This milestone extensive work combines the essentials of history – biography, chronology, political and economic background – with the observations, theories, principles, laws and equations that constitute the specifics of science.

**Historical Encyclopedia of Natural and Mathematical Sciences**

Ari Ben-Menahem, Weizmann Institute of Science, Rehovot, Israel

- First comprehensive encyclopedia of Science which blends essential historical data together with science proper
- Spanning about 100 generations of great thinkers from Thales to Feynman
- Includes 2070 biographies of famous thinkers and scientists

The 5000-page Encyclopedia surveys 100 generations of great thinkers, offering 2070 detailed biographies of scientists, engineers, explorers and inventors, who left their mark on the history of science and technology. This five-volume masterwork also includes 380 articles summarizing the time-line of ideas in the leading fields of science, technology, mathematics and philosophy, plus useful tables, figures and photos, and 20 ‘Science Progress Reports’ detailing scientific setbacks. Interspersed throughout are quotations, gathered from the wit and wisdom of sages, savants and scholars throughout the ages from antiquity to modern times. The Encyclopedia represents 20 years’ work by the sole author, Ari Ben-Menahem, of Israel’s Weizmann Institute of Science.

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A new edition of an instant classic

Surgery
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Features fully revised and updated information on the evidence-based practice of surgery
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2nd ed., 2008, approx. 2796 p. 1118 illus., Hardcover
ISBN 978-0-387-30800-5 ► $199.00

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order your copy — TODAY
Self Assessment Questions in Rheumatology

This book illustrates, in a succinct question and answer format, a variety of different scenarios of rheumatic disease. In its discussion of common and uncommon cases, the book presents the seasoned experiences of a leading rheumatologist. These questions and cases are easily translated into everyday practice and might well be presented during ward rounds, in clinic, or during boards. The book is an excellent resource for postgraduate fellows, internists and students who are eager to learn more about rheumatology, test their fund of knowledge, or prepare for board examinations.

Features
► Presents cases and questions geared toward the busy practitioner
► Concise question and answer format
► Suitable for board exam preparation
► Suitable review for ward rounds and clinics

Contents
Preface.- Self Assessment Questions.- Index

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

Target groups
Postgraduate fellows, internists and students studying rheumatology

Discount group
P

Prostate Cancer Screening

More than one in six men will develop prostate cancer in their lifetime. In recent years there has been an explosion of information regarding PSA screening and biomarkers for the disease. In Prostate Cancer Screening, Second Edition, the world's leading experts on prostate cancer detection update the first edition with the latest findings. The book incorporates a series of thoughtful and cutting-edge works from the world's experts in prostate cancer screening, ranging from the current status quo of prostate cancer screening across the globe to consensus on optimal utilization of the traditional PSA and DRE tests, to cutting-edge research in new biomarkers, biometrics, and extended risk algorithms for prostate cancer. An additional chapter covers family-based linkage analysis as well as possible pitfalls in prostate cancer biomarker evaluation studies. Timely and authoritative, Prostate Cancer Screening, Second Edition, is an essential text for urologists, oncologists and family physicians.

Features
► Comprehensively reviews every aspect of prostate cancer screening, including the latest discoveries in biomarker research
► Outlines current screening policies by continent and presents the relative ongoing prospective screening trials around the globe

Contents
Preface.- Self Assessment Questions.- Index

Fields of interest
Urology/Andrology; Epidemiology; Medicine/Public Health, general

Target groups
Urologists, oncologists, internists, family physicians, public health, epidemiologists

Discount group
MR

Dynamic Contrast-Enhanced MRI Atlas of Prostate Cancer

MRI Atlas of Prostate Cancer analyses high-resolution MRI scanning and dynamic contrast-enhanced (DCE) MRI. This combination improves the diagnosis and staging of prostate cancer and may soon replace PSA testing and digital rectal examination. The first two chapters focus on normal anatomy, anatomic variations, benign disease and intraprostatic tumors. The subsequent chapters on MRI of extracapsular disease create a useful atlas of pathologic anatomy. This is the first text of its kind to show color-coded DCE-MRI scans of prostate cancer and to correlate these imaging findings with tumor grading. The chapters on the post-treatment prostate clearly display the increasing incidence of post-therapy recurrences. This book is intended for internists, radiologists, radiotherapists, oncologists, urologists, family practitioners, and general surgeons. Ultrasound, MRI, and radiotherapy technicians will find it extremely useful as a reference guide.

Features
► Only book in English to show color-coded DCE-MRI scans of prostate cancer and to correlate these imaging findings with tumor grading
► Clearly illustrates how MRI can contribute to the early detection of prostate cancer
► Includes case studies showing common imaging findings and pitfalls in the management of prostate cancer
► An invaluable teaching tool, using color images to review standard MRI sequences

Contents

Fields of interest
Imaging / Radiology; Urology/Andrology; Oncology

Target groups
Radiologists, urologists, oncologists

Discount group
MR
**Atlas of Female Pelvic Medicine and Reconstructive Surgery**

Previously titled the Atlas of Clinical Gynecology—Urogynecology, the new, four-color edition of the atlas is a comprehensive visual presentation of common gynecologic problems encountered in daily practice. Topics covered include anatomy, congenital anomalies, neurophysiology, pathophysiology, urinary incontinence and retention, overactive bladder, fecal incontinence, pelvic organ prolapse, genitourinary and rectovaginal fistulae and urethral diverticulae, and irritations and injuries to the genitourinary tract. This extensive collection of images, including photographs, charts, tables, algorithms, and diagrams, is an invaluable reference and teaching tool.

**Features**
- Updated edition
- Now in 4-color
- Comprehensive review of female medicine including surgical considerations

**From the contents**

**Fields of interest**
- Medicine/Public Health, general; Gynecology; Reproductive Medicine

**Target groups**
- Physicians, gynecologists, pelvic reconstruction surgeons

**Discount group**
- MR

---

**Hematopoietic Stem Cell Transplantation**

The field of hematopoietic stem cell transplantation has undergone both evolutionary and dramatic changes over the past 25 years. This is evident by the fact that the term hematopoietic stem cell transplantation has effectively replaced the older term, bone marrow transplantation, due to the diverse source of hematopoietic cells that are employed for transplantation. Some of the most significant advances in hematopoietic stem cell transplantation have occurred in the past decade, as our understanding of stem cell biology, hematopoiesis, and immunology have increased. Alternative sources of stem cells, including those from unrelated donors and cord blood, the utilization of less toxic non-myeloablative and reduced-intensity conditioning regimens prior to transplant, and significantly improved supportive care measures have made hematopoietic stem cell transplantation available to greater numbers of patients.

**Features**
- Written by leading experts in the field of hematopoietic stem cell transplantation
- Serves as a reference text for those actively involved in research and clinical practice of hematopoietic stem cell transplantation
- Provides a current and succinct overview for laboratory scientists, oncologists, hematologists, fellows, residents and medical students in this field

**Fields of interest**
- Oncology; Hematology

**Target groups**
- Oncologists, hematologists, laboratory scientists, fellows, residents, medical students

**Discount group**
- MR

---

**Atlas of Cardiovascular Magnetic Resonance**

The Atlas of Cardiovascular Magnetic Resonance (CMR) is a comprehensive, four-color visual compendium of CMR images, photomicrographs, anatomic illustrations, tables, and charts paired with extensive legends and explanations drawn from the latest peer-reviewed literature. In addition to providing historical perspective and current direction for CMR, this atlas focuses on research involving coronary artery diseases and anomalies, congestive heart failure, atherosclerotic plaques, and asymptomatic disease. The Atlas details imaging techniques, including preparation, acquisition, and processing, for study of the great vessels and carotids, the peripheral vasculature, and the coronary and pulmonary veins. Also included are discussions of the role of CMR in the emergency department and in clinical cardiology and private cardiology practices. This book is an unsurpassable professional reference.

**Features**
- Hundreds of high quality images in step with the latest developments in medicine
- World-renowned authors from a variety of medical disciplines
- Hand-drawn illustrations
- In-depth explanations for each image

**From the contents**

**Field of interest**
- Imaging / Radiology

**Target groups**
- Radiologists, physicians, cardiologists

**Discount group**
- MR
Substance Abuse and Health in the Military

This book will examine trends in substance abuse, health behavior, and mental health among active duty military personnel during the past 20 years. These findings are based on a Survey of Health Related Behaviors Among Military Personnel, conducted for the Department of Defense by RTI International since 1980. The survey is widely recognized as the most comprehensive source of information about substance abuse and health behaviors among active duty military personnel. The results of this survey are the basis of military policy, directives, and programming regarding substance abuse and health promotion. This book will provide an overview of progress toward the military objectives of reducing substance abuse and improving the health of military personnel. Chapters will discuss the military context, the prevalence and consequences of substance abuse among sectors of the military population, health status and health behaviors, mental health and stress, special issues confronting military women.

Features
- Uniquely focused on health behaviors in the military population
- Findings are broken down by military branch
- Chapter devoted to women in the military

Contents
The Military Context.
Methodology of the Surveys.
- Substance Use and Abuse.
- Health Behaviors.
- Mental Health and Stress.
- Productivity Loss Associated with Substance Use, Fitness, and Mental Health.
- Women's Health Issues.
- Comparisons of the Active Duty and Reserve Force.
- Implications for Military Policy and Programs.

Field of interest
Health Promotion and Disease Prevention

Target groups
Researchers, health care providers, and policy makers in the areas of substance abuse, health behaviors, mental health, and the military

Discount group
MR

Dynamics of the Singing Voice

During the past decades, “Dynamics of the singing voice” has successfully been established as a reference text for teachers of singing, singers, choral conductors and organists, speech and voice therapists, laryngologists and other health professionals, psychologists and those in linguistics. It discusses the physiological, psychological, musical and emotional aspects of the voice, particularly as they relate to singing but also to speaking. The book provides a greater understanding of how the voice works and the many factors involved in singing as well as an objective discussion of singing without reference to specific techniques. In this fifth edition, the author has now updated and rearranged the content. Furthermore she has added a new chapter on vocal pedagogic aspects in order to meet the requirements of the art of singing of the 21st century. Thus this new book provides the reader with the established concepts in combination with the latest knowledge about modern approaches to the singing voice.

Features
- Reference text for singers, teachers of singing, therapists and other target groups involved with voice and speech
- Contains clear illustrations, broad coverage of the topic and extensive bibliography
- New arrangement of content and new chapter on vocal pedagogy of the 21st century

Fields of interest
Otorhinolaryngology; Pneumology/Respiratory System; Behavioral Therapy

Target groups
Teachers, students, therapists

Discount group
MR

Pediatric Pain

A Clinical Casebook

This is the sixth in the series of edited books from the International Forums of Pediatric Pain (the first four volumes were edited by Dr. Patrick McGrath and Dr. Finley, Dr. Chambers joined as an editor for the last volume). In keeping with the previous publications, the book will focus on a particular theme in pediatric pain; in this case that is the integration of cutting edge science and clinical practice on various themes in pediatric pain through the presentation and discussion of a series of clinical cases.

Description of Pediatric Pain: A Clinical Casebook: 10 chapters, 300 pages, 10 figures, 10 tables. Each chapter will consist of an introduction to the chapter theme and the description of up to 3 case presentations. Following each case presentation there will be a description of the relevant clinical decision-making and a summary of what can be learned from the case. Each chapter will close with a general discussion of the theme and an integration of research knowledge with practice.

Contents
1. Research into Practice: Integration of Science and Practice.
4. Postoperative Pain.
5. Headaches and Abdominal Pain.
10. Ethical Issues in Practice.

