traced back to metastases, originated from cancer cells. The presence of metastatic disease, the spread of cancer cells, is the most important prognostic and survival factor in patients with cancer. Although treatment of the primary tumor is well established, treating metastatic disease is a much more daunting task. At [...]
Immunity, Tumors and Aging: The Role of HSP70

The book is dedicated to the topical area of biology and medicine and the role of stress proteins HSP70 in the regulation of intracellular protein homeostasis, signaling transduction and cell protection. The book is divided into chapters, which describe the discovery of HSP70 and its molecular structure, the mechanism of the synthesis and function in normal and damaged cells, examine the role of HSP70 in immunity, cancerogenesis, aging, Alzheimer’s disease and cardiac surgery. In this book, the author looks at HSP70 as a factor which prevents the transformation of homeostasis mechanisms of intracellular proteins into a link in the pathogenesis of a disease.

Features
The book is dedicated to the topical area of biology and medicine and the role of stress proteins HSP70 in the regulation of intracellular protein homeostasis, signaling transduction and cell protection. The book is divided into chapters, which describe the discovery of HSP70 and its molecular structure, the mechanism of the synthesis and function in normal and damaged cells, examine the role of HSP70 in [

Contents
Forward - Introduction - 1 A General Description of HSPs, The Molecular Structure of HSP70, The HSP70 Cycle - 2 HSP70 Functions In Normal Cells - 3 HSP70 IN A Damaged Cells - 4 Mechanisms Of Activation And Inactivation Of HSP70 Synthesis - 5 HSP70 In The Immune Responses - 6 HSP70 in Carcinogenesis - 7 HSP70 In Aging - 8 The Role Of HSP70 in Protection of (a) The Brain In Alzheimer’s Disease, and (b) The Heart - Index.

Fields of interest
Biomedicine (general); Immunology; Protein Science; Molecular Medicine; Cancer Research

Target groups
Research

Type of publication
Brief
More on www.springer.com/978-94-007-5942-8

Impact of Genetic Targets on Cancer Therapy

The topic of ‘Impact of genetic targets on cancer therapy’ has reviews that each focuses on a specific tumor type, review recent knowledge about molecular pathogenesis in general and especially as it impacts response to therapy. The topic is aimed to provide a forum for publication of original peer-reviewed short communications, full-length research and review articles on new research findings and developments in cancer therapies. As the field is highly important it requires co-operation between research communities from all over the world to share their knowledge and experience in order to build a comprehensive knowledge on genetic targets on different cancer therapies. Each[…]

Features
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Contents

Fields of interest
Cancer Research; Human Genetics; Medical Microbiology; Biomedicine (general)

Target groups
Research

Type of publication
Contributed volume

Hardcover

Lymphoma

Methods and Protocols

Lymphomas are lymphoid malignancies derived from B or T lymphocytes, and their study has been and still is paradigmatic for many aspects of cancer research. Lymphoma: Methods and Protocols presents and discusses key methods that are used in lymphoma research, partly specific for lymphoma research but often adaptable to the study of other cancers. By covering a broad variety of methods used in lymphoma research, this book will be of interest not only for hematologists, hematopathologists, and immunologists but also for scientists interested in other fields of cancer research as well as human genetics. Written in the highly successful Methods in Molecular Biology® series format[…]

Features
Lymphomas are lymphoid malignancies derived from B or T lymphocytes, and their study has been and still is paradigmatic for many aspects of cancer research. Lymphoma: Methods and Protocols presents and discusses key methods that are used in lymphoma research but often adaptable to the study of other cancers. By covering a broad variety of methods used in[…]

Contents

Fields of interest
Cancer Research; Gene Expression

Target groups
Professional/practitioner

Type of publication
Contributed volume
More on www.springer.com/978-1-62703-268-1

Hardcover
Molecular Dermatology
Methods and Protocols
The sustained skin research efforts over the past decades has led to the accumulation of a significant collection of information on skin structure and physiology as well as on the pathogenesis of cutaneous diseases. In Molecular Dermatology: Methods and Protocols, leading experts in the field provide a collection of state-of-the-art reliable protocols covering a wide spectrum of techniques and experimental models, specific molecular assays and disease models, as well as overviews of diagnostic and research areas relevant to molecular dermatology. As a volume in the highly successful Methods in Molecular Biology® series, chapters include introductions to their respective topics,[...]

Contents
Molecular Dermatology Comes of Age.- Molecular Diagnosis of Autoimmune Blistering Diseases.- Molecular Diagnosis of Genodermatoses.- Three-Dimensional Visualization of the Molecular Architecture of Cell-Cell Junctions In Situ by Cryo-Electron Tomography of Vitreous Sections.- 3D Visualization of Epidermal Langerhans Cells.- In Vivo Imaging of Lymph Node Lymphangiogenesis by Immuno-Positron Emission Tomography.- Optical Imaging of HPV Infection in a Murine Model.- Laser Scanning Microscopy Approach for Semiquantitation of In Vitro Dermal Particle Penetration.- Analysis of Cutaneous [...]

Fields of interest
Molecular Medicine; Endocrinology

Target groups
Professional/practitioner

Type of publication
Contributed volume

More on www.springer.com/978-1-62703-226-1

Hardcover

Molecular Dermatology

Multisensory Imagery

Is a pear sweeter than a peach? Which of Mona Lisa’s hands is crossed over the other? What would the Moonlight Sonata sound like played by a brass band? Although these are questions that appeal to mental imagery in a variety of sensory modalities, mental imagery research has been dominated by visual imagery. With the emergence of a well-established multisensory research community, however, it is time to look at mental imagery in a wider sensory context. Part I of this book provides overviews of unisensory imagery in each sensory modality, including motor imagery, together with discussions of multisensory and cross-modal interactions, synesthesia, imagery in the blind and following[...]

Contents

Fields of interest
Neurosciences; Neurology; Cognitive Psychology

Target groups
Graduate

Type of publication
Contributed volume

More on www.springer.com/978-1-4614-5878-4

Hardcover
2013, X, 435 p. 35 illus., 14 in color. 149.95 € ISBN 978-1-4614-5878-4 Usually dispatched within 3 to 5 business days.

Neurofibromatosis Type 1

Molecular and Cellular Biology

Neurofibromatosis type 1 (NF1), caused by mutational inactivation of the NF1 tumour suppressor gene, is one of the most common dominantly inherited human disorders, affecting 1 in 3000 individuals worldwide. This book presents in concise fashion, but as comprehensively as possible, our current state of knowledge on the molecular genetics, molecular biology and cellular biology of this tumour predisposition syndrome. Written by internationally recognized experts in the field, the 44 chapters that constitute this edited volume provide the reader with a broad overview of the clinical features of the disease, the structure and expression of the NF1 gene, its germ line and somatic[...]

Contents
From the Contents: von Recklinghausen disease.- Clinical diagnosis and atypical cases.- Management and treatment of NF1: complex UK NF1 clinics.- Mortality in NF1.- The cognitive profile of NF1 children, therapeutic implications.- Clinical expression of NF1 in monzygotic twins.- Whole body MRI studies in NF1 patients.- Quality of Life in NF1.- NF1 gene: promoter, 3'UTR and complex features.- Germline mutational spectrum of NF1 and Genotype-Phenotype Correlations.- Splicing mechanisms and mutations in the NF1 gene.- NF1 Germline and somatic mosaicism.- Deep intronic NF1 mutations and[...]

Fields of interest
Human Genetics; Cancer Research; Oncology; Molecular Medicine; Neurosciences

Target groups
Research

Type of publication
Contributed volume

More on www.springer.com/978-3-642-32863-3

Hardcover
2012, XVI, 717 p. 75 illus., 60 in color. 169.95 € ISBN 978-3-642-32863-3 Usually dispatched within 3 to 5 business days.
Non-Hodgkin Lymphoma

Prognostic Factors and Targets

This book will be the first that focuses on solely on model organisms for lymphoma. It’s editors are internationally recognized in the field.

Features

Recent developments in the therapy of non-Hodgkin lymphoma have improved response and survival rates in patients with these conditions. This book is focused on the biology, prognostic factors and novel targets of non-Hodgkin lymphoma. We believe that understanding the pathophysiology of non-Hodgkin lymphoma provides a mean to improve its risk-stratification and treatment. This book is intended for medical [...]
Seed-borne plant virus diseases

Seeds provide an efficient means in disseminating plant virus and viroid diseases. The success of modern agriculture depends on pathogen free seed with high yielding character and in turn disease management. There is a serious scientific concern about the transmission of plant viruses sexually through seed and asexually through plant propagules. The present book provides the latest information along with the total list of seed transmitted virus and viroid diseases at global level including, the yield losses, diagnostic techniques, mechanism of seed transmission, epidemiology and virus disease management aspects. Additional information is also provided on the transmission of plant virus diseases.

Features
Seeds provide an efficient means in disseminating plant virus and viroid diseases. The success of modern agriculture depends on pathogen free seed with high yielding character and in turn disease management. There is a serious scientific concern about the transmission of plant viruses sexually through seed and asexually through plant propagules. The present book provides the latest information along with the total list of seed transmitted virus and viroid diseases at global level including, the yield losses, diagnostic techniques, mechanism of seed transmission, epidemiology and virus disease management aspects.

Contents

Fields of interest
Virology; Plant Pathology; Plant Sciences

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-81-322-0812-9

Hardcover

Usually dispatched within 3 to 5 business days.

Synthetic Messenger RNA and Cell Metabolism Modulation

Methods and Protocols

Synthetic mRNA is an attractive tool for mammalian cell reprogramming that can be used in basic research, as well as in clinical applications. Present mRNA in vitro synthesis is a rather simple procedure, which delivers a high yield of quality product. Various modifications may be introduced into the mRNA by changing the sequence of the DNA template, by modifying the reaction of transcription, or by post-transcriptional modification. mRNA, as a transfection agent, has several advantages over DNA, as mRNA expression is not dependent on nuclear entry and occurs directly in the cytosol. Synthetic Messenger RNA and Cell Metabolism Modulation: Methods and Protocols covers the typical...

Features
Synthetic mRNA is an attractive tool for mammalian cell reprogramming that can be used in basic research, as well as in clinical applications. Present mRNA in vitro synthesis is a rather simple procedure, which delivers a high yield of quality product. Various modifications may be introduced into the mRNA by changing the sequence of the DNA template, by modifying the reaction of transcription, or by post-transcriptional modification.

Contents

Fields of interest
Human Genetics

Target groups
Research

Type of publication
Contributed volume

More on www.springer.com/978-1-62703-259-9

Hardcover

Usually dispatched within 3 to 5 business days.

Systems Biology

First, systems biology is an inter-disciplinary approach, requiring the combined talents of biologists, mathematicians, and computer scientists. Second, systems biology is holistic, with the goal of obtaining a comprehensive understanding of the workings of biological systems. This is achieved through the acquisition of massive amounts of data by high-throughput technologies—oligonucleotide microarrays, mass spectrometry, and next-generation sequencing—and the analysis of this data through sophisticated mathematical algorithms. It is perhaps the use of mathematics, to integrate abundant and diverse types of data and to generate models of interconnected molecular networks, that best...

Features
In this volume, a wide-ranging series of reviews reveal how systems biology—a holistic and interdisciplinary approach requiring the combined talents of biologists, mathematicians, and computer scientists—is changing the face of infectious disease research. Leading experts discuss how the use of high-throughput and computational approaches are generating exciting—and often unexpected—new insights into the...

Contents
Introduction.- Editorial.- System approaches to dissecting Immunity.- Integrative omics and modeling of pathogenic Samonellae and Yersiniae.- The role and contribution of system biology to the non-human primate model of influenza pathogenesis and vaccinology.- Host-pathogen genome politics and policies.- The TB regulatory network.- Proteomic network understanding of immune cell signaling and cell-cell communication via data-driven modeling.- Systems vaccinology.- Correlates of vaccine and natural mediated immune protection in HIV infection.- System biology approach for new target and...

Fields of interest
Biomedicine (general); Medical Microbiology; Immunology; Vaccine

Target groups
Research

Type of publication
Contributed volume

More on www.springer.com/978-3-642-33098-8

Hardcover
2013. XX, 263 p. 49 illus., 42 in color. (Current Topics in Microbiology and Immunology, Vol. 363) 139,95 € ISBN 978-3-642-33098-8

Usually dispatched within 3 to 5 business days.
R. Dermietzel, Ruhr University Bochum, Germany (Ed.)

**The Cytoskeleton**

**Imaging, Isolation, and Interaction**

The cerebral cytoskeleton, considered to be the working horse in brain tissues, becomes particularly important when degenerative diseases of the nervous system are considered. The Cytoskeleton: Imaging, Isolation, and Interaction assembles chapters on general aspects of the cytoskeleton, which are helpful for polishing knowledge of the cytoskeleton in a brief and informative way, and these pieces are flanked by a collection of detailed protocols on diverse emerging techniques including in vivo and in vitro imaging of the cytoskeleton at work as well as proteomics methodologies addressing preparative strategies for the isolation of cytoskeletal components of the central nervous system.[…]

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**Contents**

**Fields of interest**
Neurosciences; Neurobiology

**Target groups**
Professional/practitioner

**Type of publication**
Contributed volume

More on www.springer.com/978-1-62703-265-0

**Hardcover**
2013. XIX, 359 p. 52 illus., 31 in color. (Neuromethods, Vol. 79)
109,95 €
ISBN 978-1-62703-265-0
Usually dispatched within 3 to 5 business days.

M. Bennett, Brain & Mind Research Institute, Camperdown, NSW, Australia

**Virginia Woolf and Neuropsychiatry**

This book, written by one of the leaders in the field of the neurosciences, will give an explanation of the symptoms and eventual untimely suicide of one of literatures greatest authors: Virginia Woolf. The sources used are letters and statements from Woolf herself, the literature she wrote and comments, letters and any other documentation that referred to her mental state and her medical status. The author will use current insight into depression, the mental consequences of child abuse and drug interactions/effects to illustrate this case study. The book should appeal to researchers in the neurosciences, psychology and psychiatry as well as to a broader audience, mainly individuals[…]

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**Contents**

**Fields of interest**
Biomedicine (general); Neurosciences; Neuropsychiatry; Popular Science in Medicine and Biomedicine (general); Neurosciences; Neurobiology

**Target groups**
Professional/practitioner

**Type of publication**
Contributed volume


**Hardcover**
2013. XVII, 548 p. 113 illus., 40 in color.
29,95 €
Usually dispatched within 3 to 5 business days.

M. Bennett, Brain & Mind Research Institute, Camperdown, NSW, Australia

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**Fields of interest**
Biomedicine (general); Neurosciences; Neuropsychiatry; Popular Science in Medicine and Biomedicine (general); Neurosciences; Neurobiology

**Target groups**
Professional/practitioner

**Type of publication**
Contributed volume


**Hardcover**
2013. XVII, 548 p. 113 illus., 40 in color.
29,95 €
Usually dispatched within 3 to 5 business days.

P.J.H. McSweeney, University College Cork, Ireland; P.F. Fox, University College Cork, Ireland (Eds.)

**Advanced Dairy Chemistry**

**Volume 1A: Proteins: Basic Aspects, 4th Edition**

Professor Fox’s multi-volume Advanced Dairy Chemistry set was first published in four volumes in the early 1980s. A second edition came out in the early 1990s, and an updated third edition was published a decade later. The set is the leading major reference on dairy chemistry, providing in-depth coverage of milk proteins, lipids, and lactose. The editors propose beginning the revision cycle again, with a revised first volume on proteins, to be divided and published separately as Volume 1A - Proteins: Basics Aspects, and Volume 1B - Applied Aspects. Fox and his co-editor, Paul McSweeney, have created an extensively revised the Table of Contents for Volume 1A, which details the novel[…]

**Features**
The chemistry and physico-chemical properties of milk proteins is perhaps the largest and most rapidly evolving major area in dairy chemistry. Advanced Dairy Chemistry-1A: Proteins: Basic Aspects covers the fundamental chemistry of dairy proteins, the most commercially valuable constituents of milk. This fourth edition includes all chapters in the third edition on basic aspects of dairy proteins.[…]

**Contents**

**Fields of interest**
Food Science; Protein Science; Microbiology

**Target groups**
Professional/practitioner

**Type of publication**
Contributed volume


**Hardcover**
2013. XVII, 548 p. 113 illus., 40 in color.
169,95 €
Usually dispatched within 3 to 5 business days.
Applications of Density Functional Theory to Chemical Reactivity

The series Structure and Bonding publishes critical reviews on topics of research concerned with chemical structure and bonding. The scope of the series spans the entire Periodic Table and addresses structure and bonding issues associated with all of the elements. It also focuses attention on new and developing areas of modern structural and theoretical chemistry such as nanostructures, molecular electronics, designed molecular solids, surfaces, metal clusters and supramolecular structures. Physical and spectroscopic techniques used to determine, examine and model structures fall within the purview of Structure and Bonding to the extent that the focus is on the scientific results.[...]

Features
Mihai V. Putz: Density Functional Theory of Bose-Einstein Condensation: Road to Chemical Bonding
Quantum CondenstateRoman F. Nalewajski: Information Theory Insights into Molecular Electronic Structure and Reactivity
George Maroulis: Applying Conventional Ab Initio and Density Functional Theory Approaches to Electric Property Calculations. Quantitative Aspects and [...]

Contents
From the Contents: Density Functional Theory of Bose-Einstein Condensation: Road to Chemical Bonding
Quantum Condensate
Roman F. Nalewajski: Information Theory Insights into Molecular Electronic Structure and Reactivity
George Maroulis: Applying Conventional Ab Initio and Density Functional Theory Approaches to Electric Property Calculations. Quantitative Aspects and Perspectives - Descriptors as Probes for Inter-Molecular Interactions and External Perturbation - Application of Reactivity Indices Within Density Functional Theory to Rationale Chemical Interactions

Fields of interest
Inorganic Chemistry

Target groups
Research

Type of publication
Reviews

More on www.springer.com/978-3-642-32752-0

Hardcover
2012, IX, 189 p. 55 illus., 18 in color. (Structure and Bonding, Vol. 149)
189,95 €
ISBN 978-3-642-32752-0
Usually dispatched within 3 to 5 business days.

Complexity in Chemistry and Beyond: Interplay Theory and Experiment

New and Old Aspects of Complexity in Modern Research

Complexity occurs in biological and synthetic systems alike. This general phenomenon has been addressed in recent publications by investigators in disciplines ranging from chemistry and biology to psychology and philosophy. Studies of complexity for molecular scientists have focused on breaking symmetry, dissipative processes, and emergence. Investigators in the social and medical sciences have focused on neurophenomenology, cognitive approaches and self-consciousness. Complexity in both structure and function is inherent in many scientific disciplines of current significance and also in technologies of current importance that are rapidly evolving to address global societal.[...]

Fields of interest
Inorganic Chemistry; Complex Networks; Theoretical and Computational Chemistry

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-94-007-5547-5

Hardcover
139,95 €
Usually dispatched within 3 to 5 business days.

Softcover
69,95 €
Usually dispatched within 3 to 5 business days.

Development of Novel Hydrogen-Bond Donor Catalysts

This work describes novel, effective hydrogen-bond (HB) donor catalysts based on a known bifunctional tertiary amine-thiourea, a privileged structure, which has been proven to be one of the most widely used organocatalysts. These HB donor catalysts derived from quinazoline and benzothiadiazine were initially synthesized as novel HB donors with their HB-donating abilities being measured by analytical methods. They were found to be effective for a variety of asymmetric transformations including Michael reactions of a, b-unsaturated imides and hydrazinination reactions of 1,3-dicarboxyl compounds. Thiourea catalysts that have an additional functional group are also described. Specifically,[...]

Features
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Contents

Field of interest
Organic Chemistry; Medicinal Chemistry; Catalysis

Target groups
Research

Type of publication
Ph.D. thesis

More on www.springer.com/978-4-431-54230-8

Hardcover
2013, XIV, 107 p. 76 illus., 7 in color. (Springer Theses)
99,99 €
ISBN 978-4-431-54230-8
Usually dispatched within 3 to 5 business days.

Development of Novel Hydrogen-Bond Donor Catalysts

This work describes novel, effective hydrogen-bond (HB) donor catalysts based on a known bifunctional tertiary amine-thiourea, a privileged structure, which has been proven to be one of the most widely used organocatalysts. These HB donor catalysts derived from quinazoline and benzothiadiazine were initially synthesized as novel HB donors with their HB-donating abilities being measured by analytical methods. They were found to be effective for a variety of asymmetric transformations including Michael reactions of a, b-unsaturated imides and hydrazinination reactions of 1,3-dicarboxyl compounds. Thiourea catalysts that have an additional functional group are also described. Specifically,[...]
Electronic Structure and Number Theory

Bohr’s Boldest Dream

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Features

Contents

Fields of interest
Inorganic Chemistry; Math. Applications in Chemistry; Theoretical and Computational Chemistry

Target groups
Research

Type of publication
Reviews

More on www.springer.com/978-3-642-31976-1

Hardcover
2013, XI, 183 p. 50 illus., 16 in color. (Structure and Bonding, Vol. 148) 189,95 € ISBN 978-3-642-31976-1 Usually dispatched within 3 to 5 business days.

Food Safety Management

Implementing a Food Safety Program in a Food Retail Business

The goal of this book is to show how to build and manage a food safety department that is tasked with ensuring food safety within a food retail business. The experiences of the authors as the head of Food and Product Safety at Chick-fil-A will be used as the model. Specifically, the book will discuss the specific components of a food safety program, the tactics needed to establish these components (forming the majority of the chapters), how to measure the success of each component, and how to influence the organization to ensure resources to support the program. The book will also focus on how to choose and work with the appropriate partners, validate the value to the business, and[…]

Features
Food Safety Management is intended for retail food safety professionals and business leaders tasked to build and manage food safety programs, as well as regulatory professionals, academic researchers, including students of food science, and other food industry professionals who work to ensure the safety of food along the supply chain. This book will help the reader to: Develop and […]

Contents

Fields of interest
Food Science; Public Health; Health Promotion and Disease Prevention

Target groups
Professional/practitioner

Type of publication
Monograph

More on www.springer.com/978-1-4614-6204-0

Hardcover

Frontiers of Bioanalytical Chemistry

Selected Contributions from Bioanalytical Reviews

Here, renowned researchers in bioanalysis present in-depth reviews of recent trends in the field. Coverage includes topics such as aptamers, bioelectroanalysis, nanoparticles, quantitative NMR, mass spectrometry, immunoassays and -assays, or chiral electromigration techniques. Originally published in the journal Bioanalytical Reviews, these outstanding contributions are now available in a hardcover print format. This volume benefits in particular those research groups and libraries that have chosen to have only electronic access to the journal. It also provides valuable content for all researchers in bioanalytical science.

Features
Here, renowned researchers in bioanalysis present in-depth reviews of recent trends in the field. Coverage includes topics such as aptamers, bioelectroanalysis, nanoparticles, quantitative NMR, mass spectrometry, immunoassays and -assays, or chiral electromigration techniques. Originally published in the journal Bioanalytical Reviews, these outstanding contributions are now available in a hardcover print […]

Contents

Fields of interest
Analytical Chemistry; Laboratory Medicine; Nucleic Acid Chemistry; Proteomics; Metabolomics

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-36302-3

Hardcover
2013, VIII, 288 p. 144 illus., 78 in color. 99,99 € ISBN 978-3-642-36302-3 Usually dispatched within 3 to 5 business days.
**Green Biomass Pretreatment for Biofuels Production**

The increasing global demand for energy requires a versatile approach, prompting many researchers to focus on renewable bioenergy from different biomasses, especially cellulosic biomass. Such biomasses can be agricultural wastes, municipal wastes or direct harvests from high-yield energy corps. If properly pre-treated, the subsequent enzyme hydrolysis step is more effective and can effectively minimise the waste disposal. Green Biomass Pretreatment for Biofuels Production reviews a range of pretreatment methods such as ammonium fiber explosion, steam explosion, dilute acid hydrolysis, alkali hydrolysis, and supercritical carbon dioxide explosion focusing on their final sugar.

**Features**

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**Contents**

- “Plant Cell Wall Structure—Pretreatment” the Critical Relationship in Biomass Conversion to Fermentable Sugars.
- Thermo-Mechanical Pretreatment of Feedstocks.
- Solid-State Biological Pretreatment of Lignocellulosic Biomass.
- Hydrothermal Pretreatment of Lignocellulosic Biomass.
- Pretreatment of Lignocellulosic Biomass Using Supercritical Carbon Dioxide As A Green Solvent.
- Pretreatment of Lignocellulosic Biomass Using Green Ionic Liquids.

**Fields of interest**

Industrial Chemistry / Chemical Engineering; Renewable and Green Energy; Renewable and Green Energy; Characterization and Evaluation of Materials; Applied and Technical Physics

**Target groups**

Research

**Type of publication**

Brief

More on www.springer.com/978-94-007-6051-6

**Softcover**

2013, IX, 153 p. 35 illus., 35 in color. (SpringerBriefs in Green Chemistry for Sustainability) 49.95 €

ISBN 978-94-007-6051-6

Usually dispatched within 3 to 5 business days.

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**HACCP**

A Practical Approach

HACCP: A Practical Approach, 3rd edition has been updated to include the current best practice and new developments in HACCP application since the last edition was published in 1998. This book is intended to be a compendium of up-to-date thinking and best practice approaches to the development, implementation, and maintenance of HACCP programs for food safety management. Introductory chapters set the scene and update the reader on developments in HACCP over the last 15 years. The preliminary stages of HACCP, including preparation and planning and system design, are covered first, followed by a consideration of food safety hazards and their control. Prerequisite program coverage has...

**Features**

HACCP: A Practical Approach, 3rd edition has been updated to include the current best practice and new developments in HACCP application since the last edition was published in 1998. This book is intended to be a compendium of up-to-date thinking and best practice approaches to the development, implementation, and maintenance of HACCP programs for food safety risk.

**Contents**

- Foreword.
- Acknowledgements.
- About the Authors.
- Disclaimer.
- About this Book.
- Prologue.
- 1. An Introduction to HACCP and its role in food safety control.
- 2. Preparation and planning to achieve effective food safety management.
- 3. Hazards, their significance and control.
- 4. Prerequisite programs for food safety – PRPs and Operational PRPs.
- 5. Designing food safety.
- 6. How to do a HACCP Study.
- 8. Considerations for HACCP application in different supply chain sectors.
- Epilogue.
- References, further reading.

**Fields of interest**

Food Science; Quality Control, Reliability, Safety and Risk; Public Health

**Target groups**

Professional/practitioner

**Type of publication**

Monograph

More on www.springer.com/978-1-4614-5027-6

**Hardcover**

2013, XXX, 474 p. 27 illus., 27 in color. 59,95 €

ISBN 978-1-4614-5027-6

Usually dispatched within 3 to 5 business days.

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**Handbook of Industrial Chemistry and Biotechnology**

Substantially revising and updating the classic reference in the field, this handbook offers a valuable overview and myriad details on current chemical processes, products, and practices. No other source offers as much data on the chemistry, engineering, economics, and infrastructure of the industry. The Handbook serves a spectrum of individuals, from those who are directly involved in the chemical industry to others in related industries and activities. It provides not only the underlying science and technology for important industry sectors, but also broad coverage of critical supporting topics. Industrial processes and products can be much enhanced through observing the tenets and...

**Features**

Substantially revising and updating the classic reference in the field, this handbook offers a valuable overview and myriad details on current chemical processes, products, and practices. No other source offers as much data on the chemistry, engineering, economics, and infrastructure of the industry. The Handbook serves a spectrum of individuals, from those who are directly involved in the chemical industry to others in related industries and activities. It provides not only the underlying science and technology for important industry sectors, but also broad coverage of critical supporting topics. Industrial processes and products can be much enhanced through observing the tenets and...

**Contents**

- Historical development of the chemical industry.
- Chemical process safety: Safe practices and accident prevention.
- Managing an emergency preparedness program.
- Applied statistical methods.
- Green engineering: Integration of green chemistry, pollution prevention, and risk based considerations.
- Industrial catalysis: A practical guide.
- Environmental chemical determinations.
- Nanotechnology: Principles and applications.
- Nanostructured materials: Industrial Applications.
- Synthetic organic chemicals.
- Chemistry in the pharmaceutical industry.
- Manufactured textile fibers.
- Dye...

**Fields of interest**

Industrial Chemistry / Chemical Engineering; Biotechnology; Energy Technology; Industrial Pollution Prevention; Polymer Sciences

**Target groups**

Professional/practitioner

**Type of publication**

Handbook


**Hardcover**

2012, XIV, 1562 p. 1196 illus., 59 in color. 399,00 €


Usually dispatched within 3 to 5 business days.
Hidden Hunger

Hidden Hunger is an increasing problem even in developed countries, whose potential negative consequences on long-term health are often overlooked and underestimated. Chronic malnutrition is at the core of the global hunger challenge facing science, politics, and economics. In plain language and with moving examples, Hans K. Biesalski describes how hidden hunger affects human health long before malnutrition becomes obvious. Worldwide, over one third of deaths among children under 5 years of age is associated with malnutrition. As poverty is the main reason for hidden hunger, addressing this dire challenge requires long-term policies. Land grabbing and climate change seriously[...]

Contents
Hunger - a baseline study of the current situation.- Hidden hunger.- Causes of hidden hunger.- Trapped on the hunger carousel - generation after generation.- Quality comes with a price tag - the deadly triangle of economics, hunger and child development.- Ways out of the hunger crisis - making food security secure.- Strategies to combat hidden hunger.

Fields of interest
Food Science; Agriculture; Public Health; Development Economics; Popular Science

Target groups
Popular/general

Type of publication
Monograph

Ice Cream

Ice Cream, 7th Edition focuses on the science and technology of frozen dessert production and quality. It explores the entire scope of the ice cream and frozen dessert industry, from the chemical, physical, engineering and biological principles of the production process to the distribution of the finished product. It is intended for industry personnel from large to small scale processors and to suppliers to the industry and for teachers and students in dairy or food science or related disciplines. While it is technical in scope, it also covers much practical knowledge useful to anyone with an interest in frozen dessert production. World-wide production and consumption data, global[...]

Features
Ice Cream, 7th Edition focuses on the science and technology of frozen dessert production and quality. It explores the entire scope of the ice cream and frozen dessert industry, from the chemical, physical, engineering and biological principles of the production process to the distribution of the finished product. It is intended for industry personnel from large to small scale processors and[...]

Contents

Fields of interest
Food Science; Carbohydrate Chemistry

Target groups
Professional/practitioner

Type of publication
Monograph

In-situ Small-Angle X-ray Scattering Investigation of Transient Nanostructure of Multi-phase Polymer Materials Under Mechanical Deformation

The results in this dissertation set the ground to answer a fundamental question in data-driven polymer material science: “Why don’t prepared composites show less fatigue than the pure plastics?” A simultaneous analysis of mechanical testing and small angle X-ray scattering from the DESY source in Hamburg has been applied to approach this question, which is also central to the European research project “Nanotough”, and the results are clearly presented in this book. The evolution of the materials structure is visualized and quantitatively analyzed from exhaustive sequences of scattering images. Three different classes of polymer composites are presented as typical and illustrative[...]

Features
The results in this dissertation set the ground to answer a fundamental question in data-driven polymer material science: “Why don’t prepared composites show less fatigue than the pure plastics?” A simultaneous analysis of mechanical testing and small angle X-ray scattering from the DESY source in Hamburg has been applied to approach this question, which is also central to the European research project[...]

Contents

Fields of interest
Polymer Sciences; Characterization and Evaluation of Materials; Condensed Matter Physics; Ceramics, Glass, Composites, Natural Materials

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-35412-0

Hardcover
2013. XVI, 106 p. 70 illus., 67 in color. (Springer Theses) 99,99 € ISBN 978-3-642-35412-0 Usually dispatched within 3 to 5 business days.
**Microfluidic Diagnostics**

Methods and Protocols

Microfluidic techniques are becoming widely incorporated into medical diagnostic systems due to the inherent advantages of miniaturization. In Microfluidic Diagnostics: Methods in Molecular Biology, researchers in the field detail methods and protocols covering subjects such as microfluidic device fabrication, on-chip sample preparation, diagnostic applications and detection methodologies. The protocols described range from cutting edge developments to established techniques and basic demonstrations suitable for education and training; from basic fabrication methods to commercializing research. Written in the highly successful Methods in Molecular Biology® series format, chapters...[...]

Contents


Fields of interest

Polymer Sciences; Environmental Chemistry; Biomaterials

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-35036-8

Hardcover

2012. XVII, 404 p. 157 illus., 145 in color. (Springer The-
Spectroscopic Investigations of Hydrogen Bond Network Structures in Water Clusters

The properties and nature of water clusters studied with novel spectroscopic approaches are presented in this thesis. Following a general introduction on the chemistry of water and water clusters, detailed descriptions of the experiments and analyses are given. All the experimental results, including first size-selective spectra of large clusters consisting of 200 water molecules, are presented with corresponding analyses. Hitherto unidentified hydrogen bond network structures, dynamics, and reactivity of various water clusters have been characterized at the molecular level. The main targets of this book are physical chemists and chemical physicists who are interested in water.

Features
The properties and nature of water clusters studied with novel spectroscopic approaches are presented in this thesis. Following a general introduction on the chemistry of water and water clusters, detailed descriptions of the experiments and analyses are given. All the experimental results, including first size-selective spectra of large clusters consisting of 200 water molecules, are presented with...

Contents
General Introduction.- Infrared spectroscopy of chromophore-labeled water clusters phenol-(H2O)n (n < 50).- Infrared spectroscopy of large protonated water clusters H+(H2O)n (n ≤ 221).- Tuning of the Internal Energy and Isomer Distribution in Protonated Water Clusters H+(H2O)n (n ≥ 50): Towards a more detailed understanding of structures and dynamics.- Infrared spectroscopy of water cluster radical cations (H2O)n+(n ≤ 11).- Conclusions and future work.

Fields of interest
Physical Chemistry; Spectroscopy and Microscopy; Spectroscopy / Spectrometry

Type of publication
Ph.D. thesis

More on www.springer.com/978-4-431-54311-4

Hardcover
2013. XIII, 175 p. 120 illus., 40 in color. (Springer Theses)
99,99 €
ISBN 978-4-431-54311-4

Usually dispatched within 3 to 5 business days.

Computer Science

J. Kurtz

ASP.NET MVC 4 and the Web API
Building a REST Service from Start to Finish

This one hundred page book focuses exclusively on how you can best use the ASP.NET MVC 4 Framework to build world-class REST services using the Web API. It sets aside much of what the ASP.NET MVC Framework can do, and focuses exclusively on how the Web API can help you build web services. You will not find any help on CSS, HTML, JavaScript, or jQuery. Nor will you find any help on the Razor view engine, HTML Helpers, or model binding. If you need this information then Pro ASP.NET MVC 4 is your perfect book. ASP.NET MVC 4 and the Web API: Building a REST Service from Start to Finish helps you build cutting-edge REST services using ASP.NET MVC 4 and the Web API in more depth and detail.

Features
This one hundred page book focuses exclusively on how you can best use the ASP.NET MVC 4 Framework to build world-class REST services using the Web API. It sets aside much of what the ASP.NET MVC Framework can do, and focuses exclusively on how the Web API can help you build web services. You will not find any help on CSS, HTML, JavaScript, or jQuery. Nor will you find any help on the Razor view engine, HTML...

Fields of interest
Computer Science (general)

Type of publication
Professional book

More on www.springer.com/978-1-4302-4977-1

Softcover
2013. 152 p. 14,95 €
ISBN 978-1-4302-4977-1

Usually dispatched within 3 to 5 business days.

Advances in Computing, Communication, and Control

Proceedings

This book constitutes the refereed proceedings of the Third International Conference on Advances in Computing, Communication and Control, ICAC3 2013, held in Mumbai, India, in January 2013. The 69 papers presented in this volume were carefully reviewed and selected for inclusion in the book. They deal with topics such as image processing, artificial intelligence, robotics, wireless communications; data warehousing and mining, and are organized in topical sections named: computing; communication; control; and others.

Features
This book constitutes the refereed proceedings of the Third International Conference on Advances in Computing, Communication and Control, ICAC3 2013, held in Mumbai, India, in January 2013. The 69 papers presented in this volume were carefully reviewed and selected for inclusion in the book. They deal with topics such as image processing, artificial intelligence, robotics, wireless communications; data...

Contents

Fields of interest
Information Systems Applications (incl.Internet); Computer Communication Networks; Artificial Intelligence (incl. Robotics); Algorithm Analysis and Problem Complexity; Data Mining and Knowledge Discovery; Information Storage and Retrieval

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-36320-7

Softcover
2013. XVIII, 749 p. 452 illus. (Communications in Computer and Information Science, Vol. 361)
97,00 €
ISBN 978-3-642-36320-7

Usually dispatched within 3 to 5 business days.
Advances in Multimedia Modeling

19th International Conference, MMM 2012, Huangshan, China, January 7-9, 2012, Proceedings, Part II

The two-volume set LNCS 7732 and 7733 constitutes the thoroughly refereed proceedings of the 19th International Conference on Multimedia Modeling, MMM 2012, held in Huangshan, China, in January 2013. The 30 revised regular papers, 46 special session papers, 20 poster session papers, and 15 demo session papers, and 6 video browser showdown were carefully reviewed and selected from numerous submissions. The two volumes contain papers presented in the topical sections on multimedia annotation and I and II, interactive and mobile multimedia, classification, recognition and tracking I and II, ranking in search, multimedia representation, multimedia systems, poster papers, special session and II.

Features

The two-volume set LNCS 7732 and 7733 constitutes the thoroughly refereed proceedings of the 19th International Conference on Multimedia Modeling, MMM 2012, held in Huangshan, China, in January 2013. The 30 revised regular papers, 46 special session papers, 20 poster session papers, and 15 demo session papers, and 6 video browser showdown were carefully reviewed and selected from numerous submissions. The [...]
Agents and Artificial Intelligence


This book constitutes the thoroughly refereed post-conference proceedings of the Third International Conference on Agents and Artificial Intelligence, ICAART 2011, held in Rome, Italy, in January 2011. The 26 revised full papers presented together with two invited paper were carefully reviewed and selected from 367 submissions. The papers are organized in two topical sections on artificial intelligence and on agents.

Features
This book constitutes the thoroughly refereed post-conference proceedings of the Third International Conference on Agents and Artificial Intelligence, ICAART 2011, held in Rome, Italy, in January 2011. The 26 revised full papers presented together with two invited paper were carefully reviewed and selected from 367 submissions. The papers are organized in two topical sections on artificial intelligence and on agents.

Fields of interest
Artificial Intelligence (incl. Robotics); Information Systems Applications (incl.Internet); Computer Communication Networks; Algorithm Analysis and Problem Complexity; Data Mining and Knowledge Discovery; Information Storage and Retrieval

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-29965-0

Softcover
2013, XIV, 445 p. 145 illus. (Communications in Computer and Information Science, Vol. 271)
72,00 €
ISBN 978-3-642-29965-0

Usually dispatched within 3 to 5 business days.

Algorithms for Sensor Systems


This book constitutes the thoroughly refereed post-conference proceedings of the 8th International Workshop on Algorithms for Sensor Systems, Wireless Ad Hoc Networks, and Autonomous Mobile Entities, ALGOSENSORS 2012, held in Ljubljana, Slovenia, in September 2012. The 11 revised full papers presented together with two invited keynote talks and two brief announcements were carefully reviewed and selected from 24 submissions. The papers are organized in two tracks: sensor networks - covering topics such as barrier resilience, localization, connectivity with directional antennas, broadcast scheduling, and data aggregation; and ad hoc wireless and mobile systems - covering topics such as...

Features
This book constitutes the thoroughly refereed post-conference proceedings of the 8th International Workshop on Algorithms for Sensor Systems, Wireless Ad Hoc Networks, and Autonomous Mobile Entities, ALGOSENSORS 2012, held in Ljubljana, Slovenia, in September 2012. The 11 revised full papers presented together with two invited keynote talks and two brief announcements were carefully reviewed and selected from [...]
Assurances for Self-Adaptive Systems
Principles, Models, and Techniques

The increasing complexity of systems and the growing uncertainty in their operational environments have created a critical need to develop systems able to improve their operation, adapt to change, and recover from failures autonomously. This situation has led to recent advances in self-adaptive systems to reconfigure their structure and modify their behavior at run-time to adapt to environmental changes. Despite these advances, one key aspect of self-adaptive systems that remains to be tackled in depth is “assurances”: the provision of evidence that the system satisfies its stated functional and non-functional requirements during its operation in the presence of self-adaptation.[…]

Features
The increasing complexity of systems and the growing uncertainty in their operational environments have led to recent advances in self-adaptive systems to reconfigure their structure and modify their behavior at run-time to adapt to environmental changes. […]

Contents

Fields of interest
Software Engineering; Logics and Meanings of Programs; Programming Languages, Compilers, Interpreters; Computer Communication Networks; Operating Systems

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-1-4302-4512-4

Softcover
54,00 €
ISBN 978-3-642-36248-4
Usually dispatched within 3 to 5 business days.
Beginning jQuery

Beginning jQuery is your step-by-step guide to learning the jQuery library. jQuery is the most popular JavaScript library in the web developer’s toolkit. Jack Franklin takes you from the basics of getting you started with jQuery, right through to extending jQuery by writing your own plug-ins. You’ll discover best practices you can follow, how you can avoid common mistakes, and you’ll learn about so many of the things that jQuery has to offer, including how you can: Use jQuery’s powerful tools to dynamically update content on your site, including DOM manipulation. Extend jQuery’s capabilities by writing your own plugins on top of the framework. Animate elements and build [...]}

Features
Beginning jQuery is your step-by-step guide to learning the jQuery library. jQuery is the most popular JavaScript library in the web developer’s toolkit. Jack Franklin takes you from the basics of getting you started with jQuery, right through to extending jQuery by writing your own plug-ins. You’ll discover best practices you can follow, how you can [...]}

Fields of interest
Computer Science (general)

Target groups
Popular/general

Type of publication
Professional book

More on www.springer.com/978-1-4302-4932-0

Softcover
2013. 204 p.
26,95 €
ISBN 978-1-4302-4932-0

Usually dispatched within 3 to 5 business days.

Biomedical Engineering Systems and Technologies

4th International Joint Conference, BIOSTEC 2011, Rome, Italy, January 26-29, 2011, Revised Selected Papers

This book constitutes the thoroughly refereed post-conference proceedings of the 4th International Joint Conference on Biomedical Engineering Systems and Technologies, BIOSTEC 2011, held in Rome, Italy, in January 2011. The 27 revised full papers presented together with one invited lecture were carefully reviewed and selected from a total of 538 submissions. The papers cover a wide range of topics and are organized in four general topical sections on biomedical electronics and devices; bioinformatics models, methods and algorithms; bio-inspired systems and signal processing; health informatics.

Features
This book constitutes the thoroughly refereed post-conference proceedings of the 4th International Joint Conference on Biomedical Engineering Systems and Technologies, BIOSTEC 2011, held in Rome, Italy, in January 2011. The 27 revised full papers presented together with one invited lecture were carefully reviewed and selected from a total of 538 submissions. The papers cover a wide range of topics and are [...]}

Fields of interest
Computational Biology / Bioinformatics; Algorithm Analysis and Problem Complexity; Pattern Recognition; Data Mining and Knowledge Discovery; Simulation and Modeling; Biomedical Engineering

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-29751-9

Softcover
2013. XVI, 396 p. 192 illus. (Communications in Computer and Information Science, Vol. 273) 72,00 €
ISBN 978-3-642-29751-9

Usually dispatched within 3 to 5 business days.

BizTalk 2010 EDI for Health Care

HIPAA Compliant 837 Solutions

Building a successful health care claims processing EDI implementation in BizTalk Server can be complex. Decisions must be made around how to extract and publish data, how to map to the 837 EDI standard, and how to appropriately batch and deliver data. If architected properly, your BizTalk solution can be highly efficient, simple, and something that can be managed and extended for years to come. The topics in this book include building complete inbound and outbound solutions for 837 Institutional and Professional EDI document types. In addition, topics around 997/999 acknowledgements and related document types are included. Covering mapping, trading partner configuration, AS2, SFTP, [...]}

Features
Building a successful health care claims processing EDI implementation in BizTalk Server can be complex. Decisions must be made around how to extract and publish data, how to map to the 837 EDI standard, and how to appropriately batch and deliver data. If architected properly, your BizTalk solution can be highly efficient, simple, and something that can be managed and extended for years to come. [...]}

Fields of interest
Computer Science (general)

Target groups
Popular/general

Type of publication
Professional book

More on www.springer.com/978-1-4302-5019-7

Softcover
2014. 96 p.
67,95 €

Usually dispatched within 3 to 5 business days.
Chinese Handwriting Recognition: An Algorithmic Perspective

Designing machines that can read handwriting like human beings has been an ambitious goal for more than half a century, driving talented researchers to explore diverse approaches. Obstacles have often been encountered that at first appeared insurmountable but were indeed overcome before long. Yet some open issues remain to be solved. As an indispensable branch, Chinese handwriting recognition has been termed as one of the most difficult Pattern Recognition tasks. Chinese handwriting recognition poses its own unique challenges, such as huge variations in strokes, diversity of writing styles, and a large set of confusable categories. With ever-increasing training data, researchers [...] Features

This book provides an algorithmic perspective on the recent development of Chinese handwriting recognition. Two technically sound strategies, the segmentation-free and integrated segmentation-recognition strategy, are investigated and algorithms that have worked well in practice are primarily focused on. Baseline systems are initially presented for these strategies and are subsequently expanded on and [...] Contents


Fields of interest

Computer Imaging, Vision, Pattern Recognition and Graphics; Pattern Recognition; Image Processing and Computer Vision

Target groups

Research

Type of publication

Brief

More on www.springer.com/978-3-642-31811-5

Softcover

2013. XI, 124 p. 62 illus., 16 in color. (SpringerBriefs in Electrical and Computer Engineering)

39,99 €

ISBN 978-3-642-31811-5

Usually dispatched within 3 to 5 business days.
Cognitive Agents for Virtual Environments

This book constitutes the refereed post-proceedings of the First International Workshop on Cognitive Agents for Virtual Environments, CAVE 2012, held at AAMAS 2012, in Valencia, Spain, in June 2012. The 10 full papers presented were thoroughly reviewed and selected from 14 submissions. In addition one invited high quality contribution has been included. The papers are organized in the following topical sections: coupling agents and game engines; using games with agents for education; visualization and simulation; and evaluating games with agents.