Fields of interest
Anesthesiology; Pediatrics; Internal Medicine

Target groups
Anesthesiologists, pediatricians, psychologists, palliative care specialists, nurses, administrators, and residents in pain management

Discount group
MC
Clinical MR Imaging and Physics
A Tutorial

This book is a complete introduction to magnetic resonance imaging (MRI), and is addressed to a wide audience. It is composed of two complementary parts, dealing with the physics and the clinical aspects of MRI. The theoretical background of MRI is presented in a clear, direct and succinct manner. Material not vital to routine clinical work is omitted or skimmed over. The second part is a novel approach to clinical MRI that stimulates the reader's thinking. The emphasis is on the mental steps that lead clinicians to a complete and meaningful diagnosis.

Features
- Clear, direct and succinct description of the Physics of Magnetic Resonance
- Description of the practical aspects of MR Imaging in a unique way, that has not been seen before

Contents

Fields of interest
Imaging / Radiology; Diagnostic Radiology

Target groups
Radiologists, radiologists in training, clinicians of various specialities, medical students interested in MR imaging, radiologic technologists

Discount group
MR

Atlas of Heart Failure

Now in its fourth edition, the Atlas of Heart Failure provides a comprehensive up-to-date overview of normal cardiac function, the mechanisms of dysfunction in heart failure, and the therapeutic approaches that are available to manage the syndrome. Designed to provide a detailed and comprehensive visual exposition of all aspects of cardiac function and dysfunction, this atlas contains several hundred images, each accompanied by detailed captions, carefully selected by expert authors, and reviewed by the editor.

Features
- Hundreds of high quality images in step with the latest developments in medicine
- World-renowned authors from a variety of medical disciplines
- Hand-drawn illustrations
- In-depth explanation for each image, new chapters, including mechanical assist devices, management of the hospitalized patient, and cardiac resynchronization therapy

Contents
Frontmatter.- Preface.- The worldwide epidemic of heart failure.- Pathophysiology of heart failure.- Clinical Physiology of heart failure.- Clinical Diagnosis and GOLD guidelines.- Comorbidities.- Prevention.- Rehabilitation.- Exacerbations/Hospital Admission.- Pharmacological therapy.- Therapeutic approaches that are available to manage the syndrome.- The syndrome.- Excitation Phenomena.- Co-Morbidities of COPD.

Target groups
Researchers and professionals

Discount group
MR

Atlas of Chronic Obstructive Pulmonary Disease

The Atlas of Chronic Obstructive Pulmonary Disease is a comprehensive collection of high-quality images covering all areas of COPD. Included are radiographic images, flow charts, schematics, anatomic illustrations, graphs, tables, charts, and slides of pathologic and histologic specimens. Each figure is accompanied by an informative legend that fully explains the image and its importance. From epidemiology, pathophysiology, and genetics to imaging, therapy, rehabilitation, and comorbidities, the Atlas covers all topics vital to the study of COPD. The striking, four-color format combined with the breadth of information it contains make this book an invaluable resource for all professionals involved in the study and treatment of COPD.

Features
- Four-color atlas
- Comprehensive review of all areas of COPD

Contents

Fields of interest
Pneumology/Respiratory System; Biomedicine general; Medicine/Public Health, general

Target groups
Physicians, pulmonologists

Discount group
P
J. D. Crapo (Ed.)

**Atlas of Pulmonary Medicine**

With contributions by numerous experts

Assistant editor: A. Jordan
Illustrations by: W. Langenfeld M. Looney

This new fourth edition of the Atlas of Pulmonary Medicine has been updated in content and quality. Now in four-color, the Atlas covers all pertinent areas of pulmonary medicine – asthma, COPD, cystic fibrosis, chronic bronchitis, pneumonia, HIV and fungal infections, sarcoidosis, vasculitis, tumors and masses, pulmonary neoplasms, and many others. The latest advances in diagnosis and treatment are also included. The striking, four-color format combined with the breadth of information it contains makes this book an invaluable resource for physicians, pulmonologists, and all professionals involved in the study and treatment of pulmonary disease.

**Features**
- Hundreds of high quality images in step with the latest developments in medicine
- Includes new advances on diagnosis and therapy
- World-renowned authors from a variety of medical disciplines
- Hand-drawn illustrations
- In-depth explanation for each image

**From the contents**
- Pulmonary Obstructive Diseases
- Infectious Diseases
- Interstitial and Alveolar Inflammatory Disorders
- Pulmonary Vascular Diseases
- Neoplasms
- Pleural Disease

**Field of interest**
Intensive / Critical Care Medicine

**Target groups**
Pulmonologists, critical care specialists, infectious disease specialists, physicians

**Discount group**
MR

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M. Davidson, Radiant Research, Chicago, IL, USA;
K. C. Maki, Provident Clinical Research & Consulting,
Wheaton, IL, USA; P. Toth, Sterling Rock Falls Clinic,
Sterling, IL, USA (Eds.)

**Therapeutic Lipidology**

This reference will serve as a stimulus to the reader to continue to learn about the ever changing and fascinating field of therapeutic lipidology. It will also empower readers to improve and extend the lives of the patients they so conscientiously serve.

**Features**
- An up-to-date, comprehensive reference on lipidology
- Provides a focused and intensive source for the identification and management of dyslipidemias

**From the contents**
- Lipoprotein Metabolism and Vascular Biology
- Genetic Disorders of Lipoprotein Metabolism
- International Guidelines for Dyslipidemia Management
- Pathophysiology and Management of Dyslipidemias Associated with Obesity, Type 2 Diabetes and Other Insulin Resistant States
- C-Reactive Protein and Other Inflammatory Markers in Cardiovascular Disease
- Dietary Prescriptions to Control Dyslipidemias and Coronary Disease Risk
- Pharmacological Therapy for Cardiovascular Disease: Current and Emerging Therapies
- Effects of Thiazolidinediones on Serum Lipoproteins
- High-Density Lipoproteins
- Management of Hypertriglyceridemia
- Lowering Low Density Lipoprotein Cholesterol Levels to Reduce Atherosclerotic Coronary Heart Disease Risk
- Lipoprotein(a) as an Emerging Risk Factor for Atherothrombosis
- Lowering Low Density Lipoprotein Cholesterol Levels to Reduce Atherosclerotic Coronary Heart Disease Risk
- Lipoproteind(a) as an Emerging Risk Factor for Atherothrombosis: Principles from Bench to Bedside
- Familial Hypercholesterolemia and LDL Apheresis

**Fields of interest**
Cardiology; Internal Medicine; Pharmacology / Toxicology

**Target groups**
Clinicians, cardiologists

**Discount group**
MR

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A. M. Davies, Royal Orthopaedic Hospital, Birmingham, UK; M. Sundaram, Cleveland Clinic Foundation, Cleveland, OH, USA; S. L. James, Royal Orthopaedic Hospital, Birmingham, UK (Eds.)

**Imaging Bone Tumors and Tumor-Like Lesions**

Techniques and Applications

This is a comprehensive textbook that provides a detailed description of the imaging techniques and findings in patients with benign and malignant bone tumors. In the first part of the book, the various techniques and procedures employed for imaging bone tumors are discussed in detail. The second part of the book gives an authoritative review of the role of these imaging techniques in diagnosis, surgical staging, biopsy, and assessment of response to therapy. The third part of the book covers the imaging features of each major tumor subtype, with separate chapters on osteogenic tumors, cartilaginous tumors, etc. The final part of the book reviews the imaging features of bone tumors at particular anatomical sites such as the spine, ribs, pelvis, and scapula. The book is written by an acknowledged expert in the field, and a wealth of illustrative material is included. This book will be of great value to musculoskeletal and general radiologists, orthopedic surgeons, and oncologists.

**Features**
- Discusses in detail the various techniques and procedures employed for the imaging of bone tumors
- Provides a comprehensive review of the role of imaging techniques in diagnosis, surgical staging, biopsy, and assessment of response to therapy
- Presents the imaging features of all the important tumor subtypes
- Includes a wealth of illustrative material
- Written by acknowledged experts

**Fields of interest**
Imaging / Radiology; Diagnostic Radiology; Oncology

**Target groups**
Radiologists, orthopedic surgeons, oncologists

**Discount group**
MR
The Handbook of Injury and Violence Prevention is the first book to address both halves of this challenge, reviewing evidence-based intervention programs in depth so professionals can identify successful, promising, and ineffective (and potentially harmful) prevention strategies. Over fifty experts present the current landscape of intervention methods - from risk reduction to rethinking social norms - as they address some of the most prevalent forms of accidental and violent injury, as well as emerging areas.

Features
- Overview chapters examine the social and economic scope of unintentional and violent injury today
- Closely examines childhood injuries, alcohol-related accidents, and disasters
- Analyzes the issues involved in delivering programs to wider audiences
- Helpful appendices list relevant agencies and professional resources

Fields of interest
Public Health; Health Promotion and Disease Prevention; Epidemiology

Target groups
Practitioners who manage, implement, or evaluate injury or violence prevention programs; researchers who work in the field of injury prevention; academics and teachers in public health programs and departments of social medicine

Discount group
P

M. Feuerstein, University of the Health Sciences, Bethesda, MD, USA

Work and Cancer Survivors

Features
- Cancer survivorship and work is a burgeoning area of research as an increasing number of cancer patients are surviving for the long term. Eighty percent of cancer survivors return to work
- First authoritative and interdisciplinary compilation of chapters written by experts to help move research and practice forward in the important area of work and cancer survivorship

Contents
Section I Introduction.
- Chapter 1 Work in cancer survivors.
- Section II Epidemiology.
- Chapter 2 Descriptive epidemiology of return to work and work limitations: Prevalence and patterns among various cancer types.
- Chapter 3 Qualitative studies of work in cancer survivors.
- Chapter 4 Factors impacting work.
- Section III Models.
- Chapter 6 Models of work and cancer survivors.
- Section IV Measurement.
- Chapter 8 Methods used to measure work productivity in chronic illness.
- Section V Management.
- Focus on survivor.
- Chapter 10 Assessment of factors associated with work: Clinic and Workplace.
- Chapter 11 Medical management.
- Chapter 12 Physical therapy and exercise.
- Chapter 13 Biobehavioral management.
- Focus on workplace.
- Chapter 15: Employer concerns.
- Chapter 16 Workplace accommodation and ergonomics.
- Chapter 17 Legal and policy matters.
- Section VI Future Directions.

Fields of interest
Rehabilitation; Public Health; Oncology

Target groups
Researchers and clinicians working in cancer survivorship; students and professionals in public health, behavioral medicine/health psychology, nursing, labor economic demography, social work, physical and occupational therapy; secondary market in oncology, oncology nursing, primary care

Discount group
P

M. Feuerstein, Uniformed Services University of Health Sciences, Bethesda, MD, USA

Handbook of Cancer Survivorship

Not long ago, a cancer diagnosis was regarded as an automatic death sentence; today there are ten million survivors. Equally impressive is the growing number of clinicians and researchers dedicated to improving the quality of survivors’ lives and care. Yet despite this encouraging picture, there has never been a reliable central source for relevant clinical information – till now. The Handbook on Cancer Survivorship responds to the diverse needs of survivors and their support communities by comprehensively addressing the major issues in the field, from the burden of survivorship to secondary prevention. Editor Michael Feuerstein, himself a cancer survivor, and sixty other top scientist-practitioners analyze in depth how survivors meet and manage the challenges of life after cancer, and what clinicians, researchers, and public health systems can do to ease the transition.

From the contents

Fields of interest
Public Health; Oncology; Health Promotion and Disease Prevention

Target groups
Researchers in cancer survivorship, epidemiologists, health policy professionals, health systems researchers

Discount group
P
Hormone Receptors in Breast Cancer

Hormone Receptors in Breast Cancer provides an up-to-date resource of the role of hormone receptors in breast cancer written in depth for both the basic molecular academic researcher and translational scientist. Advances in basic science of molecular endocrinology have undoubtedly been translated into clinical practice, and clinicians caring for this disease need to be knowledgeable about these developments. The molecular basis of hormone action has been elucidated, and the relative significance of the different estrogen and progesterone receptor isoforms has been explored. This explosion of information has lead to exciting new areas of gene specific targeting of the disease, and breast cancer prevention. Paradigm shifts in treatment options and sequencing have recently occurred in breast cancer management, necessitating close cooperation and communication between translational scientists and physicians. This book is focused on providing this communication.

Features
- Will be of value as a significant resource for the practicing clinician keeping abreast of the most current targeted and combination hormone therapies for breast cancer management and prevention strategies

From the contents

Fields of interest
Oncology; Hematology; Endocrinology

Target groups
Oncologists, hematologists, residents, fellows, medical libraries

Discount group
MR

Inflammatory Diseases of the Brain

This book provides a comprehensive overview of inflammatory brain diseases from a neuroradiological point of view, encompassing both infectious (e.g., viral encephalitis and pyogenic brain abscess) and non-infectious (e.g., multiple sclerosis) diseases. Neuroimaging contributes greatly to the differentiation of infectious and noninfectious brain diseases and to the distinction between brain inflammation and other diseases. In order to ensure a standardized approach throughout the book, each chapter is subdivided into three principal sections: epidemiology, clinical presentation and therapy; imaging; and differential diagnosis. A separate chapter addresses technical and methodological issues and imaging protocols. All of the authors are recognized experts in their fields, and numerous high-quality and informative illustrations are included. This book will be of great value not only to neuroradiologists but also to neurologists, neuropediatricians, and general radiologists.

Features
- Provides a comprehensive overview of inflammatory diseases of the brain from a neuroradiological point of view. - Discusses differential diagnostic aspects in detail. - Provides important clinical and epidemiological background information. - Considers technical and methodological issues and suggesting imaging protocols. - Includes numerous high-quality, informative illustrations.

Fields of interest
Imaging / Radiology; Diagnostic Radiology; Neuroradiology

Target groups
Clinicians, professionals, practitioners in the fields neuroradiology, neurology, radiology, neuropediatry, neurosurgery

Discount group
MR

Function Preservation and Quality of Life in Head and Neck Radiotherapy

This book focuses on functional treatment outcomes in head and neck cancer patients from the perspective of experts from around the world in medical and allied health fields. Recent advances in management strategies are presented as they relate to functional preservation and quality of life. Clinical and research knowledge is organized in an approachable manner by means of short chapters, key point tables, and high-quality illustrations and graphics. This method of presentation is very effective for busy clinical practitioners and researchers. Information is provided on site-specific epidemiology and treatment outcome, the impact of different treatment techniques and toxicities on quality of life, and the relationship of toxicity prevention, rehabilitation, and supportive care to quality of life after treatment. This book is unique because of the outstanding list of contributors and the specific focus on functional preservation and quality of life.

Features
- Is unique in focusing specifically on functional preservation and quality of life in patients with head and neck cancer treated by radiotherapy. - The use of short chapters and key point tables enables busy clinical practitioners and researchers to quickly find the information they need. - Benefits from an outstanding list of contributors and many detailed illustrations.

Fields of interest
Imaging / Radiology; Radiotherapy; Otorhinolaryngology

Target groups
Head and neck cancer radiation oncologists, medical oncologists, and surgeons, oncology scientists/researchers, social scientists, oncology nurses, speech-language pathologists, occupational therapists, dieticians, audiologists, social workers, case managers, residents and students

Discount group
MR
Methods of Cancer Diagnosis, Therapy and Prognosis

Gastrointestinal Cancer

This volume discusses diagnosis, therapy, and prognosis of Gastrointestinal cancers. Various aspects of esophageal cancer, gastric cancer, and pancreatic cancer are included. The emphasis is placed on the methodologies used for diagnosis, therapy, and prognosis of these cancers. Molecular mechanisms underlying these cancers are explained. Evaluation of FDG-PET/CT fusion imaging, endoscopic ultrasound and imaging, and the role of microRNA in prognosis, are discussed. Also, the classification of colon and gastric histological samples is detailed. Treatments, including radiofrequency ablation and surgical debulking, endoscopic submucosal dissection, laparoscopic gastrectomy of gastric cancer and pancreato-duodenectomy are explained in detail. The use of radiotherapy and chemotherapy for pancreatic cancer patients is also explained. A large number of imaging modalities for diagnosing these cancers and assessing the treatments are discussed.

Features
- The only book that discusses cancer diagnosis, therapy, and prognosis together in one volume
- Discusses the molecular processes that lead to the development and proliferation of cancer cells
- Recent major advances in cancer diagnosis and therapy are included
- The text is supported throughout with illustrations
- The information identifies patients with high likelihood of clinical benefits from a specific treatment

Fields of interest
Oncology; Surgical Oncology; Nursing

Target groups
Oncologists, clinicians, surgeons, hospital laboratories, medical students and medical libraries, drug industries, medical technicians

Discount group
MR

Atlas of Hypertension

The sixth edition of the Atlas of Hypertension builds on the tremendous success of earlier editions, but significant revision has been done since the last edition – a third of the chapters are new, and more than half of the chapters are written by new authors. Expanded topics include home blood pressure; secondary hypertension; information on newer agents such as nebivolol, aliskiren, and new vasopeptidase inhibitors; the possible role and pharmacology of renin inhibition; and American and European guidelines for antihypertensive treatment and their influence on physician practice. The striking, four-color format combined with the breadth of information it contains makes this Atlas an invaluable resource for physicians, cardiologists, and all professionals involved in the study and treatment of hypertension.

Fields of interest
Cardiology; Medicine/Public Health, general; Health Promotion and Disease Prevention

Target groups
Physicians, cardiologists

Discount group
MR

Obstetric Dermatology

A Practical Guide

The hormonal, immunologic, and vascular changes during pregnancy also affect the skin. In fact, some dermatoses only appear during pregnancy or the postpartum period. In order to apply the most appropriate treatment and reach the best possible treatment outcome, it is important to recognize these conditions at an early stage. This unique and comprehensive book is an up-to-date guide for all those treating pregnant patients. Lavishly illustrated, it covers both common and rare pregnancy-related dermatoses, and includes: clinical pictures, laboratory tests, histopathology, differential diagnosis, influence on mother and embryo, and treatment and prognosis. Each chapter ends with at least one representative case-report. This user-friendly, uniformly structured guide will help physicians confidently approach and successfully treat patients with pregnancy-related skin disease.

Features
- Lavishly illustrated up-to-date guide for all those treating pregnant patients
- With helpful case-reports and treatment evaluations
- User-friendly and homogenously structured
- Supports physicians to confidently approach and successfully treat patients with pregnancy related skin disease

Contents

Fields of interest
Dermatology; Gynecology; Pediatrics

Target groups
Dermatologists, gynaecologists, paediatricians, and family physicians

Discount group
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Paralleling the discovery of HIV and the rise of the AIDS pandemic, a flock of naysayers has dedicated itself to replacing genuine knowledge with destructive misinformation—and spreading from the fringe to the mainstream media and the think tanks. Now from the editor of the journal AIDS and Behavior comes a bold exposure of the scientific and sociopolitical forces involved in this toxic evasion. Denying AIDS traces the origins of AIDS dissidents’ disclaimers during the earliest days of the epidemic and delves into the psychology and politics of the current denial movement in its various incarnations.

Seth Kalichman focuses not on the “difficult” or doubting patient, but on organized, widespread forms of denial (including the idea that HIV itself is a myth and HIV treatments are poison) and the larger forces of homophobia and racism that fuel them.

Features
- Written by Seth C. Kalichman, editor of AIDS and Behavior, a Clinical-Community Psychologist and a Professor of Social Psychology at the University of Connecticut
- All royalties will support the purchase of antiretroviral medications for people living with HIV/AIDS in Africa: http://www.shallwego.net/ttf/index.htm

Contents

Fields of interest
Popular Science in Medicine and Health; Public Health; Infectious Diseases

Target groups
Anyone interested in AIDS as well as students, professionals in public health and researchers in HIV/AIDS

Discount group
MC

A. Khan, McMaster University, Hamilton, ON, Canada; O. H. Clark, University of California, San Francisco, CA, USA (Eds.)

Parathyroid and Calcium Disorders
A Case-Based and Practical Guide

The purpose of the Parathyroid Diseases and Calcium Disorders: A Case-Based and Practical Guide is to present a comprehensive and concise overview of our current knowledge in the area of parathyroid function, hormone regulation and disease states. The Guide educates the reader using a case-based approach presenting current evidence in the field. The material will be presented in easy to read and understandable language and will use a plethora of tables and text boxes where possible. Complex concepts will be conveyed in simple and clear language. Leading international experts will be invited to contribute to this state of the art book which will be unique in its depth of knowledge and practicality.

Contents

Fields of interest
Endocrinology; Surgery; Internal Medicine; Genetics

Target groups
Students, residents, physicians in endocrinology, surgery, radiology, nuclear medicine, pediatrics, geriatrics, rheumatology, pathology, ENT specialists, internal medicine and primary care, biochemistry

Discount group
MC

Y. Kim, University of Georgia, Athens, GA, USA (Ed.)

Handbook of Behavioral Genetics

Behavior Genetics is an interdisciplinary area combining behavioral sciences and genetics. The study of behavior genetics has been increasingly important as we are getting interested in finding genes of complex behavior disorders with advance in molecular genetic techniques. Therefore, this domain has now become a vast common ground for scientists from very diverse fields including psychology, psychiatry, neurology, endocrinology, biochemistry and genetics. However, there are not many textbooks or references to which students in Behavior Genetics can access for their research and class.

The purpose of this handbook is to provide an upper level of undergraduate and graduate students with research guidelines to study roles of the genes and other factors involved in a variety of complex behavior. Unlike previous Behavior Genetics textbooks, this handbook will discuss current research and topics of interest to psychologists, psychiatrists, and geneticists.

Features
- Will cover the most current issues in behavior genetics such as schizophrenia, autism, alcoholism, smoking and drug abuse and the role that behavioral genetics plays in these behaviors.
- Contributors will be drawn from animal behaviorists and psychologists who will share their latest empirical findings, while utilizing the latest molecular techniques and methodologies that students can apply to future research.

Fields of interest
Human Genetics; Psychiatry; Biological Psychology

Target groups
Graduate and doctorate students in advanced behavior genetics courses, mostly in psychology and psychiatry departments
Cataract and Refractive Surgery

Progress III

The topic of the third volume of the series in “Essentials in Ophthalmology” is cataract and refractive surgery, a realm of ophthalmic care that has undergone revolutionary changes in the past 10 years. Worldwide, the removal of the opaque crystalline lens is the most frequently performed surgical intervention in the human body, and refractive surgery encompasses an increasing array of procedures with rapidly growing surgical volumes. The goal of the editors of this book has been to provide up-to-date clinically relevant overviews and to highlight the most interesting fields of research and controversy.

Features
► Indispensable for continuous education and advanced training ► All editors with international reputation and contributing authors with great expertise in their topic ► Well-structured text and design, quick and easy to read ► Bridges the gap between primary literature and daily practice ► Every 2nd year each subject is covered with timely information about new developments in the specialised field

Contents

Fields of interest
Ophthalmology

Target groups
Ophthalmologists in clinical and private practice, residents, ophthalmologists-in-training as well as optometrists and ophthalmic nurses

Discount group
P

Cutaneous Manifestations of Endocrine Diseases

W. K. Krause, University Hospital Marburg, Germany

Skin lesions are often the first sign for an endocrine disease. Their description is thus of relevance for early diagnosis and treatment of endocrine disease for specialists in endocrinology as well as in dermatology. Lavishly illustrated, this book describes the clinical and histological features of skin lesions observed in endocrine diseases. All features are reader-friendly structured and written in the language of dermatologists in order to enable a simple association between the features observed and the endocrine etiology.