Features

This book constitutes the refereed post-proceedings of the First International Workshop on Cognitive Agents for Virtual Environments, CAVE 2012, held at AAMAS 2012, in Valencia, Spain, in June 2012. The 10 full papers presented were thoroughly reviewed and selected from 14 submissions. In addition one invited high quality contribution has been included. The papers are organized in the following topical sections: coupling agents and game engines; using games with agents for education; visualization and simulation; and evaluating games with agents.

Contents

Coupling Agents and Game Engines. - HLA Proxy: Towards Connecting Agents to Virtual Environments by Means of High Level Architecture (HLA). - Decoupling Cognitive Agents and Virtual Environments. - Agent Communication for Believable Human-Like Interactions between Virtual Characters. - Using Games with Agents for Education. - Using Agents in Virtual Environments to Assist Controllers to Manage Multiple Assets. - A Collaborative Agent Architecture with Human-Agent Communication Model. - Improving Agent Team Performance through Helper Agents. - Visualisation and Simulation. - Visualisation on [...] Fields of interest

Artificial Intelligence (incl. Robotics); Personal Computing; Computers and Education

Target groups

Research

Type of publication

Proceedings

More on [Website URL]
Computational Color Imaging

4th International Workshop, CCIW 2013, Chiba, Japan, March 3-5, 2013. Proceedings

This book constitutes the refereed proceedings of the 4th Computational Color Imaging Workshop, CCIW 2013, held in Chiba, Japan, in March 2013. The 21 revised full papers, presented together with 4 invited papers, were carefully reviewed and selected from numerous submissions. The papers are organized in topical sections on color image perception; color combination; multi-spectral image analysis and rendering; color image detection and classification; color image features; and color image filtering and enhancement.

Features
This book constitutes the refereed proceedings of the 4th Computational Color Imaging Workshop, CCIW 2013, held in Chiba, Japan, in March 2013. The 21 revised full papers, presented together with 4 invited papers, were carefully reviewed and selected from numerous submissions. The papers are organized in topical sections on color image perception; color combination; multi-spectral image analysis and rendering; color image detection and classification; color image features; and color image filtering and enhancement.

Contents
Color image perception; Color combination; Multi-spectral image analysis and rendering; Color image detection and classification; Color image features; and Color image filtering and enhancement.

Fields of interest
Image Processing and Computer Vision; Computer Graphics; Pattern Recognition

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-36699-4

Softcover
2013, XII, 335 p. 207 illus. (Image Processing, Computer Vision, Pattern Recognition, and Graphics, Vol. 7786)
54,00 €
ISBN 978-3-642-36699-4
Usually dispatched within 3 to 5 business days.

Computer Engineering and Technology

16th National Conference, NCCET 2012, Shanghai, China, August 17-19, 2012, Revised Selected Papers

This book constitutes the refereed proceedings of the 16th National Conference on Computer Engineering and Technology, NCCET 2012, held in Shanghai, China, in August 2012. The 27 papers presented were carefully reviewed and selected from 108 submissions. They are organized in topical sections named: microprocessor and implementation; design of integration circuit; I/O interconnect; and measurement, verification, and others.

Features
This book constitutes the refereed proceedings of the 16th National Conference on Computer Engineering and Technology, NCCET 2012, held in Shanghai, China, in August 2012. The 27 papers presented were carefully reviewed and selected from 108 submissions. They are organized in topical sections named: microprocessor and implementation; design of integration circuit; I/O interconnect; and measurement, verification, and others.

Contents

Fields of interest
Processor Architectures; Arithmetic and Logic Structures; Memory Structures; Logic Design; Performance and Reliability

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-35897-5

Softcover
56,00 €
ISBN 978-3-642-35897-5
Usually dispatched within 3 to 5 business days.

Computer Vision, Imaging and Computer Graphics - Theory and Applications

International Joint Conference, VISIGRAFF 2011, Vilamoura, Portugal, March 5-7, 2011. Revised Selected Papers

This book constitutes the refereed proceedings of the International Conference, VISIGRAFF 2011, the Joint Conference on Computer Vision, Theory and Applications (VISAPP), on Imaging Theory and Applications (IMAGAPP), on Computer Graphics Theory and Applications (GRAPP), and on Information Visualization Theory and Applications (IVAPP), held in Vilamoura, Portugal, in March 2011. The 15 revised full papers presented together with one invited paper were carefully reviewed and selected. The papers are organized in topical sections on computer graphics theory and applications; imaging theory and applications; information visualization theory and applications; and computer vision theory and ...

Features
This book constitutes the refereed proceedings of the International Conference, VISIGRAFF 2011, the Joint Conference on Computer Vision, Theory and Applications (VISAPP), on Imaging Theory and Applications (IMAGAPP), on Computer Graphics Theory and Applications (GRAPP), and on Information Visualization Theory and Applications (IVAPP), held in Vilamoura, Portugal, in March 2011. The 15 revised full papers presented together with one invited paper were carefully reviewed and selected. The papers are organized in topical sections on computer graphics theory and applications; imaging theory and applications; information visualization theory and applications; and computer vision theory ...

Contents

Fields of interest
Computer Imaging, Vision, Pattern Recognition and Graphics; Image Processing and Computer Vision; Computer Graphics; Pattern Recognition; Algorithm Analysis and Problem Complexity; Computer Applications

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-32349-2

Softcover
2013, XV, 327 p. 147 illus. (Communications in Computer and Information Science, Vol. 274)
56,00 €
ISBN 978-3-642-32349-2
Usually dispatched within 3 to 5 business days.
Conceptual Structures for Discovering Knowledge

20th International Conference on Conceptual Structures, ICCS 2013, Mumbai, India, January 10-12, 2013, Proceedings

This book constitutes the proceedings of the 20th International Conference on Conceptual Structures, ICCS 2013, held in Mumbai, India, in January 2013. The 22 full papers presented were carefully reviewed and selected from 43 submissions for inclusion in the book. The volume also contains 3 invited talks. ICCS focuses on the useful representation and analysis of conceptual knowledge with research and business applications. It advances the theory and practice in connecting the user’s conceptual approach to problem solving with the formal structures that computer applications need to bring their productivity to bear. Conceptual structures (CS) represent a family of approaches that [...] 

Contents


Fields of interest

Artificial Intelligence (incl. Robotics); Discrete Mathematics in Computer Science; Database Management; Information Storage and Retrieval; Pattern Recognition

Target groups

Professional/practitioner

Type of publication

Proceedings

More on www.springer.com/978-3-642-35785-5

Data Mining in Large Sets of Complex Data

The amount and the complexity of the data gathered by current enterprises are increasing at an exponential rate. Consequently, the analysis of Big Data is nowadays a central challenge in Computer Science, especially for complex data. For example, given a satellite image database containing tens of Terabytes, how can we find regions aiming at identifying native rainforests, deforestation or reforestation? Can it be made automatically? Based on the work discussed in this book, the answers to both questions are a sound ‘yes’, and the results can be obtained in just minutes. In fact, results that used to require days or weeks of hard work from human specialists can now be obtained in [...] 

Contents


Fields of interest

Data Mining and Knowledge Discovery; Database Management

Target groups

Research

Type of publication

Brief

More on www.springer.com/978-1-4471-4889-0

Softcover


Usually dispatched within 3 to 5 business days.

Data Privacy Management and Autonomous Spontaneous Security

7th International Workshop, DPM 2012, and 5th International Workshop, SETOP 2012, Pisa, Italy, September 13-14, 2012. Revised Selected Papers

This book constitutes the thoroughly refereed joint post proceedings of two international workshops, the 7th International Workshop on Data Privacy Management, DPM 2012, and the 5th International Workshop on Autonomous and Spontaneous Security, SETOP 2012, held in Pisa, Italy, in September 2012. The volume contains 13 full papers selected out of 31 submissions and 3 keynote lectures from the DPM workshop and 10 papers selected among numerous submissions from the SETOP workshop. The contributions from DPM cover topics from location privacy; citizens’ privacy; privacy, authentication with anonymity, privacy in distributed systems, privacy policies, and automated privacy enforcement. The [...] 

Contents


Fields of interest

Systems and Data Security; Management of Computing and Information Systems; Data Encryption; e-commerce / e-business; Computer Communication Networks; Information Storage and Retrieval

Target groups

Research

Type of publication

Proceedings

More on www.springer.com/978-3-642-35889-0

Softcover


Usually dispatched within 3 to 5 business days.
Upper part of the page:

**Decision Aid Models for Disaster Management and Emergencies**

Disaster management is a process or strategy that is implemented when any type of catastrophic event takes place. The process may be initiated when anything threatens to disrupt normal operations or puts the lives of human beings at risk. Governments on all levels as well as many businesses create some sort of disaster plan that make it possible to overcome the catastrophe and return to normal function as quickly as possible. Response to natural disasters (e.g., floods, earthquakes) or technological disasters (e.g., nuclear, chemical) is an extreme complex process that involves severe time pressure, various uncertainties, high non-linearity and many stakeholders. Disaster management.[…]

**Features**

Disaster management is a process or strategy that is implemented when any type of catastrophic event takes place. The process may be initiated when anything threatens to disrupt normal operations or puts the lives of human beings at risk. Governments on all levels as well as many businesses create some sort of disaster plan that make it possible to overcome the catastrophe and return to normal function as […]

**Contents**


**Fields of interest**

Simulation and Modeling; Computer Applications; Operation Research / Decision Theory; Business & Economics (general)

**Target groups**

Research

**Type of publication**

Contributed volume


Hardcover


Usually dispatched within 3 to 5 business days.

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**Digital Libraries and Archives**

8th Italian Research Conference, IRCDL 2012, Bari, Italy, February 9-10, 2012, Revised Selected Papers

This book constitutes the thoroughly refereed proceedings of the 8th Italian Research Conference on Digital Libraries, held in Bari, Italy, in February 2012. The 22 full papers, included together with 4 panel papers, were selected from extended versions of the presentations given at the conference, following an additional round of reviewing and revision after the event. The topics covered are as follows: legacy documents and cultural heritage; systems interoperability and data integration; formal and methodological foundations of digital libraries; semantic web and linked data for digital libraries; multilingual information access; digital library infrastructure; metadata creation[…]

**Features**

This book constitutes the thoroughly refereed proceedings of the 8th Italian Research Conference on Digital Libraries, held in Bari, Italy, in February 2012. The 22 full papers, included together with 4 panel papers, were selected from extended versions of the presentations given at the conference, following an additional round of reviewing and revision after the event. The topics covered are as follows: […]

**Contents**


**Fields of interest**

Digital Libraries and Archives; Information Storage and Retrieval; User Interfaces and Human Computer Interaction; Computer and Information Science; Document Preparation and Text Processing; Information Systems Applications (incl.Internet)

**Target groups**

Research

**Type of publication**

Proceedings

More on [www.springer.com](http://www.springer.com)/978-3-642-35833-3

Softcover

2013. XIV, 271 p. 60 illus. (Communications in Computer and Information Science, Vol. 354) 56,00 €

ISBN 978-3-642-35833-3

Usually dispatched within 3 to 5 business days.

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**Engineering Secure Software and Systems**


This book constitutes the refereed proceedings of the 5th International Symposium on Engineering Secure Software and Systems, ESSoS 2013, held in Paris, France, in February/March 2013. The 13 revised full papers presented together with two idea papers were carefully reviewed and selected from 62 submissions. The papers are organized in topical sections on secure programming, policies, proving, formal methods, and analyzing.

**Features**

This book constitutes the refereed proceedings of the 5th International Symposium on Engineering Secure Software and Systems, ESSoS 2013, held in Paris, France, in February/March 2013. The 13 revised full papers presented together with two idea papers were carefully reviewed and selected from 62 submissions. The papers are organized in topical sections on secure programming, policies, proving, formal methods, […]

**Contents**


**Fields of interest**

Computer Communication Networks; Data Encryption; Software Engineering / Programming and Operating Systems; Data Structures, Cryptology and Information Theory; Mathematical Applications in Computer Science; Models and Principles

**Target groups**

Research

**Type of publication**

Proceedings

More on [www.springer.com](http://www.springer.com)/978-3-642-36562-1

Softcover

2013. XII, 229 p. 40 illus. (Security and Cryptology, Vol. 7781) 46,00 €

ISBN 978-3-642-36562-1

Usually dispatched within 3 to 5 business days.
Evaluation of Natural Language and Speech Tool for Italian

International Workshop, EVALITA 2011, Rome, January 24-25, 2012, Revised Selected Papers

EVALITA (http://www.evalita.it/) is the reference evaluation campaign of both Natural Language Processing and Speech Technologies for the Italian language. The objective of the shared tasks proposed at EVALITA is to promote the development of language technologies for Italian, providing a common framework where different systems and approaches can be evaluated and compared in a consistent manner. This volume collects the final and extended contributions presented at EVALITA 2011, the third edition of the evaluation campaign. The 36 revised full papers were carefully reviewed and selected from a total of 87 submissions. The papers are organized in topical sections roughly corresponding:[...]

Features

EVALITA (http://www.evalita.it/) is the reference evaluation campaign of both Natural Language Processing and Speech Technologies for the Italian language. The objective of the shared tasks proposed at EVALITA is to promote the development of language technologies for Italian, providing a common framework where different systems and approaches can be evaluated and compared in a consistent manner. This volume.[...]

Contents


Fields of interest

Artificial Intelligence (incl. Robotics); Language Translation and Linguistics; Romance Languages; Database Management; Pattern Recognition; Information Storage and Retrieval

Target groups

Professional/practitioner

Type of publication

Proceedings

More on www.springer.com/978-3-642-35827-2

Softcover

2013, XIV, 339 p. 38 illus. (Lecture Notes in Artificial Intelligence, Vol. 7689) 54,00 € ISBN 978-3-642-35827-2

Usually dispatched within 3 to 5 business days.

Evaluation of Novel Approaches to Software Engineering

6th International Conference, ENASE 2011, Beijing, China, June 8-11, 2011. Revised Selected Papers

This book contains a collection of thoroughly refereed papers presented at the 6th International Conference on Evaluation of Novel Approaches to Software Engineering, ENASE 2011, held in Beijing, China, in June 2011. The 18 revised and extended full papers presented together with 10 revised short papers were carefully reviewed and selected from 75 initial submissions. The papers cover a wide range of topics, such as software quality and testing, requirements engineering, programming, software processes and methods, software tools and environments, business process and services modeling, software components, software effort and processes, and socio-technical aspects of software development.

Features

This book contains a collection of thoroughly refereed papers presented at the 6th International Conference on Evaluation of Novel Approaches to Software Engineering, ENASE 2011, held in Beijing, China, in June 2011. The 18 revised and extended full papers presented together with 10 revised short papers were carefully reviewed and selected from 75 initial submissions. The papers cover a wide range of topics.[...]

Contents


Fields of interest

Software Engineering; Logics and Meanings of Programs; Computer Communication Networks; Programming Languages, Compilers, Interpreters; Information Systems Applications (incl.Internet); Management of Computing and Information Systems

Target groups

Research

Type of publication

Proceedings

More on www.springer.com/978-3-642-32340-9

Softcover

2013, X, 219 p. 102 illus. (Communications in Computer and Information Science, Vol. 275) 56,00 € ISBN 978-3-642-32340-9

Usually dispatched within 3 to 5 business days.

Eye Gaze in Intelligent User Interfaces

Gaze-based Analyses, Models and Applications

Remarkable progress in eye-tracking technologies opened the way to design novel attention-based intelligent user interfaces, and highlighted the importance of better understanding of eye-gaze in human-computer interaction and human-human communication. For instance, a user’s focus of attention is useful in interpreting the user’s intentions, their understanding of the conversation, and their attitude towards the conversation. In human face-to-face communication, eye gaze plays an important role in floor management, grounding, and engagement in conversation. Eye Gaze in Intelligent User Interfaces draws on ideas from a number of contributors working on how attentional information can be[...]

Features

Remarkable progress in eye-tracking technologies opened the way to design novel attention-based intelligent user interfaces, and highlighted the importance of better understanding of eye-gaze in human-computer interaction and human-human communication. For instance, a user’s focus of attention is useful in interpreting the user’s intentions, their understanding of the conversation, and their attitude.[...]

Contents


Fields of interest

User Interfaces and Human Computer Interaction; Computer Appl. in Social and Behavioral Sciences; Computers and Education; Computer Imaging; Vision, Pattern Recognition and Graphics; Multimedia Information Systems

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4471-4783-1

Hardcover

2013, X, 207 p. 84 illus., 71 in color. 84,95 € ISBN 978-1-4471-4783-1

Usually dispatched within 3 to 5 business days.
Guide to Computer Network Security

This comprehensive guide exposes the security risks and vulnerabilities of computer networks and networked devices, offering advice on developing improved algorithms and best practices for enhancing system security. Fully revised and updated, this new edition embraces a broader view of computer networks that encompasses agile mobile systems and social networks. Features: provides supporting material for lecturers and students, including an instructor's manual, slides, solutions, and laboratory materials; includes both quick and more thought-provoking exercises at the end of each chapter; devotes an entire chapter to laboratory exercises; discusses flaws and vulnerabilities in computer [...] Features

With the growth of cloud computing, social networks, and ever more advanced mobile devices, information security and assurance has become more important than ever before. This comprehensive and authoritative guide to Computer Network Security exposes the various security risks and vulnerabilities of computer networks and networked devices, offering advice on developing improved algorithms and [...] Features

Contents


Software Engineering, Logics and Meanings of Programs, Programming Languages, Compilers, Interpreters, Programming Techniques, Mathematical Logic and Formal Languages, Software Engineering / Programming and Operating Systems

Guide to Voice and Video over IP

For Fixed and Mobile Networks

This book presents a review of the latest advances in speech and video compression, computer network protocols, the assessment and monitoring of VoIP quality, and next generation network architectures for multimedia services. The book also concludes with three case studies, each presenting easy-to-follow step-by-step instructions together with challenging hands-on exercises. Features: provides illustrative worked examples and end-of-chapter problems; examines speech and video compression techniques, together with speech and video compression standards; describes the media transport protocols RTP and RTCP, as well as the VoIP signalling protocols SIP and SDP; discusses the concepts [...] Features

Since the release of the first internet phone in 1995, the use of voice over internet protocol (VoIP) has grown exponentially, so that today it is an established and popular technology for real-time communications in both business and daily life. This Guide to Voice and Video over IP introduces the fundamental techniques underpinning the huge success and global penetration of VoIP. After [...] Features

Contents

Introduction - Speech Compression - Video Compression - Media Transport for VoIP - VoIP Signalling - SIP - VoIP Quality of Experience (QoE) - IMS and Mobile VoIP - Case Study 1: Building Up a VoIP System Based on Asterisk - Case Study 2: VoIP Quality Analysis and Assessment - Case Study 3: Mobile VoIP Applications and IMS

Fields of interest

Computer Communication Networks

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook

More on www.springer.com/978-1-4471-4904-0

Hardcover

2013, XII, 269 p. 204 illus., 5 in color. (Computer Communications and Networks)

59,95 €

ISBN 978-1-4471-4904-0

Usually dispatched within 3 to 5 business days.
Handbook of Iris Recognition

This authoritative collection introduces the reader to the state of the art in iris recognition technology. Topics and features, with a Foreword by the "father of iris recognition," Professor John Daugman of Cambridge University; presents work from an international selection of preeminent researchers, reflecting the uses of iris recognition in many different social contexts; provides viewpoints from researchers in government, industry and academia, highlighting how iris recognition is both a thriving industry and an active research area; surveys previous developments in the field, and covers topics ranging from the low-level (e.g., physics of iris image acquisition) to the high level.[...]

Features

More than 100 trillion iris comparisons are now being performed on a daily basis, a number that is rapidly growing. This is breath-taking progress for a field that is arguably just twenty years old. The first book of its kind devoted entirely to the subject, the Handbook of Iris Recognition introduces the reader to this exciting, rapidly developing, technology of today and tomorrow. Blending [...]
Information Retrieval Meets Information Visualization


The research domains information retrieval and information visualization have always been independent from each other. However, they have the potential to be mutually beneficial. With this in mind, a writer school was organized in Zinal, Switzerland, in January 2012, within the context of the EU-funded research project PROMISE (Participative Research Laboratory for Multimedia and Multilingual Information Systems Evaluation). PROMISE aims at advancing the experimental evaluation of complex multimedia and multilingual information systems in order to support individuals, commercial entities, and communities who design, develop, employ, and improve such complex systems. The overall goal [...]
Managing and Mining Sensor Data

Advances in hardware technology have lead to an ability to collect data with the use of a variety of sensor technologies. In particular sensor notes have become cheaper and more efficient, and have even been integrated into day-to-day devices of use, such as mobile phones. This has lead to a much larger scale of applicability and mining of sensor data sets. The human-centric aspect of sensor data has created tremendous opportunities in integrating social aspects of sensor data collection into the mining process. Managing and Mining Sensor Data is a contributed volume by prominent leaders in this field, targeting advanced-level students in computer science as a secondary text book or [...]"
Mobile Communication and Power Engineering


This book comprises the refereed proceedings of the International Conference, AIM/CCPE 2012, held in Bangalore, India, in April 2012. The papers presented were carefully reviewed and selected from numerous submissions and focus on the various aspects of research and development activities in computer science, information technology, computational engineering, mobile communication, control and instrumentation, communication systems, power electronics and power engineering.

Contents

- Computer science
- Information technology
- Computational engineering
- Mobile communication
- Control and instrumentation
- Communication systems
- Power electronics and power engineering

Fields of interest

- Computer Communication Networks
- Input/Output and Data Communications
- Computer Applications
- Software Engineering
- Information Storage and Retrieval
- Pattern Recognition

Target groups

- Research

Type of publication

Proceedings

More on www.springer.com/978-3-642-35863-0

Softcover

2013. XVI, 567 p. 379 illus. (Communications in Computer and Information Science, Vol. 296)

80.00 €

ISBN 978-3-642-35863-0

Usually dispatched within 3 to 5 business days.

Oracle Exadata Recipes

A Problem-Solution Approach

Oracle Exadata Recipes takes an example-based, problem/solution approach in showing how to size, install, configure, manage, monitor, optimize, and migrate Oracle database workloads on and to the Oracle Exadata Database Machine. Whether you're an Oracle Database administrator, Unix/Linux administrator, storage administrator, network administrator, or Oracle developer, Oracle Exadata Recipes provides effective and proven solutions to accomplish a wide variety of tasks on the Exadata Database Machine. You can feel confident using the reliable solutions that are demonstrated in this book in your enterprise Exadata environment. Managing Oracle Exadata is unlike managing a traditional[...]

Features

- Oracle Exadata Recipes takes an example-based, problem/solution approach in showing how to size, install, configure, manage, monitor, optimize, and migrate Oracle database workloads on and to the Oracle Exadata Database Machine.
- Whether you're an Oracle Database administrator, Unix/Linux administrator, storage administrator, network administrator, or Oracle developer, Oracle Exadata Recipes provides effective and proven solutions to accomplish a wide variety of tasks on the Exadata Database Machine.
- You can feel confident using the reliable solutions that are demonstrated in this book in your enterprise Exadata environment. Managing Oracle Exadata is unlike managing a traditional[...]

Fields of interest

- Database Management

Target groups

- Popular/general

Type of publication

Professional book

More on www.springer.com/978-1-4302-4914-6

Softcover


44.95 €

ISBN 978-1-4302-4914-6

Usually dispatched within 3 to 5 business days.
Outlier Analysis

With the increasing advances in hardware technology for data collection, and advances in software technology (databases) for data organization, computer scientists have increasingly participated in the latest advancements of the outlier analysis field. Computer scientists, specifically, approach this field based on their practical experiences in managing large amounts of data, and with far fewer assumptions— the data can be of any type, structured or unstructured, and may be extremely large. Outlier Analysis is a comprehensive exposition, as understood by data mining experts, statisticians and computer scientists. The book has been organized carefully, and emphasis was placed on [...] 

Features

With the increasing advances in hardware technology for data collection, and advances in software technology (databases) for data organization, computer scientists have increasingly participated in the latest advancements of the outlier analysis field. Computer scientists, specifically, approach this field based on their practical experiences in managing large amounts of data, and with far fewer assumptions— [...] 

Contents


Fields of interest

Data Mining and Knowledge Discovery; Artificial Intelligence (incl. Robotics); Statistics and Computing / Statistics Programs; Systems and Data Security; Database Management; Information Storage and Retrieval

Target groups

Research

Type of publication

Monograph


Hardcover

2013. XV, 446 p. 49 illus., 10 in color.
94.99 €

Usually dispatched within 3 to 5 business days.

Passive and Active Measurement

14th International Conference, PAM 2013, Hong Kong, China, March 18-19, 2013, Proceedings

This book constitutes the refereed proceedings of the 14th International Conference on Passive and Active Measurement, PAM 2013, held in Hong Kong, China, in March 2013. The 24 revised full papers presented were carefully reviewed and selected from 74 submissions. The papers have been organized in the following topical sections: measurement design, experience and analysis; Internet wireless and mobility; performance measurement; protocol and application behavior; characterization of network usage; and network security and privacy. In addition, 9 poster abstracts have been included.

Features

This book constitutes the refereed proceedings of the 14th International Conference on Passive and Active Measurement, PAM 2013, held in Hong Kong, China, in March 2013. The 24 revised full papers presented were carefully reviewed and selected from 74 submissions. The papers have been organized in the following topical sections: measurement design, experience and analysis; Internet wireless and mobility; [...] 

Contents


Fields of interest

System Performance and Evaluation; Computer Communication Networks; Operating Systems; Systems and Data Security

Target groups

Research

Type of publication

Proceedings

More on www.springer.com/978-3-642-36515-7

Softcover

46,00 €
ISBN 978-3-642-36515-7

Usually dispatched within 3 to 5 business days.

Pro iOS Geo

Building Apps with Location Based Services

Pro iOS Geo: Developing Apps with Location Based Services is a one of kind book for your iOS app development needs. This book lets you learn, use and integrate various geo-location based tools and APIs. Google Maps, Microsoft Bing, OpenStreetMap and Map Kit APIs and libraries are explored for usage in iOS Safari Web browser or full use/integration as part of your apps development. After reading this book, you’ll be able to give your apps life. Your apps will be location aware. Your apps will guide your readers to all the hot spots or to where you or your clients need them to go. Your apps will give your users travel advice and much more.

Features

Pro iOS Geo: Developing Apps with Location Based Services is a one of kind book for your iOS app development needs. This book lets you learn, use and integrate various geo-location based tools and APIs. Google Maps, Microsoft Bing, OpenStreetMap and Map Kit APIs and libraries are explored for usage in iOS Safari Web browser or full use/integration as part of your apps development. - chr [...] 

Fields of interest

Computer Science (general)

Target groups

Popular/general

Type of publication

Professional book

More on www.springer.com/978-1-4302-4704-3

Softcover

29.95 €

Usually dispatched within 3 to 5 business days.
Reproduction of Tactual Textures

Transducers, Mechanics and Signal Encoding

Texture accounts for an important part of the realism of simulated experiences, and it is most certainly true during tactile interaction. We usually experience roughness by running our fingers onto the explored surface. The perception of this fine texture is mediated by the vibrations generated by the encounters of the skin and the asperities of the surfaces. Reproduction of Tactual Textures presents factors that contribute to the mechanics of the interaction between a bare finger and a surface with a view to their artificial reproduction. It discusses the recording and reproduction of tactual textures, and analyses a case study of the development of a device able to record the[...]

Features

Texture accounts for an important part of the realism of simulated experiences, and it is most certainly true during tactile interaction. We usually experience roughness by running our fingers onto the explored surface. The perception of this fine texture is mediated by the vibrations generated by the encounters of the skin and the asperities of the surfaces. Reproduction of Tactual Textures [...]
Routing for Wireless Multi-Hop Networks

The focus of this brief is to identify what unifies and what distinguishes the routing functions in four wireless multi-hop network paradigms. The brief introduces a generic routing model that can be used as a foundation of wireless multi-hop routing protocol analysis and design. It demonstrates that such a model can be adopted by any wireless multi-hop routing protocol. Also presented is a glimpse of the ideal wireless multi-hop routing protocol along with several open issues.

Features
The focus of this brief is to identify what unifies and what distinguishes the routing functions in four wireless multi-hop network paradigms. The brief introduces a generic routing model that can be used as a foundation of wireless multi-hop routing protocol analysis and design. It demonstrates that such a model can be adopted by any wireless multi-hop routing protocol. Also presented is a glimpse of the ideal [...]
Security Protocols XVII
17th International Workshop, Cambridge, UK, April 1-3, 2009. Revised Selected Papers
This book constitutes the thoroughly refereed post-conference proceedings of the 17th International Workshop on Security Protocols, SP 2009, held in Cambridge, UK, in April 2009. The 17 revised full papers presented together with edited transcriptions of some of the discussions following the presentations have gone through multiple rounds of reviewing, revision, and selection. The theme of this workshop was “Brief Encounters”. In the old days, security protocols were typically run first as preliminaries to, and later to maintain, relatively stable continuing relationships between relatively unchanging individual entities. Pervasive computing, e-bay and second life have shifted the ground: we now […]

Contents
Evolutionary design of attack strategies. - Below the salt.- Attacking each other.- Bringing zero-knowledge proofs of knowledge to practice.- Towards a verified reference implementation of a trusted platform module.- Pretty good democracy.- Brief encounters with a random key graph.- Why I’m not an entropist.- A novel stateless authentication protocol.- Establishing distributed hidden friendship relations. - The final word.

Fields of interest
Data Encryption; Computer Communication Networks; Management of Computing and Information Systems; Systems and Data Security; Information Systems Applications (incl.Internet); Legal Aspects of Computing

Target groups
Professional/practitioner

Type of publication
Proceedings

More on www.springer.com/978-3-642-36212-5

Softcover
2013. X, 367 p. 28 illus. (Security and Cryptology, Vol. 7028)
54,00 €
ISBN 978-3-642-36212-5

Usually dispatched within 3 to 5 business days.

L.R. Knudsen, Technical University of Denmark, Kgs. Lyngby, Denmark; H. Wu, University of Windsor, ON, Canada (Eds.)

Selected Areas in Cryptography
19th International Conference, SAC 2012, Windsor, Canada, August 15–16, 2012, Revised Selected Papers
This book constitutes the thoroughly refereed post-conference proceedings of the 19th International Conference on Selected Areas in Cryptography, SAC 2012, held in Windsor, Ontario, Canada, in August 2012. The 24 papers presented were carefully reviewed and selected from 87 submissions. They are organized in topical sections named: cryptanalysis, digital signatures, stream ciphers, implementations, block cipher cryptanalysis, lattices, hashfunctions, blockcipher constructions, and miscellaneous.

Features
This book constitutes the thoroughly refereed post-conference proceedings of the 19th International Conference on Selected Areas in Cryptography, SAC 2012, held in Windsor, Ontario, Canada, in August 2012. The 24 papers presented were carefully reviewed and selected from 87 submissions. They are organized in topical sections named: cryptanalysis, digital signatures, stream ciphers, implementations, block […]

Contents
Cryptanalysis.- An All-In-One Approach to Differential Cryptanalysis for Small Block Ciphers.- A New Method for Solving Polynomial Systems with Noise over F2 and Its Applications in Cold Boot Key Recovery.- Cryptanalysis of the Xiao – Lai White-Box AES Implementation.- Digital Signatures A Practical Leakage-Resilient Signature Scheme in the Generic Group Model.- Forward Secure Signatures on Smart Cards.- The Stafford Tavares Lecture Extracts from the SHA-3 Competition.- Stream Ciphers Cryptanalysis of the “Kindle” Cipher.- Cryptographically Strong de Bruijn Sequences with Large […]

Fields of interest
Data Encryption; Systems and Data Security; Algorithm Analysis and Problem Complexity; Computer Communication Networks; Information Systems Applications (incl.Internet)

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-35998-9

Softcover
62,00 €
ISBN 978-3-642-35998-9

Usually dispatched within 3 to 5 business days.

R. Nambiar, Cisco Systems, Inc., San Jose, CA, USA; M. Poess, Oracle Corporation, Redwood Shores, CA, USA (Eds.)

Selected Topics in Performance Evaluation and Benchmarking
4th TPC Technology Conference, TPCTC 2012, Istanbul, Turkey, August 27, 2012, Revised Selected Papers
This book constitutes the refereed proceedings of the 4th TPC Technology Conference, TPCTC 2012, held in Istanbul, Turkey, in August 2012. It contains 10 selected peer-reviewed papers, 2 invited talks, a report from the TPC Public Relations Committee, and a report from the workshop on Big Data Benchmarking, WBDB 2012. The papers present novel ideas and methodologies in performance evaluation, measurement, and characterization.

Features
This book constitutes the refereed proceedings of the 4th TPC Technology Conference, TPCTC 2012, held in Istanbul, Turkey, in August 2012. It contains 10 selected peer-reviewed papers, 2 invited talks, a report from the TPC Public Relations Committee, and a report from the workshop on Big Data Benchmarking, WBDB 2012. The papers present novel ideas and methodologies in performance evaluation, […]

Contents

Fields of interest
System Performance and Evaluation; Database Management; Software Engineering; Computer Appl. in Administrative Data Processing

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-36726-7

Softcover
2013. XIV, 209 p. 70 illus. (Programming and Software Engineering, Vol. 7755)
46,00 €
ISBN 978-3-642-36726-7

Usually dispatched within 3 to 5 business days.
Semantics in Data and Knowledge Bases
5th International Workshop SDKB 2011, Zürich, Switzerland, July 3, 2011, Revised Selected Papers

This book constitutes the thoroughly refereed post-conference proceedings of the 5th International Workshop on Semantics in Data and Knowledge Bases, SDKB 2011, held in July 2011 in Zürich, Switzerland. The 8 revised full papers presented were carefully selected from numerous submissions covering topics of formal models for data and knowledge bases, integrity constraints maintenance and dependency theory, formal methods for data and knowledge base design, reasoning about data and knowledge base dynamics, adaptivity for personalised data and knowledge bases view-centered data and knowledge-intensive systems, information integration in data and knowledge bases, knowledge discovery in...[...]

Features
This book constitutes the thoroughly refereed post-conference proceedings of the 5th International Workshop on Semantics in Data and Knowledge Bases, SDKB 2011, held in July 2011 in Zürich, Switzerland. The 8 revised full papers presented were carefully selected from numerous submissions covering topics of formal models for data and knowledge bases, integrity constraints maintenance and dependency [...]

Contents

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

Target groups
Professional/practitioner

Type of publication
Proceedings

More on www.springer.com/978-3-642-35812-8

Software Engineering for Self-Adaptive Systems
International Seminar Dagstuhl Castle, Germany, October 24-29, 2010 Revised Selected and Invited Papers

Although the self-adaptability of systems has been studied in a wide range of disciplines, from biology to robotics, only recently has the software engineering community recognized its key role in enabling the development of self-adaptive systems that are able to adapt to internal faults, changing requirements, and evolving environments. The 15 carefully reviewed papers included in this state-of-the-art survey were presented at the International Seminar on "Software Engineering for Self-Adaptive Systems", held in Dagstuhl Castle, Germany, in October 2010. Continuing the course of the first book of the series on "Software Engineering for Self-Adaptive Systems" the collection of papers[...]

Features
Although the self-adaptability of systems has been studied in a wide range of disciplines, from biology to robotics, only recently has the software engineering community recognized its key role in enabling the development of self-adaptive systems that are able to adapt to internal faults, changing requirements, and evolving environments. The 15 carefully reviewed papers included in this state-of-the-art survey[...]

Contents
Requirements and policies.- Design Issues.- Applications.

Fields of interest
Software Engineering; Software Engineering / Programming and Operating Systems; Programming Techniques; Programming Languages, Compilers, Interpreters; Simulation and Modeling; Artificial Intelligence (incl. Robotics)

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-35812-8

Softcover
2013, X, 393 p. 110 illus. (Programming and Software Engineering, Vol. 7475)
62,00 €
ISBN 978-3-642-35812-8

Usually dispatched within 3 to 5 business days.

A. De Lucia, Università di Salerno, Fisciano, Italy; F. Fermuci, Università di Salerno, Fisciano, Italy (Eds.)

Software Engineering
International Summer Schools, ISSE 2009-2011, Salerno, Italy, Revised Tutorial Lectures

Software engineering is widely recognized as one of the most exciting, stimulating, and profitable research areas, with a significant practical impact on the software industry. Thus, training future generations of software engineering researchers and bridging the gap between academia and industry are vital to the field. The International Summer School on Software Engineering (ISSE), which started in 2003, aims to contribute both to training future researchers and to facilitating the exchange of knowledge between academia and industry. This volume consists of chapters originating from a number of tutorial lectures given in 2009, 2010, and 2011 at the International Summer School on[...]

Features
Software engineering is widely recognized as one of the most exciting, stimulating, and profitable research areas, with a significant practical impact on the software industry. Thus, training future generations of software engineering researchers and bridging the gap between academia and industry are vital to the field. The International Summer School on Software Engineering (ISSE), which started in 2003, [...]
Software Language Engineering
5th International Conference, SLE 2012, Dresden, Germany, September 26-28, 2012, Revised Selected Papers

This book constitutes the thoroughly refereed post-proceedings of the 5th International Conference on Software Language Engineering, SLE 2012, held in Dresden, Germany, in September 2012. The 17 papers presented together with 2 tool demonstration papers were carefully reviewed and selected from 62 submissions. SLE’s foremost mission is to encourage and organize communication between communities that have traditionally looked at software languages from different, more specialized, and yet complementary perspectives. SLE emphasizes the fundamental notion of languages as opposed to any realization in specific technical spaces.

Features
This book constitutes the thoroughly refereed post-proceedings of the 5th International Conference on Software Language Engineering, SLE 2012, held in Dresden, Germany, in September 2012. The 17 papers presented together with 2 tool demonstration papers were carefully reviewed and selected from 62 submissions. SLE’s foremost mission is to encourage and organize communication between communities that have [...]
Topics in Cryptology - CT-RSA 2013

The Cryptographer’s Track at RSA Conference 2013, San Francisco, CA, USA, February 25-March 1, 2013, Proceedings

This book constitutes the refereed proceedings of the Cryptographers’ Track at the RSA Conference 2013, CT-RSA 2013, held in San Francisco, CA, USA, in February/March 2013. The 25 revised full papers presented were carefully reviewed and selected from 89 submissions. The papers are grouped into topical sections covering: side channel attacks, digital signatures, public key encryption, cryptographic protocols, secure implementation methods, symmetric key primitives, and identity-based encryption.

Features

This book constitutes the refereed proceedings of the Cryptographers’ Track at the RSA Conference 2013, CT-RSA 2013, held in San Francisco, CA, USA, in February/March 2013. The 25 revised full papers presented were carefully reviewed and selected from 89 submissions. The papers are grouped into topical sections covering: side channel attacks, digital signatures, public key encryption, cryptographic protocols, secure implementation methods, symmetric key primitives, and identity-based encryption.

Contents


Fields of interest

Data Encryption; Systems and Data Security; Operating Systems; e-commerce / e-business; Computer Communication Networks; Coding and Information Theory

Target groups

Research

Type of publication

Proceedings

More on www.springer.com/978-3-642-36094-7

Softcover

2013, XIII, 405 p. 68 illus. (Security and Cryptology, Vol. 7779) 62.00 € ISBN 978-3-642-36094-7 Usually dispatched within 3 to 5 business days.

Transactions on Computational Science XVII

The LNCS journal Transactions on Computational Science reflects recent developments in the field of Computational Science, conceiving the field not as a mere ancillary science but rather as an innovative approach supporting many other scientific disciplines. The journal focuses on original high-quality research in the realm of computational science in parallel and distributed environments, encompassing the facilitating theoretical foundations and the applications of large-scale computations and massive data processing. It addresses researchers and practitioners in areas ranging from aerospace to biochemistry, from electronics to geosciences, from mathematics to software architecture,...

Features

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Contents


Fields of interest

User Interfaces and Human Computer Interaction; Artificial Intelligence (incl. Robotics); Computer Communication Networks; Systems and Data Security; Management of Computing and Information Systems

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-35839-5

Softcover

2013, XII, 199 p. 86 illus. (Transactions on Computational Science, Vol. 7420) 63.00 € ISBN 978-3-642-35839-5 Usually dispatched within 3 to 5 business days.

Transactions on Rough Sets XVI

The LNCS journal Transactions on Rough Sets is devoted to the entire spectrum of rough sets related issues, from logical and mathematical foundations, through all aspects of rough set theory and its applications, such as data mining, knowledge discovery, and intelligent information processing, to relations between rough sets and other approaches to uncertainty, vagueness, and incompleteness, such as fuzzy sets and theory of evidence. Volume XVI includes extensions of papers from the Rough Sets and Knowledge Technology Conference which was held in Banff, Canada, in October 2011. In addition this book contains a long paper based on a PhD thesis. The papers cover both theory and...

Features

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Contents


Fields of interest

Pattern Recognition; Artificial Intelligence (incl. Robotics); Mathematical Logic and Formal Languages; Numeric Computing; Image Processing and Computer Vision

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-36504-1

Softcover

2013, X, 221 p. 77 illus. (Transactions on Rough Sets, Vol. 7736) 63.00 € ISBN 978-3-642-36504-1 Usually dispatched within 3 to 5 business days.
Trustworthy Computing and Services

International Conference, ISCTCS 2012, Beijing, China, May/June 2012, Revised Selected Papers

This book constitutes the refereed proceedings of the International Standard Conference on Trustworthy Distributed Computing and Services, ISCTCS 2012, held in Beijing, China, in May/June 2012. The 92 revised full papers presented were carefully reviewed and selected from 278 papers. The topics covered are architecture for trusted computing systems, trusted computing platform, trusted systems build, network and protocol security, mobile network security, network survivability and other critical theories and standard systems, credible assessment, credible measurement and metrics, trusted systems, trusted networks, trusted mobile network, trusted routing, trusted software, trusted...

Features
This book constitutes the refereed proceedings of the International Standard Conference on Trustworthy Distributed Computing and Services, ISCTCS 2012, held in Beijing, China, in May/June 2012. The 92 revised full papers presented were carefully reviewed and selected from 278 papers. The topics covered are architecture for trusted computing systems, trusted computing platform, trusted systems build, network...

Contents
Architecture for trusted computing systems.- Trusted computing platform - Trusted systems build - Network and protocol security - Mobile network security - Network survivability and other critical theories and standard systems - Credible assessment, credible measurement and metrics - Trusted systems - Trusted networks - Trusted mobile network - Trusted routing - Trusted software - Trusted operating systems - Trusted storage - Fault-tolerant computing and other key technologies - Trusted e-commerce and e-government - Trusted logistics - Trusted internet of things - Trusted cloud...

Fields of interest
Systems and Data Security; Computer Communication Networks; Software Engineering; Operating Systems; Data Encryption; Database Management

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-35794-7

Softcover
2013. XVIII, 739 p. 301 illus. (Communications in Computer and Information Science, Vol. 320)
97,00 €
ISBN 978-3-642-35794-7
Usually dispatched within 3 to 5 business days.

TypeScript Revealed

TypeScript Revealed is a quick 100-page guide to Anders Hejlsberg's new take on JavaScript. With this brief, fast-paced introduction to TypeScript, .NET, Web and Windows 8 application developers who are already familiar with JavaScript will easily get up to speed with TypeScript and decide whether or not to start incorporating it into their own development. TypeScript is JavaScript for Application-scale development; a superset of JavaScript that brings to it an additional object-oriented-like syntax familiar to .NET programmers that compiles down into simple, clean JavaScript that any browser can run today. It's also tied to the next version of the JavaScript standard, which means...

Features
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Fields of interest
Computer Science (general)

Target groups
Popular/general

Type of publication
Professional book

More on www.springer.com/978-1-4302-5725-7

Softcover
2013. 104 p.
14,95 €
ISBN 978-1-4302-5725-7

Usually dispatched within 3 to 5 business days.

Understanding Statistics Using R

This book was written to provide resource materials for teachers to use in their introductory or intermediate statistics class. The chapter content is ordered along the lines of many popular statistics books so it should be easy to supplement the content and exercises with class lecture materials. The book contains R script programs to demonstrate important topics and concepts covered in a statistics course, including probability, random sampling, population distribution types, role of the Central Limit Theorem, creation of sampling distributions for statistics, and more. The chapters contain T/F quizzes to test basic knowledge of the topics covered. In addition, the book...

Features
This book was written to provide resource materials for teachers to use in their introductory or intermediate statistics class. The chapter content is ordered along the lines of many popular statistics books so it should be easy to supplement the content and exercises with class lecture materials. The book contains R script programs to demonstrate important topics and concepts covered in a statistics ...

Contents
R Fundamentals - Probability - Statistical Theory - Frequency Distributions - Central Tendency and Dispersion - Statistical Distributions - Hypothesis Testing - Chi-Square Test - z-test - t-test - F-test - Correlation - Linear Regression - Replication of Results - Synthesis of Findings - Glossary - Appendix - Author Index - Subject Index

Fields of interest
Probability and Statistics in Computer Science; Simulation and Programming; Models and Principles

Target groups
Upper undergraduate

Type of publication
Graduate/advanced undergraduate textbook


Hardcover
2013. XVI, 289 p. 54 illus., 7 in color.
59,95 €

Usually dispatched within 3 to 5 business days.
Unifying Theories of Programming


This book constitutes the refereed proceedings of the 4th International Symposium on Unifying Theories of Programming, UTP 2012, held in Paris, France, in August 2012, co-located with the 18th International Symposium on Formal Methods, FM 2012. The 8 revised full papers presented together with 2 invited talks and one invited lecture were carefully reviewed and selected from 13 submissions.