Features
► Based on centuries of experience of a dermatology expert and supports dermatologists and endocrinologists to find the cause of the disease as well as the correct diagnosis ► Written with a reader-friendly structure and includes lavishly illustrated examples of all relevant clinical and histological features

Contents

Fields of interest
Dermatology; Internal Medicine; Endocrinology

Target groups
Dermatologists, endocrinologists, and physicians working in the field of general medicine

Discount group
MR

Intraepithelial Neoplasia

M. Lai, Zhejiang University, Hangzhou, China (Ed.)

Intraepithelial neoplasia (IEN) are some kind of preinvasive lesions. The definition and identification of intraepithelial neoplasia is exceedingly important for early diagnosis and prevention of malignancy. This book introduces for the first time the concept of intraepithelial neoplasia for the entire body in detail and the diagnostic applications of intraepithelial neoplasia in many organs and systems – including the respiratory and digestive systems, pancreas, bile duct, breast, prostate, urinary system, female genital system and the skin. The book features a large number of original figures – 450 – from Chinese patients with detailed descriptions. The book can serve as a diagnostic reference and as a research guide to preinvasive lesions for pathologists, oncologists and scientists. In addition, it will be able to help medical and pathology students improve their understanding of early neoplasia.

Features
► First book in this specialized area ► Many original figures ► New conceptions

Contents

Fields of interest
Pathology; Oncology; Surgical Oncology

Target groups
Pathologists, oncologists, surgeons; medical students and related research fellows

Discount group
MR
Molecular Pathology in Clinical Practice: Genetics

Molecular Pathology Testing in Clinical Practice: Genetics is an authoritative and comprehensive guide that provides the general pathologist in clinical practice, as well as residents and fellows during their training, with the current standard in molecular genetic testing. The book integrates the latest advancements in the field with the basic principles and practical applications.

Features
► Provides current standards in molecular testing

Contents

Field of interest
Pathology

Target groups
Molecular pathologists, general pathologists, pathology residents, pathology assistants, pathology lab technicians

Discount group
MR

Molecular Pathology in Clinical Practice: Infectious Diseases

Molecular Pathology in Clinical Practice: Infectious Diseases is an authoritative and comprehensive guide that provides the general pathologist in clinical practice, as well as residents and fellows during their training, with the current standard in molecular infectious disease testing. The book integrates the latest advancements in the field with the basic principles and practical applications.

Features
► Provides current standards in molecular infectious disease testing

Contents

Field of interest
Pathology

Target groups
Molecular pathologists, general pathologists, pathology residents, pathology assistants, pathology lab technicians

Discount group
MR

Molecular Pathology in Clinical Practice: Oncology

Molecular Pathology in Clinical Practice: Oncology is an authoritative and comprehensive guide that provides the general pathologist in clinical practice, as well as residents and fellows during their training, with the current standard in molecular oncology testing. It addresses all areas of molecular oncology testing including: molecular biology basics, inherited cancers, solid tumors, neoplastic hematopathology, identity testing and laboratory management. The book integrates the latest advancements in the field with the basic principles and practical applications.

Features
► Provides current standards in molecular oncology testing

From the contents

Field of interest
Pathology

Target groups
Molecular pathologists, general pathologists, pathology residents, pathology assistants, pathology lab technicians, oncologists

Discount group
MR
Determinants of Minority Mental Health and Wellness

There have been numerous books published relating to minority mental health. Most of these have approached the topic from either of two perspectives. They may focus on specific minority populations and within each such section, discuss the mental illnesses affecting that population and the risk factors for mental illness. Alternatively, books have been organized around specific mental illness diagnoses and within each such discussion, have addressed the specific illness with reference to minority populations. This proposed text utilizes a completely different approach. First, we focus on minority mental health and wellness and, as such, addresses not only recognized risk factors for mental illness within specific minority populations, but also the protective factors and strategies to prevent mental illness.

Features
- Chapters authored by national and international experts from a variety of disciplines, including psychiatry, law, anthropology, public health, and psychology

Fields of interest
- Medicine/Public Health, general; Health Promotion and Disease Prevention; Health Administration

Target groups
- Experts in psychiatry, law, anthropology, public health, and psychology

Discount group
- MR

Neurosurgery

Promotion Contact: UEMS, European Association of Neurological Surgery (EANS), ESPN training and education committee

In a specialized field such as neurosurgery, highly specific knowledge is required. Training programs in the EU vary, making it difficult to standardize medical training. This manual forms the basis for a European consensus in neurosurgery. It is written for residents, students and physicians with a special interest in neurosurgery. Diagnostic and therapeutic procedures are detailed according to localization (cranial, spinal, peripheral nerves) with special consideration given to congenital defects and pediatric neurosurgical disorders, functional and stereotactic neurosurgery, as well as critical neurosurgical care. Each chapter contains the basics of anatomy and physiology. The book is well-organized and clearly structured according to each entity and its neurosurgical treatment options. A better understanding of specific neurosurgical problems will help practicing neurosurgeons provide better medical care for their patients.

Features
- Clearly structured and to the point
- European standard in Neurosurgery
- Invaluable in preparation for European Board Exams

Contents

Fields of interest
- Neurosurgery; Neurology; Neuroradiology

Target groups
- Graduates in training programme U.E.M.S., practitioners/professionals, lecturers/tutors, graduates/undergraduates, academic/corporate/hospital libraries, scientists/researchers

Discount group
- MR

CT- and MR-Guided Interventions in Radiology

Percutaneous, image-guided interventions are a well established and effective tool in clinical routine. These include percutaneous biopsies, drainage, pain management as well as complex techniques for tumour ablation. Interventional radiology is a demanding subject that requires well trained medical professionals. This book covers indications, materials and execution of the most important image-guided interventions. A combination of detailed descriptions and figures comprehensively describes how to perform the wide variety of interventions. Moreover, this book is also suited as a reference for interventional radiologists.

Features
- Complete guide to CT-(MR)-guided interventions
- Easy to understanding by stepwise explanation of each procedure
- Time saving presentation with key points for each intervention
- Guide to practice for beginners and professionals

Fields of interest
- Imaging / Radiology; Interventional Radiology; Oncology

Target groups
- Radiologists, oncologists, surgeons

Discount group
- MR

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2009. Approx. 490 p. 11 illus. Hardcover

Due March 2009

2009. Approx. 620 p. 300 illus. in color. (European Manual of Medicine) Softcover

$129.95
SBN 978-3-540-79564-7

Due December 2008

2009. Approx. 410 p. 234 illus., 73 in color. Hardcover

$229.00
SBN 978-3-540-73084-2
Effective Migraine Treatment in Pregnant and Lactating Women: A Practical Guide

More than 28 million Americans suffer from migraine headaches, with migraine affecting nearly one in five women in their reproductive years. Effective Migraine Treatment in Pregnant and Lactating Women: A Practical Guide, provides a comprehensive resource to address diagnosis, testing, and treatment of headaches in reproduc-tively fertile women. This important new book offers a wealth of practical, ready-to-use, clinically tested tips and recommendations to treat women with headaches during pregnancy and nursing. Although women may ideally prefer to restrict migraine treatments during pregnancy, up to one in three pregnant women self-medicate for symptoms, especially with analgesics. Fortunately, there are many effective treatment options that can be safely used when pregnant and breastfeeding. Available therapies include medication and nonmedication treatments, traditional and alternative therapies, and nutritional supplements.

Features
- Offers a wealth of practical, ready-to-use, clinically tested tips and recommendations for treating women with headaches during pregnancy and nursing
- Uniquely answers frequently asked questions by patients and provides healthcare providers with easy-to-use office tools for patient education and charting documentation

Fields of interest
Obstetrics/Perinatology; Primary Care Medicine; Internal Medicine

Target groups
Obstetrician-gynecologists, primary care physicians, internal medicine physicians, family practice physicians, nurse practitioners

Discount group
MC

Chronic Pain
A Primary Care Guide to Practical Management

Patients with chronic pain present a unique set of challenges to the primary care clinician. In Chronic Pain: A Primary Care Guide to Practical Management, Second Edition, leading pain specialist Dawn A. Marcus, MD, again offers practical, clear, and succinct evidence-based approaches to the diagnosis and treatment of the myriad painful conditions clinicians see in their offices every day, such as headache, back pain, arthritis, fibromyalgia, and abdominal pain. Sections addressing pain management in children, pregnant women, and seniors are also included. This new edition is designed to provide a pragmatic approach to assessing and treating the complex issues and characteristics of chronic pain patients.

Features
- Practical, clear, and succinct new edition
- Updated, evidence-based approaches to diagnosis and treatment
- Additional chapters on risk management; pain syndromes in the shoulder, upper extremity, and lower extremity; and cancer and end-of-life pain
- Charting forms and patient educational materials on CD-ROM, including ready-to-use screening tools for depression and anxiety, neuropathic pain, and fibromyalgia assessment

Fields of interest
Internal Medicine; General Practice / Family Medicine; Primary Care Medicine

Target groups
Internal medicine physicians, family practice physicians, nurse practitioners, and physician assistants

Discount group
MC

International Atlas of AIDS

In a time when AIDS is becoming more prevalent and widespread, the formerly-named Atlas of AIDS has now become the International Atlas of AIDS, in order to reflect current conditions throughout the world. This Atlas will cover a multitude of new aspects of the disease, including new therapies, syndromes, and management strategies. An extensive collection of images makes up an Atlas that will prove indispensable to various members of the medical field.

The diagnosis and treatment of patients with HIV infection is often times unique and atypical requiring healthcare professionals to have access not only to the most current, but also the most comprehensive information. With this new edition of the Atlas of AIDS, the readers receive a vivid and visually striking reference, enabling them to effectively meet the clinical challenges of this rapidly advancing field.

Features
- Hundreds of high quality images in step with the latest developments in medicine
- World-renowned authors from a variety of medical disciplines
- Hand-drawn illustrations
- In-depth explanation for each image
- Contributions from international authors

Fields of interest
Infectious Diseases; Medicine/Public Health, general; General Practice / Family Medicine

Target groups
Cardiologists, epidemiologists, infectious disease specialists, immunologists

Discount group
MR
D. Mayers, Idenix Pharmaceuticals, Cambridge, MA, USA (Ed.)

Antimicrobial Drug Resistance Handbook
Mechanisms of Drug Resistance, Vol. 1

The volumes included in Antimicrobial Drug Resistance Handbook represent the first comprehensive, multidisciplinary reference covering the area of antimicrobial drug resistance in bacteria, fungi, viruses, and parasites from basic science, clinical, and epidemiological perspectives. This first volume, Antimicrobial Drug Resistance Handbook, Mechanisms of Drug Resistance, is dedicated to the biological basis of drug resistance and effective avenues for drug development. With the emergence of new drug-resistant strains, the approach to dealing with the drug resistance problem must include the research of different aspects of the mechanisms of bacterial resistance and the dissemination of resistance genes as well as research utilizing new genomic information. These approaches will permit the design of novel strategies to develop new antibiotics and preserve the effectiveness of currently available ones.

Field of interest
Infectious Diseases

Target groups
Students in microbiology, infectious disease physicians, medical students, basic scientists, drug development researchers, microbiologists, epidemiologists, and public health practitioners

Discount group
MR

D. Mayers, Idenix Pharmaceuticals, Cambridge, MA, USA (Ed.)

Antimicrobial Drug Resistance Handbook
Clinical and Epidemiological Aspects, Vol. 2

The volumes included in Antimicrobial Drug Resistance Handbook represent the first comprehensive, multidisciplinary reference covering the area of antimicrobial drug resistance in bacteria, fungi, viruses, and parasites from basic science, clinical, and epidemiological perspectives. This second volume, Antimicrobial Drug Resistance Handbook, Clinical and Epidemiological Aspects, is devoted to the clinical aspects of drug resistance. Although there is evidence that restricted use of a specific antibiotic can be followed by a decrease in drug resistance to that agent, drug resistance control is not easily achieved. Thus, the infectious disease physician requires input from the clinical microbiologist and infection control specialist to make informed choices for the effective treatment of various strains of drug-resistant pathogens in individual patients.

Field of interest
Infectious Diseases

Target groups
Students in microbiology, infectious disease physicians, medical students, basic scientists, drug development researchers, microbiologists, epidemiologists, and public health practitioners

Discount group
MR

J. P. Mulhall, Cornell University Weill Medical College, New York, NY, USA (Ed.)

Sexual Function in the Prostate Cancer Patient

Sexual dysfunction presents a major challenge to physicians who take on the task of treating men with prostate cancer. While curing the disease and saving a life is paramount, improving technologies and therapies offer skilled surgeons and clinical oncologists the opportunity to eradicate the disease without compromising sexual function. In Sexual Function of the Prostate Cancer Patient, John Mulhall and a panel of internationally recognized experts on prostate cancer and sexual function assess in detail the current state of prostate cancer treatment. The authors offer a broad overview of the pathophysiology and treatment of erectile dysfunction in men with prostate cancer, reviewing the latest findings regarding erection-sparing radiation therapy and sexual function outcomes after laparoscopic and robotic prostatectomy. Additional chapters discuss intra-operative maneuvers to minimize post-operative erectile dysfunction and pharmacologic penile preservation and rehabilitation.

Features
► First of its kind book that addresses prostate cancer therapy’s effects in quality of life, sexual function and self esteem ► Presents an exhaustive review of the incidence, pathophysiology and treatment of sexual dysfunction in men following prostatectomy and radiation ► Expert commentary on a range of prostate cancer therapies

Field of interest
Urology/Andrology

Target groups
Urologists, radiation therapists, radiation oncologists

Discount group
MR

► $169.00
SBN 978-1-60327-592-7

► $169.00
SBN 978-1-60327-594-1

2009. Approx. 330 p. 27 illus., 5 in color. (Current Clinical Urology) Hardcover
► approx. $99.50
SBN 978-1-60327-554-3
Atlas of Nuclear Cardiology

In this updated third edition of the Atlas of Nuclear Cardiology, the editors have collaborated with over a dozen leading authorities to capture the most up-to-date and pertinent information in the field of nuclear cardiology. This four-color atlas includes detailed legends and extensive reference listings for hundreds of illustrations. Diagnostic algorithms and schematic diagrams integrated with nuclear cardiology procedures are generously interspersed with color images to emphasize key concepts in cardiovascular physiology and metabolism. Topics covered include nuclear imaging, myocardial blood flow, risk stratification, patient management, myocardial innervation, and many others. Imaging in the emergency department and atherosclerotic plaque imaging are examples of new topics covered in this edition. The striking, four-color format combined with the breadth of information it contains make this book an invaluable resource for physicians and cardiologists.

Fields of interest
Cardiology; Cardiac Surgery; Nuclear Medicine

Target groups
Physicians, cardiologists

Discount group
MR

About this Image

The Achilles Tendon
Treatment and Rehabilitation

This techniques-oriented text is a comprehensive guide to managing Achilles tendon problems. Readers learn the latest less invasive and nonoperative treatment approaches, in addition to traditional treatments, from internationally renowned contributors. Introductory chapters provide essential background on basic anatomy, physiology, and pathomechanics. Subsequent sections cover the spectrum of Achilles tendon injuries. Acute and chronic conditions are addressed, as well as problems specific to both adolescents and adults. The book also takes a practical approach to sports training in relation to the role of the Achilles. Rehabilitation is highlighted with an emphasis on quicker return to play. Case studies tie the book together and aid with the ready application of concepts to daily practice.

Features
- Presents the latest less invasive and nonoperative treatment techniques
- Details sports training and rehabilitation approaches geared for quicker return to play
- Includes case studies that assist with the application of material
- Editor and contributors are internationally recognized authorities in the field

From the contents

Fields of interest
Orthopedics; Surgical Orthopedics; Conservative Orthopedics

Target groups
Orthopedic surgeons, sports medicine physicians, podiatrists, orthopedic residents, physiatrists, athletic trainers, hospital/university libraries

Discount group
MR

Musculoskeletal Ultrasound
Anatomy and Technique

Proper ultrasound examination and interpretation hinges on thorough knowledge of the relevant anatomy, artifacts, and technique. This book provides an excellent foundation by going beyond pathology and concentrating on these fundamentals. Basic physics and artifact recognition and prevention are outlined. Chapters review essential anatomy and include images and tables that highlight relevant bones, ligaments, tendons, muscles, and nerves. Sites of attachment and the best positions for examination are also noted. Technique is presented via a three-tiered approach and photographs of patients in the transducer position are matched with the resulting ultrasound images and complementary anatomical overlays. The accompanying DVD offers ultrasound techniques as performed by experienced radiologists and clinicians. Procedures are detailed with a split screen showing the examination and the corresponding ultrasound image.

Features
- Emphasis placed on proper exam technique
- Exquisite anatomical detail throughout
- Accompanying DVD is based on teaching courses at major conferences

From the contents

Fields of interest
Imaging / Radiology; Rheumatology; Rehabilitation Medicine

Target groups
Radiologists, radiology residents, radiologic technologists/technicians, podiatrists, internal medicine physicians, rheumatologists, physical medicine physicians/rehabilitation specialists, sports medicine physicians, orthopedists, sonographers

Discount group
MR
The Atlas of Osteoporosis, now in full color, is the largest and highest-quality collection of images relating to all areas of osteoporosis. The third edition includes photographs, slides of pathology and histology specimens, radiographic images, flow charts, schematics, anatomical illustrations, tables, and charts. Designed to be useful to a broad readership interested in the disorder, the Atlas includes well-established basics of osteoporosis (skeletal biology, nutrition, exercise, and growth) and new developments in the field. Sections that have been significantly expanded include genetics, bone densitometry, and the laboratory evaluation of bone disorders. The striking, four-color format combined with the breadth of information it contains make this book an invaluable resource for researchers, physicians, and all professionals involved in the study and treatment of osteoporosis.

**Features**
- Hundreds of high quality images in step with the latest developments in medicine
- World-renowned authors from a variety of medical disciplines
- Hand-drawn illustrations
- In-depth explanations for each image

**Contents**

**Fields of interest**
Endocrinology; Orthopedics

**Target groups**
Researchers and professionals

**Internet Cool Tools for Physicians**
Feel like you're being sucked down into a swirl of never-ending information? Today's physicians are faced with new advances in medicine and new research that can impact practice, but finding the right information at the right time seems overwhelming in the constant deluge of scientific research. That's where this illustrated guide will walk you through some of today's most useful Internet tools, tools that can help you find, manage, and organize the information you need, so that it is always at your fingertips, whether for patient care, research, practice, or fun.

**Features**
- Informs and guides physicians to keep up to date with new biomedical research tools with minimal effort, using free online tools, in order to make physicians' lives a little easier and more efficient
- Designed for physicians who are familiar with computers and the internet, but no prior experience with any of the online tools discussed is necessary

**Contents**

**Fields of interest**
Medicine/Public Health, general; Ophthalmology; Surgery

**Target groups**
All physicians interested in using the internet for their research

**Discount group**
MR
Atlas of Cardiothoracic Anesthesia

This new edition of the Atlas of Cardiothoracic Anesthesia has been updated in content and quality. Now in four-color, the Atlas covers all pertinent areas of cardiothoracic anesthesia: cardiovascular physiology, preoperative evaluation, pharmacology, ischemic heart disease and valvular disease, transplant surgery including aesthetic considerations, electrophysiology, invasive cardiac monitoring, the coagulation system and cardiac surgery, postoperative care, pediatrics, history, and practice management. Topics that are new to this edition include transesophageal echocardiographic monitoring and principles of congenital cardiac anesthesia. The striking, four-color format combined with the breadth of information it contains make this book an invaluable resource for all professionals involved in cardiothoracic anesthesia.

Features
- Updated edition
- Now in 4-color format
- New topics covered: transesophageal echocardiographic monitoring and principles of congenital cardiac anesthesia
- Comprehensive review of many areas of cardiothoracic anesthesia

From the contents
Cardiovascular Physiology. - Cardiovascular Pharmacology. - Preoperative Cardiac Evaluation. - Ischemic Heart Disease. - Cardiac Valvular Disease. - Anesthetic Considerations for Lung Transplantation and Thoracic Aortic Surgery. - End-stage Heart Failure and Cardiac Transplantation. - Electrocardiography and Invasive Monitoring of the Cardiothoracic Patient.

Fields of interest
Medicine/Public Health, general; Anesthesiology

Target groups
Professionals in cardiothoracic anesthesia

Discount group
MR

Pulmonary Problems in Pregnancy
Clinical and Research Aspects

The book is divided into three sections. The first few chapters introduce the reader to the normal physiologic changes that occur during pregnancy. A chapter on high altitude is included to illustrate the consequences of chronic hypoxia on maternal and fetal outcomes, to help extrapolate to the effects of chronic pulmonary conditions. The second section reviews general management principles, including diagnostic imaging and prescribing in pregnancy. The final section includes multiple chapters on specific, troubling pulmonary disorders. The specific chapters are intended to summarize the available literature, linking science to bedside, and provide management recommendations whenever possible. In all, Pulmonary Problems in Pregnancy: Clinical and Research Aspects is an essential text that will not only provide critical clinical guidance but also stimulate further investigation into this fascinating and under explored area of medicine.

Features
- Unique collaboration of authors, including pulmonologists and obstetric internists from throughout the world
- Comprehensive overview of topics, including normal physiologic changes that occur during pregnancy; general management principles, including diagnostic imaging and prescribing in pregnancy; and multiple chapters on common and complex pulmonary disorders

Fields of interest
Obstetrics/Perinatology; Pneumology/Respiratory System; Internal Medicine

Target groups
Pulmonologists, OB/GYNs, critical care physicians, internists, obstetric internists, investigators, and basic scientists

Discount group
MC

Advanced Imaging in Biology and Medicine
Technology, Software Environments, Applications

This book attempts for the first time to provide an overview of the major approaches to biological and medical imaging, the strategies for image analysis and the creation of models, which are based on the results of image analysis. This sets the book aside from the usual monographs, which introduce the reader only to a single technology. Given the broad range of topics covered, this book provides an overview of the field, which is useful for a wide audience, from physicians and biologists to readers who would like to know more about the technology, which is used to derive diagnoses of diseases today.

Features
- The past years experienced a boom in the development of novel imaging technologies, used in biological research as well as in clinical diagnosis
- First book to provide a complete overview of advanced imaging technologies
- Introduction to all various aspects of advanced imaging in the medical and biological field

Fields of interest
Imaging / Radiology; Biomedicine general

Target groups
Researchers and clinicians in the field of imaging technologies

Discount group
MR
PET in the Evaluation of Alzheimer’s Disease and Related Disorders

This practical guide contains all the science and clinical information needed to help the reader make informed decisions about the applications of brain PET to improve the care of patients with symptoms of Alzheimer's disease and related disorders. Beginning with an introduction to goals and limitations of the clinical evaluation of dementia, Dr. Dan Silverman and his distinguished group of contributors cover the role of functional imaging, clinical interpretation of brain FDG-PET scans, FDG-PET in the evaluation of early dementia, microstructural imaging of neurodegenerative changes, amyloid imaging, imaging non-neurodegenerative causes of cognitive impairment, tools for assisting PET scan interpretation in the clinical setting, and PET evaluation of central motor disorders. There is also a complete collection of clinical cases that practitioners are likely to encounter in daily practice. Enhanced with numerous PET brain scans, this book fills a rapidly growing need in the medical imaging field.