Contents


Fields of interest

Logics and Meanings of Programs; Programming Languages, Compilers, Interpreters; Software Engineering; Mathematical Logic and Formal Languages; Computation by Abstract Devices

Target groups

Research

Type of publication

Proceedings

More on www.springer.com/978-3-642-35704-6

Softcover

2013, VIII, 249 p. 4 illus. (Theoretical Computer Science and General Issues, Vol. 7681)

46,00 €

ISBN 978-3-642-35704-6

Usually dispatched within 3 to 5 business days.

Use Case Driven Object Modeling with UML Theory and Practice

D. Rosenberg, M. Stephens

Use Case Driven Object Modeling with UML: Theory and Practice shows how to drive an object-oriented software design from use case all the way through coding and testing, based on the minimalistic, UML-based ICONIX process. In addition to a comprehensive explanation of the foundations of the approach, the book makes extensive use of examples and provides exercises at the back of each chapter. This book leads by example. It demonstrates common analysis and design errors, shows how to detect and fix them, and suggests how to avoid making the same errors in the future. The book also encourages you to examine its UML examples and to search for specific errors. You’ll get clues, then later[...]

Features

Use Case Driven Object Modeling with UML: Theory and Practice shows how to drive an object-oriented software design from use case all the way through coding and testing, based on the minimalistic, UML-based ICONIX process. In addition to a comprehensive explanation of the foundations of the approach, the book makes extensive use of examples and provides exercises at the back of each chapter.

[...]

Fields of interest

Software Engineering / Programming and Operating Systems

Target groups

Popular/general

Type of publication

Professional book


Softcover

2013, 472 p.

39,69 €


Usually dispatched within 3 to 5 business days.

Visual Texture

Accurate Material Appearance Measurement, Representation and Modeling

This book surveys the state of the art in multidimensional, physically-correct visual texture modeling. Features: reviews the entire process of texture synthesis, including material appearance representation, measurement, analysis, compression, modeling, editing, visualization, and perceptual evaluation; explains the derivation of the most common representations of visual texture, discussing their properties, advantages, and limitations; describes a range of techniques for the measurement of visual texture, including BRDF, SVBRDF, BTF and BSSRDF; investigates the visualization of textural information, from texture mapping and mip-mapping to illumination and view-dependent data[...]

Features

Although the field of texture processing is now well-established, research in this area remains predominantly restricted to texture analysis and simple and approximate static textures. This comprehensive text/reference presents a survey of the state of the art in multidimensional, physically-correct visual texture modeling. Starting from basic principles and building upon the fundamentals to the[...]

Contents


Fields of interest

Image Processing and Computer Vision; Pattern Recognition; Computer Graphics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-1-4471-4901-9

Hardcover

2013, XXX, 284 p., 158 illus., 148 in color. (Advances in Computer Vision and Pattern Recognition)

94,95 €


Usually dispatched within 3 to 5 business days.
WALCOM: Algorithms and Computation
7th International Workshop, WALCOM 2013, Kharagpur, India, February 14-16, 2013, Proceedings

This book constitutes the refereed proceedings of the 7th International Workshop on Algorithms and Computation, WALCOM 2013, held in Kharagpur, India, in February 2013. The 29 full papers presented were carefully reviewed and selected from 86 submissions. The papers are organized in topical sections on computational geometry, approximation and randomized algorithms, parallel and distributed computing, graph algorithms, complexity and bounds, and graph drawing.

Contents
Computational Geometry.- Approximation and Randomized Algorithms.- Parallel and Distributed Computing.- Graph Algorithms.- Complexity and Bounds.- Graph Drawing.

Fields of interest
Algorithm Analysis and Problem Complexity; Discrete Mathematics in Computer Science; Mathematical Applications in Computer Science; Symbolic and Algebraic Manipulation; Computer Graphics; Algorithms

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-36604-0

Softcover
54,00 €
ISBN 978-3-642-36604-0

Usually dispatched within 3 to 5 business days.

Web Information Systems and Technologies
8th International Conference, WEBIST 2012, Porto, Portugal, April 18-21, 2012, Revised Selected Papers

This book contains the thoroughly refereed and revised best papers from the 8th International Conference on Web Information Systems and Technologies, WEBIST 2012, held in Porto, Portugal, in April 2012, and organized by the Institute for Systems and Technologies of Information, Control and Communication (INSTICC), in collaboration with ACM SIGMIS. The 23 papers presented in this book were carefully reviewed and selected from 184 submissions. The papers were selected from those with the best reviews also taking into account the quality of their presentation at the conference. The papers are grouped into parts on Internet Technology; Web Interfaces and Applications; Society, e-Business, [...] 

Features
This book contains the thoroughly refereed and revised best papers from the 8th International Conference on Web Information Systems and Technologies, WEBIST 2012, held in Porto, Portugal, in April 2012, and organized by the Institute for Systems and Technologies of Information, Control and Communication (INSTICC), in collaboration with ACM SIGMIS. The 23 papers presented in this book were carefully reviewed and selected from 184 submissions. The papers were selected from those with the best reviews also taking into account the quality of their presentation at the conference. The papers are grouped into parts on Internet Technology; Web Interfaces and Applications; Society, e-Business, [...] 

Contents

Fields of interest
Information Systems Applications (incl.Internet); Business Information Systems; e-commerce / e-business; User Interfaces and Human Computer Interaction; Software Engineering

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-36607-9

Softcover
54,00 €
ISBN 978-3-642-36607-9

Usually dispatched within 3 to 5 business days.

Wireless Sensor Networks

This book constitutes the refereed proceedings of the 10th European Conference on Wireless Sensor Networks, EWSN 2013, held in Ghent, Belgium, in February 2013. The 12 revised full papers presented were carefully reviewed and selected from 51 submissions. The papers cover a wide range of topics in the following areas: experimentation and data access; data management; network algorithms and protocols; and physical layer and hardware aspects.

Features
This book constitutes the refereed proceedings of the 10th European Conference on Wireless Sensor Networks, EWSN 2013, held in Ghent, Belgium, in February 2013. The 12 revised full papers presented were carefully reviewed and selected from 51 submissions. The papers cover a wide range of topics in the following areas: experimentation and data access; data management; network algorithms and protocols; and [...] 

Contents

Fields of interest
Computer Communication Networks; Special Purpose and Application-Based Systems; System Performance and Evaluation; Algorithm Analysis and Problem Complexity

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-36671-0

Softcover
46,00 €
ISBN 978-3-642-36671-0

Usually dispatched within 3 to 5 business days.
Dentistry

T. Eliades, University of Zurich, Switzerland (Ed.)

Research Methods in Orthodontics

A Guide to Understanding Orthodontic Research

The orthodontic literature includes many articles on basic science and engineering research techniques, but clinicians are typically unfamiliar with the principles underlying these techniques and may also lack the background knowledge required for a full appreciation of their role. This book comprehensively reviews a wide array of the research methods most frequently encountered in the literature, encompassing the areas of materials science and clinical and biological research. The various methods and techniques are carefully described, and their indications and limitations are explained. All of the information is up to date, reflecting latest developments in the field. For practicing[...]

Features

The orthodontic literature includes many articles on basic science and engineering research techniques, but clinicians are typically unfamiliar with the principles underlying these techniques and may also lack the background knowledge required for a full appreciation of their role. This book comprehensively reviews a wide array of the research methods most frequently encountered in the literature, [...] Contents


Fields of interest

Dentistry, Biomedicine (general)

Target groups

Professional/practitioner

Type of publication

Professional book

More on www.springer.com/978-3-642-31376-9

Hardcover

2013. XVIII, 211 p. 63 illus., 43 in color.

119.95 €

ISBN 978-3-642-31376-9

Online orders shipping within 2-3 days.

Earth Sciences

M. Kühn, GFZ German Research, Potsdam, Germany U. Münch, Koordinierungsbüro Geotechnologien, Potsdam, Germany (Eds.)

CLEAN

CO2 Large-Scale Enhanced Gas Recovery in the Altmark Natural Gas Field - GEOTECHNOLOGIEN Science Report No. 19

The project CLEAN (CO2 Large-Scale Enhanced Gas Recovery in the Altmark Natural Gas Field) provides site specific knowledge for a potential future pilot project. This contributed volume gives an overview and final results of the entire project which is finalized to the end of 2012.

Features

The project CLEAN (CO2 Large-Scale Enhanced Gas Recovery in the Altmark Natural Gas Field) provides site specific knowledge for a potential future pilot project. This contributed volume gives an overview and final results of the entire project which is finalized to the end of 2012.

Contents


Fields of interest

Geology; Energy Technology; Sustainable Development; Analytical Chemistry; Simulation and Modeling

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-31676-0

Hardcover

2013. X, 199 p. 119 illus., 16 in color. (Advanced Technologies in Earth Sciences)

99,99 €

ISBN 978-3-642-31676-0

Usually dispatched within 3 to 5 business days.

Land Subsidence Analysis in Urban Areas

The Bangkok Metropolitan Area Case Study

Cities built on unconsolidated sediments consisting of clays, silt, peat, and sand, are particularly susceptible to subsidence. Such regions are common in delta areas, where rivers empty into the oceans, along flood plains adjacent to rivers, and in coastal marsh lands. Building cities in such areas aggravates the problem for several reasons: 1. Construction of buildings and streets adds weight to the region causing additional soil deformations. 2. Often the regions have to be drained in order to be occupied. This results in lowering of the water table and leads to hydro-compaction. 3. Often the groundwater is used as a source of water for both human consumption and industrial[...]

Features

Cities built on unconsolidated sediments consisting of clays, silt, peat, and sand, are particularly susceptible to subsidence. Such regions are common in delta areas, where rivers empty into the oceans, along flood plains adjacent to rivers, and in coastal marsh lands. Building cities in such areas aggravates the problem for several reasons: 1. Construction of buildings and streets adds weight to [...] Contents


Fields of interest

Geotechnical Engineering & Applied Earth Sciences; Hydrogeology; Geoenvironmental Engineering, Foundations, Hydraulics; Software Engineering; Landscape, Regional and Urban Planning; Geophysics and Environmental Physics

Target groups

Graduate

Type of publication

Monograph


Hardcover

2013. XVIII, 307 p. 113 illus., 14 in color. (Springer Environmental Science and Engineering)

99,95 €


Usually dispatched within 3 to 5 business days.
Anja Schmidt’s thesis is a unique and comprehensive evaluation of the impacts of tropospheric volcanic aerosol on the atmosphere, climate, air quality and human health. Using a state-of-the-art global microphysics model, the thesis describes and quantifies the impact of volcanic sulphur emissions on global aerosol, clouds and the radiative forcing of climate. The advanced model enables the first ever estimate of the impact of the emissions on aerosol microphysical properties such as particle number concentrations and sizes, and therefore a considerably improved ability to quantify the climate and air quality effects. There are several important discoveries in this thesis. Firstly, [...] Features

The feasibility to extract porous medium parameters from acoustic recordings is investigated. The thesis gives an excellent discussion of our basic understanding of different wave modes, using a full-waveform and multi-component approach. Focus lies on the dependency on porosity and permeability where especially the latter is difficult to estimate. In this thesis, this sensitivity is shown for interface and [...] Contents


Geophysics / Geodesy; Acoustics; Geotechnical Engineering & Applied Earth Sciences; Applications of Mathematics; Geoengineering, Foundations, Hydraulics

Features

The feasibility to extract porous medium parameters from acoustic recordings is investigated. The thesis gives an excellent discussion of our basic understanding of different wave modes, using a full-waveform and multi-component approach. Focus lies on the dependency on porosity and permeability where especially the latter is difficult to estimate. In this thesis, this sensitivity is shown for interface and [...] Contents


Geophysics / Geodesy; Acoustics; Geotechnical Engineering & Applied Earth Sciences; Applications of Mathematics; Geoengineering, Foundations, Hydraulics
Defining the Spatial Scale in Modern Regional Analysis
New Challenges from Data at Local Level

This book explores different approaches to defining the concept of region depending on the specific question that needs to be answered. While the typical administrative spatial data division fits certain research questions well, in many cases, defining regions in a different way is fundamental in order to obtain significant empirical evidence. The book is divided into three parts: The first part is dedicated to a methodological discussion of the concept of region and the different potential approaches from different perspectives. The problem of having sufficient information to define different regional units is always present. This justifies the second part of the book, which focuses [...]

Features
This book explores different approaches to defining the concept of region depending on the specific question that needs to be answered. While the typical administrative spatial data division fits certain research questions well, in many cases, defining regions in a different way is fundamental in order to obtain significant empirical evidence. The book is divided into three parts: The first part is dedicated [...]
Enterprise Information Systems of the Future


This book constitutes the proceedings of the 6th International IFIP Working Conference on Research and Practical Issues of Enterprise Information Systems (CONFENIS 2012), held in Ghent, Belgium, during September 19–21, 2012. The theme of the conference was “enterprise information systems of the future — evolving toward more performance through transparency and agility,” mirroring the trend toward more open and more flexible systems. In all, 53 contributions were submitted and after a rigorous review process 10 full papers and 15 short papers were selected for publication in this book. These 25 papers present a well-balanced mix between the traditional social sciences and the novel[...]

Contents
Full Papers - Short Papers.

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

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-642-36610-9

Softcover
2013, XII, 277 p. 62 illus. (Lecture Notes in Business Information Processing, Vol. 139)
46,00 €
ISBN 978-3-642-36610-9

Usually dispatched within 3 to 5 business days.

Ethical Reflections on the Financial Crisis 2007/2008

Making Use of Smith, Musgrave and Rajan

In this book the author reflects on the philosophical and ethical bases of the financial crisis 2007–08 and the subsequent recession. He finds in Adam Smith solid arguments for the new free market economy, capitalism, but also arguments for a role for the government in the case of public goods (roads) and of merit goods (education, control of banking). Where the provision of public goods requires that the government respect consumer sovereignty there the provision of merit goods legitimizes the violation of that principle. By making use of the history of economic thought (e.g., the neo-liberal tradition) the author demonstrates that Musgrave’s idea of merit goods can be expanded to[...]

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Contents

Fields of interest
Financial Economics; Finance / Banking; Ethics; International Economics; Political Economy; Methodology and the History of Economic Thought

Target groups
Research

Type of publication
Brief

More on www.springer.com/978-3-642-35090-0

Softcover
2013, X, 102 p. (SpringerBriefs in Economics)
49,95 €
ISBN 978-3-642-35090-0

Usually dispatched within 3 to 5 business days.

Ethics in Consumer Choice

An Empirical Analysis based on the Example of Coffee

This dissertation elaborates differences and similarities of forms of ethical behaviour in general and analyses whether German consumers differentiate between different types of ethical behaviour in particular. The thesis is characterised by its intensive combination of theoretical and empirical research. It furthermore contributes to the literature as the method triangulation applied in the different surveys reveals previously unknown relationships between different kinds of ethical behaviour, such as ethical consumption and charitable giving, as well as between different forms of ethical products. Choice experiment, latent class analysis, information display matrix and item-based[...]

Features
Individuals have a multitude of possibilities by means of their decisions to influence ecological, social and economic developments at the regional, national and global level. Nina Langen elaborates differences and similarities of forms of ethical behaviour, such as ethical consumption and charitable giving in general and investigates whether German consumers differentiate between different types of ethical[...]

Contents
Consumers’ decision making.- Preference measurement.- Ethical consumption.- Fair Trade.- Charitable Giving.- Cause-related Marketing.

Fields of interest
Marketing

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-658-00758-4

Softcover
2013, XXIV, 344 p. 20 illus., 4 in color.
65,37 €
ISBN 978-3-658-00758-4

Usually dispatched within 3 to 5 business days.
Exchanging Human Bodily Material: Rethinking Bodies and Markets

This book addresses the debate usually tagged as being about ‘markets in human body parts’ which is antagonistically divided into pro-market and anti-market positions. The author provides a set of propositions about how to approach this and shows a way out of the concrete impasse of it. Assumptions about markets and bodies that characterize this debate are analyzed and described while the author argues that these assumptions are in fact constitutive for exchanges of human bodily material — but in unacknowledged ways. It is concluded that what we need is a different analytical approach to better understand the mechanisms at play when organizations exchange organs, tissues and cells for [...] 

Features

This book addresses the debate usually tagged as being about ‘markets in human body parts’ which is antagonistically divided into pro-market and anti-market positions. The author provides a set of propositions about how to approach this and shows a way out of the concrete impasse of it. Assumptions about markets and bodies that characterize this debate are analyzed and described while the author argues [...] 

Contents


Fields of interest

Health Economics; Theory of Medicine / Bioethics; Ethics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-36355-9

Hardcover


Financial Freedom

A Guide to Achieving Lifelong Wealth and Security

If you’re one of the millions of Americans who is buried in credit card debt, or maybe you’re having trouble deciphering the fine print on your 401(K) — that is, if you even have a 401(K) — don’t dismay. You can start taking steps toward closing your financial illiteracy gap right away with the sound, practical personal finance advice offered up in Reuben Advani’s Financial Freedom. Designed for young adult professionals but filled with crucial information that will financially empower readers of all ages, Financial Freedom is more than just your standard personal finance book, which offers up plenty of encouragement but very little actionable advice. Instead, this user-friendly [...] 

Features

If you’re one of the millions of Americans who is buried in credit card debt, or maybe you’re having trouble deciphering the fine print on your 401(K) — that is, if you even have a 401(K) — don’t dismay. You can start taking steps toward closing your financial illiteracy gap right away with the sound, practical personal finance advice offered up in Reuben Advani’s Financial [...] 

Fields of interest

Business & Management Science

Target groups

Popular/general

Type of publication

Professional book

More on www.springer.com/978-1-4302-4539-1

Softcover

Foundations and Methods of Stochastic Simulation

A First Course

This graduate-level text covers modeling, programming and analysis of simulation experiments and provides a rigorous treatment of the foundations of simulation and why it works. It introduces object-oriented programming for simulation, covers both the probabilistic and statistical basis for simulation in a rigorous but accessible manner (providing all necessary background material), and provides a modern treatment of experiment design and analysis that goes beyond classical statistics. The book emphasizes essential foundations throughout, rather than providing a compendium of algorithms and theorems and prepares the reader to use simulation in research as well as practice. The book is...

Features

This graduate-level text covers modeling, programming and analysis of simulation experiments and provides a rigorous treatment of the foundations of simulation and why it works. It introduces object-oriented programming for simulation, covers both the probabilistic and statistical basis for simulation in a rigorous but accessible manner (providing all necessary background material), and provides a modern...

Contents

Why Do We Simulate? - Simulation Programming: Quick Start - Examples - Simulation Programming with VBASim - Two Views of Simulation - Simulation Input - Simulation Output - Experiment Design and Analysis - Simulation for Research - VBASim

Fields of interest

Operations Research / Decision Theory; Operations Research, Mathematical Programming; Simulation and Modeling

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook


Hardcover


69,95 €

Usually dispatched within 3 to 5 business days.

How to Secure Your H-1B Visa

A Practical Guide for International Professionals and Their US Employers

The H-1B visa is the gateway for the world’s best and brightest to live and work in the United States as IT professionals, engineers, scientists, professors, doctors, nurses, and researchers. How to Secure Your H1B Visa guides employees and employers alike through the maze of H-1B laws, policies, and procedures. This road map lays out the whole H-1B process from petition to visa to status maintenance to visa extension and, ultimately, to permanent residence in the US for you and your family. It shows you step by step exactly how the H-1B process divides up between the employer and employee. It identifies the points where the two tracks converge and the H-1B employer and employee need...

Features

The H-1B visa is the gateway for the world’s best and brightest to live and work in the United States as IT professionals, engineers, scientists, professors, doctors, nurses, and researchers. How to Secure Your H1B Visa guides employees and employers alike through the maze of H-1B laws, policies, and procedures. This road map lays out the whole H-1B process from petition to visa to status...

Fields of interest

Business & Management Science

Target groups

Popular/general

Type of publication

Professional book

More on www.springer.com/978-1-4302-4728-9

Softcover

18,95 €

Usually dispatched within 3 to 5 business days.

IT Security Risk Management

Perceived IT Security Risks in the Context of Cloud Computing

This book provides a comprehensive conceptualization of perceived IT security risk in the Cloud Computing context that is based on six distinct risk dimensions grounded on a structured literature review, Q-sorting, expert interviews, and analysis of data collected from 356 organizations. Additionally, the effects of security risks on negative and positive attitudinal evaluations in IT executives’ Cloud Computing adoption decisions are examined. The book’s second part presents a mathematical risk quantification framework that can be used to support the IT risk management process of Cloud Computing users. The results support the risk management processes of (potential) adopters, and...
Information Quality and Management Accounting  
A Simulation Analysis of Biases in Costing Systems

One of the main aims of management accounting is to provide managers with accurate information in order to provide a good basis for decision-making. There is evidence that the information provided by management accounting systems (MAS) is distorted and the occurrence of biases in accounting information is widely accepted among users of MAS. At the same time, the intensity and the frequency of use of MAS increase, too. Consequently, the quality of the provided information is critical. The focus of this simulation study is twofold. On the one hand, the impact of the sophistication of traditional costing systems on error propagation in the case of a set of input biases is investigated. [...] 

Features
One of the main aims of management accounting is to provide managers with accurate information in order to provide a good basis for decision-making. There is evidence that the information provided by management accounting systems (MAS) is distorted and the occurrence of biases in accounting information is widely accepted among users of MAS. At the same time, the intensity and the frequency of use of MAS [...] 

Contents
Introduction. - Management Accounting. - Conceptual and Theoretical Framework. - Research Design and Model Formalization. - Costing System Sophistication and Quality of Provided Information. - Effects of Single Input Biases on the Quality of Provided Information. - Effects of Multiple Input Biases on the Quality of Provided Information. - Discussion. - Summary and Conclusion. 

Fields of interest
Accounting / Auditing; Business Information Systems; Simulation and Modeling; Operation Research / Decision Theory

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-33208-1

Softcover
69,95 €
ISBN 978-3-642-33208-1
Usually dispatched within 3 to 5 business days.

Innovations in Small and Medium-Sized Family Firms  
An Analysis of Innovation Related Top Management Team Behaviors and Family Firm-Specific Characteristics

Small and medium-sized firms are a prevalent organizational form in Germany. Their importance for the German economy is indisputable. Most of them are global market leaders in their niches and are considered to be a force for innovation in the German economy. The ability to be innovative in niche markets has been identified as the antecedent of their strong, or even dominant, competitive positions in their industries. The driver of this innovation success may well be the family, which distinguishes family firms from non-family firms. But how can a family influence innovation in a family firm and does this influence have only positive effects? This dissertation focuses on the impact [...] 

Features
Small and medium-sized firms are a prevalent organizational form in Germany. Their importance for the German economy is indisputable. Most of them are global market leaders in their niches and are considered to be a force for innovation in the German economy. The ability to be innovative in niche markets has been identified as the antecedent of their strong, or even dominant, competitive positions in their [...] 

Contents

Fields of interest
Behavioral and Family Firm-Specific Characteristics

Target groups
Professional/practitioner

Type of publication
Monograph


Softcover
2013. XIX, 173 p. 13 illus. (Familienunternehmen und KMU)
56,07 €
Usually dispatched within 3 to 5 business days.
Intuitionistic Fuzzy Aggregation and Clustering

This book offers a systematic introduction to the clustering algorithms for intuitionistic fuzzy values, the latest research results in intuitionistic fuzzy aggregation techniques, the extended results in interval-valued intuitionistic fuzzy environments, and their applications in multi-attribute decision making, such as supply chain management, military system performance evaluation, project management, venture capital, information system selection, building materials classification, and operational plan assessment, etc.

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Contents
1 Intuitionistic Fuzzy Aggregation Techniques.- 1.1 Rankings of Intuitionistic Fuzzy Values.- 1.1.1 Intuitionistic Fuzzy Values.- 1.1.2 Methods for Ranking IFVs.- 1.1.2.1 The Method for Ranking IFVs by Using the Score Function.- 1.1.2.2 The Method for Ranking IFVs by Using the Positive Ideal Point.- 1.1.2.3 The Method for Ranking IFVs by Using the Intuitionistic Fuzzy Point Operators.- 1.1.2.4 The Method for Ranking IFVs by Using the Similarity Measure and the Accuracy Degree.- 1.1.3 The Application of Ranking IFVs Using the Similarity Measure and the Accuracy Degree in Multi-attribute Decision

Fields of interest
Operation Research / Decision Theory; Marketing

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-28405-2

Hardcover
2012, IX, 278 p. 43 illus., 37 in color. (Studies in Fuzziness and Soft Computing, Vol. 279)
129,95 €
ISBN 978-3-642-28405-2
Usually dispatched within 3 to 5 business days.

Japan’s Disaster Governance
How was the 3.11 Crisis Managed?

Natural disasters are often multifaceted and cause severe damage. Disasters initiated locally can become national and even global crises. Today’s world urgently needs a new body of knowledge and techniques for the mitigation of and response to disasters. Central to such a body of knowledge are disaster preparedness, emergency and crisis management systems of government, of which capacity building is becoming an increasingly important element in public administration, management and governance. Today, disasters are to be managed by sound local, national, and global governance, through all the phases of preparedness, prevention, mitigation and then to relief, recovery and...

Features
Natural disasters are often multifaceted and cause severe damage. Disasters initiated locally can become national and even global crises. Today’s world urgently needs a new body of knowledge and techniques for the mitigation of and response to disaster. Central to such a body of knowledge are disaster preparedness, emergency and crisis management systems of government, of which capacity building is becoming

Fields of interest
Public Administration; Political Science, general; Business & Economics (general)

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-1-4614-6150-0

Hardcover
2013, XII, 113 p. 4 illus. (Public Administration, Governance and Globalization, Vol. 4)
99,95 €
ISBN 978-1-4614-6150-0
Usually dispatched within 3 to 5 business days.

Liberalization, Growth and Regional Disparities in India

Upon the backdrop of impressive progress made by the Indian economy during the last two decades after the large-scale economic reforms in the early 1990s, this book evaluates the performance of the economy on some income and non-income dimensions of development at the national, state and sectoral levels. It examines regional economic growth and inequality in income originating from agriculture, industry and service sectors.

Features
Upon the backdrop of impressive progress made by the Indian economy during the last two decades after the large-scale economic reforms in the early 1990s, this book evaluates the performance of the economy on some income and non-income dimensions of development at the national, state and sectoral levels. It examines regional economic growth and inequality in income originating from agriculture, industry and service sectors.

Contents
Chapter 1: Introduction.- Chapter 2: Review of Economic Policies and Growth Performance.- Chapter 3: Regional Economic Growth and Inequality.- Chapter 4: Growth and Regional Divergence in Industry and Services.- Chapter 5: Growth and Regional Divergence in Agriculture.- Chapter 6: Structural Breaks and Performance in Agriculture.- Chapter 7: Growth and Structural Breaks in Food Grains Production.- Chapter 8: Spatial Efficiency in Regional Food Grain Markets.- Chapter 9: Inclusive Growth, Employment and Rural Poverty.- Chapter 10: Microfinance and Rural Poverty.- Chapter 11: Regional...

Fields of interest
Development Economics; Agricultural Economics; Econometrics; Economic Policy

Target groups
Research

Type of publication
Monograph


Hardcover
2013, XVIII, 223 p. 38 illus. (India Studies in Business and Economics)
99,95 €
Usually dispatched within 3 to 5 business days.
**Management of Alliance Networks**

**Formation, Functionality, and Post Operational Strategies**

Effective management is crucial to the success of the inter-firm cooperation, and may reduce the risk that is inherently associated with these strategies. If cooperative strategy is to be successful, managers must have knowledge of factors that should be taken into consideration during formation and management of alliance networks. Therefore the main goal of this book is an understandable and simple presentation of the complexity involved in the management of alliance networks at three basic stages: formation stage, functioning stage, and post-operational stage. The book consists of six chapters, both theoretical and practical. A new model for management of alliance networks, which... […]

**Features**

Effective management is crucial to the success of the inter-firm cooperation, and may reduce the risk that is inherently associated with these strategies. If cooperative strategy is to be successful, managers must have knowledge of factors that should be taken into consideration during formation and management of alliance networks. Therefore the main goal of this book is an understandable and simple [...]  

**Contents**


**Fields of interest**

Business Strategy/Leadership; Industrial Organization; Organization / Planning; Business Information Systems

**Target groups**

Professional/practitioner

**Type of publication**

Brief

More on www.springer.com/978-3-642-34245-5

**Softcover**

2013. XII, 124 p. 27 illus. (SpringerBriefs in Business) 49,99 €  
ISBN 978-3-642-34245-5  
Usually dispatched within 3 to 5 business days.
### Organization Design for International Construction Business

The book explains how Gravitational Distance and the System of Cities influence transnational construction-related firms when they venture overseas. The study presented in the book internalizes the characteristics of home and foreign cities, and of transnational firms, to develop situational business strategies and organization designs in terms of Strategy, Structure, Systems, Leadership Style, Firm’s Skills, Staff’s characteristics, Shared Values and Supply Chain. The book presents the findings of surveys and interviews with managers and professionals in eight different Asian cities stretching from Singapore to China. The findings are then used to develop business solutions in the...

#### Features

The book explains how Gravitational Distance and the System of Cities influence transnational construction-related firms when they venture overseas. The study presented in the book internalizes the characteristics of home and foreign cities, and of transnational firms, to develop situational business strategies and organization designs in terms of Strategy, Structure, Systems, Leadership Style, Firm’s ...

#### Contents

- Introduction
- Geographical distance and international business
- Firm’s behavior and System of cities
- Internationalization of construction business
- Business strategies and Organization design
- Modeling for Organization design
- Research design and methodology
- Survey findings
- Case studies
- Synthesis for Organization design
- Decision Support System for Organization design
- Conclusion

#### Fields of interest

- Management/Business for Professionals
- Industrial Organization
- Business Strategy/Leadership

#### Target groups

- Professional/practitioner

#### Type of publication

- Monograph

More on www.springer.com/978-3-642-35163-1

#### Hardcover

- 2013, XI, 347 p. 76 illus., 13 in color.
- 129.95 €
- ISBN 978-3-642-35163-1
- Usually dispatched within 3 to 5 business days.

### Performance Benchmarking

**Measuring and Managing Performance**

"In this book, Peter Bogetoft - THE expert on the theory and practice of benchmarking - provides an in-depth yet very accessible and readable explanation of the best way to do benchmarking, starting from the ground up." Rick Antle

William S. Beinecke

"I highly recommend this well-written and comprehensive book on measuring and managing performance. Dr. Bogetoft summarizes the fundamental mathematical concepts in an elegant, intuitive, and understandable way." Jon A. Chilingarian

Professor of Accounting, Brandeis University and INSEAD

"Bogetoft gives in his book Performance Benchmarking an excellent introduction to the..."

#### Features

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William S. Beinecke

"I highly recommend this well-written and comprehensive book on measuring and managing performance. Dr. Bogetoft summarizes the fundamental mathematical concepts in an elegant, intuitive, and understandable way." Jon A. Chilingarian

Professor of Accounting, Brandeis University and INSEAD

"Bogetoft gives in his book Performance Benchmarking an excellent introduction to the..."

#### Contents

- Introduction to Benchmarking
- Performance Measures
- Performance Models
- Performance Analysis – DEA
- Performance Analysis – SFA
- Performance Planning
- Performance Restructuring
- Performance Contracting
- Interactive Benchmarking

#### Fields of interest

- Management/Business for Professionals
- Optimization
- Econometrics

#### Target groups

- Professional/practitioner

#### Type of publication

- Professional book

More on www.springer.com/978-1-4614-6042-8

#### Hardcover

- 2012, XX, 255 p. 87 illus. (Management for Professionals)
- 59.95 €
- Usually dispatched within 3 to 5 business days.

### Proceedings of 2012 3rd International Asia Conference on Industrial Engineering and Management Innovation (IEMI2012)

The purpose of the 2012 3rd International Asia Conference on industrial engineering and management innovation (IEMI2012) is to bring together researchers, engineers and practitioners interested in the application of informatics to industrial engineering and management innovation.

#### Features

The purpose of the 2012 3rd International Asia Conference on Industrial Engineering and Management Innovation (IEMI2012) is to bring together researchers, engineers and practitioners interested in the application of informatics to usher in new advances in the industrial engineering and management fields.

#### Contents

- Core areas of Industrial Engineering
- Assistive Technology of Industrial Engineering
- Management System Innovation or Areas of engineering education

#### Fields of interest

- Business & Economics (general)
- Industrial and Production Engineering
- Technology Management
- Business Information Systems

#### Target groups

- Research

#### Type of publication

- Proceedings

More on www.springer.com/978-3-642-33011-7

#### Softcover

- 2013, XII, 917 p. 275 illus.
- 189.95 €
- ISBN 978-3-642-33011-7

Usually dispatched within 3 to 5 business days.
SAP on the Cloud

This book provides an introduction to the various facets of building and operating an SAP infrastructure exploiting Cloud technologies. It describes and discusses the latest developments and challenges and suitable solutions, and also outlines future trends where possible. To ensure that this book is also useful to readers who do not consider themselves experts in this area, this book explains in detail the backgrounds of the various solutions. Also, practice-oriented case studies are provided throughout the book in order to make the reader aware of essential but perhaps less obvious points. However, the book concentrates exclusively on the set up and operation of the SAP.[...]

Features
This book provides an introduction to the various facets of building and operating an SAP infrastructure exploiting Cloud technologies. It describes and discusses the latest developments and challenges and suitable solutions, and also outlines future trends where possible. To ensure that this book is also useful to readers who do not consider themselves experts in this area, this book explains in detail the [...]
Strategy Deployment in Business Units
Patterns of Operations Strategy Cascading Across Global Sites in a Manufacturing Firm

This book reveals and presents the root-causes that lead to varying improvement performances across different locations of a global positioned manufacturing organization. Conducting a multiple case study analysis of manufacturing sites around the world, the author found that the quality of the strategy deployment process is vital, especially when it is clear to all affected employees—a situation we refer to as strategy cascading. But having a sound strategy cascading alone is not enough. The author worked out that a company, which achieves to align its sound strategy cascading with the company context and leadership style of its top-management team, is likely to realize more.[...]

Features
This book reveals and presents the root-causes that lead to varying improvement performances across different locations of a global positioned manufacturing organization. Conducting a multiple case study analysis of manufacturing sites around the world, the author found that the quality of the strategy deployment process is vital, especially when it is clear to all affected employees—a situation we refer to[...]

Contents

Fields of interest
Business Strategy/Leadership; Organization / Planning; Production / Logistics

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-33620-1

Hardcover
2013, XX, 187 p. 49 illus. (Contributions to Management Science) 99,95 € ISBN 978-3-642-33620-1 Usually dispatched within 3 to 5 business days.

Strategy for Action – II
Strategy Formulation, Development, and Control

The innovative and unique feature of this book is that it does not contain theoretical concept that cannot be translated into practice. This second volume expands the analysis of the strategic decisions, emphasizing the importance of a sustainable competitive advantage, and proposing an integrated conceptual and operational framework (the “Strateco Dashboard”), that complements and significantly improves the recent and well-known Blue Ocean approach to strategy development. Finally, it addresses the measurement of the performance of strategy in terms of value creation, highlighting differences and similarities, as well as strengths and weaknesses, of the main metrics. Furthermore, if[...]

Features
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Contents
1 Introduction to the second volume.- 2 Business strategy: Formulation, development and control.- 3 Corporate strategy: diversification and management of multiple SBUs.- 4 Organization, ownership and collaboration strategies.- 5 Financial performance and sustainability of strategy.

Fields of interest
Business Strategy/Leadership; Business & Management Science; Management/Business for Professionals

Target groups
Graduate

Type of publication
Brief

More on www.springer.com/978-88-470-2474-8

Softcover

Supporting Reuse in Business Case Development

Determining the value of an information system for an organization is challenging, especially before the execution of the project in which the system is put into operation. Many organizations cope with problems when having to identify the potential benefits of the investment, while even more have difficulties with their quantification. An analysis, in which multiple possible investments and approaches are compared with respect to their benefits, costs and risks, is called a ‘business case’ (BC). The current frameworks that can be used to develop BCs offer too little support for the aforementioned challenges. Opportunities to improve BC frameworks, and thereby the efficiency and[...]

Features
Determining the value of an information system for an organization is challenging, especially before the execution of the project in which the system is put into operation. Many organizations find it challenging to identify the potential benefits of the investment, while even more have difficulties with their quantification. An analysis, in which multiple possible investments and approaches are compared[...]

Contents

Fields of interest
Business Information Systems

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-658-01170-3

Softcover
2013, XXXII, 223 p. 54 illus. 46,72 € ISBN 978-3-658-01170-3 Usually dispatched within 3 to 5 business days.
Tax Insight
For Tax Year 2012

Tax Insight: For Tax Year 2012 will teach you to take control of life’s biggest expense—taxes. In your lifetime, you will spend more money on taxes than on anything else. Despite that fact, you likely know the current prices of movies and milk but don’t know what your marginal tax rate is. You know where to get the cheapest gallon of gas to save a buck or two, but you don’t give a thought to the tax strategies you should be using right now that would save you thousands. Why? Is it too complicated and confusing? Too unpleasant? In Tax Insight, tax expert Casey Murdock opens up the world of taxes with amazing clarity and simplicity. As you will discover, you have within reach numerous [...] Features

Fields of interest
Business & Management Science

Target groups
Popular/general

Type of publication
Professional book

More on www.springer.com/978-1-4302-4737-1

Softcover
22.95 €
ISBN 978-1-4302-4737-1

Usually dispatched within 3 to 5 business days.

Tax Strategies for the Small Business Owner
Reduce Your Taxes and Fatten Your Profits

Tax Strategies for the Small Business Owner: Reduce Your Taxes and Fatten Your Profits will help the small business owner increase profits while feeling more comfortable dealing with taxes. It begins by looking at the often overlooked critical decision small business owners face when they start a business: the choice of business entity. The book then examines all the deductions that a business owner can take legally to reduce taxes. It also provides advice business owners need to make good tax-related decisions: Should I lease or buy? Should I hire an employee or outsource the task? How much will buying a building reduce my taxes and for how long? Many people freeze up when they are [...] Features

Fields of interest
Business & Management Science

Target groups
Popular/general

Type of publication
Professional book


Softcover
18.95 €

Usually dispatched within 3 to 5 business days.

Tax Strategies for the Small Business Owner
Reduce Your Taxes and Fatten Your Profits

Tax Strategies for the Small Business Owner: Reduce Your Taxes and Fatten Your Profits will help the small business owner increase profits while feeling more comfortable dealing with taxes. It begins by looking at the often overlooked critical decision small business owners face when they start a business: the choice of business entity. The book then examines all the deductions that a business owner [...] Features

Fields of interest
Business & Management Science

Target groups
Popular/general

Type of publication
Professional book


Softcover
18.95 €

Usually dispatched within 3 to 5 business days.

The Global Financial Crisis
Genesis, Policy Response and Road Ahead

The Financial Crisis, though originating in the US, is global and comparable with the Great Depression of the 1930s. The book takes both micro and macro view of the crisis. It examines the evolution of the global monetary system and looks at the crisis from a systemic angle. It examines the institutional changes in American capitalism and market mechanisms. The dynamics of the market and its cyclical characters are discussed. It examines the structural changes in the US economy. The role of globalization and international funds flow, their changing character and the growing interdependence among nations have been examined. At the micro level, the book discusses the subprime market [...] Features

Contents

Fields of interest
Financial Economics; International Economics; Macroeconomics / Monetary Economics; Economic Policy; Emerging Markets/Globalization; Finance / Banking

Target groups
Professional/practitioner

Type of publication
Professional book

More on www.springer.com/978-81-322-0797-9

Hardcover
2013. XII, 306 p. 33 illus.
59.95 €

Usually dispatched within 3 to 5 business days.
Traders at Work
How the World’s Most Successful Traders Make Their Living in the Markets

Shortly after most novice traders discover how trading works and begin to realize that they have the potential to make unlimited amounts of money in the financial markets, they start dreaming the near-impossible dream. They fantasize about buying that condo in Boca Raton for their parents or surprising their son with a brand-new car on his 16th birthday. They even begin to imagine themselves opening their own trading firm or milling about the pit of the Chicago Mercantile Exchange, lobbying against other professional traders for the perfect entry into a once-in-a-lifetime trade. But then ... they watch the markets lurch in wildly unpredictable ways, lose their shirts in a few live [...] Features
Shortly after most novice traders discover how trading works and begin to realize that they have the potential to make unlimited amounts of money in the financial markets, they start dreaming the near-impossible dream. They fantasize about buying that condo in Boca Raton for their parents or surprising their son with a brand-new car on his 16th birthday. They even begin to imagine themselves opening their [...] Fields of interest
Business & Management Science

Type of publication
Professional book

More on www.springer.com/978-1-4302-4443-1

When to Hire # or Not Hire # a Consultant
Getting Your Money’s Worth from Consulting Relationships

When to Hire # or Not Hire # a Consultant: Getting Your Money’s Worth from Consulting Relationships is a hands-on, practical guide for anyone thinking about hiring a consultant to set strategy, solve problems, increase profits or revenue, develop new products, open new markets, or improve efficiency. Consulting is one of the fastest growing professions in the United States. According to the U.S. government, there were 719,000 consultants in the U.S. in 2010, and you can expect an additional 274,000 by 2020. Cloaked in #expert# status, consultants might seem to be the answer to many business problems. You call someone in to solve a particular problem or develop new markets, then send [...] Features
When to Hire # or Not Hire # a Consultant: Getting Your Money’s Worth from Consulting Relationships is a hands-on, practical guide for anyone thinking about hiring a consultant to set strategy, solve problems, increase profits or revenue, develop new products, open new markets, or improve efficiency. Consulting is one of the fastest growing professions in the United States. According to the U.S. government, there were 719,000 consultants in the U.S. in 2010, and you can expect an additional 274,000 by 2020. Cloaked in #expert# status, consultants might seem to be the answer to many business problems. You call someone in to solve a particular problem or develop new markets, then send [...] Fields of interest
Business & Management Science

Type of publication
Professional book

More on www.springer.com/978-1-4302-4734-0

Advances in Fuzzy Implication Functions
Fuzzy implication functions are one of the main operations in fuzzy logic. They generalize the classical implication, which takes values in the set {0,1}, to fuzzy logic, where the truth values belong to the unit interval [0,1]. These functions are not only fundamental for fuzzy logic systems, fuzzy control, approximate reasoning and expert systems, but they also play a significant role in mathematical fuzzy logic, in fuzzy mathematical morphology and image processing, in defining fuzzy subheathood measures and in solving fuzzy relational equations. This volume collects 8 research papers on fuzzy implication functions. Three articles focus on the construction methods, on different ways [...] Features
Fuzzy implication functions are one of the main operations in fuzzy logic. They generalize the classical implication, which takes values in the set {0,1}, to fuzzy logic, where the truth values belong to the unit interval [0,1]. These functions are not only fundamental for fuzzy logic systems, fuzzy control, approximate reasoning and expert systems, but they also play a significant role in mathematical [...] Contents

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

Type of publication
Monograph

More on www.springer.com/978-3-642-35676-6

58 Engineering

Engineering

L.M. Orr, D. Orr

Getting Your Money’s Worth from Consulting Relationships

Getting Your Money’s Worth from Consulting Relationships is a hands-on, practical guide for anyone thinking about hiring a consultant to set strategy, solve problems, increase profits or revenue, develop new products, open new markets, or improve efficiency. Consulting is one of the fastest growing professions in the United States. According to the U.S. government, there were 719,000 consultants in the U.S. in 2010, and you can expect an additional 274,000 by 2020. Cloaked in #expert# status, consultants might seem to be the answer to many business problems. You call someone in to solve a particular problem or develop new markets, then send [...] Features
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Business & Management Science

Type of publication
Professional book

More on www.springer.com/978-1-4302-4734-0

Consultant
When to Hire—or Not Hire—a Consultant:Getting Your Money’s Worth from Consulting Relationships

When to Hire—or Not Hire—a Consultant: Getting Your Money’s Worth from Consulting Relationships is a hands-on, practical guide for anyone thinking about hiring a consultant to set strategy, solve problems, increase profits or revenue, develop new products, open new markets, or improve efficiency. Consulting is one of the fastest growing professions in the United States. According to the U.S. government, there were 719,000 consultants in the U.S. in 2010, and you can expect an additional 274,000 by 2020. Cloaked in #expert# status, consultants might seem to be the answer to many business problems. You call someone in to solve a particular problem or develop new markets, then send [...] Features
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Business & Management Science

Type of publication
Professional book

More on www.springer.com/978-1-4302-4734-0

M. Baczynski, University of Silesia, Katowice, Poland; G. Beliakov, Deakin University, Burwood, Australia; H. Bustince Sola, Public University of Navarra, Pamplona, Spain; A. Pradera, Universidad Rey Juan Carlos, Madrid, Spain (Eds.)
Aero and Vibroacoustics of Automotive Turbochargers

Aero and Vibroacoustics of Automotive Turbochargers is a topic involving aspects from the working fields of thermodynamics of turbomachinery, aerodynamics, rotordynamics, and noise propagation computation. In this broadly interdisciplinary subject, thermodynamics of turbomachinery is used to design the turbocharger and to determine its operating conditions. Aerodynamics is needed to study the compressor flow dynamics and flow instabilities of rotating stall and surge, which can produce growling and whining-type noises. Rotordynamics is necessary to study rotor unbalance and self-excited oil-whirl instabilities, which lead to whistling and constant tone-type noises in rotating.[…]

Features
Aero and Vibroacoustics of Automotive Turbochargers is a topic involving aspects from the working fields of thermodynamics of turbomachinery, aerodynamics, rotordynamics, and noise propagation computation. In this broadly interdisciplinary subject, thermodynamics of turbomachinery is used to design the turbocharger and to determine its operating conditions. […]

Contents
Introduction to Turbocharging.- Induced Noise Types.- Acoustic Propagation Theory.- Analyzing Root Causes of Noise.- Computational Nonlinear Rotordynamics of Turbochargers.- Subsynchronous Constant Tone.- Eigenfrequency Modifications to Reduce Constant Tone Level.

Fields of interest
Automotive Engineering; Engineering Acoustics; Control, Robotics, Mechatronics; Energy Efficiency (incl. Buildings)

Target groups
Professional/practitioner

Type of publication
Monograph

More on www.springer.com/978-3-642-35069-6

Hardcover
2013. XIII, 142 p. 76 illus., 14 in color. 99,95 €
ISBN 978-3-642-35069-6
Usually dispatched within 3 to 5 business days.

Analog IC Reliability in Nanometer CMOS

This book focuses on modeling, simulation and analysis of analog circuit aging. First, all important nanometer CMOS physical effects resulting in circuit unreliability are reviewed. Then, transistor aging compact models for circuit simulation are discussed and several methods for efficient circuit reliability simulation are explained and compared. Ultimately, the impact of transistor aging on analog circuits is studied. Aging resilient and aging-immune circuits are identified and the impact of technology scaling is discussed. The models and simulation techniques described in the book are intended as an aid for device engineers, circuit designers and the EDA community to understand and[…]

Features
This book focuses on modeling, simulation and analysis of analog circuit aging. First, all important nanometer CMOS physical effects resulting in circuit unreliability are reviewed. Then, transistor aging compact models for circuit simulation are discussed and several methods for efficient circuit reliability simulation are explained and compared. Ultimately, the impact of transistor aging on analog […]

Contents

Fields of interest
Circuits and Systems; Electronics and Microelectronics; Instrumentation; Nanotechnology and Microengineering

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-1-4614-6162-3

Hardcover
2013. XVI, 198 p. 95 illus., 27 in color. (Analog Circuits and Signal Processing) 169,95 €
Usually dispatched within 3 to 5 business days.


Alternative Solutions - Innovative Tools - Practical Examples

The author gives a comprehensive overview of materials and components for noise control and acoustical comfort. Sound absorbers must meet acoustical and architectural requirements, which fibrous or porous material alone can meet. Basics and applications are demonstrated, with representative examples for spatial acoustics, free-field test facilities and canal linings. Acoustic engineers and construction professionals will find some new basic concepts and tools for developments in order to improve acoustical comfort. Interference absorbers, active resonators and micro-perforated absorbers of different materials and designs complete the list of applications.

Features
The author gives a comprehensive overview of materials and components for noise control and acoustical comfort. Sound absorbers must meet acoustical and architectural requirements, which fibrous or porous material alone can meet. Basics and applications are demonstrated, with representative examples for spatial acoustics, free-field test facilities and canal linings. Acoustic engineers and construction […]

Contents

Fields of interest
Engineering Acoustics; Acoustics; Noise Control; Structural Materials; Civil Engineering; Electrical Engineering

Target groups
Professional/practitioner

Type of publication
Professional book

More on www.springer.com/978-3-642-29366-5

Hardcover
2013. XXV, 593 p. 486 illus., 124 in color. 169,95 €
ISBN 978-3-642-29366-5
Online orders shipping within 2-3 days.
Behavioral Issues in Operations Management

New Trends in Design, Management, and Methodologies

Behavioral Operations Management has been identified in the last years as one of the most promising emerging fields in Operations Management. Behavioral Issues in Operations Management explains and examines up-to-date research in this field, which works to analyze the impact of human behavior on the management of complex operating systems. A collection of studies from leading scholars presents different methodologies and approaches, supported by real data and case studies. Issues such as building trust and strong cooperative relationships with suppliers, enhancing motivation and designing proper incentives for stimulating more effective decision maker behaviours are considered. [...] Features

Behavioral Operations Management has been identified in the last years as one of the most promising emerging fields in Operations Management. Behavioral Issues in Operations Management explains and examines up-to-date research in this field, which works to analyze the impact of human behavior on the management of complex operating systems. A collection of studies from leading scholars [...] Contents


Engineering Economics, Organization, Logistics, Marketing; Industrial and organisational psychology; Operation Research / Decision Theory

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-1-4471-4877-7

Hardcover

2013. XII, 239 p. 21 illus.

99,95 €


Usually dispatched within 3 to 5 business days.

Biomechanics of Cells and Tissues

Experiments, Models and Simulations

The application of methodological approaches and mathematical formalisms proper to Physics and Engineering to investigate and describe biological processes and design biological structures has led to the development of many disciplines in the context of computational biology and biotechnology. The best known applicable domain is tissue engineering and its branches. Recent domains of interest are in the field of biophysics, e.g.: multiscale mechanics of biological membranes and films and filaments; multiscale mechanics of adhesion; biomolecular motors and force generation. Modern hypotheses, models, and tools are currently emerging and resulting from the convergence of the methods and [...] Features

The application of methodological approaches and mathematical formalisms proper to Physics and Engineering to investigate and describe biological processes and design biological structures has led to the development of many disciplines in the context of computational biology and biotechnology. The best known applicable domain is tissue engineering and its branches. Recent domains of interest are in the [...] Contents


Biomedical Engineering; Biophysics and Biological Physics; Computational Biology / Bioinformatics; Biotechnology: Analysis

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-5889-6

Hardcover

2013. XIII, 168 p. 36 illus., 37 in color. (Lecture Notes in Computational Vision and Biomechanics, Vol. 9)

99,95 €

ISBN 978-94-007-5889-6

Usually dispatched within 3 to 5 business days.

Continuum Mechanics of Anisotropic Materials

Continuum Mechanics of Anisotropic Materials (CMAM) presents an entirely new and unique development of material anisotropy in the context of an appropriate selection and organization of continuum mechanics topics. These features will distinguish this continuum mechanics book from other books on this subject. Textbooks on continuum mechanics are widely employed in engineering education, however, none of them deal specifically with anisotropy in materials. For the audience of Biomedical, Chemical and Civil Engineering students, these materials will be dealt with more frequently and greater accuracy in their analysis will be desired. Continuum Mechanics of Anisotropic Materials' author [...] Features

Continuum Mechanics of Anisotropic Materials (CMAM) presents an entirely new and unique development of material anisotropy in the context of an appropriate selection and organization of continuum mechanics topics. These features will distinguish this continuum mechanics book from other books on this subject. Textbooks on continuum mechanics are widely employed in engineering education, however, none of them [...] Contents


Biomedical Engineering; Biophysics and Biological Physics; Mechanics; Biomaterials; Classical Continuum Physics

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook


Hardcover

2013. XIII, 425 p. 72 illus., 7 in color.

89,95 €


Online orders shipping within 2-3 days.
Converter Applications and their Influence on Large Electrical Machines

Converter driven applications are applied in more and more processes. Almost any installed wind-farm, ship drives, steel mills, several boiler feed water pumps, extruder and many other applications operate much more efficient and economic in case of variable speed solutions. The boundary conditions for a motor or generator will change, if it is supplied by a converter. An electrical machine, which is operated by a converter, can no longer be regarded as an independent component, but is embedded in a system consisting of converter and machine. This book gives an overview of existing converter designs for large electrical machines. Methods for the appropriate calculation of machine [...]

Features
Converter driven applications are applied in more and more processes. Almost any installed wind-farm, ship drives, steel mills, several boiler feed water pumps, extruder and many other applications operate much more efficient and economic in case of variable speed solutions. The boundary conditions for a motor or generator will change, if it is supplied by a converter. An electrical machine, which is [...]
**Elementary Continuum Mechanics for Everyone**

With Applications to Structural Mechanics

The book opens with a derivation of kinematically nonlinear 3-D continuum mechanics for solids. Then the principle of virtual work is utilized to derive the simpler, kinematically linear 3-D theory and to provide the foundation for developing consistent theories of kinematic nonlinearity and linearity for specialized continua, such as beams and plates, and finite element methods for these structures. A formulation in terms of the versatile Budiansky-Hutchinson notation is used as basis for the theories for these structures and structural elements, as well as for an in-depth treatment of structural instability.

**Features**
The book opens with a derivation of kinematically nonlinear 3-D continuum mechanics for solids. Then the principle of virtual work is utilized to derive the simpler, kinematically linear 3-D theory and to provide the foundation for developing consistent theories of kinematic nonlinearity and linearity for specialized continua, such as beams and plates, and finite element methods for these structures. [...] 

**Contents**

**Fields of interest**
Continuum Mechanics and Mechanics of Materials; Mechanical Engineering; Appl. Mathematics / Computational Methods of Engineering

**Target groups**
Research

**Type of publication**
Monograph

More on [www.springer.com/978-94-007-5765-3](http://www.springer.com/978-94-007-5765-3)

**Hardcover**

**Usually dispatched within 3 to 5 business days.**

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**Finite State Machine Logic Synthesis for Complex Programmable Logic Devices**

This book is a monograph devoted to logic synthesis and optimization for CPLDs. CPLDs' macrocell can also be interpreted as programmable AND-fixed OR structure, well known as PAL-based structure. The question is: what should be done when the number of implicants representing function exceeds the number of product terms available in a logic block. The answer is ... in the book. Logic synthesis and optimization methods dedicated for PAL-based structures are proposed. The methods strive to find the optimum fit for the combinational logic and finite state machines to the structure of the logic device and aim at area and speed optimization. The theoretical background and complete strategies[...]

**Features**
This book is a monograph devoted to logic synthesis and optimization for CPLDs. CPLDs' macrocell can also be interpreted as programmable AND-fixed OR structure, well known as PAL-based structure. The question is: what should be done when the number of implicants representing function exceeds the number of product terms available in a logic block. The answer is ... in the book. Logic synthesis and [...] 

**Contents**

**Fields of interest**
Circuits and Systems; Logic Design; Engineering Design

**Target groups**
Research

**Type of publication**
Monograph

More on [www.springer.com/978-3-642-36165-4](http://www.springer.com/978-3-642-36165-4)

**Hardcover**

**Usually dispatched within 3 to 5 business days.**
R.A. Alev, Joint Business Administration Program, Baku, Azerbaijan

**Fundamentals of the Fuzzy Logic-Based Generalized Theory of Decisions**

Every day decision making and decision making in complex human-centric systems are characterized by imperfect decision-relevant information. Main drawback of the existing decision theories is namely incapability to deal with imperfect information and modeling vague preferences. Actually, a paradigm of non-numerical probabilities in decision making has a long history and arose also in Keynes’s analysis of uncertainty. There is a need for further generalization – a move to decision theories with perception-based imperfect information described in NL. The languages of new decision models for human-centric systems should be not languages based on binary logic but human-centric.[…]

**Contents**


**Fields of interest**

Computational Intelligence; Game Theory / Mathematical Methods; Game Theory, Economics, Social and Behav. Sciences

**Target groups**

Research

**Type of publication**

Monograph

More on www.springer.com/978-3-642-34894-5

**Hardcover**

2013. XII, 320 p. 63 illus. (Studies in Fuzziness and Soft Computing, Vol. 293)

129,95 €

ISBN 978-3-642-34894-5

Usually dispatched within 3 to 5 business days.

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H. Czichos, Beuth Hochschule für Technik, Berlin, Germany (Ed.)

**Handbook of Technical Diagnostics**

Fundamentals and Application to Structures and Systems

This book presents concepts, methods and techniques to examine symptoms of faults and failures of structures, systems and components and to monitor functional performance and structural integrity. The book is organized in five parts. Part A introduces the scope and application of technical diagnostics and gives a comprehensive overview of the physics of failure. Part B presents all relevant methods and techniques for diagnostics and monitoring: from stress, strain, vibration analysis, nondestructive evaluation, thermography and industrial radiology to computed tomography and subsurface microstructural analysis. Part C cores the principles and concepts of technical failure analysis.[…]

**Features**

This book presents concepts, methods and techniques to examine symptoms of faults and failures of structures, systems and components and to monitor functional performance and structural integrity. The book is organized in five parts. Part A introduces the scope and application of technical diagnostics and gives a comprehensive overview of the physics of failure. Part B presents all relevant methods and […]

**Contents**


**Fields of interest**

Quality Control, Reliability, Safety and Risk; Safety in Chemistry / Dangerous Goods; Characterization and Evaluation of Materials; Structural Materials; Technology Management; Structural Mechanics

**Target groups**

Research

**Type of publication**

Handbook

More on www.springer.com/978-3-642-25849-7

**Hardcover**

2013. IX, 568 p. 463 illus., 353 in color.

249,00 €

ISBN 978-3-642-25849-7

Temporarily unavailable, ready for shipping 4-6 weeks.

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S.-I. Ao, IAENG Secretariat, Hong Kong, China (Ed.)

**IAENG Transactions on Engineering Technologies Volume 6 - Special Edition of the World Congress on Engineering and Computer Science 2010**

This volume contains twenty-two revised and extended research articles written by prominent researchers participating in the World Congress on Engineering and Computer Science (WCES 2009). The book offers the state of art of tremendous advances in engineering technologies and also serves as an excellent reference work for researchers and graduate students working with/on engineering technologies.

**Features**

This volume contains twenty-two revised and extended research articles written by prominent researchers participating in the World Congress on Engineering and Computer Science (WCES 2009). The book offers the state of art of tremendous advances in engineering technologies and also serves as an excellent reference work for researchers and graduate students working with/on engineering technologies.

**Fields of interest**

Electrical Engineering; Physical Chemistry; Quantum Computing; Mathematical Methods in Physics; Fluid- and Aerodynamics; Industrial Chemistry / Chemical Engineering

**Target groups**

Research

**Type of publication**

Proceedings

More on www.springer.com/978-0-7354-0933-0

**Softcover**


129,95 €

ISBN 978-0-7354-0933-0

Online orders shipping within 2-3 days.
ICoRD’13

Global Product Development

This book showcases over 100 cutting-edge research papers from the 4th International Conference on Research into Design (ICoRD’13) – the largest in India in this area – written by eminent researchers from over 20 countries, on the design process, methods and tools, for supporting global product development (GPD). The special features of the book are the variety of insights into the GPD process, and the host of methods and tools at the cutting edge of all major areas of design research for its support. The main benefit of this book for researchers in engineering design and GPD are access to the latest quality research in this area; for practitioners and educators, it is exposure to an[...]

Features

This book showcases over 100 cutting-edge research papers from the 4th International Conference on Research into Design (ICoRD’13) – the largest in India in this area – written by eminent researchers from over 20 countries, on the design process, methods and tools, for supporting global product development (GPD). The special features of the book are the variety of insights into the GPD process, and the host of [...]

Contents

Preface – Conference Organizing Committee – Table of Contents – Papers – Author Index – References – Index

Fields of interest

Engineering Design; Computer-Aided Engineering (CAD, CAE) and Design, Technology Management; Environmental Management

Target groups

Research

Type of publication

Proceedings

More on www.springer.com/978-81-322-1049-8

Hardcover

2013. XXIV, 1448 p. 689 illus. (Lecture Notes in Mechanical Engineering) 299.00 € ISBN 978-81-322-1049-8 Usually dispatched within 3 to 5 business days.

IUTAM Symposium on Nonlinear Dynamics for Advanced Technologies and Engineering Design


Nonlinear dynamics has been enjoying a vast development for nearly four decades resulting in a range of well established theory, with the potential to significantly enhance performance, effectiveness, reliability and safety of physical systems as well as offering novel technologies and designs. By critically appraising the state-of-the-art, it is now time to develop design criteria and technology for new generation products/processes operating on principles of nonlinear interaction and in the nonlinear regime, leading to more effective, sensitive, accurate, and durable methods than what is currently available. This new approach is expected to radically influence the design, control[...]

Features

Nonlinear dynamics has been enjoying a vast development for nearly four decades resulting in a range of well established theory, with the potential to significantly enhance performance, effectiveness, reliability and safety of physical systems as well as offering novel technologies and designs. By critically appraising the state-of-the-art, it is now time to develop design criteria and technology for new [...]
Introduction to Risk and Uncertainty in Hydrosystem Engineering

Water engineers require knowledge of stochastic, frequency concepts, uncertainty analysis, risk assessment, and the processes that predict unexpected events. This book presents the basics of stochastic, risk and uncertainty analysis, and random sampling techniques in conjunction with straightforward examples which are solved step by step. In addition, appropriate Excel functions are included as an alternative to solve the examples, and two real case studies are presented in the last chapters of the book.

Features
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Contents

Fields of interest
Geoscience, Foundations, Hydraulics; Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences; Quality Control, Reliability, Safety and Risk

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-94-007-5850-6

Hardcover
2013. XII, 157 p., 54 illus., in color. (Topics in Safety, Risk, Reliability and Quality, Vol. 22)
99,95 €
ISBN 978-94-007-5850-6
Usually dispatched within 3 to 5 business days.

Media Access Control and Resource Allocation

For Next Generation Passive Optical Networks

This book focuses on various Passive optical networks (PONs) types, including currently deployed Ethernet PON (EPON) and Gigabit PON (GPON) as well as next generation WDM PON and OFDM PON. Also this book examines the integrated optical and wireless access networks. Concentrating on two issues in these networks: media access control (MAC) and resource allocation. These two problems can greatly affect performances of PONs such as network resource utilization and QoS of end users. Finally this book will discuss various solutions to address the MAC and resource allocation issues in various PON networks.

Features
This book focuses on various Passive optical network (PONs) types, including currently deployed Ethernet PON (EPON) and Gigabit PON (GPON) as well as next generation WDM PON and OFDM PON. Also this book examines the integrated optical and wireless access networks. Concentrating on two issues in these networks: media access control (MAC) and resource allocation. These two problems can greatly affect [...]
Model-Based Fault Diagnosis Techniques

Guaranteeing a high system performance over a wide operating range is an important issue surrounding the design of automatic control systems with successively increasing complexity. As a key technology in the search for a solution, advanced fault detection and identification (FDI) is receiving considerable attention. This book introduces basic model-based FDI schemes, advanced analysis and design algorithms, and mathematical and control-theoretic tools. This second edition of Model-Based Fault Diagnosis Techniques contains: new material on fault isolation and identification and alarm management; extended and revised treatment of systematic threshold determination for systems with[...]

Features
Guaranteeing a high system performance over a wide operating range is an important issue surrounding the design of automatic control systems with successively increasing complexity. As a key technology in the search for a solution, advanced fault detection and identification (FDI) is receiving considerable attention. This book introduces basic model-based FDI schemes, advanced analysis and design.[...]

Contents

Fields of interest
Control; Industrial Chemistry / Chemical Engineering; Power Electronics, Electrical Machines and Networks; Quality Control, Reliability, Safety and Risk

Target groups
Research

Type of publication
Monograph


Hardcover
2013. XX, 501 p. 61 illus., 24 in color. (Advances in Industrial Control)
Usually dispatched within 3 to 5 business days.

MotionCast for Mobile Wireless Networks

MotionCast for Mobile Wireless Networks provides an overview on the research for mobile ad-hoc networks regarding capacity and connectivity. Wireless ad-hoc networks are useful when there is a lack of infrastructure for communication. The proposed notion "MotionCast" is for the capacity analysis of multicast in MANET. A new kind of connectivity (km)-connectivity, is also defined, and its critical[...]

Features
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Contents
MotionCast: Delay and Capacity Tradeoff Analysis.- MotionCast: General Connectivity in Clustered Wireless Networks.- MotionCast: A Survey on the Capacity Scaling of Wireless Networks.

Fields of interest
Communications Engineering, Networks; Computer Communication Networks; Power Electronics, Electrical Machines and Networks; Computer Systems Organization and Communication Networks

Target groups
Research

Type of publication
Brief

More on www.springer.com/978-1-4614-5634-6

Softcover
2013. XIII, 98 p. 18 illus. (SpringerBriefs in Electrical and Computer Engineering)
Usually dispatched within 3 to 5 business days.

Multibody System Dynamics, Robotics and Control

The volume contains 19 contributions by international experts in the field of multibody system dynamics, robotics and control. The book aims to bridge the gap between the modeling of mechanical systems by means of multibody dynamics formulations and robotics. In the classical approach, a multibody dynamics model contains a very high level of detail, however, the application of such models to robotics or control is usually limited. The papers aim to connect the different scientific communities in multibody dynamics, robotics and control. Main topics are flexible multibody systems, humanoid robots, elastic robots, nonlinear control, optimal path planning, and identification.

Features
The volume contains 19 contributions by international experts in the field of multibody system dynamics, robotics and control. The book aims to bridge the gap between the modeling of mechanical systems by means of multibody dynamics formulations and robotics. In the classical approach, a multibody dynamics model contains a very high level of detail, however, the application of such models to robotics or[...]

Contents
Time-optimal path planning along specified trajectories.- Efficient online computation of smooth trajectories along geometric paths for robotic manipulators.- Constraint and dynamic analysis of compliant mechanisms with a flexible multibody modelling approach.- Sensor data fusion for the localization and position control of one kind of omnidirectional mobile robots.- Modelling and control of infinite-dimensional mechanical systems: a port-Hamiltonian approach.- Passivity-based tracking control of a flexible link robot.- Norm-optimal iterative learning control for a pneumatic[...]

Fields of interest
Vibration, Dynamical Systems, Control; Control , Robotics, Mechatronics

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-3-7091-1288-5

Hardcover
189,95 € ISBN 978-3-7091-1288-5
Usually dispatched within 3 to 5 business days.
Multimodal Interaction in Image and Video Applications

Traditional Pattern Recognition (PR) and Computer Vision (CV) technologies have mainly focused on full automation, even though full automation often proves elusive or unnatural in many applications, where the technology is expected to assist rather than replace the human agents. However, not all the problems can be automatically solved being the human interaction the only way to tackle those applications. Recently, multimodal human interaction has become an important field of increasing interest in the research community. Advanced man-machine interfaces with high cognitive capabilities are a hot research topic that aims at solving challenging problems in image and video applications.[…]

Contents

Features
Traditional Pattern Recognition (PR) and Computer Vision (CV) technologies have mainly focused on full automation, even though full automation often proves elusive or unnatural in many applications, where the technology is expected to assist rather than replace the human agents. However, not all the problems can be automatically solved being the human interaction the only way to tackle those applications. […]

Nanoimprint Lithography: An Enabling Process for Nanofabrication

Nanoimprint Lithography: An enabling process for nanofabrication presents a comprehensive description of nanotechnology that is one of the most promising low-cost, high-throughput technologies for manufacturing nanostructures, and an emerging lithography candidates for 22, 16 and 11 nm nodes. It provides the exciting, multidisciplinary field, offering a wide range of topics covering: principles, process, material and application. This book would be of specific interest for researchers and graduate students in the field of nanoscience, nanotechnology and nanofabrication, material, physical, chemical, electric engineering and biology. Dr. Weimin Zhou is an associate professor at[…]

Contents

Fields of interest
Nanotechnology and Microengineering; Optical and Electronic Materials; Nanotechnology; Nanochemistry

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-34427-5

Hardcover
2013, XII, 256 p. 225 illus., 107 in color.
99,95 €
ISBN 978-3-642-34427-5

Usually dispatched within 3 to 5 business days.

Nanorobotics

Current Approaches and Techniques

Nanorobots can be defined as intelligent systems with overall dimensions at or below the micrometer range that are made of assemblies of nanoscale components with individual dimensions ranging between 1 to 100 nm. These devices can now perform a wide variety of tasks at the nanoscale in a wide variety of fields including but not limited to fields such as manufacturing, medicine, supply chain, biology, and aerospace. Nanorobotics: Current Approaches and Techniques offers a comprehensive overview of this emerging interdisciplinary field with a wide ranging discussion that includes nano-manipulation and industrial nanorobotics, nanorobotic manipulation in biology and medicine.[…]

Contents

Fields of interest
Control, Robotics, Mechatronics; Nanotechnology and Microengineering; Biomedical Engineering; Biomaterials

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-1-4614-2118-4

Hardcover
2013, XIV, 467 p. 276 illus.
129,95 €
ISBN 978-1-4614-2118-4

Usually dispatched within 3 to 5 business days.
Neural Engineering

Neural Engineering, 2nd Edition, contains reviews and discussions of contemporary and relevant topics by leading investigators in the field. It is intended to serve as a textbook at the graduate and advanced undergraduate level in a bioengineering curriculum. This principles and applications approach to neural engineering is essential reading for all academics, biomedical engineers, neuroscientists, neurophysiologists, and industry professionals wishing to take advantage of the latest and greatest in this emerging field.

Features

Neural Engineering, 2nd Edition, contains reviews and discussions of contemporary and relevant topics by leading investigators in the field. It is intended to serve as a textbook at the graduate and advanced undergraduate level in a bioengineering curriculum. This principles and applications approach to neural engineering is essential reading for all academics, biomedical engineers, neuroscientists, [...]
Online orders shipping within 2-3 days.

Nonlinear Structural Mechanics
Theory, Dynamical Phenomena and Modeling

Nonlinear Structural Mechanics: Theory, Dynamical Phenomena and Modeling offers a concise, coherent presentation of the theoretical framework of nonlinear mechanics, computational methods, applications, parametric investigations of nonlinear phenomena and their mechanical interpretation towards design. The theoretical and computational tools that enable the formulation, solution, and interpretation of nonlinear structures are presented in a systematic fashion so as to gradually attain an increasing level of complexity of structural behaviors, under the prevailing assumptions on the geometry of deformation, the constitutive aspects and the loading scenarios. Readers will find a unified [...] Features
Nonlinear Structural Mechanics: Theory, Dynamical Phenomena and Modeling offers a concise, coherent presentation of the theoretical framework of nonlinear structural mechanics, computational methods, applications, parametric investigations of nonlinear phenomena and their mechanical interpretation towards design. The theoretical and computational tools that enable the formulation, solution, and [...] Contents

Fields of interest
Structural Mechanics; Statistical Physics; Dynamical Systems and Complexity; Civil Engineering; Computational Intelligence; Computational Science and Engineering

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-1-4419-1275-6

Hardcover
2013. XVI, 802 p. 290 illus., 3 in color.
199,95 €
ISBN 978-1-4419-1275-6

Online orders shipping within 2-3 days.

R. Seising, European Centre for Soft Computing, Mieres, Spain; E. Trillas, European Centre for Soft Computing, Mieres, Spain; C. Moraga, European Centre for Soft Computing, Mieres, Spain; S. Termini, University of Palermo, Italy (Eds.)

On Fuzziness
A Homage to Lotfi A. Zadeh – Volume 1

The notion of Fuzziness stands as one of the really new concepts that have recently enriched the world of Science. Science grows not only through technical and formal advances on one side and useful applications on the other side, but also as consequence of the introduction and assimilation of new concepts in its corpus. These, in turn, produce new developments and applications. And this is what Fuzziness, one of the few new concepts arisen in the XX Century, has been doing so far. This book aims at paying homage to Professor Lotfi A. Zadeh, the "father of fuzzy logic" and also at giving credit to his exceptional work and personality. In a way, this is reflected in the variety of [...] Features
The notion of Fuzziness stands as one of the really new concepts that have recently enriched the world of Science. Science grows not only through technical and formal advances on one side and useful applications on the other side, but also as consequence of the introduction and assimilation of new concepts in its corpus. These, in turn, produce new developments and applications. And this is what Fuzziness, [...] Contents
On Fuzziness: A – Ma.

Fields of interest
Computational Intelligence; Mathematical Logic and Formal Languages

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-35640-7

Hardcover
2013. XII, 466 p. 117 illus. (Studies in Fuzziness and Soft Computing, Vol. 298)
129,95 €
ISBN 978-3-642-35640-7

Usually dispatched within 3 to 5 business days.

H. Su, Huazhong University of Science and Technology, Wuhan, China; X. Wang, Shanghai Jiao Tong University, China

Pinning Control of Complex Networked Systems
Synchronization, Consensus and Flocking of Networked Systems via Pinning

Synchronization, consensus and flocking are ubiquitous requirements in networked systems. Pinning Control of Complex Networked Systems investigates these requirements by using the pinning control strategy, which aims to control the whole dynamical network with huge numbers of nodes by imposing controllers for only a fraction of the nodes. As the direct control of every node in a dynamical network with huge numbers of nodes might be impossible or unnecessary, it’s then very important to use the pinning control strategy for the synchronization of complex dynamical networks. The research on pinning control strategy in consensus and flocking of multi-agent systems can not only help us to[...]

Features
Synchronization, consensus and flocking are ubiquitous requirements in networked systems. Pinning Control of Complex Networked Systems investigates these requirements by using the pinning control strategy, which aims to control the whole dynamical network with huge numbers of nodes by imposing controllers for only a fraction of the nodes. As the direct control of every node in a dynamical [...] Contents
Overview - Pinning control for complete synchronization of complex dynamical networks. - Pinning control for cluster synchronization of complex dynamical networks. - Distributed pinning-controlled second-order consensus of multi-agent systems. - Distributed pinning-controlled consensus in a heterogeneous influence network. - Distributed pinning-controlled flocking with a virtual leader. - Distributed pinning-controlled flocking with preserved network connectivity.

Fields of interest
Control; Systems Theory; Control; Artificial Intelligence (incl. Robotics); Robotics and Automation; Communications Engineering, Networks

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-34577-7

Hardcover
2013. XI, 163 p. 57 illus.
129,95 €
ISBN 978-3-642-34577-7

Usually dispatched within 3 to 5 business days.
Pretreatment Techniques for Biofuels and Biorefineries

This book includes 19 chapters contributed by the world’s leading experts on pretreatment methods for biomass. It extensively covers the different types of biomass (e.g., molasses, sugar beet pulp, cheese whey, sugarcane residues, palm waste, vegetable oil, straws, stalks and wood), various pretreatment approaches (e.g., physical, thermal, chemical, physicochemical and biological) and methods that show the subsequent production of biofuels and chemicals such as sugars, ethanol, extracellular poly saccharides, biodiesel, gas and oil. In addition to traditional methods such as steam, hot-water, hydrothermal, diluted-acid, organosolv, ozonolysis, sulfite, milling, fungal and bacterial. [...] Features This book includes 19 chapters contributed by the world’s leading experts on pretreatment methods for biomass. It extensively covers the different types of biomass (e.g., molasses, sugar beet pulp, cheese whey, sugarcane residues, palm waste, vegetable oil, straws, stalks and wood), various pretreatment approaches (e.g., physical, thermal, chemical, physicochemical and biological) and methods that show the [...] Contents Biopretreatment. - Thermal Pretreatment. - Chemical Pretreatment. - Physicochemical Pretreatment. - Gasification, Liquefaction and Biogas. - Novel Pretreatment Techniques. - Pretreatment of Different Types of Biomass. Fields of interest Renewable and Green Energy; Industrial Chemistry / Chemical Engineering; Renewable and Green Energy; Biotechnology Target groups Professional/practitioner Type of publication Professional book More on www.springer.com/978-3-642-32734-6 Hardcover 2013. XIX, 457 p. 99 illus., 41 in color. (Green Energy and Technology) 169,95 € ISBN 978-3-642-32734-6 Usually dispatched within 3 to 5 business days.

Proceedings of the 2nd International Conference on Green Communications and Networks 2012 (GCN 2012): Volume 3

The objective of the 2nd International Conference on Green Communications and Networks 2012 (GCN 2012) is to facilitate an exchange of information on best practices for the latest research advances in the area of communications, networks and intelligence applications. These mainly involve computer science and engineering, informatics, communications and control, electrical engineering, information computing, and business intelligence and management. Proceedings of the 2nd International Conference on Green Communications and Networks 2012 (GCN 2012) will focus on green information technology and applications, which will provide in-depth insights for engineers and scientists in [...] Features The objective of the 2nd International Conference on Green Communications and Networks 2012 (GCN 2012) is to facilitate an exchange of information on best practices for the latest research advances in the area of communications, networks and intelligence applications. These mainly involve computer science and engineering, informatics, communications and control, electrical engineering, information [...] Contents Intelligent Control. - Efficient Management. - Optimal Design of Access Network Infrastructures. - Home Networks. - Terminal Equipment. Fields of interest Communications Engineering, Networks; Renewable and Green Energy; Environmental Engineering / Biotechnology; Information Systems and Communication Service Target groups Research Type of publication Proceedings More on www.springer.com/978-3-642-35469-4 Hardcover 2013. XX, 793 p. 156 illus. (Lecture Notes in Electrical Engineering, Vol. 225) 199,95 € ISBN 978-3-642-35469-4 Usually dispatched within 3 to 5 business days.

Proceedings of the Fourth International Conference on Signal and Image Processing 2012 (ICSIP 2012)

The proceedings includes cutting-edge research articles from the Fourth International Conference on Signal and Image Processing (ICSIP), which is organised by Dr. N.G.P. Institute of Technology, Kalapatti, Coimbatore. The Conference provides academia and industry to discuss and present the latest technological advances and research results in the fields of theoretical, experimental, and application of signal, image and video processing. The book provides latest and most informative content from engineers and scientists in signal, image and video processing from around the world, which will benefit the future research community to work in a more cohesive and collaborative way. Features The proceedings includes cutting-edge research articles from the Fourth International Conference on Signal and Image Processing (ICSIP), which is organised by Dr. N.G.P. Institute of Technology, Kalapatti, Coimbatore. The Conference provides academia and industry to discuss and present the latest technological advances and research results in the fields of theoretical, experimental, and application of signal. [...] Contents Preface. - Table of Contents. - About the Editors. - About ICSIP 2012: Conference Details, Organizing Committee. - Papers. - Author Index. Fields of interest Signal, Image and Speech Processing; Computer Imaging, Vision, Pattern Recognition and Graphics; Document Preparation and Text Processing Target groups Research Type of publication Proceedings More on www.springer.com/978-81-322-0996-6 Hardcover 2013. XVI, 641 p. 302 illus. (Lecture Notes in Electrical Engineering, Vol. 221) 129,95 € ISBN 978-81-322-0996-6 Usually dispatched within 3 to 5 business days.
Proceedings of the Fourth International Conference on Signal and Image Processing 2012 (ICSIP 2012)

Volume 2

The proceedings includes cutting-edge research articles from the Fourth International Conference on Signal and Image Processing (ICSIP), which is organised by Dr. N.G.P. Institute of Technology, Kalapatti, Coimbatore. The Conference provides academia and industry to discuss and present the latest technological advances and research results in the fields of theoretical, experimental, and application of signal, image and video processing. The book provides latest and most informative content from engineers and scientists in signal, image and video processing from around the world, which will benefit the future research community to work in a more cohesive and collaborative way.

Features

The proceedings includes cutting-edge research articles from the Fourth International Conference on Signal and Image Processing (ICSIP), which is organised by Dr. N.G.P. Institute of Technology, Kalapatti, Coimbatore. The Conference provides academia and industry to discuss and present the latest technological advances and research results in the fields of theoretical, experimental, and application of signal, image and video processing from around the world, which will benefit the future research community to work in a more cohesive and collaborative way.

Contents

Preface. - Table of Contents. - About the Editors. - About ICSIP 2012: Conference Details, Organizing Committee. - Papers. - Author Index.

Fields of interest

Signal, Image and Speech Processing; Computer Imaging, Vision, Pattern Recognition and Graphics; Document Preparation and Text Processing

Target groups

Research

Type of publication

Proceedings

More on www.springer.com/978-81-322-0999-7

Hardcover

2013, XI, 479 p. 318 illus. (Lecture Notes in Electrical Engineering, Vol. 222)

129,95 €

ISBN 978-81-322-0999-7

Usually dispatched within 3 to 5 business days.

Radial Basis Function (RBF) Neural Network Control for Mechanical Systems

Design, Analysis and Matlab Simulation

Radial Basis Function (RBF) Neural Network Control for Mechanical Systems is motivated by the need for systematic design approaches to stable adaptive control system design using neural network approximation-based techniques. The main objectives of the book are to introduce the concrete design methods and MATLAB simulation of stable adaptive RBF neural control strategies. This book, a broad range of implementable neural network control design methods for mechanical systems are presented, such as robot manipulators, inverted pendulums, single-link flexible joint robots, motors, etc. Advanced neural network controller design methods and their stability analysis are explored. The book[...]

Features

Radial Basis Function (RBF) Neural Network Control for Mechanical Systems is motivated by the need for systematic design approaches to stable adaptive control system design using neural network approximation-based techniques. The main objectives of the book are to introduce the concrete design methods and MATLAB simulation of stable adaptive RBF neural[...]

Contents

Introduction.- RBF Neural Network Design and Simulation.- RBF Neural Network Control Based on Gradient Descent Algorithm.- Adaptive RBF Neural Network Control.- Neural Network Sliding Mode Control.- Adaptive RBF Control Based on Global Approximation.- Adaptive Robust RBF Control Based on Local Approximation.- Backstepping Control with RBF.- Digital RBF Neural Network Control.- Discrete Neural Network Control.- Adaptive RBF Observer Design and Sliding Mode Control.

Fields of interest

Control; Vibration, Dynamical Systems, Control; Computational Intelligence; Mathematical Models of Cognitive Processes and Neural Networks

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-34815-0

Hardcover

2013, XV, 365 p. 170 illus., 2 in color.

129,95 €

ISBN 978-3-642-34815-0

Usually dispatched within 3 to 5 business days.

Robust Emotion Recognition using Spectral and Prosodic Features

In this brief, the authors discuss recently explored spectral (sub-segmental and pitch synchronous) and prosodic (global and local features at word and syllable levels in different parts of the utterance) features for discerning emotions in a robust manner. The authors also delve into the complementary evidences obtained from excitation source, vocal tract system and prosodic features for the purpose of enhancing emotion recognition performance. Features based on speaking rate characteristics are explored with the help of multi-stage and hybrid models for further improving emotion recognition performance. Proposed spectral and prosodic features are evaluated on real life emotional[...]

Features

In this brief, the authors discuss recently explored spectral (sub-segmental and pitch synchronous) and prosodic (global and local features at word and syllable levels in different parts of the utterance) features for discerning emotions in a robust manner. The authors also delve into the complementary evidences obtained from excitation source, vocal tract system and prosodic features for the purpose[...]

Contents


Fields of interest

Signal, Image and Speech Processing; User Interfaces and Human Computer Interaction; Language Translation and Linguistics; Computational Linguistics

Target groups

Research

Type of publication

Brief

More on www.springer.com/978-1-4614-6359-7

Softcover

2013, XII, 118 p. 37 illus., 15 in color. (SpringerBriefs in Speech Technology)

49,99 €

ISBN 978-1-4614-6359-7

Usually dispatched within 3 to 5 business days.
R.B. Rusu, San Francisco, CA, USA

**Semantic 3D Object Maps for Everyday Robot Manipulation**

The book written by Dr. Radu B. Rusu presents a detailed description of 3D Semantic Mapping in the context of mobile robot manipulation. As autonomous robotic platforms get more sophisticated, manipulation capabilities need more expressive and comprehensive environment models that include the objects present in the world, together with their position, form, and other semantic aspects, as well as interpretations of these objects with respect to the robot tasks. The book proposes novel 3D feature representations called Point Feature Histograms (PFH), as well as a frameworks for the acquisition and processing of Semantic 3D Object Maps with contributions to robust methods.

**Features**
The book written by Dr. Radu B. Rusu presents a detailed description of 3D Semantic Mapping in the context of mobile robot manipulation. As autonomous robotic platforms get more sophisticated, they also need more expressive and comprehensive environment models that include the objects present in the world, together with their position, form, and other semantic aspects, as well as interpretations of these objects with respect to the robot tasks.

**Contents**

**Fields of interest**
Robotics and Automation; Artificial Intelligence (incl. Robotics); Image Processing and Computer Vision; Signal, Image and Speech Processing

**Target groups**
Research

**Type of publication**
Monograph

More on www.springer.com/978-3-642-35478-6

**Hardcover**
84,99 €
ISBN 978-3-642-35478-6
Usually dispatched within 3 to 5 business days.

B. Thomson, University of Cambridge, UK

**Statistical Methods for Spoken Dialogue Management**

Speech is the most natural mode of communication and yet attempts to build systems which support robust habitable conversations between a human and a machine have so far had only limited success. A key reason is that current systems treat speech input as equivalent to a keyboard or mouse, and behaviour is controlled by predefined scripts that try to anticipate what the user will say and act accordingly. But speech recognisers make many errors and humans are not predictable; the result is systems which are difficult to design and fragile in use. Statistical methods for spoken dialogue management take a radically different view. It treats dialogue as the problem of inferring a user’s intent.

**Features**
Speech is the most natural mode of communication and yet attempts to build systems which support robust habitable conversations between a human and a machine have so far had only limited success. A key reason is that current systems treat speech input as equivalent to a keyboard or mouse, and behaviour is controlled by predefined scripts that try to anticipate what the user will say and act accordingly. But speech recognisers make many errors and humans are not predictable; the result is systems which are difficult to design and fragile in use. Statistical methods for spoken dialogue management take a radically different view. It treats dialogue as the problem of inferring a user’s intent.

**Contents**

**Fields of interest**
Signal, Image and Speech Processing; Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences; Probability and Statistics in Computer Science; Neuropsychology; Biological Psychology

**Target groups**
Research

**Type of publication**
Monograph

More on www.springer.com/978-1-4471-4922-4

**Hardcover**
2013. XVII, 136 p. 29 illus., 5 in color. (Springer Theses)
99,99 €
ISBN 978-1-4471-4922-4
Usually dispatched within 3 to 5 business days.

W. Sha, Queen’s University Belfast, UK

**Steels**

From Materials Science to Structural Engineering

Steels and computer-based modelling are fast growing fields in materials science as well as structural engineering, demonstrated by the large amount of recent literature. Steels: From Materials Science to Structural Engineering combines steels research and model development, including the application of modelling techniques in steels. The latest research includes structural engineering modelling, and novel, prototype alloy steels such as heat-resistant steel, nitride-strengthened ferritic/martensitic steel and low nickel maraging steel. Researchers studying steel will find the topics vital to their work. Material experts will be able to learn about steels used in structural [...]

**Features**
Steels and computer-based modelling are fast growing fields in materials science as well as structural engineering, demonstrated by the large amount of recent literature. Steels: From Materials Science to Structural Engineering combines steels research and model development, including the application of modelling techniques in steels. The latest research includes structural engineering [...]

**Contents**
Chapter 1 Introduction - Chapter 2 High-strength low-alloy steel - Chapter 3 Fire-resistant steel - Chapter 4 Heat-resistant steel - Chapter 5 Nitride-strengthened ferritic/martensitic steel - Chapter 6 Ultra high strength maraging steel - Chapter 7 Low nickel maraging steel - Chapter 8 Concrete structures - Chapter 9 Cold-formed steel portal frame - Chapter 10 Fire engineering - Chapter 11 Fire resistance of protected slim floors

**Fields of interest**
Building Materials; Light Construction, Steel Construction, Timber Construction; Metallic Materials; Structural Materials; Characterization and Evaluation of Materials

**Target groups**
Research

**Type of publication**
Monograph


**Hardcover**
2013. XVII, 268 p. 129 illus.
129,95 €
Usually dispatched within 3 to 5 business days.
The Application of the Chebyshev-Spectral Method in Transport Phenomena

Transport phenomena problems that occur in engineering and physics are often multi-dimensional and multi-phase in character. When taking recourse to numerical methods the spectral method is particularly useful and efficient. The book is meant principally to train students and non-specialists to use the spectral method for solving problems that model fluid flow in closed geometries with heat or mass transfer. To this aim the reader should bring a working knowledge of fluid mechanics and heat transfer and should be readily conversant with simple concepts of linear algebra including spectral decomposition of matrices as well as solvability conditions for inhomogeneous problems. The...[

Features

Transport phenomena problems that occur in engineering and physics are often multi-dimensional and multi-phase in character. When taking recourse to numerical methods the spectral method is particularly useful and efficient. The book is meant principally to train students and non-specialists to use the spectral method for solving problems that model fluid flow in closed geometries with heat or mass transfer.

Contents


Fields of interest

Engineering Thermodynamics, Heat and Mass Transfer; Numerical and Computational Physics; Engineering Fluid Dynamics; Fluid- and Aerodynamics; Computational Science and Engineering

Target groups

Graduate

Type of publication

Monograph

More on www.springer.com/978-3-642-34087-1

Hardcover

2012. XII, 229 p. 52 illus., 1 in color. (Lecture Notes in Applied and Computational Mechanics, Vol. 48)

34.95 €

ISBN 978-3-642-34087-1

Usually dispatched within 3 to 5 business days.

The Cell Method for Electrical Engineering and Multiphysics Problems

An Introduction

This book presents a numerical scheme for the solution of field problems governed by partial differential equations: the cell method. The technique lends itself naturally to the solution of multiphysics problems with several interacting phenomena. The Cell Method, based on a space-time tessellation, is intimately related to the work of Tonti and to his ideas of classification diagrams or, as they are nowadays called, Tonti diagrams: a graphical representation of the problem’s equations made possible by a suitable selection of a space-time framework relating physical variables to each other. The main features of the cell method are presented and links with many other discrete numerical...[

Features

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Contents

Tonti diagrams.- Topological equations.- Constitutive equations.- Classical physical problems.- Multiphysics problems.- Implementation.