Features
- Contains the science and clinical information needed to help make decisions about the applications of brain PET to the care of patients with symptoms of Alzheimer’s disease and related disorders
- Dr. Dan Silverman and his contributors cover functional imaging, goals and limitations, clinical interpretation, and evaluation
- Enhanced with PET scans and clinical cases, this book fills a growing need

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

Target groups
Radiologists, neuroradiologists, and nuclear physicians, neurologists, residents

Discount group
MR

Hematopoietic Stem Cell Transplantation

Remarkable developments in the field of transplantation have created opportunities to address the formidable challenges of transplantation across histocompatibility barriers, stem cell expansion, and prevention of complications and generation of graft-vs-tumor activity to eradicate residual disease. Stem Cell Transplantation for Hematologic and Other Disorders, Second Edition provides a glimpse into potential future applications of bone marrow derived stem cells in the field of cardiac repair. The updated chapters introduce the biologic underpinnings of hematopoietic cell transplantation, basic stem cell biology, immunobiology, and histocompatibility, with emphasis on indications and results of transplantation for specific diseases. Written by experts in the field, Stem Cell Transplantation for Hematologic Disorders, Second Edition provides seasoned professionals with a complete understanding of the current state of transplantation biology as well as a clear vision into the future.

Features
- New edition with updated current state of the science
- Nine new chapters added
- Comprehensive understanding of the current state of transplantation biology

From the contents
I Biology of Transplantation. II. Transplantation for Specific Disorders. III. Alternative Stem Cell Sources. IV. Conditioning Regimens. V. Complications of Transplantation. VI. GVHD. VII. Immune Modulation.

Fields of interest
Hematology; Oncology; Blood Transfusion Medicine

Target groups
Physicians, hematologists, oncologists, and researchers working in stem cell transplantation

Discount group
P

Atlas of Echocardiography

The second edition of the Atlas of Echocardiography is a complete reference for cardiology professionals who rely on echocardiographic imaging techniques. The Atlas represents the collective effort of over 30 leading authorities in the field of cardiology working together to compile the most up-to-date and pertinent information in the field of echocardiography. All areas of echocardiography are covered, from diagnostic basics to cutting edge techniques, such as three-dimensional imaging, contrast imaging, and tissue Doppler imaging. Each figure is accompanied by an informative legend that fully explains the image and its importance. This striking, four color atlas serves as both a resource and a reference and is an invaluable tool to all readers, including cardiologists, non-cardiologist physicians, and sonographers.

Features
- Updated edition
- 4 color atlas
- Comprehensive review of echocardiography, including cutting edge techniques and the latest advances in the field

From the contents

Fields of interest
Biomedicine general; Medicine/Public Health, general; General Practice / Family Medicine

Target groups
Physicians, cardiologists, sonographers

Discount group
P
Vascular Biology Protocols

Over the past decades, the pathogenesis, diagnosis, treatment and prevention of cardiovascular diseases have been significantly influenced by research activities. This volume of “Methods in Molecular Medicine” covers a wide spectrum of cardiovascular and in vitro techniques encompassing biomedical, pharmacological and molecular biology disciplines which are currently used to assess vascular disease progression. The chapters included in this volume focus on a specific vascular biology technique and describe various applications as well as caveats of these techniques. The protocols included here are described in detail, allowing beginners with little experience in the field of vascular biology to embark on new research projects.

Features
- Includes new updates on traditional methods
- Provides various methodologies for gene therapy and gene-knockout
- Highly specific, easy to follow step-by-step laboratory protocols

From the contents
- Rat Carotid Artery Balloon Injury Model
- Histological and Morphometric Analyses for Rat Carotid Artery Balloon Injury
- Venous Thrombosis
- Plaque Rupture
- Atherosclerotic Lesions
- Surgical Animal Model of Ventricular Hypertrophy
- Animal Models of Hypertension
- Rat Models of Cardiac Insulin Resistance
- The Isolated, Perfused Pseudo-Working Heart Model

Field of interest
- Vascular Surgery

Target groups
- Biochemists, clinicians and molecular pharmacologists

Discount group
- P

Skin Cancer after Organ Transplantation

Organ transplantation has been performed for almost 40 years with steadily increasing success regarding long-time survival of the graft, as well as quality of life for the patient. However, graft tolerance only can be achieved via induction and maintenance of an impaired immunological surveillance. An increase of skin cancers as a consequence of the lowered cellular immuneresponse seems to parallel the overall increased long-time survival rate of organ transplant recipients. Against the background of chronic immunosuppression known risk factors like the amount of sun exposure prior and post transplantation, oncogenic viruses as well as the genetic background, and place of residence (latitude) are strongly related with the increased skin cancer incidence. The increasing incidence of non-melanoma skin cancer, paralleling a prolonged survival of patients after organ transplantation, represents a significant reason for morbidity and long-term morbidity in organ transplant recipients worldwide.

Features
- There is an emerging need for a high-grade scientific and clinical book related to chronic immunosuppression in transplant patients (more than 1,000,000 world wide)
- Provides an answer on the dramatically increased skin cancer incidence in this group of patients
- Interdisciplinary access for interdisciplinary management of high risk patients

Fields of interest
- Oncology
- Dermatology
- Surgery

Target groups
- Oncologists, dermatologists, transplant surgeons, primary care physicians, researchers

Discount group
- MR
Recent Advances in Thrombosis and Hemostasis

Associate editors: Y. Ikeda, S. Iwanaga, H. Saito, S. Katsuo

Thrombotic and thromboembolic disorders, in particular, thrombosis complicating life style-related diseases such as malignancies and arteriosclerosis resulting from diabetes mellitus, hypertension, obesity and others, are now, more than ever, the leading causes of morbidity and mortality and become the common medico-social problem with economic consequences in the industrialized and developing countries. The impact of molecular biology and genetics on thrombosis and hemostasis is rapidly growing, and greatly expanded information in this field also provide further extension on regeneration and development of tissues/organs/embryos and bio-regulatory mechanisms in viable tissues against intrinsic and extrinsic stimuli, in addition to cardiovascular diseases.

Features
► International experts in biology, patho-biology of thrombosis/hemostasis, and vascular biology

Fields of interest
Internal Medicine; Hematology; Molecular Medicine

Target groups
Researchers and professionals

Discount group
MR

Contrast Media
Safety Issues and ESUR Guidelines

This second, revised edition of Contrast Media: Safety Issues and Guidelines, presented in a handy, easy to use format, provides an invaluable, unique and unparalleled source of information on the safety issues relating to contrast media. It not only updates the successful first edition, but also contains a number of completely new chapters, for example on gadolinium-based contrast agents, meta-analyses in contrast media research and various regulatory issues. Comprehensive consideration is given to the many different safety issues relating to iodinated, MR, ultrasound and barium contrast media. The text includes chapters on both acute and delayed non-renal adverse reactions and on renal adverse reactions. All those questions frequently raised in radiological practice are addressed, and the well-known European Society of Urogenital Radiology guidelines on contrast media are included.

Features
► Updates the first edition and includes completely new chapters ► Represents a unique and unparalleled source of information on the many different safety issues relating to the diverse contrast media ► Includes chapters on acute and delayed non-renal adverse reactions and on renal adverse reactions ► Includes the ESUR guidelines on contrast media ► Presented in a handy, easy to use format

Fields of interest
Imaging / Radiology; Diagnostic Radiology; Cardiology

Target groups
Clinicians, practitioners/professionals, graduates in the fields radiology (all subspecialties), cardiology, nephrology, and pharmacology

Discount group
MR

Dail and Hammar’s Pulmonary Pathology
Volume I: Non-neoplastic Lung Disease
Volume II: Neoplastic Lung Disease

Associate editors: P. T. Cagle, C. Farver, A. E. Fraire

Dail and Hammar’s Pulmonary Pathology has established itself as the definitive reference in the field. This third edition is now a two-volume, full color text. Joseph F. Tomaszewski, Jr. has led the effort as Editor-in-Chief with the collaboration of Philip T. Cagle, Carol F. Farver, and Armando E. Fraire as Associate Editors. Drs. David H. Dail and Samuel P. Hammar have provided significant contributions to this new edition. The editorial board has continued to build upon the excellence Dail and Hammar achieved in the previous editions by reorganizing, expanding and substantially revising the text. This authoritative reference work has been thoroughly updated to cover newly recognized entities and the latest advances in molecular diagnostic techniques. Abundantly illustrated with more than 2000 illustrations in total, 1900 of which in full color, this outstanding contribution to pathology literature is a must-have for the library of every surgical and pulmonary pathologist.

Features
► Two volumes ► Over 90% of illustrations in color ► Four new chapters ► Extensive section on molecular pathology ► Definitive reference in pulmonary pathology

Field of interest
Pathology

Target groups
Pathologists, pathology residents, and fellows, pulmonologists

Discount group
MC
Diabetes in Women
Pathophysiology and Therapy

This book is devoted to women with diabetes. The primary aim is to provide cutting edge knowledge pertaining to diabetes in women from conception to menopause and beyond. Events in the reproductive lifecycle of women cause both special treatment considerations for diabetes and pose unique risks from diabetes. For example, during pregnancy, an adverse intrauterine environment may program fetal metabolism towards the development of cardiometabolic disease and diabetes in adult life. On the other hand, maternal diabetes may influence fetal development and postnatal outcome. The beneficial effects of endogenous sex steroids during reproductive age appear to be lost in women with diabetes, and the withdrawal of estrogens after the menopause may increase cardiovascular risk.

Finally, gender has certain psychological, social and cultural dimensions, which may affect a person's risk for and ability to treat diabetes. This book aims to explore the spectrum of issues specific to diabetes in women.

Fields of interest
Diabetes; Endocrinology; General Practice / Family Medicine

Target groups
Endocrinologists, OB-GYNs, internists, family physicians

Discount group
MC

Clinical Allergy
Diagnosis and Management

Allergic diseases affect nearly one-fourth of the population and cause or contribute to significant chronic illness. Allergic diseases are common and are seen by a wide variety of health care providers. In Clinical Allergy: Diagnosis and Management, the author provides a practical clinical overview for the common disorders encountered in the specialty of Allergy. Designed to be easily readable and to provide clinically applicable information for both the nonallergist and allergist, the intent is to unravel the mystery of allergy.

The introductory chapters focus on the human immune response, environmental allergens, and the different types of allergy testing. The subsequent chapters focus on the common allergic conditions seen in the office or clinic, including rhinitis and rhinosinusitis, allergic eye disease, asthma, urticaria and angioedema, atopic dermatitis, drug allergy, food allergy, anaphylaxis, and stinging insect allergy.

Features
- Practical overview of common allergic disorders for nonallergist and allergist
- Easily readable and clinically applicable, with clinically structured approach to diagnosis and management
- Synergy between chapters shows interrelations among various allergic disorders
- Reviews of pathophysiologic mechanisms
- Balanced discussion of pharmacologic and nonpharmacologic measures

Fields of interest
Primary Care Medicine; Internal Medicine; Allergology

Target groups
Researchers and professionals

Discount group
MC
Aquaporins

The aquaporin field has matured at an exceptionally fast pace and we are at the verge to develop serious strategies to therapeutically modulate aquaporin function directly or via regulatory networks. Key prerequisites are available today: i. a considerable (and growing) number of aquaporin crystal structures for the rational design of inhibitory molecules, ii. elaborate molecular dynamics simulation techniques for theoretical analyses of selectivity mechanisms and docking experiments, iii. comprehensive data on aquaporin immunohistochemistry, iv. aquaporin knockout animals for physiological studies, and v. assay systems for compound library screenings. The structure of this volume on aquaporins follows the points laid out above and thus covers the developments from basic research to potential pharmaceutical use.