Fields of interest

Appl. Mathematics / Computational Methods of Engineering; Electrical Engineering; Numerical and Computational Physics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-34100-5

Hardcover

2013. XII, 130 p. 113 illus. (Lecture Notes in Electrical Engineering, Vol. 230)

99,99 €

ISBN 978-3-642-36100-5

Usually dispatched within 3 to 5 business days.
**The Modernization Potential of Gas Turbines in the Coal-Fired Power Industry**

**Thermal and Economic Effectiveness**

The opportunity of repowering the existing condensing power stations by means of gas turbogenerators offers an important opportunity to considerably improvement of their energy efficiency. The Modernization Potential of Gas turbines in the Coal-Fired Power Industry presents the methodology, calculation procedures and tools used to support enterprise planning for adapting power stations to dual-fuel gas-steam combined-cycle technologies. Both the conceptual and practical aspects of the conversion of existing coal-fired power plants is covered. Discussions of the feasibility, advantages and disadvantages and possible methods are supported by chapters presenting equations of energy.[…]

**Features**

The opportunity of repowering the existing condensing power stations by means of gas turbogenerators offers an important opportunity to considerably improvement of their energy efficiency. The Modernization Potential of Gas turbines in the Coal-Fired Power Industry presents the methodology, calculation procedures and tools used to support enterprise planning for adapting power stations to dual-fuel.[…]

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1.Introduction.- 2.Thermodynamic fundamentals for production of electric power in hierarchical j-cycle systems.- 3.In-series or parallel system?.- 4.Energy efficiency of repowering a power unit by installing a gas turbogenerator in a parallel system.- 5.Selection of an optimum gas turbogenerator for the repowered power unit.- 6.Selection of the structure of the heat recovery steam generator for the repowered power unit.- 7.Comparison of specific cost of producing electricity in a 370 MW power unit adapted to dual-fuel gas-steam system and in a new one operating under supercritical.[…]

**Fields of interest**

Renewable and Green Energy; Energy Efficiency (incl. Buildings); Engineering Thermodynamics, Heat and Mass Transfer

**Target groups**

Research

**Type of publication**

Brief

More on www.springer.com/978-1-4471-4859-3

**Softcover**

2013. VIII, 69 p. 32 illus. (SpringerBriefs in Applied Sciences and Technology)
49,95 €

Usually dispatched within 3 to 5 business days.

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**The Offshoring Challenge**

**Strategic Design and Innovation for Tomorrow’s Organization**

The continuous search for efficiency gains and the goal of attaining a sustainable competitive advantage have steadily increased the volume of goods and services procured globally from third party vendors. In this context, named as “the next wave of globalization”, the offshoring phenomenon has stimulated research and political debates. With the rise of services offshoring, international value chain disaggregation for services has reached a formerly unknown scale. Also, it is increasingly complex transactions, requiring a higher degree of qualification, which are becoming subject to offshoring as well. The Offshoring Challenge: Strategic Design and Innovation for Tomorrow’s[…]

**Features**

The continuous search for efficiency gains and the goal of attaining a sustainable competitive advantage have steadily increased the volume of goods and services procured globally from third party vendors. In this context, named as “the next wave of globalization”, the offshoring phenomenon has stimulated research and political debates. With the rise of services offshoring, international value chain[…]

**Contents**


**Fields of interest**

Engineering Economics, Organization, Logistics, Marketing; Engineering Design

**Target groups**

Professional/practitioner

**Type of publication**

Monograph

More on www.springer.com/978-3-642-36050-3

**Hardcover**

2013. XXXI, 414 p. 200 illus. (Springer Tracts on Transportation and Traffic, Vol. 2)
129,99 €
ISBN 978-3-642-36050-3

Usually dispatched within 3 to 5 business days.

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**The Railway Track and Its Long Term Behaviour**

**A Handbook for a Railway Track of High Quality**

A proper quality of a track and other infrastructure objects represents a basic requirement for train safety and punctuality. Most of the physical systems and their components deteriorate over time. This affects performance and may lead to failures. Albert Einstein said, “You have to learn the rules of the game. And then you have to play better than anyone else.” Only if we understand how the whole system works, taking into account its imperfections and how they influence its quality and performance will we be able to learn the rules of the game and “play better.” The book provides the readers with the necessary functional knowledge of track behaviour and comprehensively covers the[…]

**Features**

A proper quality of a track and other infrastructure objects represents a basic requirement for train safety and punctuality. Most of the physical systems and their components deteriorate over time. This affects performance and may lead to failures. Albert Einstein said, “You have to learn the rules of the game. And then you have to play better than anyone else.” Only if we understand how the whole system […]

**Contents**


**Fields of interest**

Civil Engineering; Engineering Economics, Organization, Logistics, Marketing; Engineering Design

**Target groups**

Professional/practitioner

**Type of publication**

Monograph

More on www.springer.com/978-3-642-36050-3

**Hardcover**

2013. XXXI, 414 p. 200 illus. (Springer Tracts on Transportation and Traffic, Vol. 2)
129,99 €
ISBN 978-3-642-36050-3

Usually dispatched within 3 to 5 business days.
Tunable Multiband Ferroelectric Devices for Reconfigurable RF-Frontends

Reconfigurable RF-frontends aim to cope with the continuous pursuit of wider frequency coverage, higher efficiency, further compactness and lower cost of ownership. They are expected to lay the foundations of future software defined or cognitive radios. As a potential enabling technology for the frontends, the tunable ferroelectric devices have shown not only enhanced performance but also new functionalities. This book explores the recent developments in the field. It provides a cross-sectional perspective on the interdisciplinary research. With attention to the devices based on ceramic thick-films and crystal thin-films, the book reviews the adapted technologies of material.[…]

Features
Reconfigurable RF-frontends aim to cope with the continuous pursuit of wider frequency coverage, higher efficiency, further compactness and lower cost of ownership. They are expected to lay the foundations of future software defined or cognitive radios. As a potential enabling technology for the frontends, the tunable ferroelectric devices have shown not only enhanced performance but also new […]

Contents
Introduction.- Tunable Microwave Dielectrics.- Processing of Ferroelectric Films and Components.- Novel Multilayer Components on BST Thin-Films.- Summary and Outlook.

Fields of interest
Microwaves, RF and Optical Engineering; Communications Engineering, Networks

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-35779-4

Usually dispatched within 3 to 5 business days.

Wireless Networks and Security

Issues, Challenges and Research Trends

“Wireless Networks and Security” provides a broad coverage of wireless security issues including cryptographic coprocessors, encryption, authentication, key management, attacks and countermeasures, secure routing, secure medium access control, intrusion detection, epidemics, security performance analysis, security issues in applications. The contributions identify various vulnerabilities in the physical layer, MAC layer, network layer, transport layer, and application layer, and focus on ways of strengthening security mechanisms and services throughout the layers. This carefully edited monograph is targeting for researchers, post-graduate students in universities, academics, and[…]

Features
“Wireless Networks and Security” provides a broad coverage of wireless security issues including cryptographic coprocessors, encryption, authentication, key management, attacks and countermeasures, secure routing, secure medium access control, intrusion detection, epidemics, security performance analysis, security issues in applications. The contributions identify various vulnerabilities in the physical […]

Contents

Fields of interest
Communications Engineering, Networks; Systems and Data Security

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-36168-5

Usually dispatched within 3 to 5 business days.

Climate Change Science: A Modern Synthesis

Volume 1 - The Physical Climate

An introduction to the principles of climate change science with an emphasis on the empirical evidence for climate change and a warming world. Additional readings are given at the end of each chapter. A list of ’Things to Know’ opens each chapter. Chapters are arranged so that the student is first introduced to the scientific method(s), examples of the use of the scientific method from other sciences drawn from the history of science with an emphasis on climate science. Climate science is treated in each chapter based on the premise of global warming. Chapter treatments on the atmosphere: biosphere, geosphere, hydrosphere, and anthroposphere and their inter-relationships are given.

Features
Climate Change Science: A Modern Synthesis introduces the principles of climate change science, emphasizing the empirical evidence for climate change and a warming world. Divided into eleven sections, this comprehensive book opens with an introduction to basic scientific principles including the scientific method, the laws of thermodynamics, the gathering and interpretation of data, biographical […]

Contents

Fields of interest
Environment (general); Earth Sciences (general); Lifelong Learning / Adult Education; Geography (general); Organic Chemistry; Energy Policy, Economics and Management

Target groups
Undergraduate

Type of publication
Undergraduate textbook

More on www.springer.com/978-94-007-5756-1

Usually dispatched within 3 to 5 business days.
Environmental Systems Studies
A Macroscope for Understanding and Operating SpaceShip Earth

The environmental field is deep and wide. In the flood of information, how can people understand the underlying causes of what they hear about the environment from newspapers and television? This book was originally published in Japanese, with the aim of providing basic information about the ideas and methods to see and understand the interconnection between nature and human activities from a systematic point of view. The author subsequently prepared an English version of the same material for use as a textbook for the Global Environmental Leaders Program at Nagoya University, where he taught many students from Asia and Europe. The book covers diverse environmental issues such as...

Features
The environmental field is deep and wide. In the flood of information, how can people understand the underlying causes of what they hear about the environment from newspapers and television? This book was originally published in Japanese, with the aim of providing basic information about the ideas and methods to see and understand the interconnection between nature and human activities from a systematic point of view.

Contents

Fields of interest
Environmental Management; Earth System Sciences; Environmental Economics

Target groups
Research

Type of publication
Contributed volume

More on www.springer.com/978-4-431-54125-7

Hardcover
2013, XI, 151 p., 27 illus., 22 in color.
ISBN 978-4-431-54125-7
Usually dispatched within 3 to 5 business days.
The Soils of Chile

This book is intended for students and soil scientists who want to know about the state of the art in soil sciences in Chile. The book merges a comprehensive bibliographical review of the soil surveys carried out throughout the length and breadth of Chilean territory during the past 40 years and more recent information obtained by the authors in a number of field studies. As its starting point the book presents a general overview of important features related to Chilean soils, such as geology and geomorphology, climate, land use and vegetation. In this long and narrow country different soil formation factors and processes have resulted in a broad variety of soil bodies, from the [...] 

Features
This book is intended for students and soil scientists who want to know about the state of the art in soil sciences in Chile. The book merges a comprehensive bibliographical review of the soil surveys carried out throughout the length and breadth of Chilean territory during the past 40 years and more recent information obtained by the authors in a number of field studies. As its starting point the book [...] 

Contents
Preface.- General Chile overview.- Territory formation: geology and geomorphology.- Climate: from desert to glaciers.- Vegetation.- Land use.- Main features of Chilean soils.- Soil formation in Chile.- Major soil zones.- A soil map of Chile.- Management of soil properties in Chile.- Chemical properties.- Physical properties.- Biological properties.- Human induced soil degradation in Chile.- Erosive soil degradation.- Non erosive soil degradation.- Desertification.- Future of soil conservation in Chile.- Annexe.

Fields of interest
Soil Science & Conservation

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-94-007-5948-0

Hardcover
2013. X, 185 p. 179 illus., 149 in color. (World Soils Book Series)
99,99 €
ISBN 978-94-007-5948-0
Usually dispatched within 3 to 5 business days.

Urban Landscapes

Environmental Networks and the Quality of Life

Today, more than 50% of the world’s population lives in cities and is subject to particular environmental and economic impacts against the backdrop of an evolving planetary crisis. This book explores the intimate relationship between the quality of life of city dwellers and the quality of urban landscapes, including those regenerated through green spaces and environmental networks. Starting from the concept of “landscape” as defined by the European Landscape Convention (i.e. “an area, perceived by people, whose character is the result of the action and interaction of natural and/or human factors”), it expands upon, in particular, the interactions between the different biotic and [...] 

Features
Today, more than 50% of the world’s population lives in cities and is subject to particular environmental and economic impacts against the backdrop of an evolving planetary crisis. This book explores the intimate relationship between the quality of life of city dwellers and the quality of urban landscapes, including those regenerated through green spaces and environmental networks. Starting from the concept of [...] 

Contents

Fields of interest
Urban Planning; Urbanism; Quality of Life Research

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-88-470-2879-1

Hardcover
2013. XXIII, 177 p.
99,99 €
Usually dispatched within 3 to 5 business days.

Geography

M. Raubal, ETH Zurich, Switzerland; D.M. Mark, University of Buffalo, NY, USA; A.U. Frank, TU Wien, Vienna, Austria (Eds.)

Cognitive and Linguistic Aspects of Geographic Space

New Perspectives on Geographic Information Research

20 years ago, from July 8 to 20, 1990, 60 researchers gathered for two weeks at Castillo-Palacio Magalia in Las Navas del Marques (Avila Province, Spain) to discuss cognitive and linguistic aspects of geographic space. This meeting was the start of successful research on cognitive issues in geographic information science, produced an edited book (D. M. Mark and A. U. Frank, Eds., 1991, Cognitive and Linguistic Aspects of Geographic Space. NATO ASI Series D: Behavioural and Social Sciences 63. Kluwer, Dordrecht/Boston/London), and led to a biannual conference (COSIT), a refereed journal (Spatial Cognition and Computation), and a substantial and still growing research community. In [...] 

Features
In 1990, sixty researchers gathered for two weeks at Castillo-Palacio Magalia in Las Navas del Marques, Spain, to discuss cognitive and linguistic aspects of geographic space. This meeting was the start of successful research on cognitive issues in geographic information science. It appeared worthwhile to assess the achievements and reconsider the research challenges twenty years later. What has changed in [...] 

Contents
Researching Cognitive and Linguistic Aspects of Geographic Space - Las Navas then and now.- Spatial Computing - How spatial structures replace computational effort.- The Cognitive Development of the Spatial Concepts NEXT, NEAR, AWAY and FAR.- From compasses and maps to mountains and territories: Experimental results on geographic cognitive categorization.- Prospects and Challenges of Landmarks in Navigation Services.- Landmarks and a hiking ontology to support wayfinding in a national park during different seasons.- Talking about Place Where It Matters.- Many to Many Mobile Maps. [...] 

Fields of interest
Geographical Information Systems / Cartography

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-34358-2

Hardcover
2013. XI, 296 p. 64 illus., 45 in color. (Lecture Notes in Geoinformation and Cartography)
99,95 €
ISBN 978-3-642-34358-2
Usually dispatched within 3 to 5 business days.
Crime Modeling and Mapping Using Geospatial Technologies

Recent years in North America have seen a rapid development in the area of crime analysis and mapping using Geographic Information Systems (GIS) technology. In 1996, the US National Institute of Justice (NIJ) established the crime mapping research center (CMRC), to promote research, evaluation, development, and dissemination of GIS technology. The long-term goal is to develop a fully functional Crime Analysis System (CAS) with standardized data collection and reporting mechanisms, tools for spatial and temporal analysis, visualization of data and much more. Among the drawbacks of current crime analysis systems is their lack of tools for spatial analysis. For this reason, spatial...]

Contents
Recent years in North America have seen a rapid development in the area of crime analysis and mapping using Geographic Information Systems (GIS) technology. In 1996, the US National Institute of Justice (NIJ) established the crime mapping research center (CMRC), to promote research, evaluation, development, and dissemination of GIS technology. The long-term goal is to develop a fully functional Crime [...] Contents
Introduction.- The Recent Reform of the English Planning System.- New strategic drivers for the regeneration of cities.- Stakeholders, programmes, strategies.- Elements of design strategy.- The role of housing; city living, communities, places.- Conclusions: short notes on the English lesson. Fields of interest
Geographical Information Systems / Cartography; Statistics for Social Science, Behavioral Science, Education, Public Policy, and Law; Criminology & Criminal Justice Target groups
Research Type of publication

Designing the Urban Renaissance
Sustainable and competitive place making in England
This book is an academic essay about the urban regeneration policies which have been changing the physical - and partly social - outlook of many English cities during the last 10-15 years, eventually giving birth to a process which is also known as 'Urban Renaissance'. The main focus is on urban design: the way it has been promoted by the government as an important means for delivering attractive places in more sustainable and competitive cities. The research describes the support given to local authorities for this purpose through new laws and powers, the publishing of planning and design manuals and the delivery of especially dedicated funds, bodies and programmes. It also explores [...] Features
The economic and social challenges brought by globalization and the inevitable prospect of a commitment to sustainable development have induced the UE to put towns and cities at the heart of the current political agenda. Urban and metropolitan areas are considered as primary resources for the regeneration of the territory and for the distribution of wealth among the population. The initial and admirable [...] Contents
Introduction.- The Recent Reform of the English Planning System.- New strategic drivers for the regeneration of cities.- Stakeholders, programmes, strategies.- Elements of design strategy.- The role of housing; city living, communities, places.- Conclusions: short notes on the English lesson. Fields of interest
Landscape, Regional and Urban Planning; Sustainable Development; Architectural History and Theory Target groups
Graduate Type of publication
Monograph More on www.springer.com/978-94-007-5630-4
Hardcover 2013. XVIII, 173 p. 95 illus., 79 in color. 99,95 € ISBN 978-94-007-5630-4 Usually dispatched within 3 to 5 business days.

Megacity Mobility Culture
How Cities Move on a Diverse World
What determines how cities move on? The ever-increasing challenges to urban mobility come in many forms, and approaches to address them range from the technically ingenious to attempts to change travel behaviour. Key amongst factors essential to the success of any such approach is whether the urban environment proves to be fertile ground for the desired progress. Another vital determinant of success is how well individual measures to engineer the transport system interact with other developments. This leads to the principal subject of Megacity Mobility Culture: the basic principles that determine the paths along which cities move. This book demonstrates that the concept of 'mobility[...] Features
What determines how cities move on? The ever-increasing challenges to urban mobility come in many forms, and approaches to address them range from the technically ingenious to attempts to change travel behaviour. Key amongst factors essential to the success of any such approach is whether the urban environment proves to be fertile ground for the desired progress. Another vital determinant of success is how [...] Contents
Setting the Context.- The Reader’s Guide to Mobility Culture.- Stories from the Megacity.- Perspectives for Megacities on the Move.- the Seven Mobility Culture Temperaments of Cities. Fields of interest
Landscape, Regional and Urban Planning; Civil Engineering; Regional Science; Engineering Economics, Organization, Logistics, Marketing; Sociology, general; Transportation Target groups
Professional/practitioner Type of publication
Monograph More on www.springer.com/978-3-642-34734-4
Hardcover 2013. XXII, 276 p. 57 illus. (Lecture Notes in Mobility) 99,95 € ISBN 978-3-642-34734-4 Usually dispatched within 3 to 5 business days.
Progress in Location-Based Services

The book consists of peer-reviewed papers from the 9th symposium on Location Based Services (LBS) which is targeted to researchers, industry/market operators and students of different backgrounds (scientific, engineering and humanistic). As the research field is developing and changing fast, this book follows up on current trends and gives suggestions and guidance to further research. This book offers a common ground bringing together various disciplines and practice, knowledge, experiences, plans and ideas on how LBS can and could be improved and on how it will influence both science and society. The book comprises front-end publications organized into sections on: spatial-temporal,...

Features
The book consists of peer-reviewed papers from the 9th symposium on Location Based Services (LBS) which is targeted to researchers, industry/market operators and students of different backgrounds (scientific, engineering and humanistic). As the research field is developing and changing fast, this book follows up on current trends and gives suggestions and guidance to further research. This book offers a...

Contents
Preface - The Changing Earth Science Network Projects 2009-2011 - Carbon Dioxide - Retrieval and analysis of carbon dioxide and methane greenhouse gases from SCIAMACHY on ENVISAT - Aerosol direct radiative effect in cloudy scenes retrieved from space-borne spectrometers - Diagnostics of Mixing and Transport in atmospheric Interfaces - Study of the chemistry-climate coupling in the UTLS region with satellite measurements - Variability of the phytoplankton spring and fall blooms in the Northeastern Atlantic in the 1980s and 2000s - A method to retrieve temporal averages of 2D ocean surface...

Fields of interest
Remote Sensing / Photogrammetry; Earth System Sciences; Climate Change; Oceanography; Meteorology / Climatology; Natural Hazards

Remote Sensing Advances for Earth System Science

The ESA Changing Earth Science Network: Projects 2009-2011 To better understand the various processes and interactions that govern the Earth system and to determine whether recent human-induced changes could ultimately de-stabilise its dynamics, both natural system variability and the consequences of human activities have to be observed and quantified. In this context, the European Space Agency (ESA) published in 2006 the document "The Changing Earth: New Scientific Challenges for ESA's Living Planet Programme" as the main driver of ESA's new Earth Observation (EO) science strategy. The document outlines 25 major scientific challenges covering all the different aspects of the Earth system, where EO technology and ESA missions may provide a...

Features
The European Space Agency, through its Support to Science Element (STSE) Programme, funds a network of young post-doc scientists undertaking cutting-edge research in the area of Remote Sensing. This so-called Changing Earth Science Network focuses on the exploitation of Earth Observation (EO) data to address major issues related to the broader context of Climate Change under five scientific research lines: ...

Contents
Preface - The Changing Earth Science Network Projects 2009-2011 - Carbon Dioxide - Retrieval and analysis of carbon dioxide and methane greenhouse gases from SCIAMACHY on ENVISAT - Aerosol direct radiative effect in cloudy scenes retrieved from space-borne spectrometers - Diagnostics of Mixing and Transport in atmospheric Interfaces - Study of the chemistry-climate coupling in the UTLS region with satellite measurements - Variability of the phytoplankton spring and fall blooms in the Northeastern Atlantic in the 1980s and 2000s - A method to retrieve temporal averages of 2D ocean surface...

Fields of interest
Remote Sensing / Photogrammetry; Earth System Sciences; Climate Change; Oceanography; Meteorology / Climatology; Natural Hazards

Australasia and Pacific Ombudsman Institutions

Mandates, Competences and Good Practice Commissioned by the International Ombudsman Institute (IOI), the Ludwig Boltzmann Institute of Human Rights (BIM) in Vienna conducted a comparative analytical study on Ombudsman Institutions in the Australasia and Pacific region between January 2011 and April 2012. In Part 1, this book provides an analytical comparison of the public sector Ombudsman Institutions in Australia (the Commonwealth Ombudsman and the state/territory Ombudsmen of all Australian states as well as of the Northern Territory and the ACT), the Cook Islands, Hong Kong, New Zealand, Papua New Guinea, Samoa, Taiwan, Tonga and Vanuatu. In addition to a comparative analysis showing the partial heterogeneity of the...
International Dispute Settlement: Room for Innovations?

This publication succeeds previously published seminars of the Max Planck Institute for Comparative Public Law and International Law (Heidelberg, Germany) dealing with evolving principles and new developments in international law. Due to the limits of traditional dispute settlement in international law and the ongoing scholarly debate on those limits, it focuses on possible innovations and functional approaches to improve international dispute settlement mechanisms. In doing so, it covers a wide variety of topics such as procedures of the WTO, advisory opinions of international courts and tribunals, the privatization of international dispute settlement, the interaction between [...] Features

This publication succeeds previously published seminars of the Max Planck Institute for Comparative Public Law and International Law (Heidelberg, Germany) dealing with evolving principles and new developments in international law. Due to the limits of traditional dispute settlement in international law and the ongoing scholarly debate on those limits, it focuses on possible innovations and functional [...] Contents


Dispute Resolution, Mediation, Arbitration; Private International Law, International & Foreign Law, Comparative Law; Sources and Subjects of International Law, International Organizations

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-34966-9

Hardcover

2013. XIV, 445 p. (Beiträge zum ausländischen öffentlichen Recht und Völkerrecht, Vol. 239)

94,95 €

ISBN 978-3-642-34966-9

Online orders shipping within 2-3 days.
**Bacteria in Agrobiology: Disease Management**

D.K. Maheshwari, Gurukul Kangri University, Haridwar, India (Ed.)

The future of agriculture greatly depends on our ability to enhance productivity without sacrificing long-term production potential. The application of microorganisms, such as the diverse bacterial species of plant growth promoting bacteria (PGPB), represents an ecologically and economically sustainable strategy. The use of these bio-resources for the enhancement of crop productivity is gaining importance worldwide. 'Bacteria in Agrobiology: Disease Management' discusses various aspects of biological control and disease suppression using bacteria.

**Features**
The future of agriculture greatly depends on our ability to enhance productivity without sacrificing long-term production potential. The application of microorganisms, such as the diverse bacterial species of plant growth promoting bacteria (PGPB), represents an ecologically and economically sustainable strategy. The use of these bio-resources for the enhancement of crop productivity is gaining importance.

**Contents**
Advances in Plant Growth Promoting Rhizobacteria for Biological Control of Plant Diseases. Bacteria for Plant Growth Promotion and Disease Management. Bacterial Endophytes of Perennial Crops for Management of Plant Disease. Biological Control of Pathogens and Plant Growth Promotion Potential of Fluorescent Pseudomonads. Disease Management in Staple Crops: A Bacteriological Approach. Beneficial Bacteria for Biological Control of Fungal Pathogens of Cereals. Biological Control of Peronosporomyces Phytopathogens by Bacterial Antagonists. Pseudomonas Inoculants as Agents for Plant...

**Fields of interest**
Bacteriology; Agriculture; Plant Pathology

**Target groups**
Research

**Type of publication**
Contributed volume

More on [www.springer.com/978-3-642-33638-6](http://www.springer.com/978-3-642-33638-6)

**Hardcover**
2013. XII, 495 p. 40 illus., 15 in color. 149.95 €
ISBN 978-3-642-33638-6
Usually dispatched within 3 to 5 business days.

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**Biofuel Technologies**

V.K. Gupta, National University of Ireland, Galway, Ireland; M.G. Tuohy, National University of Ireland, Galway, Ireland (Eds.)

Biofuels are considered to be the main potential replacement for fossil fuels in the near future. In this book international experts present recent advances in biofuel research and related technologies. Topics include biomethane and biobutanol production, microbial fuel cells, feedstock production, biomass pre-treatment, enzyme hydrolysis, genetic manipulation of microbial cells and their application in the biofuels industry, bioreactor systems, and economical processing technologies for biofuel residues. The chapters provide concise information to help understand the technology-related implications of biofuels development. Moreover, recent updates on biofuel feedstocks, biofuel...

**Features**
Biofuels are considered to be the main potential replacement for fossil fuels in the near future. This book international experts present recent advances in biofuel research and related technologies. Topics include biomethane and biobutanol production, microbial fuel cells, feedstock production, biomass pre-treatment, enzyme hydrolysis, genetic manipulation of microbial cells and their application in the...

**Contents**

**Fields of interest**
Microbiology; Applied Microbiology; Renewable and Green Energy; Agriculture; Biotechnology

**Target groups**
Research

**Type of publication**
Contributed volume

More on [www.springer.com/978-3-642-34518-0](http://www.springer.com/978-3-642-34518-0)

**Hardcover**
2013. XVII, 534 p. 93 illus., 44 in color. 149.95 €
ISBN 978-3-642-34518-0
Usually dispatched within 3 to 5 business days.
Bioinformatics of Human Proteomics

“Bioinformatics of Human Proteomics” discusses the development of methods, techniques and applications in the field of protein bioinformatics, an important direction in bioinformatics. It collects contributions from expert researchers in order to provide a practical guide to this complex field of study. The book covers the protein interaction network, drug discovery and development, the relationship between translational medicine and bioinformatics, and advances in proteomic methods, while also demonstrating important bioinformatics tools and methods available today for protein analysis, interpretation and predication. It is intended for experts or senior researchers in the fields of...[...]

Features

“Bioinformatics of Human Proteomics” discusses the development of methods, techniques and applications in the field of protein bioinformatics, an important direction in bioinformatics. It collects contributions from expert researchers in order to provide a practical guide to this complex field of study. The book covers the protein interaction network, drug discovery and development, the relationship between translational medicine and bioinformatics, and advances in proteomic methods, while also demonstrating important bioinformatics tools and methods available today for protein analysis, interpretation and predication. It is intended for experts or senior researchers in the fields of...[...]

Contents


Fields of interest

Bioinformatics; Computational Biology / Bioinformatics; Molecular Medicine; Proteomics; Systems Biology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-5810-0

Hardcover

2013, XIII, 390 p. 121 illus., 100 in color. (Translational Bioinformatics, Vol. 3) 149,95 €
ISBN 978-94-007-5810-0
Usually dispatched within 3 to 5 business days.

Calcium-Binding Proteins and RAGE

From Structural Basics to Clinical Applications

A major direction in medical research leading to clinical applications targets the regulation of intracellular calcium and the various human diseases associated with an altered homeostasis of this global second messenger. These diseases include, for example: cardiomyopathy, inflammation, brain disorders, diabetes and cancer. In Calcium-Binding Proteins and RAGE: from Structural Basics to Clinical Applications, expert researchers in the field detail many of the methods which are now commonly used to study calcium binding proteins. These methods and techniques, such as calcium-measurements, screening methods, clinical chemistry, and therapy, are generally applicable to many other areas[...]

Features

A major direction in medical research leading to clinical applications targets the regulation of intracellular calcium and the various human diseases associated with an altered homeostasis of this global second messenger. These diseases include, for example: cardiomyopathy, inflammation, brain disorders, diabetes and cancer. In Calcium Binding Proteins and RAGE: from Structural...[...]

Contents


Fields of interest

Protein Science; Protein Structure

Target groups

Professional/practitioner

Type of publication

Contributed volume


Hardcover

2013. XIV, 423 p. 85 illus., 56 in color. (Methods in Molecular Biology, Vol. 963) 109,95 €
Usually dispatched within 3 to 5 business days.

Cell Senescence

Methods and Protocols

Cell senescence is the process whereby cells permanently lose the possibility to proliferate without undergoing cell death, and occurs in a plethora of distinct model organisms. In Cell Senescence: Methods and Protocols, expert researchers in the field detail the methods that are now commonly used to study cell senescence, in model organisms encompassing bacteria, fungi, worms, flies, zebrafish, and mammalian cells. These techniques cover the study of all the morphological, biochemical and functional manifestations of senescence at the cellular level and include protocols for population analyses and high-throughput approaches in suitable model organisms. Written in the highly[...]

Features

Cell senescence is the process whereby cells permanently lose the possibility to proliferate without undergoing cell death, and occurs in a plethora of distinct model organisms. In Cell Senescence: Methods and Protocols, expert researchers in the field detail the methods that are now commonly used to study cell senescence, in model organisms encompassing bacteria, fungi, worms, [...]
Chiral Separations

Methods and Protocols

There is a demand for analytical methods that are able to discriminate between enantiomers in order to analyze the enantiomeric purity of compounds from natural or chemical sources not only in pharmaceutical sciences but in any field on bioactive compounds including chemistry, biology, biochemistry, forensic, and environmental sciences and many others. The second edition of Chiral Separations: Methods and Protocols, expands upon the previous edition with current methodology, providing an overview and especially practically oriented applications of the most important analytical techniques in chiral separation sciences. New chapters on analytical separation sciences by chromatographic [...] 

Features

There is a demand for analytical methods that are able to discriminate between enantiomers in order to analyze the enantiomeric purity of compounds from natural or chemical sources not only in pharmaceutical sciences but in any field on bioactive compounds including chemistry, biology, biochemistry, forensic, and environmental sciences and many others. The second edition of Chiral Separations: Methods [...] 

Contents


Fields of interest

Biochemistry; Chromatography

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-1-62703-262-9

Hardcover

2013. XVI, 531 p. 176 illus., 38 in color. (Methods in Molecular Biology, Vol. 970)

109,95 €


Usually dispatched within 3 to 5 business days.

Computational Biology

A Practical Introduction to BioData Processing and Analysis with Linux, MySQL, and R

This greatly expanded 2nd edition provides a practical introduction to - data processing with Linux tools and the programming languages AWK and Perl. - data management with the relational database system MySQL, and - data analysis and visualization with the statistical computing environment R for students and practitioners in the life sciences. Although written for beginners, experienced researchers in areas involving bioinformatics and computational biology may benefit from numerous tips and tricks that help to process, filter and format large datasets. Learning by doing is the basic concept of this book. Worked examples illustrate how to employ data processing and analysis techniques. [...] 

Features

This greatly expanded 2nd edition provides a practical introduction to - data processing with Linux tools and the programming languages AWK and Perl. - data management with the relational database system MySQL, and - data analysis and visualization with the statistical computing environment R for students and practitioners in the life sciences. Although written for beginners, [...] 

Contents


Fields of interest

Computer Applications in Life Sciences; Bioinformatics; Proteomics; Biochemistry; Computer Applications; Biophysics and Biological Physics

Target groups

Professional/practitioner

Type of publication

Graduate/advanced undergraduate textbook

More on www.springer.com/978-3-642-34748-1

Hardcover

2013. XXIX, 449 p. 80 illus., 66 in color.

69,95 €

ISBN 978-3-642-34748-1

Usually dispatched within 3 to 5 business days.

Edible Ectomycorrhizal Mushrooms

Current Knowledge and Future Prospects

Edible ectomycorrhizal mushrooms (EEMMs) comprise more than 1000 species and are an important food and forest resource. In this volume of Soil Biology, internationally recognized scientists offer their most recent research findings on these beguiling fungi. Topics covered include: complex ecological interactions between plants, EEMMs, and soil organisms; comparative genomics, high-throughput sequencing and modern research tools; genetic selection of fungal strains and techniques for inoculating plants; economic and social considerations surrounding wild collected EEMMs; and practical information concerning soil management and EEMM cultivation. The book will be a useful guide for [...] 

Features

Edible ectomycorrhizal mushrooms (EEMMs) comprise more than 1000 species and are an important food and forest resource. In this volume of Soil Biology, internationally recognized scientists offer their most recent research findings on these beguiling fungi. Topics covered include: Complex ecological interactions between plants, EEMMs, and soil organisms - Comparative [...] 

Contents

Biology & Ecology of Edible Ectomycorrhizal Mushrooms. - Cultivation of Edible Ectomycorrhizal Mushrooms (with main focus on truffles) and case studies. - Wild Collected Edible Ectomycorrhizal Mushrooms: Economics, Conservation, Management. - The Edible Ectomycorrhizal Mushroom industry in the age of “-omics”.

Fields of interest

Agriculture; Fungus Genetics; Food Science; Terrestrial Ecology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-33822-9

Hardcover

2012. XII, 409 p. 35 illus., 16 in color. (Soil Biology, Vol. 34)

149,95 €

ISBN 978-3-642-33822-9

Usually dispatched within 3 to 5 business days.
Fungal Diagnostics
Methods and Protocols
Invasive fungal infections are a significant cause of morbidity and mortality. Over the past decade there has been a concerted effort to develop reliable methods for the detection of such infections. In Fungal Diagnostics: Methods and Protocols, expert researchers in the field detail the introduction of new technology into a diagnostic setting include ease of use, and rapid turnaround time without compromising sensitivity and specificity. Focusing specifically on fungal detection in clinical settings, fungal diagnostics including, environmental testing, agriculture and food production and veterinary diagnostics. Written in the highly successful Methods in Molecular Biology series [...] Features
Invasive fungal infections are a significant cause of morbidity and mortality. Over the past decade there has been a concerted effort to develop reliable methods for the detection of such infections. In Fungal Diagnostics: Methods and Protocols, expert researchers in the field detail method performance, ease of use and turnaround time of innovative diagnostic methods. Focusing mainly on fungal [...] Contents
Microbiology
Target groups
Professional/practitioner
Type of publication
Contributed volume
More on www.springer.com/978-1-62703-256-8
Hardcover

JAK-STAT Signalling
Methods and Protocols
The receptor-associated JAK protein kinases and their substrates, the STAT transcriptional activators, transmit signals following cytokine and growth factor binding to receptors expressed on the cell surface, to result in specific transcriptional and cellular responses. Over the last two decades, the field has progressed from identification of the individual components through to an understanding of the activation and deactivation mechanisms, and the complex structural detail of the proteins involved. We now know that these pathways are important in many biological processes, including growth and development, hematopoiesis, and the innate and adaptive immune response. JAK-STAT [...] Features
The receptor-associated JAK protein kinases and their substrates, the STAT transcriptional activators, transmit signals following cytokine and growth factor binding to receptors expressed on the cell surface, to result in specific transcriptional and cellular responses. Over the last two decades, the field has progressed from identification of the individual components through to an understanding of the [...] Contents
Analysis of Janus Tyrosine Kinase Phosphorylation and Activation. Co-Immunoprecipitation Protocol to Investigate Cytokine Receptor Associated Proteins e.g. Janus Kinases or Other Associated Signaling Proteins. In Vitro JAK Kinase Activity and Inhibition Assays. Quantitative Analysis of JAK Binding using Isothermal Titration Calorimetry and Surface Plasmon Resonance. Determination of Protein Turnover Rates in the JAK/STAT Pathway using a Radioactive Pulse-Chase Approach. Designing RNAi Screens to Identify JAK/STAT Pathway Components. The Use of JAK-Specific Inhibitors as Chemical [...] Fields of interest
Cell Biology; Cytokines and Growth Factors
Target groups
Professional/practitioner
Type of publication
Contributed volume
More on www.springer.com/978-1-62703-241-4
Hardcover

Macroevolution in Deep Time
The prerequisite to investigating the underlying causes behind mass extinction is a profound understanding of the evolutionary history of both living and dead species. It is especially important to appreciate the significance of such studies in extinct organisms; especially in organisms that were abundant in a certain geologic era, but have subsequently dwindled or become extinct. Such studies should help to accurately evaluate patterns of evolution in extinct species lineages and help predict the same in its modern analogs. The book includes cutting edge research in evolutionary biology that should serve as a starting point for conservation. Features
The prerequisite to investigating the underlying causes behind mass extinction is a profound understanding of the evolutionary history of both living and dead species. It is especially important to appreciate the significance of such studies in extinct organisms; especially in organisms that were abundant in a certain geologic era, but have subsequently dwindled or become extinct. Such studies should help to [...] Contents
Evolutionary Biology; Conservation Biology / Ecology; Biogeosciences; Invertebrates
Target groups
Graduate
Type of publication
Brief
More on www.springer.com/978-1-4614-6475-4
Softcover
Mass Spectrometry of Glycoproteins

Methods and Protocols

Glycosylation is the most abundant post-translational modification of proteins. Estimates vary widely, but a common assessment is that upwards of 50% of eukaryotic proteins are modified by some type of glycan. In Mass Spectrometry of Glycoproteins: Methods and Protocols, expert researchers in the field detail many of the methods that are now commonly used for glycoproteomics. These methods and techniques include robust sample preparation techniques; advanced chromatographic strategies for improving dynamic range; state-of-the-art mass spectrometry instrumentation and associated ionization and fragmentation methods; and informatics tools used for identifying glycoproteins and [...] 

Features

Glycosylation is the most abundant post-translational modification of proteins. Estimates vary widely, but a common assessment is that upwards of 50% of eukaryotic proteins are modified by some type of glycan. In Mass Spectrometry of Glycoproteins: Methods and Protocols, expert researchers in the field detail many of the methods that are now commonly used for glycoproteomics. These methods and [...] 

Contents


Fields of interest

Protein Science; Mass Spectrometry

Target groups

Professional/practitioner

Type of publication

Contributed volume


Hardcover


109,95 €


Usually dispatched within 3 to 5 business days.

Mesenchymal Stromal Cells

Biology and Clinical Applications

Mesenchymal Stromal Cell (MSC) biology has been studied for more than 4 decades and the cells have been investigated for potential clinical applications for more than 15 years. Progress has become exponential over the past decade due mainly to the broad therapeutic potential of these cells. However, MSC studies have also been subject to controversy and increasing scrutiny as new mechanisms of action are reported and ever-expanding therapeutic applications pursued. In this book, leading authorities from all over the world, who are actively involved in this field, provide state-of-the-art knowledge of the basic biology, translational requirements and latest clinical experience with [...] 

Features

Mesenchymal Stromal Cell (MSC) biology has been studied for more than 4 decades and the cells have been investigated for potential clinical applications for more than 15 years. Progress has become exponential over the past decade due mainly to the broad therapeutic potential of these cells. However, MSC studies have also been subject to controversy and increasing scrutiny as new mechanisms of action are [...] 

Contents

MSCs in regenerative medicine: A perspective. MSCs: Changing hypotheses, paradigms, and controversies on mechanisms of action in repairing tissues. MSCs: the need to rethink. Characterization of MSCs: From early studies to the present. MSCs as therapeutics. MSC niche for hematopoiesis. Immunomodulatory properties of MSCs. MSCs and the innate immune system: A balancing act. Paracrine effects. Cross-talk between MSCs and their environments. Human MSCs from bone marrow, umbilical cord blood and adipose tissue: all the same? MSCs in solid tumors and hematological [...] 

Fields of interest

Stem Cells; Cell Biology; Biotechnology

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-5710-7

Hardcover

2013. XXVI, 695 p. 61 illus., 40 in color. (Stem Cell Biology and Regenerative Medicine)

179,95 €


Usually dispatched within 3 to 5 business days.

Plant Organogenesis

Methods and Protocols

Organogenesis entails the regulation of cell division, cell expansion, cell and tissue type differentiation, and patterning of the organ as a whole. It is essential to gain insight into how organs are initiated and how they develop. However, this very often is subject to technical difficulties as these processes take place embedded deep in tissues or are difficult to access or visualize. To achieve this, we need specialized techniques such as those concisely illustrated in Plant Organogenesis: Methods and Protocols. Chapters address topics such as how to study and image the structure of ovules and embryos of Arabidopsis thaliana, tools to establish cell lineages in order to visualize [...] 

Features

Organogenesis entails the regulation of cell division, cell expansion, cell and tissue type differentiation, and patterning of the organ as a whole. It is essential to gain insight into how organs are initiated and how they develop. However, this very often is subject to technical difficulties as these processes take place embedded deep in tissues or are difficult to access or visualize. To achieve this, we [...] 

Contents


Fields of interest

Plant Sciences; Plant Biochemistry

Target groups

Professional/practitioner

Type of publication

Contributed volume


Hardcover

2013. XVI, 356 p. 41 illus., 24 in color. (Methods in Molecular Biology, Vol. 959)

109,95 €


Usually dispatched within 3 to 5 business days.
Plant Transposable Elements

Impact on Genome Structure and Function

Transposable elements are short lengths of DNA with the capacity to move between different points within a genome. This process can affect the function of genes at or near the insertion site. The present book gives an overview of the impact of transposable elements on plant genomes and explains how to recognize and study transposable elements, e.g., by using state-of-the-art strategies like “new generation sequencing.” Moreover, the impact of transposable elements on plant genome structure and function is reviewed in detail, and also illustrated in examples and case studies. The book is intended both for readers familiar with the field and for newcomers. With large-scale...[

Features

Transposable elements are DNA sequences with the capacity to move within a genome. Although their presence and impact has long been known, the recent genome-wide analysis of many eukaryotic genomes has uncovered their major role in genome dynamics and function. The present book explains how to recognize and study transposable elements, e.g., by using state-of-the-art strategies based on new-generation...[

Contents

So many repeats and so little time - How to classify transposable elements. - Transposable element annotation in completely sequenced eukaryote genomes. - Using nextgen sequencing data to investigate genome size variation and transposable element content. - Genome-wide analysis of transposition using Next Generation Sequencing technologies. - Hitching a ride: Non-autonomous retrotransposons and parasitism as a lifestyle. - Plant endogenous retroviruses? A case of mysterious ORFs. - MITEs, miniature parasitism as a lifestyle. - Plant endogenous retroviruses: Non-autonomous retrotransposons and parasitism as a lifestyle. - Plant endogenous retroviruses? A case of mysterious ORFs...[

Fields of interest

Plant Genetics and Genomics; Plant Biochemistry; Nucleic Acid Chemistry; Cell Biology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-31841-2

Hardcover

2012. XII, 330 p. 44 illus., 28 in color. (Topics in Current Genetics, Vol. 24)

199,95 €

ISBN 978-3-642-31841-2

Usually dispatched within 3 to 5 business days.

Pot-Honey

A legacy of stingless bees

The stingless bees are one of the most diverse, attractive, fascinating, conspicuous and useful of all the insect groups of the tropical world. This is a formidable and contentious claim but I believe it can be backed up. They are fifty times more species rich than the honey bees, the other tribe of highly eusocial bees. They are ubiquitous in the tropics and thrive in tropical cities. In rural areas, they nest in a diversity of sites and are found on the flowers of a broad diversity of crop plants. Their role in natural systems is barely studied but they almost certainly deserve that hallowed title of keystone species. They are popular with the general public and are greatly...[

Features

The meliponines, stingless honey-making bees, encircle the tropical world and penetrate every forest there. This book brings together and synthesizes, on a global scale and for the first time, information on these bees as honey producers and natural alchemists. Their ability to store their food in flexible cerumen ‘pots’ made from wax and resin enables them to produce honey for which the world has no other...[

Fields of interest

Ecology, Entomology; Animal Ecology; Food Science

Target groups

Graduate

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-4959-1

Hardcover

2013. XX, 697 p. 127 illus., 57 in color.

154,95 €

ISBN 978-1-4614-4959-1

Usually dispatched within 3 to 5 business days.

Prospects in Bioscience: Addressing the Issues

The book entitled “Prospects in Bioscience: Addressing the issues” is a collection of selected research papers presented at the International Conference on Advances in Biological Sciences (ICABS) organized by the Department of Biotechnology and Microbiology and the Inter University Centre for Bioscience, Kannur University, Kerala, India. ICABS witnessed a unique spectrum of Scientific Programmes on the most recent and exciting developments in modern biology. The conference displayed the numerous breakthroughs and significant developments in the important areas of modern biology and their relevance to the welfare of global society. The book contains 50 well written chapters, each one...[

Features

The book entitled “Prospects in Bioscience: Addressing the issues” is a collection of selected research papers presented at the International Conference on Advances in Biological Sciences (ICABS) organized by the Department of Biotechnology and Microbiology and the Inter University Centre for Bioscience, Kannur University, Kerala, India. ICABS witnessed a unique spectrum of Scientific Programmes on the most...[

Contents


Fields of interest

Protein Structure; Gene Expression; Environmental Engineering / Biotechnology

Target groups

Research

Type of publication

Proceedings

More on www.springer.com/978-81-322-0809-9

Hardcover

2013. XV, 430 p. 183 illus., 64 in color.

139,95 €


Usually dispatched within 3 to 5 business days.
The Biology of Hover Wasps

This book represents the culmination of the author’s lifetime work on a single fascinating group of insects, the hover wasps, Stenogastrinae. The author explores the biology of these little-known wasps at the threshold of sociality, presenting an ambitious survey of ideas about their evolution and an assessment of the current standing of controversial concepts. Following taxonomic and morphological descriptions, the behaviour, colonial dynamics, social communication and especially the remarkably diverse nests of wasps are discussed. Compared to the better-known species of paper wasps, hornets and yellow jackets, the hover wasps show various peculiarities, such as characteristics of [...] Features

Contents

Fields of interest
Entomology; Behavioural Sciences; Evolutionary Biology; Zoology

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-32679-0

Hardcover 2012. XVI, 272 p. 157 illus., 39 in color. 139,95 € ISBN 978-3-642-32679-0

Usually dispatched within 3 to 5 business days.

The Prokaryotes

Prokaryotic Biology and Symbiotic Associations

The Prokaryotes is a comprehensive, multi-authored, peer reviewed reference work on Bacteria and Archaea. This fourth edition of The Prokaryotes is organized to cover all taxonomic diversity, using the family level to delineate chapters. Different from other resources, this new Springer product includes not only taxonomy, but also prokaryotic biology and technology of taxa in a broad context. Technological aspects highlight the usefulness of prokaryotes in processes and products, including biocontrol agents and as genetics tools. The content of the expanded fourth edition is divided into two parts: Part 1 contains review chapters dealing with the most important general concepts in [...] Features

Contents
Microbiology

Target groups
Professional/practitioner

Type of publication
Handbook

More on www.springer.com/978-3-642-30193-3

Hardcover 2013. XX, 608 p. 189 illus., 76 in color. 570,00 € ISBN 978-3-642-30193-3

Usually dispatched within 3 to 5 business days.
**Linguistics**

**Applying Cognitive Grammar in the Foreign Language Classroom**

Defining English Tense and Aspect

The monograph constitutes an attempt to demonstrate how Cognitive Grammar (CG) can be employed in the foreign language classroom with a view to aiding learners in better understanding the complexities of English grammar. Its theoretical part provides a brief overview of the main tenets of Cognitive Grammar as well as illustrating how the description of English tense and aspect can be approached from a traditional and a CG perspective. The empirical part reports the findings of an empirical study which aimed to compare the effects of instruction utilizing traditional pedagogical descriptions with those grounded in CG on the explicit and implicit knowledge of the Present Simple and Present [...] Features

The monograph constitutes an attempt to demonstrate how Cognitive Grammar (CG) can be employed in the foreign language classroom with a view to aiding learners in better understanding the complexities of English grammar. Its theoretical part provides a brief overview of the main tenets of Cognitive Grammar as well as illustrating how the description of English tense and aspect can be approached from a [...] Contents

**Linguistics**

J. Bielak, Adam Mickiewicz University, Kalisz, Poland; M. Pawlak, Adam Mickiewicz University, Kalisz, Poland

**Materials Science**

**Acoustic Metamaterials and Phononic Crystals**

This comprehensive book presents all aspects of acoustic metamaterials and phononic crystals. The emphasis is on acoustic wave propagation phenomena at interfaces such as refraction, especially unusual refractive properties and negative refraction. A thorough discussion of the mechanisms leading to such refractive phenomena includes local resonances in metamaterials and scattering in phononic crystals.

**Features**

This comprehensive book presents all aspects of acoustic metamaterials and phononic crystals. The emphasis is on acoustic wave propagation phenomena at interfaces such as refraction, especially unusual refractive properties and negative refraction. A thorough discussion of the mechanisms leading to such refractive phenomena includes local resonances in metamaterials and scattering in phononic crystals.

**Contents**


**Fields of interest**

Materials Science (general); Solid State Physics; Engineering Acoustics; Acoustics

**Target groups**

Research

**Type of publication**

Monograph

More on www.springer.com/978-3-642-27454-1

**Hardcover**

2013. XI, 293 p. 73 illus. (Second Language Learning and Teaching) 129,95 € ISBN 978-3-642-27454-1

Usually dispatched within 3 to 5 business days.
**Introduction to Metal Matrix Composites**

Fabrication and Recycling

This book is the first of its kind to deal with fabrication processes of metal matrix composites (MMCs) theoretically, experimentally, systematically, and instructively. The theoretical bases of fabrication processes and recycling processes of MMCs are established in this volume. Most other books in the field are concerned with the mechanics of properties, which is not easy for readers to grasp, and they provide fabrication processes only as techniques without theoretical discussion. Because this book provides a clear image of the fabrication processes of MMCs without using complicated mathematics, readers can use production theory to create new composites. Also, fundamental [...] Features

This book is the first of its kind to deal with fabrication processes of metal matrix composites (MMCs) theoretically, experimentally, systematically, and instructively. The theoretical bases of fabrication processes and recycling processes of MMCs are established in this volume. Most other books in the field are concerned with the mechanics of properties, which is not easy for readers to grasp, and they [...] Contents From the Contents: Fabrication processes for composites. - Fabrication by squeeze casting. - Theory of pressure infiltration. - Centrifugal casting of metal matrix composites. - Properties of composites. - Superplasticity of composites. - Materials for the fabrication of composites. - Recycling of composites. Fields of interest Ceramics, Glass, Composites, Natural Materials; Metallic Materials; Manufacturing, Machines, Tools; Waste Management / Waste Technology Target groups Research Type of publication Monograph More on www.springer.com/978-4-31-54236-0 Hardcover 2013. X, 203 p. 99,95 € ISBN 978-4-31-54236-0 Usually dispatched within 3 to 5 business days.

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**Piezotronics and Piezo-Phototronics**

The fundamental principle of piezotronics and piezo-phototronics were introduced by Wang in 2007 and 2010, respectively. Due to the polarization of ions in a crystal that has non-central symmetry in materials, such as the wurtzite structured ZnO, GaN and InN, a piezoelectric potential (piezopotential) is created in the crystal by applying a stress. Owing to the simultaneous possession of piezoelectricity and semiconductor properties, the piezopotential created in the crystal has a strong effect on the carrier transport at the interface/junction. Piezotronics is for devices fabricated using the piezopotential as a "gate" voltage to control charge carrier transport at a contact of [...] Features

The fundamental principle of piezotronics and piezo-phototronics were introduced by Wang in 2007 and 2010, respectively. Due to the polarization of ions in a crystal that has non-central symmetry in materials, such as the wurtzite structured ZnO, GaN and InN, a piezoelectric potential (piezopotential) is created in the crystal by applying a stress. Owing to the simultaneous possession of piezoelectricity and [...] Contents Introduction to Piezotronics and Piezo-Phototronics. - Piezopotential in Wurtzite Semiconductors. - Basic Theory of Piezotronics. - Piezotronic Transistors. - Piezotronic Logic Circuits and Operations. - Piezotronic Electromechanical Memories. - Theory of Piezo-Phototronics. - Piezo-Phototronic Effect on Solar Cells. - Piezo-Phototronic Effect on Photodetector. - Piezo-Phototronic Effect on Light-Emitting Diode. - Piezo-Phototronic Effect on Electrochemical Processes and Energy Storage. Fields of interest Optical and Electronic Materials; Condensed Matter Physics; Electronics and Microelectronics; Instrumentation; Electronic Circuits and Devices; Applied Optics, Optoelectronics, Optical Devices; Nanotechnology and Microengineering Target groups Research Type of publication Monograph More on www.springer.com/978-3-642-34236-3 Hardcover 2013. XI, 248 p. 145 illus., 135 in color. (Microtechnology and MEMS) 99,95 € ISBN 978-3-642-34236-3 Usually dispatched within 3 to 5 business days.

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**Production of Advanced Materials by Methods of Self-Propagating High-Temperature Synthesis**

This translation from the original Russian book outlines the production of a variety of materials by methods of self-propagating high-temperature synthesis (SHS). The types of materials discussed include: hard, refractory, corrosion and wear-resistant materials, as well as other advanced and specialty materials. The authors address the issue of optimal parameters for SHS reactions occurring during processes involving a preliminary metallothermic reduction stage, and they calculate these using thermodynamic approaches. In order to confirm the effectiveness of this approach, the authors describe experiments focusing on the synthesis of elemental crystalline boron, boron carbides and [...] Features

This translation from the original Russian book outlines the production of a variety of materials by methods of self-propagating high-temperature synthesis (SHS). The types of materials discussed include: hard, refractory, corrosion and wear-resistant materials, as well as other advanced and specialty materials. The authors address the issue of optimal parameters for SHS reactions occurring during processes [...] Contents Synthesis of elemental boron and its refractory compounds by self-propagating high-temperature synthesis with metallothermic reduction. - Hard titanium and zirconium boride alloys and items manufactured from them by SHS-compression. - Production and analysis of TiB2-based hard alloys. - Macrophotography of degassing during SHS. - Macrokinetics of SHS compaction. Fields of interest Structural Materials; Industrial Chemistry / Chemical Engineering; Inorganic Chemistry; Manufacturing, Machines, Tools Target groups Research Type of publication Brief More on www.springer.com/978-3-642-35204-1 Softcover 2013. XIX, 156 p. 106 illus. (SpringerBriefs in Materials) 49,95 € ISBN 978-3-642-35204-1 Usually dispatched within 3 to 5 business days.
Mathematics

S.M. Srivastava, Indian Statistical Institute, Kolkata, India

A Course on Mathematical Logic

This is a short, modern, and motivated introduction to mathematical logic for upper undergraduate and beginning graduate students in mathematics and computer science. Any mathematician who is interested in getting acquainted with logic and would like to learn Gödel’s incompleteness theorems should find this book particularly useful. The treatment is thoroughly mathematical and prepares students to branch out in several areas of mathematics related to foundations and computability, such as logic, axiomatic set theory, model theory, recursion theory, and computability. In this new edition, many small and large changes have been made throughout the text. The main purpose of this new[

Features

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Contents

Preface. 1 Syntax of First-Order Logic. 2 Semantics of First-Order Languages. 3 Propositional Logic. 4 Completeness Theorem for First-Order Logic. 5 Model Theory. 6 Recursive Functions and Arithmetization of Theories. 7 Incompleteness Theorems and Recursion Theory. References. Index.

Fields of interest

Mathematical Logic and Foundations; Mathematical Logic and Formal Languages; Algebra

Target groups

Graduate

Type of publication
Graduate/advanced undergraduate textbook

More on www.springer.com/978-1-4614-5745-9

Softcover

A Primer on PDEs

Models, Methods, Simulations

This book is designed as an advanced undergraduate or a first-year graduate course for students from various disciplines like applied mathematics, physics, engineering. It has evolved while teaching courses on partial differential equations during the last decade at the Politecnico di Milano. The main purpose of these courses was twofold: on the one hand, to train the students to appreciate the interplay between theory and modeling in problems arising in the applied sciences and on the other hand to give them a solid background for numerical methods, such as finite differences and finite elements.

Features

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Contents


Fields of interest

Mathematics (general); Partial Differential Equations; Analysis

Target groups

Upper undergraduate

Type of publication
Undergraduate textbook

More on www.springer.com/978-88-470-2861-6

Softcover

Advanced Summer School in Physics 2011: EAV2011

The Advanced Summer School was concerned with the introduction to young promising graduate students, advanced undergraduate students and researchers from Universities abroad the country on the forefront of the main avenues of research in Solid State Physics, Soft Condensed Matter, General Relativity-Gravitation, Particle Physics, Mathematical Physics, and Medical Physics. The Summer School hosted a series of Lectures presented by world class leaders in each of these fields in the Department of Physics at Cinvestav. Such research lines are also the main interest of the Physics Department which now celebrates its fifty years since its establishment. These proceedings include the[

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Fields of interest

Mathematical Physics; Condensed Matter Physics; Particle and Nuclear Physics; Medical and Radiation Physics; Solid State Physics

Target groups

Research

Type of publication
Proceedings


Hardcover
Advances in Harmonic Analysis and Operator Theory

The Stefan Samko Anniversary Volume

This volume is dedicated to Professor Stefan Samko on the occasion of his seventieth birthday. The contributions display the range of his scientific interests in harmonic analysis and operator theory. Particular attention is paid to fractional integrals and derivatives, singular, hypersingular and potential operators in variable exponent spaces, pseudodifferential operators in various modern function and distribution spaces, as well as related applications, to mention but a few. Most contributions were firstly presented in two conferences at Lisbon and Aveiro, Portugal, in June-July 2011.

Features

This volume is dedicated to Professor Stefan Samko on the occasion of his seventieth birthday. The contributions display the range of his scientific interests in harmonic analysis and operator theory. Particular attention is paid to fractional integrals and derivatives, singular, hypersingular and potential operators in variable exponent spaces, pseudodifferential operators in various modern function and [...]
Cylindric-like Algebras and Algebraic Logic

Algebraic logic is a subject in the interface between logic, algebra and geometry, it has strong connections with category theory and combinatorics. Tarski’s quest for finding structure in logic leads to cylindric-like algebras as studied in this book, they are among the main players in Tarskian algebraic logic. Cylindric-like algebra theory can be viewed in many ways: as an algebraic form of definability theory, as a study of higher-dimensional relations, as an enrichment of Boolean algebra theory, or, as logic in geometric form (“cylindric” in the name refers to geometric aspects). Cylindric-like algebras have a wide range of applications, in, e.g., natural language theory, data-base[...]

Features
Algebraic logic is a subject in the interface between logic, algebra and geometry, it has strong connections with category theory and combinatorics. Tarski’s quest for finding structure in logic leads to cylindric-like algebras as studied in this book, they are among the main players in Tarskian algebraic logic. Cylindric algebra theory can be viewed in many ways: as an algebraic form of definability theory, [...]

Contents

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

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-34452-7

Hardcover
109,95 €
ISBN 978-3-642-34452-7
Usually dispatched within 3 to 5 business days.

Differential-Algebraic Equations: A Projector Based Analysis

Differential algebraic equations (DAEs), including so-called descriptor systems, began to attract signifi- cant research interest in applied and numeri- cal mathematics in the early 1980s, no more than about three decades ago. In this relatively short time, DAEs have become a widely acknowledged tool to model processes subjected to constraints, in order to simulate and to control processes in various application fields such as network simulation, chem- ical kinematics, mechanical engineering, system biology. DAEs and their more abstract versions in infinite-dimensional spaces comprise a great poten- tial for future mathematical modeling of complex coupled processes. The purpose of the book is[...]

Features
Differential algebraic equations (DAEs), including so-called descriptor systems, began to attract sig- nificant research interest in applied and numerical mathematics in the early 1980s, no more than about three decades ago. In this relatively short time, DAEs have become a widely acknowledged tool to model processes subjected to certain constraints in order to simulate and to control processes in various[...]

Contents
Notations. - Introduction.- Part I. Projector based approach. - 1 Linear constant coefficient DAEs.- 2 Linear DAEs with variable coefficients. - 3 Nonlinear DAEs.- Part II. Index-1 DAEs: Analysis and numeri- cal treatment.- 4 Analysis. - 5 Numerical integration.- 6 Stability issues. - Part III. Computational aspects.- 7 Computational linear algebra aspects. - 8 Aspects of the numerical treatment of higher index DAEs.- Part IV. Advanced topics. - 9 Quasi-regular DAEs.- 10 Nonregular DAEs.- 11 Minimization with con- straints described by DAEs.- 12 Abstract differential algebraic equations.- A[...]

Fields of interest
Ordinary Differential Equations; Applications of Mathematics; Computational Mathematics and Numerical Analysis

Target groups
Upper undergraduate

Type of publication
Monograph

More on www.springer.com/978-3-642-27554-8

Softcover
2013. XXVII, 649 p. 24 illus., 19 in color. (Differen- tial-Algebraic Equations Forum)
109,95 €
ISBN 978-3-642-27554-8
Usually dispatched within 3 to 5 business days.
Interpolation and Sidon Sets for Compact Groups

Understanding special sets of integers was classically of interest to Hadamard, Zygmund and others, and continues to be of interest today. This book is a modern treatment of the subject of interpolation and Sidon sets. It is a unique book, aimed at both new and experienced researchers. In particular, this is the only book in English which features a complete treatment of the Pisier-Bourgain results on Sidon sets, many of which were originally in French, in hard to access publications. Applications of the P-B results, due to Pisier, Bourgain, Ramsey, and the authors are included. The book introduces the reader to a wealth of methods important in mathematics today: topological, [...]

Contents
Preface. - Introduction. - Hadamard Sets. - Stepulon $\ast$-Kronecker sets. - Sidon sets: Introduction and decomposition properties. - Characterizations of $S_1$ sets. - Decompositions of $S_1$ sets. - Sizes of thin sets. - Sets of zero discrete harmonic density. - Related results. - Appendices (Groups, Probability, Combinatorial results...). - Bibliography. - Author index. - Subject index. - Index of notation.

Fields of interest
Abstract Harmonic Analysis; Fourier Analysis; Functional Analysis; Partial Differential Equations; Calculus of Variations and Optimal Control; Optimization

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-1-4614-5391-8

Hardcover
2013. XVII, 249 p. (CMS Books in Mathematics)

ISBN 978-1-4614-5391-8

Usually dispatched within 3 to 5 business days.

P. Drábek, University West Bohemia, Plzen, Czech Republic; J. Milič, Czech Technical University, Prague, Czech Republic

Methods of Nonlinear Analysis

Applications to Differential Equations

In this book, fundamental methods of nonlinear analysis are introduced, discussed and illustrated in straightforward examples. Each method considered is motivated and explained in its general form, but presented in an abstract framework as comprehensively as possible. A large number of methods are applied to boundary value problems for both ordinary and partial differential equations. In this edition we have made minor revisions, added new material and organized the content slightly differently. In particular, we included evolutionary equations and differential equations on manifolds. The applications to partial differential equations follow every abstract framework of the method in[...]

Features
In this book, fundamental methods of nonlinear analysis are introduced, discussed and illustrated in straightforward examples. Each method considered is motivated and explained in its general form, but presented in an abstract framework as comprehensively as possible. A large number of methods are applied to boundary value problems for both ordinary and partial differential equations. In this edition we[...]

Contents

Fields of interest
Analysis; Functional Analysis; Partial Differential Equations; Calculus of Variations and Optimal Control; Optimization

Target groups
Graduate

Type of publication
Graduate/advanced undergraduate textbook

More on www.springer.com/978-3-0348-0386-1

Hardcover
2013. X, 649 p. 1 illus, in color. (Birkhäuser Advanced Texts Basler Lehrbücher)

ISBN 978-3-0348-0386-1

Usually dispatched within 3 to 5 business days.

P. Manfredi, University of Pisa, Italy; A. D’Onofrio, European Institute of Oncology, Milan, Italy (Eds.)

Modeling the Interplay Between Human Behavior and the Spread of Infectious Diseases

This volume summarizes the state-of-the-art in the fast growing research area of modeling the influence of information-driven human behavior on the spread and control of infectious diseases. In particular, it features the two main and inter-related “core” topics: behavioral changes in response to global threats, for example, pandemic influenza, and the pseudo-rational opposition to vaccines. In order to make realistic predictions, modelers need to go beyond classical mathematical epidemiology to take these dynamic effects into account. With contributions from experts in this field, the book fills a void in the literature. It goes beyond classical texts, yet preserves the rationale of[...]

Features
This volume summarizes the state-of-the-art in the fast growing research area of modeling the influence of information-driven human behavior on the spread and control of infectious diseases. In particular, it features the two main and inter-related “core” topics: behavioral changes in response to global threats, for example, pandemic influenza, and the pseudo-rational opposition to vaccines. The motivation[...]

Contents

Fields of interest
Physiological, Cellular and Medical Topics; Immunology; Math. Applications in Chemistry; Health Promotion and Disease Prevention; Infectious Diseases; Mathematical and Computational Biology

Target groups
Research

Type of publication
Contributed volume

More on www.springer.com/978-1-4614-5473-1

Hardcover
2013. XII, 329 p. 62 illus, 37 in color.

ISBN 978-1-4614-5473-1

Usually dispatched within 3 to 5 business days.
Multi-Layer Potentials and Boundary Problems for Higher-Order Elliptic Systems in Lipschitz Domains

Many phenomena in engineering and mathematical physics can be modeled by means of boundary value problems for a certain elliptic differential operator in a given domain. When the differential operator under discussion is of second order a variety of tools are available for dealing with such problems, including boundary integral methods, variational methods, harmonic measure techniques, and methods based on classical harmonic analysis. When the differential operator is of higher-order (as is the case, e.g., with anisotropic plate bending when one deals with a fourth order operator) only a few options could be successfully implemented. In the 1970s Alberto Calderón, one of the founders [...]
Nonlinear Flow Phenomena and Homotopy Analysis

Fluid Flow and Heat Transfer

Since most of the problems arising in science and engineering are nonlinear, they are inherently difficult to solve. Traditional analytical approximations are valid only for weakly nonlinear problems, and often fail when used for problems with strong nonlinearity. "Nonlinear Flow Phenomena and Homotopy Analysis: Fluid Flow and Heat Transfer" presents the current theoretical developments of the analytical method of homotopy analysis. This book not only addresses the theoretical framework for the method, but also gives a number of examples of nonlinear problems that have been solved by means of the homotopy analysis method. The particular focus lies on fluid flow problems governed by the Navier-Stokes equation.

Features

Since most of the problems arising in science and engineering are nonlinear, they are inherently difficult to solve. Traditional analytical approximations are valid only for weakly nonlinear problems, and often fail when used for problems with strong nonlinearity. "Nonlinear Flow Phenomena and Homotopy Analysis: Fluid Flow and Heat Transfer" presents the current theoretical developments of the analytical [...]
Offbeat Integral Geometry on Symmetric Spaces

The book demonstrates the development of integral geometry on domains of homogeneous spaces since 1990. It covers a wide range of topics, including analysis on multidimensional Euclidean domains and Riemannian symmetric spaces of arbitrary rank as well as recent work on phase space and the Heisenberg group. The book includes many significant recent results, among which can be pointed out uniqueness theorems for various classes of functions, far-reaching generalizations of the two-radii problem, the modern versions of the Pompeiu problem, and explicit reconstruction formulae in problems of integral geometry. These results are intriguing and useful in [...]
Optimal Investment

Readers of this book will learn how to solve a wide range of optimal investment problems arising in finance and economics. Starting from the fundamental Merton problem, many variants are presented and solved, often using numerical techniques that the book also covers. The final chapter assesses the relevance of many of the models in common use when applied to data.

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Contents


Fields of interest

Quantitative Finance; Finance / Banking; Numerical Analysis; Calculus of Variations and Optimal Control; Optimization; Probability Theory and Stochastic Processes

Target groups

Professional/practitioner

Type of publication

Brief

More on www.springer.com/978-3-642-35201-0

Softcover

2013. X, 156 p. 44 illus., 3 in color. (SpringerBriefs in Quantitative Finance) 49,95 € ISBN 978-3-642-35201-0

Usually dispatched within 3 to 5 business days.

Polyhedral and Algebraic Methods in Computational Geometry

Polyhedral and Algebraic Methods in Computational Geometry provides a thorough introduction into algorithmic geometry and its applications. It presents its primary topics from the viewpoints of discrete, convex and elementary algebraic geometry. The first part of the book studies classical problems and techniques that refer to polyhedral structures. The authors include a study on algorithms for computing convex hulls as well as the construction of Voronoi diagrams and Delone triangulations. The second part of the book develops the primary concepts of (non-linear) computational algebraic geometry. Here, the book looks at Gröbner bases and solving systems of polynomial equations. The...

Features

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Contents


Fields of interest

Geometry; Convex and Discrete Geometry; Mathematical Applications in Computer Science; Mathematics of Computing; Symbolic and Algebraic Manipulation; Algorithms

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook

More on www.springer.com/978-1-4471-4816-6

Softcover


Usually dispatched within 3 to 5 business days.
Prokhorov and Contemporary Probability Theory

In Honor of Yuri V. Prokhorov

The role of Yuri Vasilievich Prokhorov as a prominent mathematician and leading expert in the theory of probability is well known. Even early in his career he obtained substantial results on the validity of the strong law of large numbers and on the estimates (bounds) of the rates of convergence, some of which are the best possible. His findings on limit theorems in metric spaces and particularly functional limit theorems are of exceptional importance. Y.V. Prokhorov developed an original approach to the proof of functional limit theorems, based on the weak convergence of finite dimensional distributions and the condition of tightness of probability measures. The present volume [...]
Regular Functions of a Quaternionic Variable

The theory of slice regular functions over quaternions is the central subject of the present volume. This recent theory has expanded rapidly, producing a variety of new results that have caught the attention of the international research community. At the same time, the theory has already developed sturdy foundations. The richness of the theory of the holo-morphic functions of one complex variable and its wide variety of applications are a strong motivation for the study of its analogs in higher dimensions. In this respect, the four-dimensional case is particularly interesting due to its relevance in physics and its algebraic properties, as the quaternion forms the only associative [...] features.

Contents


Fields of interest

Functions of a Complex Variable; Sequences, Series, Summability; Functional Analysis

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-33870-0

Hardcover

2013. XIX, 185 p. 4 illus., 3 in color. (Springer Monographs in Mathematics)

84,95 €
ISBN 978-3-642-33870-0

Usually dispatched within 3 to 5 business days.

The Finite Element Method: Theory, Implementation, and Applications

This book gives an introduction to the finite element method as a general computational method for solving partial differential equations approximately. Our approach is mathematical in nature with a strong focus on the underlying mathematical principles, such as approximation properties of piecewise polynomial spaces, and variational formulations of partial differential equations, but with a minimum level of advanced mathematical machinery from functional analysis and partial differential equations. In principle, the material should be accessible to students with only knowledge of calculus of several variables, basic partial differential equations, and linear algebra, as the necessary [...] features.

Contents

1. Piecewise Polynomial Approximation in 1D.
2. The Finite Element Method in 1D.
3. Piecewise Polynomial Approximation in 2D.
4. The Finite Element Method in 2D.
5. Time-dependent Problems.
7. Abstract Finite Element Analysis.
A. Some Additional Matlab Code.

Fields of interest

Computational Science and Engineering; Partial Differential Equations; Theoretical and Applied Mechanics; Computer-Aided Engineering (CAD, CAE) and Design; Computational Mathematics and Numerical Analysis

Target groups

Upper undergraduate

Type of publication

Graduate/advanced undergraduate textbook

More on www.springer.com/978-3-642-33286-9

Hardcover

2013. XVII, 385 p. 84 illus., 5 in color. (Texts in Computational Science and Engineering, Vol. 10)

59,95 €
ISBN 978-3-642-33286-9

Usually dispatched within 3 to 5 business days.
The Kolmogorov-Obukhov Theory of Turbulence

A Mathematical Theory of Turbulence

Turbulence is a major problem facing modern societies. It makes airline passengers return to their seats and fasten their seatbelts but it also creates drag on the aircraft that causes it to use more fuel and create more pollution. The same applies to cars, ships and the space shuttle. The mathematical theory of turbulence has been an unsolved problem for 500 years and the development of the statistical theory of the Navier-Stokes equations describes turbulent flow has been an open problem. The Kolmogorov-Obukhov Theory of Turbulence develops a statistical theory of turbulence from the stochastic Navier-Stokes equation and the physical theory, that was proposed by Kolmogorov,[...]

Features

Turbulence is a major problem facing modern societies. It makes airline passengers return to their seats and fasten their seatbelts but it also creates drag on the aircraft that causes it to use more fuel and create more pollution. The same applies to cars, ships and the space shuttle. The mathematical theory of turbulence has been an unsolved problem for 500 years and the development of the [...]
Thinking in Problems
How Mathematicians Find Creative Solutions

This concise, self-contained textbook gives an in-depth look at problem-solving from a mathematician’s point-of-view. Each chapter builds off the previous one, while introducing a variety of methods that could be used when approaching any given problem. Creative thinking is the key to solving mathematical problems, and this book outlines the tools necessary to improve the reader’s technique. The text is divided into twelve chapters, each providing corresponding hints, explanations, and finalization of solutions for the problems in the given chapter. For the reader’s convenience, each exercise is marked with the required background level. This book implements a variety of strategies.[...]

Contents

Fields of interest
Algebra; Analysis; Combinatorics

Target groups
Graduate

Type of publication
Graduate/advanced undergraduate textbook

More on www.springer.com/978-0-8176-8405-1

Hardcover
2013. XXVII, 405 p. 14 Illus. 59,95 €
ISBN 978-0-8176-8405-1
Usually dispatched within 3 to 5 business days.

A. A. Roytvarf, Rishon LeZion, Center District, Israel

Vito Volterra

Vito Volterra (1860-1940) was one of the most famous representatives of Italian science in his day. Angelo Guerraggio and Giovanni Paolini analyze Volterra’s most important contributions to mathematics and their applications, as well as his outstanding organizational achievements in scientific policy. Volterra was one of the founding fathers of functional analysis and the author of fundamental contributions in the field of integral equations, elasticity theory and population dynamics (Lotka-Volterra model). He delivered keynote lectures on the occasion of the International Congresses of Mathematicians held in Paris (1900), Rome (1908), Strasbourg (1920) and Bologna (1928). He became[...]

Fields of interest
History of Mathematics

Target groups
Popular/general

Type of publication
Biography

More on www.springer.com/978-3-642-27262-2

Hardcover
2013. XI, 176 p. 25 illus. 34.95 €
ISBN 978-3-642-27262-2
Usually dispatched within 3 to 5 business days.

A. Guerraggio, University of Bocconi, Milano, Italy; G. Paolini, University of Rome, Italy
A Radiologically-Guided Approach to Musculoskeletal Anatomy

For many healthcare professionals, musculoskeletal diseases represent the "bread and butter" topic after graduation. Therefore, radiological education in respect of the musculoskeletal system is vital in ensuring adequate patient management and cost-effective use of healthcare resources. This book illustrates the clinical anatomy of the musculoskeletal system by means of images obtained using commercially available imaging equipment and the three main imaging techniques employed today – magnetic resonance imaging, computed tomography, and ultrasound. Based on an integrated multimodality approach, each anatomical region is presented with a special focus on clinically relevant [...] Features

For many healthcare professionals, musculoskeletal diseases represent the "bread and butter" topic after graduation. Therefore, radiological education in respect of the musculoskeletal system is vital in ensuring adequate patient management and cost-effective use of healthcare resources. This book illustrates the clinical anatomy of the musculoskeletal system by means of images obtained using [...] Contents

Introduction - Shoulder - Elbow - Wrist/Hand - Hip - Knee - Foot/Ankle - Spine

Fields of interest
Diagnostic Radiology - Orthopedics - Rehabilitation Medicine - Sports Medicine

Target groups
Professional/practitioner

Type of publication
Monograph

More on www.springer.com/978-88-470-2876-0

Softcover 2013. XII, 312 p. 300 illus., 150 in color. 69,99 € ISBN 978-88-470-2876-0 Online orders shipping within 2-3 days.

ACL Injuries in the Female Athlete

Causes, Impacts, and Conditioning Programs

Nearly a million anterior cruciate ligament (ACL) injuries occur each year worldwide, causing long-term problems in the knee joint. This textbook examines the short- and long-term impacts of ACL injuries on the basis of hundreds of published studies. Risk factors for such injuries are explored using data from hypothesis-driven investigations, and possible causes of the higher risk of noncontact ACL injuries in female athletes are analyzed. Neuromuscular training programs shown to reduce the rate of these injuries in female athletes are described in step-by-step detail with the aid of numerous color photographs and video demonstrations. In addition, detailed descriptions are provided [...] Features

Nearly a million anterior cruciate ligament (ACL) injuries occur each year worldwide. Such injuries can cause long-term problems in the knee joint, including in particular the early onset of osteoarthritis. It has been evident for some time that a tremendous gender disparity exists in noncontact ACL injuries in sports, and this aspect has been the subject of intensive research. This textbook [...] Contents

Orthopedics - Sports Medicine - Health Promotion and Disease Prevention - Rehabilitation

Target groups
Professional/practitioner

Type of publication
Contributed volume

More on www.springer.com/978-3-642-32591-5

Advances in Laserology - Selected Papers of Laser Florence 2010:
The 50th Birthday of Laser Medicine World

Laser Florence 2010 is the annual Congress of the International Academy Laser Medicine and Surgery. The year 2010 is the fiftieth birthday of Laser and we celebrated it with a special edition. As usual researchers and doctors were shown new data immediately available for practical use, in different topics: Dentistry, Dermatology, Neurology, Rehabilitation and Sport Injuries, ENT, Phlebology, Plastic Surgery, Photodynamic Diagnosis and Therapy, Diabetology. A special session was dedicated to the role of laser beams and light in Energetic Medicine, now called Quantum Medicine and Regenerative Medicine. In fact, in the world there is a bit of confusion between data obtained from [...] Features
Laser Florence 2010 is the annual Congress of the International Academy Laser Medicine and Surgery. The year 2010 is the fiftieth birthday of Laser and we celebrated it with a special edition. As usual researchers and doctors were shown new data immediately available for practical use, in different topics: Dentistry, Dermatology, Neurology, Rehabilitation and Sport Injuries, ENT, Phlebology, Plastic Surgery, [...] Fields of interest
Health Informatics; Nuclear Medicine; Radiotherapy; Medical and Radiation Physics; Laser Technology and Physics; Photonics

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-0-7354-0922-4

Softcover
2012. 190 p. (Atomic, Molecular, Chemical Physics, Vol. 1364)
129,95 €
ISBN 978-0-7354-0922-4

Online orders shipping within 2-3 days.

Advances in Laserology - Selected Papers of Laser Florence 2011:
A Window on the Laser Medicine World

The annual Congress of the International Academy Laser Medicine and Surgery, called Laser Florence 2011, opened a window on four different sector of laser use on human body: skin, nervous system, teeth and cellular level. In these sectors laser use allowed diagnosis and treatment of different lesions, better than traditional procedures. Advantages, limits and controversies were discussed by pioneers and opinion leaders of this matter, together young researchers and doctors. As usual this mix produced new data immediately available for practical use. A special session was dedicated to role of laser beams and light in Energetic Medicine, now called Quantum Medicine and Regenerative Medicine. [...] Features
The annual Congress of the International Academy Laser Medicine and Surgery, called Laser Florence 2011, opened a window on four different sector of laser use on human body: skin, nervous system, teeth and cellular level. In these sectors laser use allowed diagnosis and treatment of different lesions, better than traditional procedures. Advantages, limits and controversies were discussed by pioneers and [...] Contents

Fields of interest
Medicine (general)

Target groups
Research

Type of publication
Proceedings


Hardcover
114,95 €

Online orders shipping within 2-3 days.

Atlas of Ileoscopy
A Collection of Clinical Cases

This atlas presents high-quality images of clinical cases of small bowel diseases, with a focus on the importance of ileoscopy as the first step in detecting this group of rare pathologies. Among the conditions covered are celiac disease, inflammatory bowel disease, neoplasms, infections, and pediatric disease. The multidisciplinary approach to the presentation of clinical cases, with contributions from histology, radiology, capsule endoscopy, enteroscopy, and surgery, ensures that the atlas will provide an accurate learning course for beginners and also an effective update for specialists.

Features
This atlas presents high-quality images of clinical cases of small bowel diseases, with a focus on the importance of terminal ileoscopy as the first step in detecting this group of rare pathologies. Among the conditions covered are celiac disease, inflammatory bowel disease, neoplasms, infections, and pediatric disease. The multidisciplinary approach to the presentation of clinical cases, with contributions [...] Contents
The Asymptomatic Patient, 1 case - The Symptomatic Patient, 1 case - Celiac Disease, 1 case - Inflammatory Bowel Disease, 2 cases - Neoplastic Disease, 7 cases - Infectious Disease, 2 cases - The Pediatric Patient, 1 case - Radiology, 3 cases - Capsule Endoscopy, 4 cases - Enteroscopy, 2 cases - Surgery, 2 cases - Histology, 1 case - Miscellaneous, 2 cases.

Fields of interest
Medicine (general); Gastroenterology

Target groups
Professional/practitioner

Type of publication
Atlas

More on www.springer.com/978-88-470-5204-8

Hardcover
2011. 243 p. 150 illus. in color.
139,99 €

Online orders shipping within 2-3 days.
Atlas of Lymph Node Anatomy

Detailed anatomic drawings and state-of-the-art radiologic images combine to produce this essential Atlas of Lymph Node Anatomy. Utilizing the most recent advances in medical imaging, this book illustrates the nodal drainage stations in the head and neck, chest, abdomen and pelvis. Also featured are clinical cases depicting drainage pathways for common malignancies. 2-D and 3-D maps offer color-coordinated representations of the lymph nodes in correlation with the anatomic illustrations. This simple, straightforward approach makes this book a perfect daily resource for a wide spectrum of specialties and physicians at all levels who are looking to gain a better understanding of [...] 

Contents
Head and Neck Lymph Node Anatomy - Abdominal Lymph Node Anatomy - Pelvic Lymph Node Anatomy - Pitfalls and Mimics of Lymph Nodes in Imaging.

Fields of interest
Imaging / Radiology; Anatomy; Oncology; Diagnostic Radiology; Radiotherapy; Nuclear Medicine

Target groups
Professional/practitioner

Type of publication
Contributed volume

More on www.springer.com/978-1-4419-9766-1

Softcover
2013. XV, 185 p. 191 illus., 190 in color.
74,95 €
ISBN 978-1-4419-9766-1

Online orders shipping within 2-3 days.

Atlas of Percutaneous Edge-to-Edge Mitral Valve Repair

The field of structural heart disease interventions is experiencing a stage of rapid growth with the development of percutaneous mitral valve repair therapies and percutaneous aortic valve replacement therapies. The MitraClip represents a new therapeutic frontier for mitral regurgitation and is expected to revolutionize repair of the mitral valve. For the first time in the world, physicians now have the capability to repair the mitral valve percutaneously without the need for a sternotomy or cardiopulmonary bypass. However, as with all new endeavors, there is a steep learning curve, not just for the individual operator but also for the entire field. The MitraClip technology and [...] 

Features
The field of structural heart disease interventions is experiencing a stage of rapid growth with the development of percutaneous mitral valve repair therapies and percutaneous aortic valve replacement therapies. The MitraClip represents a new therapeutic frontier for mitral regurgitation and is expected to revolutionize repair of the mitral valve. For the first time in the world, physicians now have the [...] 

Contents

Fields of interest
Cardiology; Interventional Radiology

Target groups
Professional/practitioner

Type of publication
Contributed volume


Hardcover
149,95 €

Online orders shipping within 2-3 days.

Atlas of Practical Mohs Histopathology

Mohs surgery is microscopically controlled surgery used to treat common types of skin cancer and allows for the removal of a skin cancer with a very narrow surgical margin and a high cure rate. However, for those involved with the Mohs procedure, it is critical to understand the optimal preparation and interpretation of frozen sections. Complete with hundreds of high resolution figures, Atlas of Practical Mohs Histopathology is written by leading experts in the field and discusses everything from normal skin histology and rare tumors to pitfalls and incidental findings. Dermatologic surgeons, Mohs cutaneous surgeons, dermatopathologists and pathologists alike will find this book to be [...] 

Features
For those who perform Mohs microscopically controlled surgery, it is critical to understand the standards and nuances of histopathologic interpretation. Complete with hundreds of high resolution figures, Atlas of Practical Mohs Histopathology is written by leading experts in the field and discusses the broad range of clinically-focused histopathology from normal skin and rare tumors to pitfalls and [...] 

Contents
1. How to use this atlas. - Normal skin histology. - Basal cell carcinoma. - Infiltrative basal cell carcinoma. - Differentiating basal cell carcinoma from normal structures. - Adnexal tumors. - Microcystic adnexal carcinoma. - Differentiating infiltrative basal cell carcinoma from other tumors. - Squamous cell carcinoma in situ (Bowen’s disease) and actinic keratoses. - Squamous cell carcinoma. - Differentiating features of squamous cell carcinoma. - Dermatofibrosarcoma protuberans. - Rare tumors including atypical fibroxanthoma. - Pitfalls. [...] 

Fields of interest
Dermatology

Target groups
Professional/practitioner

Type of publication
Atlas

More on www.springer.com/978-1-4614-5160-0

Hardcover
2013. XIII, 320 p. 517 illus. in color.
149,95 €
ISBN 978-1-4614-5160-0

Online orders shipping within 2-3 days.
Atlas of Trichoscopy

Dermoscopy in Hair and Scalp Disease

The aim of this atlas is to provide detailed and comprehensive, easy-to-use information, sufficient to perform trichoscopy in clinical practice. From basics to advanced knowledge, everything in one book. In this sense it is rather an "illustrated textbook" than solely an atlas. It includes evidence based information, acknowledged algorithms, which help easy diagnosis and "take home messages", which aid memorizing specific features of diverse diseases. The atlas consists of two major parts. In the first part the authors describe structures and patterns seen in trichoscopy. The second part consists of detailed description of characteristic trichoscopy features of diverse diseases of...[...]

Features
Trichoscopy – the use of dermoscopy to diagnose diseases of hair and scalp – was initially named in 2006 and thus it is still very much in its childhood. With so much still to learn in the great field of hair and scalp disorders, recent years have brought multiple results from original studies into trichoscopy, new case descriptions, and analytic reviews, as well as how know-how derived from unpublished but [...]
### Cardiac Tumor Pathology

Cardiac tumors were once a nosographic entity of scarce clinical interest because of the rarity and of the intrinsic diagnostic and therapeutic impossibilities, and were considered a fatal morbid entity. It has now become a topical subject due to advances in clinical imaging (echo, magnetic resonance, computed tomography) as well as innovation in technologies of in-vivo diagnosis. Cardiac Tumor Pathology presents a spectacular example of these advances with clinico-pathologic correlations. This timely volume covers history, epidemiology, demographics, clinical diagnosis, pathology, imaging by echo, CT and MRI of both benign and malignant cardiac tumors, either primary or secondary.[…]

### Cardiovascular CT and MR Imaging

**From Technique to Clinical Interpretation**

The availability and diffusion of high-performance technologies has strengthened the role of CT angiography and MR angiography as simple and reliable techniques for the characterization and treatment planning of the main diseases of the cardiocirculatory system, an understanding of which has become essential for all radiologists. The aim of this book is to provide technical indications which are both concise and thorough regarding the main methods and examination techniques for performing high-quality CT angiography and MR angiography studies in a broad range of clinical settings. This is supported by a large number of cases and is rich with advice on image interpretation and […]

### Cell-Based Therapies in Stroke

Stroke remains one of the main causes of death and disability worldwide. Effective therapy for stroke recovery remains an unmet need. Much hope and promises are placed on cell-based therapies. The aim of this book is to provide focused yet comprehensive reviews on the current state of cell-based approaches in the treatment of stroke. The topics covered include experimental data on functional outcome after intravascular and intracerebral delivery of cells in stroke animals, followed by translational chapters which will rely heavily on the use of different imaging modalities in the tracking of cells. The last and most challenging part will describe the early phase of clinical […]

### Contents

**Cardiac Tumor Pathology**

- Introduction: Cardiac tumors in the era of cardiovascular surgery and imaging. - Cardiac tumors: classification and epidemiology. - Cardiac myxoma. - Other benign cardiac tumors. - Cardiac tumors in the pediatric age. - Primary malignant cardiac tumors.- Cardiac metasteses. - Echocardiographic diagnosis. - New cardiac imaging techniques: magnetic resonance and computed tomography. - Cardiac surgery.- Chemotherapy and cardiotoxicity.

**Fields of interest**

- Pathology; Oncology; Cardiology; Diagnostic Radiology

**Target groups**

- Professional/practitioner

**Type of publication**

- Contributed volume

More on [www.springer.com/978-1-62703-142-4](http://www.springer.com/978-1-62703-142-4)

**Hardcover**

2013. XIX, 197 p. 139 illus., 105 in color. (Current Clinical Pathology)  
139,95 €  
ISBN 978-1-62703-142-4  
Online orders shipping within 2-3 days.

**Cardiovascular CT and MR Imaging**


**Fields of interest**

- Imaging / Radiology; Diagnostic Radiology; Cardiology; Angiology; Vascular Surgery

**Target groups**

- Professional/practitioner


**Hardcover**

2013. XX, 388 p. 250 illus., 50 in color.  
169,99 €  
ISBN 978-88-470-2867-8  
Online orders shipping within 2-3 days.

**Cell-Based Therapies in Stroke**


**Fields of interest**

- Neurology; Imaging / Radiology; Neurosciences

**Target groups**

- Research

More on [www.springer.com/978-3-7091-1174-1](http://www.springer.com/978-3-7091-1174-1)

**Hardcover**

2013. VIII, 204 p. 24 illus., 20 in color.  
139,99 €  
ISBN 978-3-7091-1174-1  
Usually dispatched within 3 to 5 business days.
Evidence-based Non-pharmacological Therapies for Palliative Cancer Care

Cancer is one of the leading killers in the world and the incidence is increasing, but most cancer patients and cancer survivors suffer much from the disease and its conventional treatments’ side effects. In the past, clinical data showed that some complementary and alternative medicine (CAM) possessed anti-cancer abilities, but some clinicians and scientists have queried about the scientific validity of CAM due to the lack of scientific evidence. There is great demand in the knowledge gap to explore the scientific and evidence-based knowledge of CAM in the anticancer field. With this aim, a book series is needed to structurally deliver the knowledge to readers. Integrative therapies [...] 

Features
Cancer is one of the leading killers in the world and the incidence is increasing, but most cancer patients and cancer survivors suffer much from the disease and its conventional treatments’ side effects. In the past, clinical data showed that some complementary and alternative medicine (CAM) possessed anti-cancer abilities, but some clinicians and scientists have queried about the scientific validity of CAM [...] 

Contents

Fields of interest
Complementary & Alternative Medicine; Acupuncture; Oncology; Biomedicine (general); Cancer Research

Target groups
Professional/practitioner

Type of publication
Contributed volume


Hardcover
2013, XI, 280 p. 29 illus., 18 in color. (Evidence-based Anticancer Complementary and Alternative Medicine, Vol. 4) 139,95 € ISBN 978-94-007-5832-2 Usually dispatched within 3 to 5 business days.