Situated between pharmacology textbooks and recent scientific papers this book provides a timely overview for readers from the fundamental as well as the applied disciplines.

Contents

Fields of interest
Pharmacology/Toxicology; Human Physiology; Life Sciences, general

Target groups
Libraries, researchers and clinicians in the fields of physiology, life sciences and pharmacology

Discount group
P

Neurobiology of “Umwelt”
How Living Beings Perceive the World

At the beginning of the 20th century, German biologist Jakob von Uexküll created the concept of “Umwelt” to denote the environment as experienced by a subject. This concept of environment differs from the idea of passive surroundings and is defined not just by physical surroundings, but is rather a “subjective universe”, a space weighted with meaning. Today, neuroscience provides a new way to look at the brain’s capability to create a representation of the world. A the the same time behavioural specialists are demonstrating that animals have a richer mental universe than previously known. Philosophical reflection thus finds itself with more experimental and objective data as well. Nearly a century after the publication of von Uexküll’s founding work (“Umwelt und Innenwelt der Tiere” was published in 1909), neurobiologists, psychologists, sociologists, anthropologists, ethologists, and philosophers revisit his mail concept at the light of modern science.

Contents
Foreword.- Anthropological physiology: von Uexküll, Portmann, Buitendijk.- Essentialist reasoning about the biological world.- The human brain “projects” upon the world, simplifying principles and rules for perception.- Umwelt: A psychomotor functional event.- The brain’s view of the world depends on what it has to know.- The biology of variations in mammalian color vision.- The evolution of social categories.- What is the effect of affect on bonobo and chimpanzee problem solving?- Dogs (Canis familiaris) are adapted to receive human communication.- What do jays know about other minds and other times?- Blind as a bat? The sensory basis of orientation and navigation at night.- Point, line and counterpoint: from environment to fluid space.- Subject Index.

Fields of interest
Neurosciences; Environment, general

Target groups
Researchers and scientists in the fields of neurobiology, psychology, sociology and anthropology

Discount group
P
MicroRNAs and Cancer

The aim of this book is to reveal to a large spectrum of audience including biologists and physicians the extent of the microRNAs revolution in the cancer society. Alterations in miRNA genes play a critical role in the pathophysiology of many, perhaps all, human cancer: cancer initiation and progression can involve microRNAs (miRNAs) - small non-coding RNAs that can regulate gene expression. At the present time, the main mechanism of microRNAs alteration in cancer cells seems to be represented by aberrant gene expression, characterized by abnormal levels of expression for mature and/or precursor miRNA sequences in comparison with the corresponding normal tissues. Loss or amplification of miRNA genes has been reported in a variety of cancers and altered patterns of miRNA expression may affect cell cycle and survival programs. Germline and somatic mutations in miRNAs or polymorphisms in the mRNAs targeted by miRNAs may also contribute to cancer predisposition and progression.

Fields of interest
Cancer Research; Oncology; Human Genetics

Target groups
Fundamental biologists, starting from graduate students to P.I., and medical oncologists from residents to professors of various types of medical fields

Discount group
P

Current Topics in Microbiology and Immunology

Series editors: R. Compans; M. Cooper; T. Honjo; H. Koprowski; F. Melchers; M. Oldstone; S. Olsnes; P. K. Vogt

Volume 332
A. V. Karasev, University of Idaho, Moscow, ID, USA (Ed.)

Plant-produced Microbial Vaccines

Contents

Fields of interest
Pharmacology/Toxicology; Virology; Medical Microbiology

Target groups
Researchers and scientists in the fields of plant-based vaccines and transgenic plant-derived antigens

Discount group
P

Therapeutic Antibodies
Methods and Protocols

With revenues from the top five therapeutic antibodies accounting for a majority of the recent pharmaceutical sales, the research and development in the field has exploded over the past several years and is expected to grow with new emerging monoclonal antibodies like Numax, Lucentis, Actemra, and others. In Therapeutic Antibodies: Methods and Protocols, leading experts from academic laboratories and biotechnology companies present an extensive set of protocols for the discovery and development of therapeutic antibodies, featuring sections devoted to recombinant antigens, antibody libraries, antibody discovery, antibody engineering, and antibody preclinical development. Written in the highly successful Methods in Molecular Biology™ series format, the chapters contain brief introductions to their respective subjects, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and notes highlighting tips on troubleshooting and avoiding known pitfalls.

Features
► Outlines the current state and future trends for therapeutic antibodies ► Provides complete guidelines to discover and develop therapeutic antibodies, from antigen production to animal studies ► Presents a modular approach with each part of the book tracing a stage of antibody discovery and preclinical development

Fields of interest
Immunology

Target groups
Antibody engineers, immunologists, pharmaceutical scientists, virologists, molecular and cellular biologists

Discount group
P

Biomedical and Life Sciences
Due November 2008

Current Topics in Microbiology and Immunology
► approx. $139.99
SBN 978-1-60327-268-1

Plant-produced Microbial Vaccines
2009. Approx. 140 p. 24 illus., 10 in color. Hardcover
► $159.00
SBN 978-3-540-70857-3

Biomedical and Life Sciences
Due January 2009

Therapeutic Antibodies
Methods and Protocols
2009. Approx. 490 p. 82 illus., 7 in color. (Methods in Molecular Biology, Volume 525) Hardcover
► $110.00
SBN 978-1-934115-92-3
DNA Microarrays for Biomedical Research

Methods and Protocols

DNA microarray technology has revolutionized research in the past decade. Initially an application for mRNA expression studies, the technology now has spread to other applications such as comparative genomic hybridization, SNP and mutation analysis. In DNA Microarrays for Biomedical Research: Methods and Protocols, experts explore these now commonly used applications, addressing probe design strategies, fabrication issues and providing practical examples of detailed methods for generation of high quality DNA microarray data. Chapters incorporate information on some of the largest providers of microarray, including Affymetrix, Illumina and Agilent, and their use on a variety of applications. Composed in the highly successful Methods in Molecular Biology series format, each chapter contains a brief introduction, step-by-step methods, a list of necessary materials, and a Notes section which shares tips on troubleshooting and avoiding known pitfalls.

Features

- Covers the use of DNA array from the largest commercial providers
- Includes practical details to design and produce your own probes and arrays
- Provides methods for gene expression profiling, SNP mutation analysis, comparative genomic hybridization, resequencing, and ChIP on chip assays

Fields of interest

Human Genetics

Target groups

Molecular and cellular biologists, geneticists

Discount group

P

Current Cancer Therapeutics

Now in its fifth edition, Current Cancer Therapeutics represents the combined efforts of dozens of renowned experts in pharmacologic oncology treatment. Fully updated to include the most recent findings in cancer treatment, this book features summaries and charts of important topics such as pharmacokinetics, drug indications, and toxicities. Current Cancer Therapeutics also provides protocols for treatment and supportive care of cancer patients, making it a comprehensive reference and an invaluable tool for oncologists and all professionals involved in the treatment of cancer.

Fields of interest

Biomedicine general; Oncology; Pharmacology/Toxicology

Target groups

Oncologists, physicians

Chemokine Receptors in Cancer

Chemokines are a superfamily of low molecular weight cytokines that were initially described based on their ability to induce the directed migration of leukocytes to sites of inflammation or injury. In humans, there are approximately 45 chemokines that bind to 19 G-protein-coupled receptors. In addition to mediating cellular migration, chemokines have now been shown to affect many cellular functions including survival, adhesion, invasion, proliferation, and to regulate circulating chemokine levels. Although chemokine receptors were first described on leukocytes, it is now appreciated that chemokine receptors are also expressed by many other cells including endothelial and epithelial cells.

Since the first description of chemokine receptors on malignant cells in 2001, an extensive literature has developed describing the expression and function of chemokine receptors in many malignancies.

Features

- Cumulatively, these data indicate that chemokine receptors may serve as biomarkers of tumor behavior as well as potential therapeutic targets
- It is an appropriate time to summarize what we do and do not know about the role of chemokine receptors in cancer behavior

Fields of interest

Cancer Research; Oncology

Target groups

Researchers and professionals in the areas of cancer research and oncology

Discount group

P
Who's Who in Fluorescence 2008

The Journal of Fluorescence's sixth Who's Who directory is to publish the names, contact details, specialty keywords, and a brief description of scientists employing fluorescence methodology and instrumentation in their working lives. In addition, the directory will provide company contact details with a brief list of fluorescence-related products. The directory will be edited by Chris D. Geddes, editor and founding editor of the Journal of Fluorescence.

Features
- Only directory on the market servicing the fluorescence community

Fields of interest
Biomedicine general; Analytical Chemistry; Physical Chemistry

Target groups
Researchers in biophysics, biochemistry, bioengineering, biology, and medicine

Discount group
P

Tropomyosin

Tropomyosin is one of the two core components of the actin filament and is involved in regulating most if not all functions of these filaments. Tropomyosin has brought together research leaders in this field to review not only what we know but also what the future holds for this field of research. All aspects of tropomyosin biology are covered from gene structure and expression to proteinstructure, their role in cell function and disease and finally to mechanisms of their function. The book is essential reading for anyone interested in cell structure and function. The actin architectural system is involved in the majority of cellular processes and this book explains how the tropomyosins contribute to this diversity of function. It is not only a comprehensive resource for those working in the field but is also designed to introduce the broader research community to these important molecules.

From the contents

Field of interest
Biomedicine general

Target groups
Researchers and scientists

Discount group
P

Telomeres and Telomerase in Cancer

Telomerase, an enzyme that maintains telomeres and endows eukaryotic cells with immortality, was first discovered in tetrahymena in 1985. In 1990s, it was proven that this enzyme also plays a key role in the infinite proliferation of human cancer cells. Now telomere and telomerase are widely accepted as important factors involved in cancer biology, and as promising diagnostic tools and therapeutic targets. Recently, role of telomerase in “cancer stem cells” has become another attractive story. Until now, there are several good books on telomere and telomerase focusing on biology in ciliates, yeasts, and mouse or basic sciences in human, providing basic scientists or students with updated knowledge.

Features
- Will focus on telomere and telomerase in human cancers and may provide medical doctors, pathologists, and translational cancer researchers with a deep understanding of these unique and fascinating molecules, as well as hot topics in clinical applications

From the contents
Part I. Basic background. 1 Telomeres and Telomerase in Human. 2 Telomere Binding Proteins in Human. 3 Regulation of Telomerase through Transcriptional and Post-Translational Mechanisms. 4 Telomere Dysfunction and the DNA Damage Response. 5 Alternative Lengthening of Telomeres (ALT) in Human Cells.

Fields of interest
Cancer Research; Oncology; Pharmacology/Toxicology

Target groups
Clinical doctors, pathologists, translational cancer researchers

Discount group
P
The Sarcomere and Skeletal Muscle Disease

Although best known for its role in heart disease, the sarcomere – the fundamental unit of muscle contraction – is also involved in skeletal muscle diseases. Chapters in The Sarcomere and Skeletal Muscle Disease provide an up-to-date review of diseases caused by mutated proteins in the different sub-compartments of the sarcomere, document the techniques currently being used to investigate the pathobiological bases of the diseases, which remain largely unknown, and discuss possible therapeutic options.