Handbook of Systems and Complexity in Health

This book is an introduction to health care as a complex adaptive system, a system that feeds back on itself. The first section introduces systems and complexity theory from a science, historical, epistemological, and technical perspective, describing the principles and mathematics. Subsequent sections build on the health applications of systems science theory, from human physiology to medical decision making, population health and health services research. The aim of the book is to introduce and expand on important population health issues from a systems and complexity perspective, highlight current research developments and their implications for health care delivery, consider [...] 

Features
Systems and complexity theory plays critical roles in such varied fields as computer science, the physical sciences, meteorology, and economics—and yet health care has yet to take full advantage of what it has to offer. What the theory offers is on rich display as the Handbook of Systems and Complexity in Health presents a revolutionary approach to reforming basic practice and large-scale care [...] 

Contents

Fields of interest
Oncology; Pediatrics

Target groups
Professional/practitioner

Type of publication
Professional book

More on www.springer.com/978-3-642-04200-3

Hardcover
2012, VIII, 206 p. 2 illus., 1 in color. (Pediatric Oncology) 99,95 € ISBN 978-3-642-04200-3 Online orders shipping within 2-3 days.

Integrative Pediatric Oncology

This book covers a broad spectrum of complementary and alternative medicine (CAM) practices employed in pediatric oncology worldwide, with a special focus on the methods widely used in Western countries. It is a scientifically based, practice-oriented handbook that will meet the needs of pediatric oncologists working in medical practices and hospitals. It is a scientifically based, practice-oriented handbook that will meet the needs of pediatric oncologists working in medical practices and hospitals. [...] 

Contents
Part 1: Introduction Part 2: Overview on the most used CAM-therapies in pediatric oncology Part 3: Areas under development Part 4: Resources and information

Fields of interest
Oncology; Pediatrics

Target groups
Professional/practitioner

Type of publication
Professional book

More on www.springer.com/978-3-642-04200-3
Interventions in Pulmonary Medicine

Interventions in Pulmonary Medicine is an important new volume that addresses all areas of interventional pulmonology, a minimally invasive endoscopic way to diagnose and treat lung disorders. This volume contains dedicated chapters that outline the many issues related to lung cancer, both in early and advanced stages, from diagnosis to personalized treatment. It also covers bronchoscopic therapeutic options to benign conditions that are highly prevalent, such as COPD and asthma. Techniques described in this volume are: laser therapy, argon plasma coagulation therapy, cryotherapy, brachytherapy, placement of intrapleural drainage systems, endoscopic treatment of emphysema, stents in[...]

Features
Interventions in Pulmonary Medicine is an important new volume that addresses all areas of interventional pulmonology, a minimally invasive endoscopic way to diagnose and treat lung disorders. This volume contains dedicated chapters that outline the many issues related to lung cancer, both in early and advanced stages, from diagnosis to personalized treatment. It also covers bronchoscopic therapeutic [...]
Knee Surgery using Computer Assisted Surgery and Robotics

This book discusses the full range of current applications of computer-assisted surgery and robotics in the field of knee surgery, and also considers potential future applications. The impact of computer-assisted surgery on a wide range of surgical procedures is clearly explained. Procedures considered include total knee arthroplasty, unicompartmental knee arthroplasty, cruciate ligament reconstruction, patellofemoral arthroplasty, and revision surgery. In each case, technical aspects are thoroughly addressed in a readily understandable manner. Knee Surgery Using Computer-Assisted Surgery and Robotics will be an ideal guide to this exciting field for both novice and more experienced[...]

Contents


Fields of interest

Surgical Orthopedics

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-3-642-31429-2

Hardcover

2013, XII, 217 p. 161 illus., 137 in color.
139,95 €
ISBN 978-3-642-31429-2

Online orders shipping within 2-3 days.

Magnetic Resonance Imaging of the Bone Marrow

On account of its unrivalled imaging capabilities and sensitivity, magnetic resonance imaging (MRI) is considered the modality of choice for the investigation of physiologic and pathologic processes affecting the bone marrow. This book describes the MRI appearances of both the normal bone marrow, including variants, and the full range of bone marrow disorders. Detailed discussion is devoted to malignancies, including multiple myeloma, lymphoma, chronic myeloproliferative disorders, leukemia, and bone metastases. Among the other conditions covered are benign and malignant compression fractures, osteonecrosis, hemolytic anemia, Gaucher’s disease, bone marrow edema syndrome, trauma, and[...]

Features

On account of its unrivalled imaging capabilities and sensitivity, magnetic resonance imaging (MRI) is considered the modality of choice for the investigation of physiologic and pathologic processes affecting the bone marrow. This book describes the MRI appearances of both the normal bone marrow, including variants, and the full range of bone marrow disorders. Detailed discussion is devoted to malignancies,[...]

Contents

Technical aspects in bone marrow imaging: Diffusion and perfusion for bone marrow imaging.- Contrast media.- Histology and normal bone marrow.- Histology of bone marrow.- Normal bone marrow, variants and mimickers.- Imaging examples of age dependent normal bone marrow and haematopoietic islands.- Bone marrow neoplasia: Primary bone marrow malignancies.- Bone metastases.- Multiple myeloma.- MRI as a tool for the assessment of treatment response in oncologic marrow involvement.- Differentiation of benign and malignant vertebral compression fractures.- Benign processes affecting the bone[...]

Fields of interest

Imaging / Radiology; Diagnostic Radiology

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-3-642-17859-7

Hardcover

2012, XV, 371 p. 275 illus., 56 in color. (Diagnostic Imaging)
239,00 €
ISBN 978-3-642-17859-7

Online orders shipping within 2-3 days.

Management of Abdominal Hernias

Hernia repair is one of the commonest operations in general surgery. Open or laparoscopic repair of a primary inguinal hernia is a relatively straightforward operation, but more complex abdominal wall hernias demand greater surgical skill and knowledge. The editors have assembled the world’s top herniologists to describe and illustrate numerous surgical techniques in detail. The field of herniology has developed rapidly over the last few years. Since the previous edition of this book, published in 2003, new surgical techniques have been developed and many new prosthetic and biologic materials have been introduced. Management of Abdominal Hernias 4e presents an authoritative[...]

Features

Hernia repair is one of the commonest operations in general surgery. Open or laparoscopic repair of a primary inguinal hernia is a relatively straightforward operation, but more complex abdominal wall hernias demand greater surgical skill and knowledge. The editors have assembled the world’s top herniologists to describe and illustrate numerous surgical techniques in detail. The field of herniology has[...]

Contents


Fields of interest

Abdominal Surgery; Surgery; Medicine (general)

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-1-84882-876-6

Hardcover

2013, XII, 414 p. 490 illus., 250 in color.
199,95 €
ISBN 978-1-84882-876-6

Usually dispatched within 3 to 5 business days.
Management of Gynecological Cancers in Older Women

This book aims to provide an up-to-date review of the literature in each of the major areas relating to the management of older gynecological cancer patients, and makes recommendations for best practice and future research. The authors come from a broad geographic spread including the UK, mainland Europe and North America to ensure a worldwide relevance.

Features
The risk of cancer increases with age and the number of older adults seeking treatment is rising dramatically in line with the aging population. The care of older patients differs from that of younger adults because of variation in the biology of the tumor, age-related variation in host physiology, co-morbidity burden and psychosocial issues, which might impact the efficacy and side effects of cancer [...] 

Contents

Fields of interest
Oncology; Geriatrics / Gerontology; Surgical Oncology

Target groups
Professional/practitioner

Type of publication
Contributed volume

More on www.springer.com/978-1-4471-2215-9

Hardcover
2013. XIV, 409 p. 16 illus., 6 in color.
149,95 €

Usually dispatched within 3 to 5 business days.

Management of the Patient at High Risk for Breast Cancer

Management of the Patient at High Risk for Breast Cancer provides a state-of-the-art review of patients who are at high risk for breast cancer, how to identify them, the tools available for risk assessment and quantification and indications for genetic counseling and testing. The book summarizes the high risk breast imaging options, including newest techniques and schedules. Pathologic evaluation of high risk lesions are featured as well as the management issues surrounding these lesions. The volume also covers the management of concomitant cancer risk and screening strategies. A concise, yet comprehensive overview of the current status of the topic, Management of the Patient at High [...] 

Features
Management of the Patient at High Risk for Breast Cancer provides a state-of-the-art review of patients who are at high risk for breast cancer, how to identify them, the tools available for risk assessment and quantification and indications for genetic counseling and testing. The book summarizes the high risk breast imaging options, including newest techniques and schedules. Pathologic evaluation of high risk lesions are featured as well as the management issues surrounding these lesions. The volume also covers the management of concomitant cancer risk and screening strategies. A concise, yet comprehensive overview of the current status of the topic, Management of the Patient at High [...] 

Contents

Fields of interest
Gynecology; General Surgery

Target groups
Professional/practitioner

Type of publication
Contributed volume

More on www.springer.com/978-1-4614-5890-6

Hardcover
2013. X, 190 p. 54 illus., 50 in color.
139,95 €
ISBN 978-1-4614-5890-6

Usually dispatched within 3 to 5 business days.

Men’s Health

Men’s Health is a concise, didactic compendium that covers three important aspects of male sexual health: Testosterone Deficiency Syndrome; Premature Ejaculation and Sexually Transmitted Infections (STIs). The chapters that deal with Testosterone Deficiency Syndrome cover the epidemiology of the condition in the local context, the science behind the condition, its clinical presentation and treatment choices. The section on Premature Ejaculation advises the health practitioner on how to investigate this condition and describes the various treatment options available to the patient. The chapters on Sexually Transmitted Infections cover special aspects of the diagnosis, prevention and [...] 

Features
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Contents

Fields of interest
Endocrinology; Urology / Andrology; Infectious Diseases

Target groups
Professional/practitioner

Type of publication
Professional book

More on www.springer.com/978-1-4471-4765-7

Hardcover
2013. XIX, 204 p. 46 illus., 41 in color.
139,99 €
ISBN 978-1-4471-4765-7

Usually dispatched within 3 to 5 business days.
Molecular Pathology of Neoplastic Gastrointestinal Diseases

Molecular Pathology of Neoplastic Gastrointestinal Diseases reviews the molecular aspects that characterize the spectrum of neoplastic conditions that affect the gastrointestinal tract, providing the reader with current up-to-date knowledge. For each disease entity, chapters provide reviews on the molecular basis of the individual diseasemolecular testing approaches currently available or in development for diagnosis or for gene target characterization for selective targeted therapeutics. Recommended guidelines for clinical application of molecular tests are included whenever available. Molecular testing for hereditary predisposition or disease riskanomal mod and cell culture models of disease.

Contents

Fields of interest
Pathology; Gastroenterology

Target groups
Professional/practitioner

Type of publication
Contributed volume


Hardcover
2013, X, 277 p. 53 illus., 40 in color. (Molecular Pathology Library, Vol. 7)
139,95 €
Usually dispatched within 3 to 5 business days.

Movement Disorder Emergencies

Diagnosis and Treatment

Updated and expanded with nine additional chapters, Movement Disorder Emergencies: Diagnosis and Treatment, Second Edition is an indispensable resource for general neurologists, specialists, fellows, and residents eager to improve their approach toward the patient with a movement disorder emergency. In this comprehensive second edition, prominent neurologists from around the world logically and systematically review the major movement disorder emergencies, instructing the reader on how optimally to recognize and manage these problems. The authors cover a broad range of disorders, including acute dystonic reactions, neuroleptic malignant syndrome, startle syndromes, tic emergencies, [...]

Features
Updated and expanded with nine additional chapters, Movement Disorder Emergencies: Diagnosis and Treatment, Second Edition is an indispensable resource for general neurologists, specialists, fellows, and residents eager to improve their approach toward the patient with a movement disorder emergency. In this comprehensive second edition, prominent neurologists from around the world logically and systematically review the major movement disorder emergencies, instructing the reader on how optimally to recognize and manage these problems. The authors cover a broad range of disorders, including acute dystonic reactions, neuroleptic malignant syndrome, startle syndromes, tic emergencies, [...]

Contents

Fields of interest
Neurology

Target groups
Professional/practitioner

Type of publication
Contributed volume

More on www.springer.com/978-1-60761-834-8

Hardcover
2013, XVIII, 401 p. 25 illus. (Current Clinical Neurology)
149,95 €
ISBN 978-1-60761-834-8
Online orders shipping within 2-3 days.
Pediatric Anesthesia, Intensive Care and Pain: Standardization in Clinical Practice

This book provides a comprehensive overview of current standards of anesthesia and intensive care in neonates and children, with a view to promoting standardization in clinical practice. The first part of the book, devoted to issues in intensive care, opens by considering scoring systems for the assessment of sick children. The diagnosis, prevention, and management of ventilator-associated pneumonia are then discussed, and the roles of high-frequency oscillatory ventilation and noninvasive respiratory support are reviewed. Further chapters address procedural sedation and analgesia in children, the progress toward ‘open’ ICUs with liberal visiting policies, and advances in long-term [...] Features
This book provides a comprehensive overview of current standards of anesthesia and intensive care in neonates and children, with a view to promoting standardization in clinical practice. The first part of the book, devoted to issues in intensive care, opens by considering scoring systems for the assessment of sick children. The diagnosis, prevention, and management of ventilator-associated pneumonia [...] Contents
The past two decades have witnessed a technological revolution in surgery, leading to the widespread application of minimally invasive techniques. Such techniques have had a profound impact on the diagnosis and therapy of thoracic disorders, including in the pediatric age group. This book is intended as a practical guide to the current approaches in pediatric thoracic surgery. Up-to-date information is provided on the surgical techniques employed for diagnosis and therapy in a wide range of congenital and acquired thoracic pathologies from the prenatal age to adolescence. Among the disorders considered in detail are cystic malformations of the lung, chest wall deformities, diaphragmatic hernias, oesophageal anomalies, mediastinal tumors, laryngeal anomalies, and thoracic [...] Features
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Principles and Practice of Interventional Pulmonology

Principles and Practice of Interventional Pulmonology provides a comprehensive text covering all aspects of Interventional Pulmonology. Providing both pathophysiological background as well as illustrated and clear instruction on how procedures ought to be performed, this text will be of great value to interventional pulmonologists, thoracic surgeons, surgical oncologists, and interventional radiologists.

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Contents

Fields of interest
Thoracic Surgery; Pneumology/Respiratory System; Interventional Radiology; Surgical Oncology

Target groups
Professional/practitioner

Type of publication
Professional book


Hardcover

Online orders shipping within 2-3 days.

Principles of Miniaturized ExtraCorporeal Circulation

Principles and Practice of Interventional Pulmonology

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Contents

Fields of interest
Cardiac Surgery; Thoracic Surgery

Target groups
Professional/practitioner

Type of publication
Monograph

More on www.springer.com/978-3-642-32755-1

Hardcover
2013. XIV, 1046 p. 641 illus., 294 in color. 249,00 € ISBN 978-3-642-02399-6

Online orders shipping within 2-3 days.

Radionuclide and Hybrid Bone Imaging

This book, written by authors with national and international reputations in the field, covers all aspects of radionuclide and hybrid bone imaging. Introductory sections present the basic science and consider the current status and limitations of conventional radiological techniques. The underlying principles of PET-CT and SPECT-CT are carefully explained, and the value of different PET and SPECT tracers, assessed. The role of single- and dual-modal approach in the imaging of benign bone diseases and malignancies is then discussed in detail in a series of well-illustrated chapters. The pathologies addressed include metabolic bone disease, arthritis, bone and joint infections,

Features
The accurate identification of pathology in the skeleton is an extremely important goal, and the great strength of the radionuclide bone scan is its ability to identify functional change before structural change occurs. Over the years, the indications for bone scan have evolved to include benign disorders as well as malignancies. Further striking developments include the emergence of PET and of new tracers

Contents
From the contents: Anatomy of skeletal system - Physiology of bone formation, remodeling and metabolism - Pathophysiology of bone metastases - Skeletal tracer kinetics - Biochemical markers in bone diseases - Plain radiography in benign bone disease and bone metastases - CT in benign bone disease and bone metastases - MRI in benign bone disease and bone metastases - Basic principles of SPECT-CT and PET-CT technology - Bone scintigraphy: SPECT and PET tracers - Current applications and limitations of SPECT - Bone scintigraphy: procedure, variants, artefacts and pitfalls - Bone

Fields of interest
Nuclear Medicine; Oncology; Orthopedics

Target groups
Professional/practitioner

Type of publication
Contributed volume

More on www.springer.com/978-3-642-02399-6

Hardcover
2013. XIV, 1046 p. 641 illus., 294 in color. 249,00 € ISBN 978-3-642-02399-6

Online orders shipping within 2-3 days.
Rehab Clinical Pocket Guide

Rehabilitation Medicine

Designed in a concise, easy-to-read style for a wide variety of medical occupations, the Rehab Clinical Pocket Guide is the ideal, handy reference for rehabilitation professionals and other health providers. Divided into four sections that cover inpatient care, clinical strategies, outpatient care, and additional diagnostics and therapeutics, this is the first book of its kind to contain all of the relevant clinical information needed on the rehabilitation unit, including topics such as medication dosing, consultant recommendations, specific rehabilitation goals and treatments, and even billing details for various diagnoses.

The Rehab Clinical Pocket Guide offers all the clinical...]

Features

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Contents


Fields of interest

Rehabilitation Medicine

Target groups

Professional/practitioner

Type of publication

Monograph


Softcover

2013. XXXIII, 695 p. 20 illus., 2 in color. 29,95 €

Usually dispatched within 3 to 5 business days.

D.B. Glick, University of Chicago, IL, USA; R.M. Cooper, Toronto General Hospital, ON, Canada; A. Ovassapian, University of Chicago, IL, USA (Eds.)

The Difficult Airway

An Atlas of Tools and Techniques for Clinical Management

The Difficult Airway provides a comprehensive textual and visual coverage of how to deal with patients who have expected or unexpected difficult airways. The text begins with a description of the incidence and importance of the difficult airway and then describes the ASA Difficult Airway Algorithm created to facilitate the management of “difficult airways.” The majority of the book features a comprehensive step-by-step approach to the rescue techniques listed as part of the ASA Algorithm. Noted experts in each of the techniques have been recruited by the book editors to present the information. Figures throughout the book illustrate important points and procedures. This is a wonderful...]

Features

The Difficult Airway provides comprehensive textual and visual coverage of how to deal with patients who have expected or unexpected difficult airways. The book begins with a review of current definitions of the difficult airway, its incidence, and the evolution of algorithms to facilitate its management. The chapters that follow offer a comprehensive update on the techniques and [..]

Contents


Fields of interest

Anesthesiology; Intensive / Critical Care Medicine; Emergency Medicine

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-3-8792848-7

Softcover

2013. XVIII, 295 p. 313 illus., 212 in color. 99,95 €
ISBN 978-3-8792848-7

Online orders shipping within 2-3 days.

H.J. Baskin, Sr., University of Central Florida, Orlando, FL, USA; D.S. Duick, Endocrinology Associates, Scottsdale, AZ, USA; R.A. Levine, Thyroid Center of New Hampshire, Nashua, NH, USA (Eds.)

Thyroid Ultrasound and Ultrasound-Guided FNA

Since the first publication of Thyroid Ultrasound and UGFINA in 2000, ultrasound has become established as a primary tool for diagnosing and managing thyroid disease. Indeed, over the last 10 years ultrasound has become a catalyst for bringing together endocrinologists, surgeons, radiologists, and pathologists to create a multidisciplinary approach to the management of thyroid disease which is and will continue to benefit our patients.

Features

Thyroid Ultrasound and Ultrasound-Guided FNA, Third Edition, is the gold-standard, concise, user friendly resource for all clinicians who use ultrasound in the evaluation and management of thyroid disease and ancillary disease of the neck. Building on the success of the first two editions, this version again emphasizes a multidisciplinary approach and offers all the new information regarding [..]

Contents

Foreword.- Preface.- History of Thyroid Ultrasound.- Thyroid Ultrasound Physics.- Doppler Ultrasound of the Neck.- Normal Neck Anatomy and Method of Performing Ultrasound Examination.- Pediatric Ultrasound of the Neck.- Ultrasound of Diffuse Thyroid Enlargement.- Thyroiditis.- Ultrasound of Nodular Thyroid Enlargement.- Ultrasound and Mapping of Neck Lymph Nodes.- Ultrasound of the Parathyroid Glands Devaprabu Abraham.- Surgical Trends in Treatment of Thyroid Nodules, Thyroid Cancer and Parathyroid Disease.- Ultrasound of Salivary Glands and the Non-Endocrine Neck.- Ultrasound-Guided [..]

Fields of interest

Endocrinology; Diagnostic Radiology; Ultrasound; Oncology; Otorhinolaryngology; Internal Medicine

Target groups

Professional/practitioner

Type of publication

Monograph


Softcover

2013. XIV, 385 p. 300 illus., 212 in color. 99,95 €

Online orders shipping within 2-3 days.
Physics

H.M. Matevosyan, University of Adelaide, SA, Australia; A.W. Thomas, University of Adelaide, SA, Australia (Eds.)

8th Circum-Pan-Pacific Symposium on High Energy Spin Physics: PacSPIN2011

This conference proceedings would be of interest to academic staff and graduate students involved in research in Hadronic, Nuclear and High Energy Theoretical and Experimental Physics. Far from being elementary, the proton is composed of more fundamental quarks and gluons, with QCD believed to be the fundamental theory of the strong force which binds them. One of the most topical tests of QCD is whether it can explain the origin of the spin of the proton. This meeting served to bring together experts in this area from around the world to exchange their latest ideas.

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Fields of interest
Particle and Nuclear Physics; Nuclear Physics, Heavy Ions, Hadrons

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-0-7354-0995-8

Softcover
Online orders shipping within 2-3 days.

A Superintense Laser-Plasma Interaction Theory Primer

The continuous trend towards higher and higher laser intensities has opened the way to new physical regimes and advanced applications of laser-plasma interactions, thus stimulating novel connections with ultrafast optics, astrophysics, particle physics, and biomedical applications. This book is primarily oriented towards students and young researchers who need to acquire rapidly a basic knowledge of this active and rapidly changing research field. To this aim, the presentation is focused on a selection of basic models and inspiring examples, and includes topics which emerged recently such as ion acceleration, relativistic engineering and radiation friction. The contents are[...]

Features
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Contents

Fields of interest
Plasma Physics

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-94-007-6124-7

Softcover
Usually dispatched within 3 to 5 business days.

Advanced Statistical Methods for Astrophysical Probes of Cosmology

This thesis explores advanced Bayesian statistical methods for extracting key information for cosmological model selection, parameter inference and forecasting from astrophysical observations. Bayesian model selection provides a measure of how good models in a set are relative to each other - but what if the best model is missing and not included in the set? Bayesian Doubt is an approach which addresses this problem and seeks to deliver an absolute rather than a relative measure of how good a model is. Supernovae type Ia were the first astrophysical observations to indicate the late time acceleration of the Universe - this work presents a detailed Bayesian Hierarchical Model to[...]

Features
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Contents
Introduction.- Cosmology background.- Dark energy and apparent late time acceleration.- Supernovae Ia.- Statistical techniques.- Bayesian Doubt: Should we doubt the Cosmological Constant?.- Bayesian parameter inference for SNeIa data.- Robustness to Systematic Error for Future Dark Energy Probes.- Summary and Conclusions.- Index.

Fields of interest
Cosmology, Astronomy, Observations and Techniques; Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences; Statistical Physics, Dynamical Systems and Complexity

Target groups
Research

Type of publication
Ph.D. thesis

More on www.springer.com/978-3-642-35059-7

Hardcover
2013. XX, 177 p. 46 illus., 11 in color. (Springer Theses) 99,95 € ISBN 978-3-642-35059-7
Usually dispatched within 3 to 5 business days.
**Advances in Cryogenic Engineering: Transactions of the Cryogenic Engineering Conference - CEC**

This conference is the principal North American Conference on cryogenic engineering. It is attended by scientists and engineers from all over the world. The papers published here have been fully refereed and cover all aspects of cryogenic engineering including: refrigeration, superconductivity, cryocoolers, air liquefaction, heat and mass transfer, insulation systems, cryostat design and space cryogenics.

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This conference is the principal North American Conference on cryogenic engineering. It is attended by scientists and engineers from all over the world. The papers published here have been fully refereed and cover all aspects of cryogenic engineering including: refrigeration, superconductivity, cryocoolers, air liquefaction, heat and mass transfer, insulation systems, cryostat design and space.[…]

**Contents**

**Fields of interest**
Strongly Correlated Systems, Superconductivity; Energy Technology; Engineering Fluid Dynamics; Astronomy, Observations and Techniques; Energy Technology; Microwaves, RF and Optical Engineering

**Target groups**
Research

**Type of publication**
Proceedings


**Hardcover**
409,00 €

Online orders shipping within 2-3 days.

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**Analytic Tools for Feynman Integrals**

The goal of this book is to describe the most powerful methods for evaluating multiloop Feynman integrals that are currently used in practice. This book supersedes the author’s previous Springer book “Evaluating Feynman Integrals” and its textbook version “Feynman Integral Calculus.” Since the publication of these two books, powerful new methods have arisen and conventional methods have been improved on in essential ways. A further qualitative change is the fact that most of the methods and the corresponding algorithms have now been implemented in computer codes which are often public. In comparison to the two previous books, three new chapters have been added: One is on sector[…]

**Contents**

**Fields of interest**
Particle and Nuclear Physics; Quantum Physics; Field Theory and Polynomials; Numerical and Computational Physics

**Target groups**
Research

**Type of publication**
Monograph


**Hardcover**
2012. IX, 296 p. 63 illus. (Springer Tracts in Modern Physics, Vol. 250)
149,95 €
ISBN 978-3-642-34885-3

Usually dispatched within 3 to 5 business days.

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**Astrophysics of the Interstellar Medium**

The space between the stars contains a large diversity of objects in which physical processes occur that are fundamental to the structure and evolution of galaxies. This book offers the reader a basic knowledge of these processes and at the same time, presents estimates of the main quantities relevant to the interstellar medium. The main objects that constitute the interstellar space are described, but the emphasis of the book lies in the physical processes occurring in these objects, which may also occur in other astrophysical environments. The book is directed towards graduate as well as advanced undergraduate students of physics and astrophysics.

**Features**
The space between the stars includes a large variety of objects, where physical processes occur that are fundamental for the structure and evolution of galaxies. This book gives the reader some basic knowledge of these processes and at the same time, presents estimates of the main quantities relevant to the study of the interstellar medium. The book could be used as an introductory course on the[…]

**Fields of interest**
Astronomy, Astrophysics and Cosmology; Astrophysics and Astroparticles; Extraterrestrial Physics, Space Sciences

**Target groups**
Upper undergraduate

**Type of publication**
Monograph


**Hardcover**
2013. XVI, 258 p. 42 illus. 99,95 €
ISBN 978-1-4614-3766-6

Usually dispatched within 3 to 5 business days.
Consensus and Synchronization in Complex Networks

In this book for the first time two scientific fields - consensus formation and synchronization of communications - are presented together and examined through their interrelational aspects, of rapidly growing importance. Both fields have indeed attracted enormous research interest especially in relation to complex networks. In networks of dynamic systems (or agents), consensus means to reach an agreement regarding a certain quantity of interest that depends on the state of all dynamical systems (agents). Consensus problems have a long history in control theory and computer sciences, and form the foundation of the field of distributed computing. Synchronization, which defines [...] Features

Synchronization in complex networks is one of the most captivating cooperative phenomena in nature and has been shown to be of fundamental importance in such varied circumstances as the continued existence of species, the functioning of heart pacemaker cells, epileptic seizures, neuronal firing in the feline visual cortex and cognitive tasks in humans. E.g. coupled visual and acoustic interactions make [...] Contents

Consensus theory in networked systems. - Control of Networks of Coupled Dynamical Systems. - Distributed consensus and coordination control of networked multi-agent systems. - Consensus of Networked Multi-Agent Systems with Delays and Fractional-Order Dynamics. - Synchronization in complex networks: properties and tools. - Enhancing Synchronizability of Complex Networks via Optimization. - Synchronization-based parameter estimation in chaotic dynamical systems. - Data Assimilation as Artificial Perception and Supermodeling as Artificial Consciousness. - Supermodeling dynamics and learning [...] Fields of interest

Complex Networks; Simulation and Modeling; Computational Intelligence; Control; Complexity

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-33358-3

Hardcover

2013, IX, 275 p. 104 illus. (Understanding Complex Systems)

129,95 €

ISBN 978-3-642-33358-3

Usually dispatched within 3 to 5 business days.

Emerging Applications of Wavelet Methods:

7th International Congress on Industrial and Applied Mathematics-Thematic Minisymposia

The volume is based on the deliberations of three thematic minisymposia (MS369, MS425 MS483) identified by the scientific programme committee of International congress of Industrial and applied mathematics-2011 held at Vancouver, BC, Canada during 18-22, July 2011. This congress is organized at an interval of four years by the International council of Industrial and applied mathematics (ICIAM) IN DIFFERENT PARTS OF THE world so far seven congresses have been organized at Paris (1987), Washington DC (1991), Hamburg (1995), Edinburgh (1999), Sydney (2007), Zurich (2007) and Vancouver (2011). The next congress is scheduled in Beijing, August 2015. ICIAM comprises currently representatives [...] Features

The volume is based on the deliberations of three thematic minisymposia (MS369, MS425 MS483) identified by the scientific programme committee of International congress of Industrial and applied mathematics-2011 held at Vancouver, BC, Canada during 18-22, July 2011. This congress is organized at an interval of four years by the International council of Industrial and applied mathematics (ICIAM) IN DIFFERENT [...] Contents

Mathematical Modeling And Methods. - Application Of Wavelet Methods. - Variants Of Wavelet And Their Applications. Fields of interest

Geophysics and Environmental Physics; Atomic, Molecular, Optical and Plasma Physics; Image Processing and Computer Vision

Target groups

Research

Type of publication

Proceedings

More on www.springer.com/978-0-7354-1067-1

Hardcover

2013. 280 p. (Mathematical and Statistical Physics, Vol. 1463)

129,99 €

ISBN 978-0-7354-1067-1

Online orders shipping within 2-3 days.

Epitaxy of Semiconductors

Introduction to Physical Principles

Introduction to Epitaxy provides the essential information for a comprehensive upper-level graduate course treating the crystalline growth of semiconductor heterostructures. Heteroepitaxy represents the basis of advanced electronic and optoelectronic devices today and is considered one of the top fields in materials research. The book covers the structural and electronic properties of strained epilayer layers, the thermodynamics and kinetics of layer growth, and the description of the major growth techniques (metalorganic vapor phase epitaxy, molecular beam epitaxy and liquid phase epitaxy). Cubic semiconductors, strain relaxation by misfit dislocations, strain confinement effects [...] Features

Introduction to Epitaxy provides the essential information for a comprehensive upper-level graduate course treating the crystalline growth of semiconductor heterostructures. Heteroepitaxy represents the basis of advanced electronic and optoelectronic devices today and is considered one of the top fields in materials research. The book covers the structural and electronic properties of strained epitaxial [...] Contents


Semiconductors; Optical and Electronic Materials; Physical Chemistry; Applied and Technical Physics; Crystallography

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook

More on www.springer.com/978-3-642-32969-2

Hardcover

2013. XX, 326 p. 213 illus., 57 in color. (Graduate Texts in Physics)

69,95 €

ISBN 978-3-642-32969-2

Usually dispatched within 3 to 5 business days.
Excited Nuclear States - Nuclei with $Z = 74$–103

Volume I/25E is the last one in a series of volumes on the properties of the excited states of all nuclei. The data presented are collected from all kinds of nuclear reactions, including measurements of reactions with neutrons and γ-rays not yet fully considered in previous compilations. The nuclei considered also comprise nuclei far from the stability line. The properties of excited nuclear states are of importance for scientific and practical applications. No systematic compilation of such data has been performed so far. The present compilation has been prepared by eminent experts in the field. One of the characteristics of Landolt-Börnstein is that data are evaluated before they[...]

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Fields of interest
Physics (general); Astronomy, Astrophysics and Cosmology; Medical and Radiation Physics; Geophysics and Environmental Physics; Nuclear Engineering; Waste Management / Waste Technology

Target groups
Research

Type of publication
Reference work

More on www.springer.com/978-3-642-30692-1

Hardcover
2013. 590 p. (Elementary Particles, Nuclei and Atoms, Subvolume 25E)
approx. 4.990,00 €
ISBN 978-3-642-30698-3

Due: January 7, 2013

Excited Nuclear States - Nuclei with $Z = 48$–60

Volume I/25C is the third one in a series of volumes on the properties of the excited states of all nuclei. The data presented are collected from all kinds of nuclear reactions, including measurements of reactions with neutrons and γ-rays not yet fully considered in previous compilations. The nuclei considered also comprise nuclei far from the stability line. The properties of excited nuclear states are of importance for scientific and practical applications. No systematic compilation of such data has been performed so far. The present compilation has been prepared by eminent experts in the field. One of the characteristics of Landolt-Börnstein is that data are evaluated before they[...]

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Fields of interest
Physics (general)

Target groups
Research

Type of publication
Reference work

More on www.springer.com/978-3-642-30692-1

Hardcover
2013. 590 p. (Elementary Particles, Nuclei and Atoms, Subvolume 25C)
approx. 4.990,00 €
ISBN 978-3-642-30698-3

Due: January 7, 2013

First Stars IV from Hayashi to the Future

The First Stars IV meeting was aimed at discussing star formation through cosmic time and the impacts of first stars on galaxy formation, first explosions, cosmic reionization, and formation of massive black holes. This meeting was held partially as a memorial conference for Professor Hayashi (1920–2010), in honor of his invaluable contributions to the study of star formation and cosmology.

Features
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Contents
Development of Star Formation Theory from the Hayashi Era.- Formation of Pop III Stars.- Pop III to Pop II Transition.- Metal-Poor Stars and Galaxies in the Local Universe.- First Supernovae and Gamma Ray Bursts.- Formation of Primordial Galaxies and Observations of High-z Universe.- Cosmic Reionization and Background Radiation.- Growth of Massive Black Holes at High-z.

Fields of interest
Cosmology; Astrophysics and Astroparticles; Extraterrestrial Physics, Space Sciences

Target groups
Research

Type of publication
Proceedings


Hardcover
149,95 €

Online orders shipping within 2–3 days.
Fractional Derivatives for Physicists and Engineers

Volume I Background and Theory Volume II Applications

The first derivative of a particle coordinate means its velocity, the second means its acceleration, but what does a fractional order derivative mean? Where does it come from, how does it work, where does it lead to? The two-volume book written on high didactic level answers these questions. Fractional Derivatives for Physicists and Engineers—The first volume contains a clear introduction into such a modern branch of analysis as the fractional calculus. The second develops a wide panorama of applications of the fractional calculus to various physical problems. This book recovers new perspectives in front of the reader dealing with turbulence and semiconductors, plasma and[...]

Contents

Fields of interest
Theoretical, Mathematical and Computational Physics; Computational Mathematics and Numerical Analysis; Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-33910-3

Hardcover

Georges Lemaître: Life, Science and Legacy

The year 2011 marked the 80th anniversary of Georges Lemaître’s primeval atom model of the universe, forerunner of the modern day Big Bang theory. Prompted by this momentous anniversary the Royal Astronomical Society decided to publish a volume of essays on the life, work and faith of this great cosmologist, who was also a Roman Catholic priest. The papers presented in this book examine in detail the historical, cosmological, philosophical and theological issues surrounding the development of the Big Bang theory from its beginnings in the pioneering work of Lemaître through to the modern day. This book offers the best account in English of Lemaître’s life and work. It will be[...]

Features
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Contents

Fields of interest
Astronomy, Astrophysics and Cosmology; History and Philosophical Foundations of Physics

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-32253-2

Hardcover

Imaging the Southern Sky

An Amateur Astronomer’s Guide

This book is not about imaging from the southern hemisphere, but rather about imaging those areas of the sky that lie south of the celestial equator. Many of the astronomical objects presented are also accessible to northern hemisphere imagers, including those in both the USA and Europe. Imaging the Southern Sky discusses over 150 of the best southern objects to image, including nebulae, galaxies, and planets, each one accompanied by a spectacular color image. This book also includes sections on both image capturing and processing techniques and so makes an ideal all-in-one introduction. Furthermore, because it contains an in-depth study of how to capture all the objects, many of[...]

Features
If you’re looking for a handy reference guide to help you image and explore the many splendors of the southern sky, Imaging the Southern Sky is the book for you. The work features not only stunning color images, all taken by Stephen Chadwick, of the best galaxies, nebulae, and clusters available to astrophotographers, but also lesser-known objects, some of which have gone largely[...]

Contents

Fields of interest
Astronomy, Observations and Techniques; Popular Science in Astronomy

Target groups
Popular/general

Type of publication
Popular science

More on www.springer.com/978-1-4614-4749-8

Softcover
India Vacuum Society Symposium on Thin Films: Science & Technology

Thin Films for Tribological Applications. The articles in the proceedings are recent research findings in these various branches of Thin Films, in the form of 98 short papers by the research workers in the field from various universities and research institutes in India.

Contents

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-0-7354-1055-8

Softcover

International Conference on Physics and its Applications

International Conference on Physics and Its Applications (ICPAP 2011) is aimed at providing the much needed forum of scientific communication and interaction among distinguished scientists working in the field of physics and related fields. The topics delivered in this conference cover: Theoretical High Energy Physics, Material Science and Technology, Biophysics and Medical Physics, Nuclear Science and Engineering, Earth and Planetary Sciences, Computational Physics, Instrumentation and Measurement, Physics Educations.

Features
International Conference on Physics and Its Applications (ICPAP 2011) is aimed at providing the much needed forum of scientific communication and interaction among distinguished scientists working in the field of physics and related fields. The topics delivered in this conference cover: Theoretical High Energy Physics, Material Science and Technology, Biophysics and Medical Physics, Nuclear Science and Technology.

Contents
From the Contents: Invited Papers. - Astrophysics and High Energy Physics. - Nuclear Physics and Applications. - The assessment of consistency using penetrometer and apparent diffusion coefficient (ADC) value using diffusion weighted magnetic resonance imaging (DW-MRI) from polyvinyl alcohol (PVA) formed by freezing-thawing cycle. - Determination of Cu, Zn and Pb in scalp hair from a selected population in Penang using the XRF method. - Computational Methods in Physics. - Inverse scattering pre-stack depth imaging and its comparison to some depth migration methods for imaging rich fault. - Fields of interest: Nuclear Physics, Heavy Ions, Hadrons; Energy Technology; Measurement Science, Instrumentation; Geophysics and Environmental Physics.

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-0-7354-1055-8

Softcover

Lectures On The Physics Of Strongly Correlated Systems XV

Fifteenth Training Course in the Physics of Strongly Correlated Systems

The volume contains the lectures delivered at the “XV Training Course in the Physics of Strongly Correlated Systems”, held in Vietri sul Mare (Salerno), Italy, in October 2010. The project of the meeting was to promote the formation of young scientists by means of training through research. These features are reflected in the book: the lectures are up-to-date monographies of relevant subjects in the field of Condensed Matter Physics. Contributions include: The Density Matrix Renormalization Group and its Time-Dependent Variants (Model Hamiltonians, Exact Diagonalization, Truncated Diagonalization: the Numerical, Renormalization Group idea, The Density Matrix Truncation: the kernel of...)

Features
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Fields of interest: Strongly Correlated Systems, Superconductivity; Solid State Physics; Electronic Circuits and Devices; Condensed Matter Physics.

Target groups
Research

Type of publication
Proceedings


Softcover
Lectures on the Physics of Strongly Correlated Systems XVI:
Sixteenth Training Course in the Physics of Strongly Correlated Systems

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Features
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Contents

Fields of interest
Strongly Correlated Systems, Superconductivity; Condensed Matter Physics; Electronic Circuits and Devices; Magnetism, Magnetic Materials

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-0-7354-1097-8

Hardcover

Online orders shipping within 2-3 days.

S. Benkadda, CNRS - University of Aix-Marseille, France; N. Dubuit, CNRS - University of Aix-Marseille, France; Z. Guimarães-Filho, University of São Paulo, Brazil (Eds.)

MHD and Energetic Particles
5th Iter International Summer School

This school aims at preparing young researchers to tackle the current and anticipated challenges at magnetic fusion devices, and spreading the global knowledge required for a timely and competent exploitation of the ITER physics potential. The 5th edition is an overview of MHD interacting with energetic particles issues, with regard to ITER project.

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Contents

Fields of interest
Plasma Physics

Target groups
Research

Type of publication
Reference work

More on www.springer.com/978-3-642-32074-3

Hardcover
2013. 322 p. (Condensed Matter, Vol. 27I6) approx. 3.290,00 € ISBN 978-3-642-32074-3

Due: January 7, 2013

E. Burzo, University Babes-Bolyai, Cluj-Napoca, Romania; H.P.J. Wijn (Ed.)

Magnetic Properties of Tectosilicates, Part β

The magnetic properties of silicates and phosphates are compiled in subvolume 27I. While subvolumes 27I1, 27I2, 27I3, 27I4, and 27I5 (already published) deal with orthosilicates, sorosilicates, cyclosilicates, inosilicates, and phyllosilicates, respectively, the present subvolume 27I6 deals with tectosilicates. Subvolume 27I6 has been split in three parts α, β and γ. Further subvolumes will be dedicated to phosphates. – Silicates are very complex systems, covering large classes of minerals as well as synthetic samples. Their crystal structure is discussed and atomic positions are given. In addition to magnetic properties, results of neutron diffraction studies, nuclear gamma[…]
Magnetic Properties of Tectosilicates, Part γ

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Fields of interest

Physics (general)

Target groups

Research

Type of publication

Reference work

More on www.springer.com/978-3-642-30611-2

Hardcover


Due: January 15, 2013

Microstructure and Properties of High-Temperature Superconductors

The main features of high-temperature superconductors (HTSC) that define their properties are intrinsic brittleness of oxide cuprates, the layered anisotropic structure and the supershort coherence length. Taking into account these features, this treatise presents research into HTSC microstructure and properties, and also explores the possibilities of optimization of the preparation techniques and superconducting compositions. The ‘composition-technique-experiment-theory-model,’ employed here, assumes considerable HTSC defectiveness and structure heterogeneity and helps to draw a comprehensive picture of modern representations of the microstructure, strength and the related[...]

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Contents


Fields of interest

Strongly Correlated Systems, Superconductivity; Optical and Electronic Materials; Numerical and Computational Physics; Structural Materials; Structural Mechanics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-34440-4

Hardcover

2013. XII, 779 p. 379 illus. 169,95 € ISBN 978-3-642-34440-4

Usually dispatched within 3 to 5 business days.

Modern Theory of Magnetism in Metals and Alloys

This book describes theoretical aspects of the metallic magnetism from metals to disordered alloys to amorphous alloys both at the ground state and at finite temperatures. The book gives an introduction to the metallic magnetism, and treats effects of electron correlations on magnetism, spin fluctuations in metallic magnetism, formation of complex magnetic structures, a variety of magnetism due to configurational disorder in alloys as well as a new magnetism caused by the structural disorder in amorphous alloys, especially the itinerant-electron spin glasses. The readers will find that all these topics can be understood systematically by means of the spin-fluctuation theories based[...]

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Contents


Fields of interest

Magnetism, Magnetic Materials; Metallic Materials; Applied and Technical Physics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-33400-9

Hardcover


Usually dispatched within 3 to 5 business days.
Nanostructured Materials for Magnetoelectronics

This book provides an up-to-date review of nanometer-scale magnetism and focuses on the investigation of the basic properties of magnetic nanostructures. It describes a wide range of physical aspects together with theoretical and experimental methods. A broad overview of the latest developments in this emerging and fascinating field of nanostructured materials is given with emphasis on the practical understanding and operation of submicron devices based on nanostructured magnetic materials.

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Olfaction and Electronic Nose
Proceedings of the 14th International Symposium on Olfaction and Electronic Nose

P. Gouma, SUNY Stone Brook, Columbus, OH, USA (Ed.)

This conference proceedings would be of interest to academia, industry, research labs, biotechnology, nanotechnology, sensors related industries. This conference brought together experts from various disciplines to discuss how to produce electronic olfaction systems that either mimic nature or rely on novel concepts to sensing chemicals in complex odor environments. Applications of these devices are found in medicine, safety and quality control.

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Fields of interest
Biophysics and Biological Physics; Medical and Radiation Physics; Nanotechnology; Monitoring / Environmental Analysis

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-0-7354-0920-0

Softcover
ISBN 978-0-7354-0920-0

Online orders shipping within 2-3 days.

Particle Acceleration in Cosmic Plasmas

The review articles collected in this volume present a critical assessment of particle acceleration mechanisms and observations from suprathermal particles in the magnetosphere and heliosphere to high-energy cosmic rays, thus covering a range of energies over seventeen orders of magnitude, from 103 eV to 1020 eV. The main themes are observations of accelerated populations from the magnetosphere to extragalactic scales and assessments of the physical processes underlying particle acceleration in different environments (magnetospheres, the solar atmosphere, the heliosphere, supernova remnants, pulsar wind nebulae and relativistic outflows). Several contributions review the status of(...]

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Contents

Fields of interest
Particle Acceleration and Detection, Beam Physics; Plasma Physics; Extraterrestrial Physics, Space Sciences

Target groups
Research

Type of publication
Monograph


Hardcover
2013. 640 p. (Space Sciences Series of ISSI, Vol. 45)

Usually dispatched within 3 to 5 business days.
Physical Properties and their Relations I

Thermodynamic Properties: Equilibria of Ternary Polymer Solutions

Polymers belong to an essential material group with many applications not only for polymer manufacturers but also in physics, chemistry, medicine and engineering techniques. The presented volume is the third part of a book series connecting a complete data collection with short but precise descriptions of the different quantities and their significances. The experimental determination of the physical quantities is given as well as the influence to other physical quantities. This volume helps to choose the best material for all kinds of applications also for those which are not mentioned in polymer material books. It is focused on polymers in solutions and is intended for scientists[
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...]

Fields of interest

Physics (general)

Target groups

Research

Type of publication

Reference work

More on www.springer.com/978-3-642-32056-9

Hardcover

2013. 250 p. (Advanced Materials and Technologies, Part D3)

approx. 209,00 €

ISBN 978-3-642-32056-9

Due: January 7, 2013
D. Issadore, Massachusetts General Hospital, Boston, MA, USA; R.M. Westervelt, Harvard University, Cambridge, MA, USA (Eds.)

**Point-of-Care Diagnostics on a Chip**

The topic of this book is the development of automated and inexpensive tools that transfer medical tests from a specialized clinical laboratory directly to the point of care, using biochip technology. Immediate access to medically relevant biochemical information for doctors and nurses promises to revolutionize patient care and dramatically lower costs. The miniaturization and automation of medical tests are made possible by biochip technology, that integrates advances in integrated circuits, microelectromechanical systems (MEMS), microfluidics, and electronics. The target audience for this book includes engineering and biomedical researchers who would like to develop or apply biochip[...]

**Features**
The topic of this book is the development of automated and inexpensive tools that transfer medical tests from a specialized clinical laboratory directly to the point of care, using biochip technology. Immediate access to medically relevant biochemical information for doctors and nurses promises to revolutionize patient care and dramatically lower costs. The miniaturization and automation of medical tests are [...] 

**Contents**

**Fields of interest**
Biophysics and Biological Physics; Biomedical Engineering; Medical Biochemistry; Electronic Circuits and Devices; Nanoscale Science and Technology

**Target groups**
Research

**Type of publication**
Monograph

More on [www.springer.com/978-3-642-29267-5](http://www.springer.com/978-3-642-29267-5)

**Hardcover**
2013. XV, 226 p. 138 illus., 41 in color. (Biological and Medical Physics, Biomedical Engineering) 129,95 € ISBN 978-3-642-29267-5 Usually dispatched within 3 to 5 business days.

**Proceedings of the Fifth Saudi Physical Society Conference (SPSS)**

This proceedings would be of interest to readers working in the fields of Nanomaterials & Nanophysics, Semiconductors, Atomic and Nuclear Physics, Particles & Fields, Quantum Optics, Bio and Medical Physics, Environmental Physics, Sensors and Devices, and Instrumental Physics. The proceeding includes 45 articles, contributed by conference participants on a broad range of topics related to theoretical and experimental physics. The major topics covered in the proceedings were Nanomaterials & Nanophysics, Semiconductors, Atomic and Nuclear Physics, Particles & Fields, Quantum Optics, Bio and Medical Physics, Environmental physics, Sensors and Devices, Techniques & Developments and hence[...]

**Features**
This proceedings would be of interest to readers working in the fields of Nanomaterials & Nanophysics, Semiconductors, Atomic and Nuclear Physics, Particles & Fields, Quantum Optics, Bio and Medical Physics, Environmental Physics, Sensors and Devices, and Instrumental Physics. The proceedings includes 45 articles, contributed by conference participants on a broad range of topics related to [...] 

**Fields of interest**
Semiconductors; Atomic, Molecular, Optical and Plasma Physics; Quantum Optics, Quantum Electronics, Nonlinear Optics, Biophysics and Biological Physics; Environmental Physics

**Target groups**
Research

**Type of publication**
Proceedings


**Softcover**

Online orders shipping within 2-3 days.
Quantum Chemistry of Solids

LCAO Treatment of Crystals and Nanostructures

Quantum Chemistry of Solids delivers a comprehensive account of the main features and possibilities of LCAO methods for the first principles calculations of electronic structure of periodic systems. The first part describes the basic theory underlying the LCAO methods applied to periodic systems and the use of Hartree-Fock (HF), Density Function Theory (DFT) and hybrid Hamiltonians. The translation and site symmetry consideration is included to establish connection between k-space solid-state physics and real-space quantum chemistry. The inclusion of electron correlation effects for periodic systems is considered on the basis of localized crystalline orbitals. The possibilities of [...]
Stochastic Cooling of Particle Beams

This lecture note describes the main analytical approaches to stochastic cooling. The first is the time domain picture, in which the beam is rapidly sampled and a statistical analysis is used to describe the cooling behaviour. The second is the frequency domain picture, which is particularly useful since the observations made on the beam are mainly in this domain. This second picture is developed in detail to assess key components of modern cooling theory like mixing and signal shielding and to illustrate some of the diagnostic methods. Finally the use of a distribution function and the Fokker-Plank equation, which offer the most complete description of the beam during the cooling...
S. Bellucci, Istituto Nazionale di Fisica Nucleare, Frascati, Italy
(Ed.)

**Supersymmetric Gravity and Black Holes**

Proceedings of the INFN-Laboratori Nazionali di Frascati School on the Attractor Mechanism 2009

This book is based upon lectures presented in the summer of 2009 at the INFN-Laboratori Nazionali di Frascati School on Attractor Mechanism, directed by Stefano Bellucci. The symposium included such prestigious lecturers as S. Ferrara, G. Dall’Agata, J.F. Morales, J. Simón and M. Trigiante. All lectures were given at a pedagogical, introductory level, which is reflected in the specific ‘flavor’ of this volume. The book also benefits from extensive discussions about, and the related reworking of, the various contributions. It is the fifth volume in a series of books on the general topics of supersymmetry, supergravity, black holes and the attractor mechanism.

**Features**

This book is based upon lectures presented in the summer of 2009 at the INFN-Laboratori Nazionali di Frascati School on Attractor Mechanism, directed by Stefano Bellucci. The symposium included such prestigious lecturers as S. Ferrara, G. Dall’Agata, J.F. Morales, J. Simón and M. Trigiante. All lectures were given at a pedagogical, introductory level, which is reflected in the specific ‘flavor’ of this volume.

**Contents**

Black Holes in Supergravity: Flow Equations and Duality.- Intersecting Attractors.- Extremality, Holography and Course Graining.- Issues on Black Holes in Four Dimensional Supergravity.- On the Classification of Two Center Orbits for Magical Holes and the attractor mechanism.

**Fields of interest**

Classical and Quantum Gravitation, Relativity Theory; Quantum Field Theories, String Theory; Mathematical Physics; Mathematical Methods in Physics

**Target groups**

Research

**Type of publication**

Proceedings

More on [www.springer.com/978-3-642-33179-0](http://www.springer.com/978-3-642-33179-0)

**Hardcover**

2013. IX, 204 p. 4 illus. (Springer Proceedings in Physics, Vol. 142)

ISBN 978-3-642-33179-0

Usually dispatched within 3 to 5 business days.

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G. Bracco, University of Genoa, Italy; B. Holst, University of Bergen, Norway (Eds.)

**Surface Science Techniques**

The book describes the experimental techniques employed to study surfaces and interfaces. The emphasis is on the experimental method. Therefore all chapters start with an introduction of the scientific problem, the theory necessary to understand how the technique works and how to understand the results. Descriptions of real experimental setups, experimental results at different systems are given to show both the strength and the limits of the technique. In a final part the new developments and possible extensions of the techniques are presented. The included techniques provide microscopic as well as macroscopic information. They cover most of the techniques used in surface science.

**Features**

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**Contents**


**Fields of interest**

Surface and Interface Science, Thin Films; Measurement Science, Instrumentation; Nanotechnology; Applied Optics, Optoelectronics, Optical Devices; Particle Acceleration and Detection, Beam Physics; Nanoscale Science and Technology

**Target groups**

Research

**Type of publication**

Monograph

More on [www.springer.com/978-3-642-34242-4](http://www.springer.com/978-3-642-34242-4)

**Hardcover**

2013. XXIII, 663 p. 327 illus., 155 in color. (Springer Monographs in Physics, Vol. 51)

189.95 €

ISBN 978-3-642-34242-4

Usually dispatched within 3 to 5 business days.

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T. Yuasa, The University of Tokyo, Japan

**Suzaku Studies of White Dwarf Stars and the Galactic X-ray Background Emission**

This thesis presents a study of the origin of an apparently extended X-ray emission associated with the Galactic ridge. The study was carried out with broadband spectra obtained from mapping observations in the Galactic bulge region conducted in 2005–2010 by the Suzaku space X-ray observatory. The spectra were analyzed with a newly constructed X-ray spectral model of an accreting white dwarf binary that is one of the proposed candidate stars for the origin of the Galactic ridge emission in the higher energy band. Fitting of the observed Galactic ridge spectra with the model showed that there is another spectral component that fills the gap between the observed X-ray flux and the...
The 4th Manufacturing Engineering Society International Conference (MESIC 2011)

Manufacturing Engineering Society International Conference (MESIC 2011) continues the tasks of the three previous conferences and will accomplish one of the objectives of the Manufacturing Engineering Society: the knowledge spreading in the scope of Manufacturing Engineering. Papers included in these Proceedings have been peer reviewed and come from a meeting of professionals and researchers from industry and academia, where recent advances in the field of Manufacturing Engineering have been presented and discussed in topics as Manufacturing Processes, Manufacturing Systems, Metrology and Industrial Quality, Welding and Joining Technologies, Materials Processing, Production. [...] 

Fields of interest
Acoustics; Measurement Science, Instrumentation; Laser Technology and Physics, Photonics; Applied and Technical Physics; Mechanics; Mechanical Engineering

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-0-7354-1017-6

Hardcover
179,95 €
ISBN 978-0-7354-1017-6
Online orders shipping within 2-3 days.

The 7th International Symposium on Measurement Techniques for Multiphase Flows

This proceeding includes papers selected from the 7th ISMTMF held in Tianjin, China, 2011. The focus of this symposium is to develop measurement techniques for multiphase flows, covering electrically sensitive sensors, radioactive sensors, optical sensors and mechanical sensors, and also basic understanding of flow patterns and models of two/three phase flows.

Features
This proceeding includes papers selected from the 7th ISMTMF held in Tianjin, China, 2011. The focus of this symposium is to develop measurement techniques for multiphase flows, covering electrically sensitive sensors, radioactive sensors, optical sensors and mechanical sensors, and also basic understanding of flow patterns and models of two/three phase flows.

Fields of interest
Measurement Science, Instrumentation; Phase Transitions and Multiphase Systems

Target groups
Research

Type of publication
Proceedings

More on www.springer.com/978-0-7354-1011-4

Softcover
149,95 €
ISBN 978-0-7354-1011-4
Online orders shipping within 2-3 days.

From the Contents: Thermoacoustic engines and refrigerators. - Biomass energy: Sustainable solution for greenhouse gas emission. - Atomization of a liquid jet in a crossflow. - Session Presentations. - Analysis of buoyancy-aided convection heat transfer from horizontal cylinder at low Reynolds number. - Cooling of a rectangular microchannel heat sink with ammonia gas. - Numerical prediction on the dispersion of pollutant particles. - Thermal stresses in the wall of pipes caused by periodic change of temperature of medium fluid. - Reacting shock waves characteristics for biogas compared to other [...]
The 8th International Workshop of the Physics of Excited Nucleons: NSTAR 2011

This workshop covered experimental and theoretical work in understanding the spectrum and structure of excited nucleons. The audience were nuclear and high energy physicists. The workshop gives a snapshot of the present status of the field.

Features
This workshop covered experimental and theoretical work in understanding the spectrum and structure of excited nucleons. The workshop gives a snapshot of the present status of the field.

Contents
Plenary Session Presentations.- Opportunities and Challenges for Theory in the N* program.- Experimental Challenges of the N* program.- Baryon Spectroscopy in Lattice QCD with Spin Identification.- Overview: Phenomenological approaches to N* extraction.- Extraction of Resonance Parameter.- Complete Pseudoscalar Photo-production Measurements.- Results from Polarized Experiments at LIGS and GRAAL.- Nucleon to Δ and Δ Form Factors in lattice QCD.- Nucleon Resonance Electroproduction Data.- EBAC-DCC analysis of world data of πN, γN, and N[e,e⁻][...

Fields of interest
Particle and Nuclear Physics

Target groups
Research

Type of publication
Proceedings


Physical 133

K. Kyotoku, Institute of Particle and Nuclear Studies, Ibaraki, Japan

The Black Hole-Neutron Star Binary Merger in Full General Relativity

Dependence on Neutron Star Equations of State

This thesis presents a systematic study of the orbital evolution, gravitational wave radiation, and merger remnant of the black hole–neutron star binary merger in full general relativity for the first time. Numerical-relativity simulations are performed using an adaptive mesh refinement code, SimuA-tor for Compact objects in Relativistic Astrophysics (SACRA), which adopts a wide variety of zero-temperature equations of state for the neutron star matter. Gravitational waves provide us with quantitative information on the neutron star compactness and equation of state via the cutoff frequency in the spectra, if tidal disruption of the neutron star occurs before the binary merges. The [...]
Theory of Gravitational Interactions

This reference textbook is an up-to-date and self-contained introduction to the theory of gravitational interactions. The first part of the book follows the traditional presentation of general relativity as a geometric theory of the macroscopic gravitational field. A second, advanced part then discusses the deep analogies (and differences) between a geometric theory of gravity and the gauge theories of other fundamental interactions. This fills a gap which is present in the context of the traditional approach to general relativity, and which usually makes students puzzled about the role of gravity. The necessary notions of differential geometry are reduced to the minimum, leaving [...] features.

Contents
Elementary notions of relativistic field theory.
Towards a relativistic theory of gravity. Tensor calculus in a Riemannian manifold.
Maxwell equations and Riemann geometry.
Test bodies and signals in a Riemann spacetime.
Geodesic deviation and curvature tensor.
The Einstein equations for the gravitational field.
The weak field approximation.
Gravitational waves.
The Schwarzschild solution.
The Kasner solution.
Vierbeins and Lorentz connection.
The Dirac equation in a gravitational field.
Supersymmetry and supergravity.
Appendix A. The language of differential forms.

Fields of interest
Classical and Quantum Gravitation, Relativity Theory;
Quantum Field Theories, String Theory;
Cosmology; Mathematical Physics

Target groups
Upper undergraduate

Type of publication
Undergraduate textbook


Softcover
2013. XVI, 322 p. 8 illus. (Undergraduate Lecture Notes in Physics)
69,99 €

Usually dispatched within 3 to 5 business days.

Thermodynamics of Crystalline States

Thermodynamics is a well-established discipline of physics for properties of matter in thermal equilibrium with the surroundings. Applying to crystals, however, the laws encounter undefined properties of crystal lattice, which therefore need to be determined for a clear and well-defined description of crystalline states. Thermodynamics of Crystalline States explores the roles played by order variables and dynamic lattices in crystals in a wholly new way. The book begins by clarifying basic concepts for stable crystals. Next, binary phase transitions are discussed to study collective motion of order variables, as described mostly as classical phenomena. New to this edition is the [...] features.

Contents
Introduction.
Mean-Field Theories in Binary Ordering.
Pseudospin Clusters. Critical Fluctuations.
Experimental Studies on Critical Fluctuations.
Magnetic Crystals.
Electrons and Phonons in Metals.
Superconducting Phases.
Theories of Superconducting Transitions.
Appendix. Index.

Fields of interest
Thermodynamics; Solid State Physics; Physical Chemistry; Crystallography; Strongly Correlated Systems, Superconductivity

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-1-4614-5084-9

Hardcover
2013. XI, 275 p. 84 illus.
129,95 €

Usually dispatched within 3 to 5 business days.

Tissue Functioning and Remodeling in the Circulatory and Ventilatory Systems

The volumes in this authoritative series present a multidisciplinary approach to modeling and simulation of flows in the cardiovascular and ventilatory systems, especially multiscale modeling and coupled simulations. Volume 5 is devoted to cells, tissues, and organs of the cardiovascular and ventilatory systems with an emphasis on mechanotransduction-based regulation of flow. The blood vessel wall is a living tissue that quickly reacts to loads applied on it by the flowing blood. In any segment of a blood vessel, the endothelial and smooth muscle cells can sense unusual time variations in small-magnitude wall shear stress and large-amplitude wall stretch generated by abnormal [...] features.

Contents
Preface.
Chapter 1: Blood.
Chapter 2: Hematopoiesis.
Chapter 3: Blood Cells.
Chapter 4: Lymph Drainage.
Chapter 5: Cardiomyocytes.
Chapter 6: Heart Wall.
Chapter 7: Vessel Wall.
Chapter 8: Smooth Myocytes.
Chapter 9: Vascular Endothelium.
Chapter 10: Vascular Growth.
Chapter 11: Tissue Development, Repair, and Remodeling.
Chapter 12: Airway Surface Liquid and Respiratory Mucus.
Chapter 13: Surfactant.
Chapter 14: Conclusion.

Features
List of Currently Used Prefixes and Suffixes.
List of Aliases.
Complementary Lists of Notations.
Index.

Fields of interest
Biophysics and Biological Physics; Biomedical Engineering; Mathematical and Computational Biology; Systems Biology; Engineering Fluid Dynamics; Cardiology

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-1-4614-5965-1

Hardcover
2013. XXI, 962 p. 72 illus., 3 in color.
199,95 €
ISBN 978-1-4614-5965-1

Usually dispatched within 3 to 5 business days.
Topological Insulators

Dirac Equation in Condensed Matters

Topological insulators are insulating in the bulk, but process metallic states present around its boundary owing to the topological origin of the band structure. The metallic edge or surface states are immune to weak disorder or impurities, and robust against the deformation of the system geometry. This book, the first of its kind on topological insulators, presents a unified description of topological insulators from one to three dimensions based on the modified Dirac equation. A series of solutions of the bound states near the boundary are derived, and the existing conditions of these solutions are described. Topological invariants and their applications to a variety of systems from

Features
Topological insulators are insulating in the bulk, but process metallic states around its boundary owing to the topological origin of the band structure. The metallic edge or surface states are immune to weak disorder or impurities, and robust against the deformation of the system geometry. This book, Topological Insulators, presents a unified description of topological insulators from one to three dimensions.

Contents
Introduction.- Starting from the Dirac equation.- Minimal lattice model for topological insulator.- Topological invariants.- Topological phases in one dimension.- Quantum spin Hall effect.- Three dimensional topological insulators.- Impurities and defects in topological insulators.- Topological superconductors and superfluids.- Majorana fermions in topological insulators.- Topological Anderson Insulator.- Summary: Symmetry and Topological Classification.

Fields of interest
Semiconductors; Solid State Physics; Optical and Electronic Materials

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-32857-2

Hardcover
2013, XIII, 216 p. 54 illus., 10 in color. (Springer Series in Solid-State Sciences, Tentative volume 174)
99,95 €
ISBN 978-3-642-32857-2
Usually dispatched within 3 to 5 business days.

Turbulence and Self-Organization

Modeling Astrophysical Objects

The book deals with the development of continual models of turbulent natural media. Such models serve as a ground for the statement and numerical evaluation of the key problems of the structure and evolution of the numerous astrophysical and geophysical objects. The processes of ordering (self-organization) in an originally chaotic turbulent medium are addressed and treated in detail with the use of irreversible thermodynamics and stochastic dynamics approaches which underlie the respective models. Different examples of ordering set up in the natural environment and outer space are brought and thoroughly discussed, the main focus being given to the protoplanetary discs formation and

Features
This book focuses on the development of continuum models of natural turbulent media. It provides a theoretical approach to the solutions of different problems related to the formation, structure and evolution of astrophysical and geophysical objects. A stochastic modeling approach is used in the mathematical treatment of these problems, which reflects self-organization processes in open dissipative systems.

Contents

Fields of interest
Astronomy, Astrophysics and Cosmology; Plasma Physics

Target groups
Research

Type of publication
Proceedings


Softcover
119,95 €
Online orders shipping within 2-3 days.
XVI National Seminar on Ferroelectrics and Dielectrics (NSFD-XVI)

The present volume provides a state of the art account of the research being carried out in India in the field of advanced materials, especially ferroelectrics, multiferroics, electro ceramics, polar dielectrics, nano phases and nano structures, nano composites, based on these materials as well as thin films. A number of new processing techniques, characterization tools and applications in the areas of microwave dielectrics, memory devices, sensors & actuators, photonics and nanotechnology are described. The volume is especially useful for those pursuing research in the field of material science, polymer chemistry, nanotechnology and condensed matter physics.

Features
The present volume provides a state of the art account of the research being carried out in India in the field of advanced materials, especially ferroelectrics, multiferroics, electro ceramics, polar dielectrics, nano phases and nano structures, nano composites, based on these materials as well as thin films. A number of new processing techniques, characterization tools and applications in the areas of [...]
Clinical Guide to Mental Disability Evaluations

Disability evaluations are the most common clinical mental health evaluations conducted for nontreatment purposes. They place mental health professionals in the role of communicating information that is typically confidential to administrative and legal systems. Unfortunately, mental health professionals receive little to no training in conducting assessments that focus on disability and disability management, and often do not understand the implications and risks of providing this information, especially without conducting what are often specialized evaluations. Clinical Guide to Mental Disability Evaluations is geared for general mental health practitioners, providing.[…]

Features
Millions of people with psychiatric disorders are competitively employed in the United States labor force. At any given time, some employees with mental health problems may want or need to leave the workplace due to these disorders, either temporarily or permanently; others want to remain at or return to work despite mental health impairments. The administrative and legal employment.[…]

Contents

Fields of interest
Clinical Psychology; Psychiatry; Industrial and organisational psychology

Target groups
Professional/practitioner

Type of publication
Professional book


Heat and Mass Transfer in Particulate Suspensions

Heat and Mass Transfer in Particulate Suspensions is a critical review of the subject of heat and mass transfer related to particulate Suspensions, which include both fluid-particles and fluid-droplet Suspensions. Fundamentals, recent advances and industrial applications are examined. The subject of particulate heat and mass transfer is currently driven by two significant applications: energy transformations—primarily combustion—and heat transfer equipment. The first includes particle and droplet combustion processes in engineering Suspensions as diverse as the Fluidized Bed Reactors (FBR’s) and Internal Combustion Engines (ICE’s). On the heat transfer side, cooling with[…]

Features
Heat and Mass Transfer in Particulate Suspensions is a critical review of the subject of heat and mass transfer related to particulate Suspensions, which include both fluid-particles and fluid-droplet Suspensions. Fundamentals, recent advances and industrial applications are examined. The subject of particulate heat and mass transfer is currently driven by two significant applications: energy transformations.[…]

Contents

Fields of interest
Energy Systems; Engineering Thermodynamics, Heat and Mass Transfer; Engineering Fluid Dynamics

Target groups
Research

Type of publication
Brief

More on www.springer.com/978-1-4614-5853-1

Softcover
2013. XII, 167 p. 38 illus. (SpringerBriefs in Thermal Engineering and Applied Science) 49,95 €

ISBN 978-1-4614-5853-1

Usually dispatched within 3 to 5 business days.

International Handbook of Peace and Reconciliation

How do ordinary people from different regions around the world define peace and reconciliation? What factors do they think are necessary for promoting reconciliation between countries? Do they believe that individuals have a right to protest against war and in favor of peace? Do they believe that apologies can improve the chances of reconciliation? What do they think are the best ways for achieving peace? Does reasoning regarding the achievability of world peace vary by region? International Handbook of Peace and Reconciliation, a companion volume to the International Handbook on War, Torture, and Terrorism, examines and analyzes how people around the world think about justice.[…]

Features
How do ordinary people from different regions around the world define peace and reconciliation? What factors do they think are necessary for promoting reconciliation between countries? Do they believe that individuals have a right to protest against war and in favor of peace? Do they believe that apologies can improve the chances of reconciliation? What do they think are the best ways for achieving peace?[…]

Fields of interest
Personality and Social Psychology; Positive Psychology

Target groups
Research

Type of publication
Handbook


Hardcover
2013. XVI, 681 p. 1 illus. in color. (Peace Psychology Book Series, Vol. 7) 169,95 €


Usually dispatched within 3 to 5 business days.
Search for the Ultimate Energy Source
A History of the U.S. Fusion Energy Program

Why has the clean, limitless energy promised by fusion always seemed just out of reach? Search for the Ultimate Energy Source: A History of the U.S. Fusion Energy Program, explains the fundamentals and concepts behind fusion power, and traces the development of fusion historically by decade—covering its history as dictated by US government policies, its major successes, and its prognosis for the future. The reader will gain an understanding of how the development of fusion has been shaped by changing government priorities as well as other hurdles currently facing realization of fusion power. Advance Praise for Search for the Ultimate Energy Source: “Dr. Dean has been uniquely involved [...]”

Features
Why has the clean, limitless energy promised by fusion always seemed just out of reach? Search for the Ultimate Energy Source: A History of the U.S. Fusion Energy Program, explains the fundamentals and concepts behind fusion power, and traces the development of fusion historically by decade—covering its history as dictated by US government policies, its major successes, and its prognosis for [...]”

Contents

Fields of interest
Energy Policy, Economics and Management; R & D / Technology Policy; Nuclear Fusion; Energy Technology

Target groups
Popular/general

Type of publication
Monograph

More on www.springer.com/978-1-4614-6036-7

Hardcover
2013. XV, 262 p. 35 illus., 21 in color. (Green Energy and Technology)
99.95 €
ISBN 978-1-4614-6036-7
Usually dispatched within 3 to 5 business days.

Solution-Focused Supervision
A Resource-Oriented Approach to Developing Clinical Expertise

New data have come to light through the Solution Focused Brief Therapy Association Archive (hereafter, the Archive). This information is drawn from manuscripts and video featuring one of the SF founders, Insoo Kim Berg, MSW. Archive video examples of Ms. Berg conducting supervision, therapy teams, and case consultation as well as unpublished manuscripts written by her provide unique opportunities to illustrate specific assumptions and techniques rarely seen before. The documents outline Ms. Berg’s philosophy, assumptions, and techniques to conduct supervision, and the videos offer in vivo examples of her supervision and team/case consultation style. Together, the Archive[...]

Features
As Solution-Focused (SF) Brief Therapy transformed the clinical world with its powerful present/future orientation and innovative techniques, it is no surprise that its approach should be applied to supervision. By contrast, what is surprising is the lack of consensus on what constitutes good SF supervisory practice. Solution-Focused Supervision fills in the blanks, expanding on [...]”

Contents

Fields of interest
Clinical Psychology; Psychology Research; Psychotherapy and Counseling

Target groups
Professional/practitioner

Type of publication
Professional book

More on www.springer.com/978-1-4614-6051-0

Hardcover
2013. XXIV, 345 p. 3 illus.
59.99 €
ISBN 978-1-4614-6051-0
Usually dispatched within 3 to 5 business days.

Spain’s Photovoltaic Revolution
The Energy Return on Investment

The Energy Return on Energy Invested (EROI or EROEI) is the amount of energy acquired from a particular energy source divided by the energy expended, or invested, in obtaining that energy. EROI is an essential and seemingly simple measure of the usable energy or “energy profit” from the exploitation of an energy source, but it is not so easy to determine all of the energy expenditures that should be included in the calculation. Because EROI values are generally low for renewable energy sources, differences in these estimates can lead to sharply divergent conclusions about the viability of these energy technologies. This book presents the first complete energy analysis of [...]”

Features
The Energy Return on Energy Invested (EROI or EROEI) is the amount of energy acquired from a particular energy source divided by the energy expended, or invested, in obtaining that energy. EROI is an essential and seemingly simple measure of the usable energy or “energy profit” from the exploitation of an energy source, but it is not so easy to determine all of the energy expenditures that should be [...]”

Contents

Fields of interest
Renewable and Green Energy; Renewable and Green Energy; Energy Technology; Sustainable Development; Energy Policy, Economics and Management; Power Electronics, Electrical Machines and Networks

Target groups
Research

Type of publication
Brief

More on www.springer.com/978-1-4419-9436-3

Softcover
2013. XIX, 127 p. 18 illus. in color. (Energy Analysis)
49.95 €
Usually dispatched within 3 to 5 business days.
Suicide Among Child Sex Offenders

By providing empirical data and multidisciplinary considerations, the book increases awareness of child sex offender suicide among the various entities which come into contact with this population of offenders. This book attempts to bring awareness of this potentially high risk population to better inform the law enforcement, corrections, and mental health communities of the unique risk factors for suicide among CSOs and provide a more effective crisis response. The Federal Bureau of Investigation (FBI) Behavioral Analysis Unit III-Crimes Against Children reviewed and analyzed 106 male Child Sex Offenders (CSO) who committed suicide during the course of a child sex crime

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Contents

Fields of interest
Cognitive Psychology; Sexual Behavior; Clinical Psychology

Target groups
Research

Type of publication
Brief

More on www.springer.com/978-1-4614-5936-1

Tracking Solar Concentrators

A Low Budget Solution
Harnessing a multitude of complementary green energy sources is the only plausible way to satisfy the energy demands of a greedly global economy. The potential of solar energy (being the most abundant) in fulfilling part of the energy requirements of mankind is immense and constitutes the focal point of this book. A self-powered solar tracker that points directly towards the sun by means of an integrated control mechanism with two degrees of rotational freedom was studied and developed. The electro-mechanical control system is based on a precisely-timed microcontroller circuit that first computes the altitude and azimuth of the sun in real-time and then drives a pair of stepper motors

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Contents

Fields of interest
Renewable and Green Energy; Energy Harvesting

Target groups
Research

Type of publication
Monograph


Softcover

Usually dispatched within 3 to 5 business days.

Citizenship as Cultural Flow

Structure, Agency and Power
The book addresses the very topical subject of citizen making. By delving into a range of sources - among them survey questions, historical documents, political theory, architectural design, and public policy - the book provides a unique analysis of when and why citizenship has taken root in India. Each chapter highlights the constant innovation of citizenship that has occurred in India's legal, political, social, economic and aesthetic arrangements as well as providing the basis for comparative analysis across South Asian cases and the European Union.

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Contents

Fields of interest
Cultural Studies; Human Geography; Regional and Cultural Studies

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-34567-8

Softcover

Usually dispatched within 3 to 5 business days. 
Early Childhood Care and Education and Equality of Opportunity

Theoretical and Empirical Perspectives on Social Challenges

Early childhood care and education has become a subject of increasing public interest in a great number of countries and among several international organizations and foundations. This book focuses on key issues in early childhood care and education, adding pedagogical, historical, and sociological perspectives to a body of research in education that has neglected important questions to date. The studies presented focus on effects of early childhood care and education on children, on the importance of family background for child development, on the use of institutional services among different families, on the history of such services in France and in the United States of America, and...

Contents
Equality of opportunity in view of social inequalities.- New contributions to early childhood care and education research.- Effects of early childhood care and education programs on intellectual development.- History of childcare in France and in the United States.- Desire, language, and education in early childhood.- Multiple methodical approaches.- Implications for practice and research.

Fields of interest
Social Sciences (general)

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-658-01211-3

Softcover
2013, IX, 235 p.
39,99 €
ISBN 978-3-658-01211-3

Usually dispatched within 3 to 5 business days.

Evidence-Based Practice in Clinical Social Work

Evidence-Based Practice in Clinical Social Work introduces the key ideas of evidence-based clinical social work practice and their thoughtful application. It intends to inform practitioners and to address the challenges and needs faced in real world practice. This book lays out the many strengths of the EB model, but also offers perspectives on its limitations and challenges. An appreciative but critical perspective is offered throughout. Practical issues (agency supports, access to research resources, help in appraising research) are addressed - and some practical solutions offered. Ethical issues in assessment/diagnosis, working with diverse families to make treatment [...]
Mapping Archaeological Landscapes from Space

Given the rising awareness and interest in aerial and satellite remote sensing, there is a need to familiarize archaeologists with the basic principles and applications of what have become the most useful technologies. This volume, in the SpringerBriefs Archaeological Heritage Management series, accomplishes this. Contributions to the volume come from those who have been active in developing key technologies as well as those who have been most successful in applying them. Leading experts, most of them from NASA, concisely describe what needs to be understood in order to utilize images produced from data collected by the most important airborne and satellite sensing devices.

Features

Mapping Archaeological Landscapes from Space: In Observation of the 40th Anniversary of the World Heritage Convention offers a concise overview of air and spaceborne imagery and related geospatial technologies tailored to the needs of archaeologists. Leading experts including scientists involved in NASA’s Space Archaeology program provide technical introductions to five sections: 1) Historic Air and […]

Contents

Chapter Outline Introduction: The History and Future of Geospatial Technologies in Archaeology The Corona NASA ROSES Project Use of Corona in Archaeology of China Section 1: Multispectral and Hyperspectral Imagery Multispectral Technology and Archaeological Applications Understanding the Development of Nanotechnology Through the Use of Landsat and Aster Imagery Using Hyperion at Faynan, Jordan Using Satellite Imagery to Monitor Change at Ancient Gordion, in Turkey Merging Satellite Observations and Hydrological Models Section 2: Synthetic Aperture Radar Synthetic Aperture[…]

Fields of interest

Archaeology; Aerospace Technology and Astronautics; Regional and Cultural Studies

Target groups

Research

Type of publication

Brief


Softcover

2013, XVI, 276 p. 116 illus., 73 in color. (SpringerBriefs in Archaeological Heritage Management, Vol. 5)

49.95 €


Usually dispatched within 3 to 5 business days.

Offending from Childhood to Late Middle Age

Recent Results from the Cambridge Study in Delinquent Development

Offending from Childhood to Late Middle Age is a timely volume by leading researchers in Life Course Criminology, which reports new findings from The Cambridge Study in Delinquent Development, a prospective longitudinal survey of 413 South London males first studied at age 8 in 1961. The main aim of the study is to advance knowledge about criminal careers up to age 56. At the time of these most recent findings, forty-two percent of the males were convicted, with an average ten-year conviction career. Only seven percent of the males accounted for half of all convictions. Almost all of the males (93 percent) reported committing an offense in four age ranges, compared with 29 percent.[…]

Features

Offending from Childhood to Late Middle Age is a timely volume by leading researchers in Life Course Criminology, which reports new findings from The Cambridge Study in Delinquent Development, a prospective longitudinal survey of 411 South London males first studied at age 8 in 1961. The main aim of the study is to advance knowledge about criminal careers up to age 56. At the time of […]

Contents


Fields of interest

Criminology & Criminal Justice; Sociology, general; Social Policy

Target groups

Research

Type of publication

Brief

More on www.springer.com/978-1-4614-6104-3

Softcover

2013, XI, 141 p. 8 illus. (SpringerBriefs in Criminology)

49.95 €


Usually dispatched within 3 to 5 business days.
Social Capital in Eastern Europe

Poland an Exception?

Katarzyna Lasinska deals with the consequences of democratic transitions in Middle and Eastern Europe. By selecting specific sets of countries according to the main explanations such as Catholic tradition, transformation process and communist legacies, the author identifies key factors explaining particular findings in Poland. Thank to systematically used comparative research strategy the pitfalls of idiosyncratic argumentation are successfully avoided. Through inclusion of religious tradition as an explanatory factor the results go beyond the commonly used East-West comparisons. The author presents a comprehensive picture of complex conditions and different processes for social...[...]

Features
Katarzyna Lasinska deals with the consequences of democratic transitions in Middle and Eastern Europe. By selecting specific sets of countries according to the main explanations such as Catholic tradition, transformation process and communist legacies, the author identifies key factors explaining particular findings in Poland. Thank to systematically used comparative research strategy the pitfalls of [...] Contents
Exploring social capital in Poland. Social capital: conceptual framework and empirical findings. Communist legacy and systemic transition. Catholicism and social capital. Catholicism and social capital in Poland is a comparative perspective - empirical evidence. Is social capital building different in Poland?. Why is Poland an exception among post-communist societies?.

Fields of interest
Comparative Politics; Social Sciences (general)

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-658-00522-1

Social Sciences

The Archaeology of Interdependence

European Involvement in the Development of a Sovereign United States

The publication explores the ways in which archaeological research can inform us about the manner and motives of European involvement in the development of a sovereign United States. The five chapters focus on different archaeological sites (four terrestrial sites and one underwater), and each consider the special ways in which archaeology can contribute to our understanding of the cultural dynamics that set the historic course of events in motion that culminated in United States sovereignty. An introduction and conclusion examine how the material culture that is the central focus of archaeological research should be preserved, managed, and interpreted. While much is known through [...] Features
The publication explores the ways in which archaeological research can inform us about the manner and motives of European involvement in the development of a sovereign United States. The five chapters focus on different archaeological sites (four terrestrial sites and one underwater), and each consider the special ways in which archaeology can contribute to our understanding of the cultural dynamics that [...] Fields of interest
Archaeology; Cultural Heritage

Target groups
Research

Type of publication
Brief


Hardcover


The Little Emperors’ New Toys

A Critical Inquiry into Children and Television in China

Drawing on original research I conducted in the late 1980s, the book argues for a critical approach to the study of children and television. It begins with critical reappraisals of previous empiricist and interpretative studies to set the ground for a different theoretical inquiry which links biography with history. The situated activity of children’s television viewing therefore has to be related to the broader historical and cultural formations in post-Mao China. By way of a methodological pluralism of questionnaire survey, in-depth interviews and observation, the book provides the reader with a thorough critical analysis of the rise of the new commercial ethic in Chinese society[...]

Features
Drawing on original research I conducted in the late 1980s, the book argues for a critical approach to the study of children and television. It begins with critical reappraisals of previous empiricist and interpretative studies to set the ground for a different theoretical inquiry which links biography with history. The situated activity of children’s television viewing therefore has to be related to the [...] Contents

Fields of interest
Sociology, general; Cultural Studies; Communication Studies

Target groups
Research

Type of publication
Monograph

More on www.springer.com/978-3-642-32047-7

Hardcover

2013. XIX, 130 p. 99,95 € ISBN 978-3-642-32047-7 Usually dispatched within 3 to 5 business days.
**Statistics**

D.G. Kleinbaum, Emory University, Atlanta, GA, USA; K.M. Sullivan, Emory University, Atlanta, GA, USA; N.D. Baker, Atlanta, GA, USA

**ActivEpi Companion Textbook**
A supplement for use with the ActivEpi CD-ROM

This Companion Textbook supplements the ActivEpi CD-ROM, sold separately. The ActivEpi CD-ROM provides a multimedia presentation of concepts, commonly taught in an introductory epidemiology course. ActivEpi mixes a full array of media to motivate, explain, visualize and apply epidemiological concepts. Virtually all of the material on the ActivEpi CD-ROM is included in the Companion Textbook. Because individuals differ in their learning skills, the ActivEpi CD-ROM and the ActivEpi Companion Textbook offer readers different but related options on how to learn epidemiology. The Textbook can be used as a hardcopy reference of the textual materials contained on the CD-ROM, as a resource...

**Features**
This Companion Textbook supplements the ActivEpi CD-ROM, sold separately. The ActivEpi CD-ROM provides a multimedia presentation of concepts, commonly taught in an introductory epidemiology course. ActivEpi mixes a full array of media to motivate, explain, visualize and apply epidemiological concepts. Virtually all of the material on the ActivEpi CD-ROM is included in the Companion Textbook.

**Contents**
Introduction.- Objectives and Methods of Epidemiologic Research.- Validity of Epidemiologic Research.- Epidemiologic Analysis.- Glossary.- Index.

**Fields of interest**
Statistics for Life Sciences, Medicine, Health Sciences; Epidemiology

**Target groups**
Graduate

**Type of publication**
Graduate/advanced undergraduate textbook

**Online orders shipping within 2-3 days.**

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**Applied Bayesian Statistics**

**With R and OpenBUGS Examples**

M.K. Cowles, University of Iowa, Iowa City, IA, USA

This book is based over a dozen years teaching a Bayesian Statistics course. The material presented here has been used by students of different levels and disciplines, including advanced undergraduates studying Mathematics and Statistics and students in graduate programs in Statistics, Biostatistics, Engineering, Economics, Marketing, Pharmacy, and Psychology. The goal of the book is to impart the basics of designing and carrying out Bayesian analyses, and interpreting and communicating the results. In addition, readers will learn to use the predominant software for Bayesian model-fitting, R and OpenBUGS. The practical approach this book takes will help students of all levels to...

**Features**
This book is based over a dozen years teaching a Bayesian Statistics course. The material presented here has been used by students of different levels and disciplines, including advanced undergraduates studying Mathematics and Statistics and students in graduate programs in Statistics, Biostatistics, Engineering, Economics, Marketing, Pharmacy, and Psychology. The goal of the book is to impart the...

**Contents**
What is Bayesian statistics?.- Review of probability.- Introduction to one-parameter models.- Inference for a population proportion.- Special considerations in Bayesian inference.- Other one-parameter models and their conjugate priors.- More realism please: Introduction to multiparameter models.- Fitting more complex Bayesian models: Markov chain Monte Carlo.- Hierarchical models, and more on convergence assessment.- Regression and hierarchical regression models.- Model Comparison, Model Checking, and Hypothesis Testing.- References.- Index.

**Fields of interest**
Statistical Theory and Methods

**Target groups**
Graduate

**Type of publication**
Graduate/advanced undergraduate textbook

**Online orders shipping within 2-3 days.**
Bayesian and Frequentist Regression Methods

This book provides a balanced, modern summary of Bayesian and frequentist methods for regression analysis.

Features

Bayesian and Frequentist Regression Methods provides a modern account of both Bayesian and frequentist methods of regression analysis. Many texts cover one or the other of the approaches, but this is the most comprehensive combination of Bayesian and frequentist methods that exists in one place.

The two philosophical approaches to regression methodology are featured here as complementary techniques, […]

Contents


Fields of interest

Statistical Theory and Methods; Statistics (general)

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook

More on www.springer.com/978-1-4419-0924-4

Hardcover

2013. XIX, 697 p. 140 illus., 6 in color. (Springer Series in Hardcover 69,95 €
ISBN 978-1-4419-0924-4
Usually dispatched within 3 to 5 business days.

Complex Models and Computational Methods in Statistics

The use of computational methods in statistics to face complex problems and highly dimensional data, as well as the widespread availability of computer technology, is no news. The range of applications, instead, is unprecedented. As often occurs, new and complex data types require new strategies, demanding for the development of novel statistical methods and suggesting stimulating mathematical problems. This book is addressed to researchers working at the forefront of the statistical analysis of complex systems and using computationally intensive statistical methods.

Features

The use of computational methods in statistics to face complex problems and highly dimensional data, as well as the widespread availability of computer technology, is no news. The range of applications, instead, is unprecedented. As often occurs, new and complex data types require new strategies, demanding for the development of novel statistical methods and suggesting stimulating mathematical […]

Contents

A new unsupervised classification technique through nonlinear non-parametric mixed effects models. - Estimation approaches for the apparent diffusion coefficient in Rice-distributed MR signals. - Longitudinal patterns of financial product ownership: a latent growth mixture approach. - Computationally efficient inference procedures for vast dimensional realized covariance models. - A GPU software library for likelihood-based inference of environmental models with large datasets. - Theoretical Regression Trees: a tool for multiple structural-change models analysis. - Some contributions to the […]

Fields of interest

Statistical Theory and Methods; Mathematics in the Humanities and Social Sciences; Business & Economics (general); Biostatistics

Target groups

Research

Type of publication

Graduate/advanced undergraduate textbook

More on www.springer.com/978-1-4419-0924-4

Hardcover

2013. XIX, 697 p. 140 illus., 6 in color. (Springer Series in Hardcover 69,95 €
ISBN 978-1-4419-0924-4
Usually dispatched within 3 to 5 business days.

Excel 2007 for Biological and Life Sciences Statistics

A Guide to Solving Practical Problems

This is the first book to show the capabilities of Microsoft Excel to teach biological and life sciences statistics effectively. It is a step-by-step exercise-driven guide for students and practitioners who need to master Excel to solve practical science problems. If understanding statistics isn’t your strongest suit, you are not especially mathematically-inclined, or if you are wary of computers, this is the right book for you. Excel, a widely available computer program for students and managers, is also an effective teaching and learning tool for quantitative analyses in science courses. Its powerful computational ability and graphical functions make learning statistics much […]

Contents


Fields of interest

Statistics for Life Sciences, Medicine, Health Sciences, Statistics and Computing / Statistics Programs; Statistics (general)

Target groups

Upper undergraduate

Type of publication

Graduate/advanced undergraduate textbook


Hardcover

2013. XVII, 232 p. 162 illus., 146 in color. 84,95 €
Usually dispatched within 3 to 5 business days.
Excel 2010 for Biological and Life Sciences Statistics

A Guide to Solving Practical Problems

This is the first book to show the capabilities of Microsoft Excel to teach biological and life sciences statistics effectively. It is a step-by-step exercise-driven guide for students and practitioners who need to master Excel to solve practical science problems. If understanding statistics isn’t your strongest suit, you are not especially mathematically-inclined, or if you are wary of computers, this is the right book for you. Excel, a widely available computer program for students and managers, is also an effective teaching and learning tool for quantitative analyses in science courses. Its powerful computational ability and graphical functions make learning statistics much...[

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Contents

Preface. - Acknowledgements. - Sample Size, Mean, Standard Deviation, and Standard Error of the Mean. - Random Number Generator. - Confidence Interval About the Mean Using the TINV Function and Hypothesis Testing. - One-Group t-Test for the Mean. - Two-Group t-Test: The Difference of the Means for Independent Groups. - Correlation and Simple Linear Regression. - Multiple Correlation and Multiple Regression. - One-Way Analysis of Variance (ANOVA). - Appendix A: Answers to End-of-Chapter Practice Problems. - Appendix B: Practice Test. - Appendix C: Answers to Practice Test. - Appendix D.  

Fields of interest

Statistics for Life Sciences, Medicine, Health Sciences; Statistics and Computing / Statistics Programs; Statistics (general) 

Target groups

Upper undergraduate 

Type of publication

Graduate/advanced undergraduate textbook

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