Contents


Fields of interest

Biomedicine general; Human Physiology

Target groups

Researchers and scientists

Discount group

P

Handbook of Neurochemistry and Molecular Neurobiology

Brain and Spinal Cord Trauma

Editor-in-chief: A. Lajtha

This volume of the Handbook of Neurochemistry and Molecular Neurobiology characterizes pathologies resulting from traumatic brain and spinal cord injury as well as various neurodegenerative diseases, demyelinating diseases, viral infection, nervous system tumors, and neuropathies. Special attention is given to mechanisms and pathways of cell death in the brain. The contributors explore and comment on current treatment strategies including facilitating neuroprotection and regeneration and treatment using stem cells.

From the contents


Field of interest

Neurosciences

Target groups

Researchers in neurosciences, cell biology, molecular biology, genetics, and developmental biology

Discount group

P

Molecular, Clinical and Environmental Toxicology

Volume 1: Molecular Toxicology

Molecular Toxicology is the first volume of a three-volume set on molecular, clinical and environmental toxicology that offers a comprehensive and in-depth response to the increasing importance and abundance of chemicals of daily life. By providing intriguing insights far down to the molecular level, this three-volume work covers the entire range of modern toxicology with special emphasis on recent developments and achievements. It is written for students and professionals in medicine, science, public health or engineering who are demanding reliable information on toxic or potentially harmful agents and their effects on the human body.

Features

► Presents milestones and recent achievements of toxicology ► Explains mechanisms of toxicity at the molecular level ► Discusses toxicogenomics and individual variability

From the contents

Historical milestones and discoveries that shaped the Toxicology Sciences.- hysiologically-based toxicokinetic models and their application in human exposure and internal dose assessment.- The role of biotransformation and bioactivation in toxicity.- Genotoxicity: Damage to DNA and its consequences.- Role of DNA repair in the protection against genotoxic stress.- On the impact of the molecule structure in chemical carcinogenesis.- Chemical induced alterations in p53 signaling.

Field of interest

Pharmacology/Toxicology

Target groups

Toxicologists, pharmacologists, medical students, public health decisionmakers

Discount group

P
Toll-Like Receptors
Methods and Protocols

In addition to their invaluable role in the fight against infection, Toll-Like Receptors (TLRs) in an under- or over-active state can lead to the pathogenesis of disease, making these receptors a key focal point for many research laboratories. In Toll-Like Receptors: Methods and Protocols, experts in the field contribute techniques currently used to study TLRs, their downstream signalling pathways, and their role in the pathogenesis of disease, with sections examining TLR expression and the application of genetic techniques and microarray analysis to TLR research. Written in the highly successful Methods in Molecular Biology™ series format, chapters include brief introductions to the topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and Notes sections highlighting tips on troubleshooting and avoiding known pitfalls.

Features
- An easily accessible reference volume for procedures on how to identify, characterize and measure Toll-like receptor expression and downstream signalling
- Includes step-by-step methods on the most up-to-date techniques such as FRET microscopy, GFP fragmentation, microarray design and analysis and 2D-DIGE comparative proteomics
- Details the most current disease models used to investigate Toll-like receptor contribution

Fields of interest
Immunology

Target groups
Immunologists, cellular and molecular biologists, medical researchers

Discount group
P

HIV and the Brain
New Challenges in the Modern Era

Within the last decade there have been a number of new and important areas of emphasis in HIV care and research, particularly in the context of brain involvement. Without question, clinical and research innovations in the modern era of the HIV pandemic warrant an update on HIV and the brain. Written by a panel of leading experts, HIV and the Brain: New Challenges in the Modern Era offers a clear picture of brain impairment associated with the virus with particular focus on three emerging areas including different genetic strains of the virus throughout the world, interactions between advanced age and HIV, and the impact of HIV on the brain in the context of chronic, long-term treatment with highly active antiretroviral therapy (HAART). HIV and the Brain: New Challenges in the Modern Era provides a comprehensive review of both basic science and clinical implications in these important areas of the disease.

Features
- Summarizes the current state of knowledge regarding HIV and the brain
- Primarily focuses on advanced age and HIV, international studies of HIV and the brain, and reviews the impact of long-term treatment of HIV
- Provides the most comprehensive review of key clinical and research issues in contemporary HIV

Fields of interest
Neurology; Infectious Diseases; Internal Medicine

Target groups
Practicing neurologists, psychiatrists, clinical psychologists, infectious disease specialists, geriatricians and other health care professionals who manage patients with HIV

Discount group
P

Mechanisms of DNA Damage Recognition

Seeks to summarize the current views of DNA damage recognition, to describe the major obstacles faced by researchers in this field, and also to predict the key issues that will be addressed in the next few years that will shape the future of basic research in cancer biology

Contents
- ATR biochemistry
- ATM biochemistry
- ATM biochemistry
- DNA-PK and ATM DSB recognition
- DNA-PK and ATM DSB recognition
- DNA-PK and ATM DSB recognition
- DNA-PK and ATM DSB recognition
- NEJ,DSBR.
- mismatch repair.
- mismatch repair.
- excision repair.
- DSBR.
- mismatch repair.

Fields of interest
Cancer Research; Human Genetics; Medical Microbiology

Target groups
Basic cancer researchers, molecular geneticists, oncologists

Discount group
P
New Series

Cancer Genetics
Series editor: E. Ostrander

Knowledge about cancer genetics is rapidly expanding and has implications for all aspects of cancer research and treatment, including molecular causation, diagnosis, prevention, screening, and treatment. Additionally, while cancer genetics has traditionally focused on mutational events that have their primary effect within the cancer cell, recently the focus has widened, with evidence of the importance of epigenetic events and of cellular interactions in cancer development. The role of common genetic variation in determining the range of individual susceptibility within the population is increasingly recognized, and is now being widely addressed using information from the Human Genome Project. These new research directions will highlight determinants of cancer that lie outside the cancer cell, suggest new targets for intervention, and inform the design of strategies for prevention in groups at increased risk. This book series is the first to house a wide range of books whose focus is on cancer genetics and epigenetics. The first year of the series will be devoted to a study of genetic susceptibility of cancer, with the top names in this field editing volumes in their area of specialty.

Genetic susceptibility refers to how variations in a person's genes increase or decrease his or her susceptibility to environmental factors, such as chemicals, radiation and lifestyle (diet and smoking). This volume will explore the latest findings in the area of genetic susceptibility to gastrointestinal cancers, focusing on molecular epidemiology, DNA repair, and gene-environment interactions to identify factors that affect the incidence of GI cancers. Topics will include germline susceptibility, including Mendelian patterns of inheritance and gene-environment interactions that lead to cancer etiology.

Features
► Will explore the latest findings in the area of genetic susceptibility to gastrointestinal cancers, focusing on molecular epidemiology, DNA repair, and gene-environment interactions to identify factors that affect the incidence of GI cancers

From the contents

Fields of interest
Cancer Research; Human Genetics; Oncology

Target groups
Basic researchers in genetics of all types of cancer; clinical and translational researchers in the cancer field; medical oncologists; graduate students in cancer biology programs

Discount group
P

Due December 2008
2009. Approx. 250 p. 15 illus. (Cancer Genetics, Volume 1) Hardcover
► $159.00

Lipids in Health and Disease

P. J. Quinn, King’s College London, UK; X. Wang, Jiangnan University, Jiangsu, China (Eds.)

This volume gives an up-to-date account of the properties of the classes of lipids that are located in the membranes of all cells. These lipids form the essential structural components of the plasma membrane responsible for maintaining the distinct identity of the cell from its surroundings and mediating the flow of vital solutes into and out of the cell. The membrane lipids also represent reservoirs of signaling molecules that modulate a variety of physiological processes. The presentation gives a balanced perspective of what is currently known about the function of these lipids in healthy cells and tissues and what consequences follow malfunctions in their synthesis and metabolism.

Features
► The lipids represent targets for cell regulation
► Their role in signaling processes increasingly recognized
► Their role in cell-cell recognition and social behaviour of cells is identified
► Potential therapeutic targets for gene transfection

Fields of interest
Biomedicine general; Biochemistry, general

Target groups
Post-graduate biologists, biochemists, medical researchers

Discount group
P

Due November 2008
2009. XXII, 598 p. (Subcellular Biochemistry, Volume 49) Hardcover
► $269.00
ISBN 978-1-4020-8830-8
Reviews of Physiology, Biochemistry and Pharmacology

Volume 161
With contributions by: F. Schweda, A. Kurtz, M. Krauß, V. Haucke

Contents
Regulation of renin release by local and systemic factors.- Shaping membranes for endocytosis.

Fields of interest
Human Physiology; Pharmacology/Toxicology

Target groups
Researchers and professionals

Discount group
P

Neural Cell Behavior and Fuzzy Logic
The Being of Neural Cells and Mathematics of Feeling

This book covers at an advanced level the most fundamental ideas, concepts and methods in the field of applications of fuzzy logic to the study of neural cell behavior. Motivation and awareness are examined from a physiological and biochemical perspective illustrating fuzzy mechanisms of complex systems.

Features
► Only book on the market that explores neural cell behavior together with logic of perceptions (Fuzzy Logic) in a comprehensive manner
► First book which shows that learning memory and motivational (goal-directed) behavior are not an emergent property of a whole brain, but the attribute of a neural cell as a unit

Contents
Introduction.- Neuronal Plasticity, Learning and Memory.- Cell Damage.- Subjective Nature of Motivation.- Goal-Directed Actions.- Death as an Awareness-Rising Factor.- Introduction to Fuzzy Logic.- Evolution of Perceptions.- Fuzzy Dynamics of Neuron’s Adaptation.- We Feel Drives Because We Are Mortal.- Appendix.

Fields of interest
Neurosciences; Computer Appl. in Life Sciences; Neurobiology

Target groups
Neurobiologists, neurophysiologists, behavioral neuroscientists, mathematically oriented neuroscientists with a background in fuzzy logic and fuzzy set theory; researchers working in the fields of brain modeling and neural networks

Discount group
P
cGMP: Generators, Effectors and Therapeutic Implications

After the discovery of endogenous NO formation in the late 1980s and the 1998 Nobel Prize in Physiology or Medicine, many researchers and physicians again became interested in the NO/sGC interaction and cGMP-dependent signaling. This book is an enthusiastic celebration of cyclic guanosine monophosphate (cGMP) and amply illustrates the importance of this field of science to patients and the way in which the field has evolved. It is exclusively devoted to this exciting and important signaling molecule, addressing all recent advances in understanding guanylate cyclase regulation, NO/sGC interactions, cGMP effector mechanisms and their pathophysiological and pharmacological implications. Particular attention will also be given to clinical applications of the novel cGMP-elevating drugs which are on the horizon, thus spanning the continuum from basic science to clinic.

Contents

Fields of interest
Pharmacology/Toxicology; Medical Biochemistry; Human Physiology

Target groups
Libraries, researchers and clinicians in the fields of pharmacology, physiology, biochemistry and molecular biology

Discount group
P

The Neuroimmunological Basis of Behavior and Mental Disorders

The fields of neuroscience, neuroimmunology, and psychiatry have seen remarkable growth over the past decade. For many years, it was believed that viruses, bacteria and other pathogens could precipitate psychiatric and neurological abnormalities. Recent developments in the field of neuroimmunology have provided insights into the possible relationships between immune function and behavioral disorders. Specifically, a physiological feedback loop between the brain and immune systems, notably involving cytokines, have been identified, thus permitting an analysis of how pathogens may come to potently alter brain function. Such changes may affect adaptive and abnormal behaviors. This book examines the nature of these relationships. Key topics include: basic mechanisms of neural-immune interactions; the effects of immunity on normal brain neurochemistry and behavioral processes; and how immune activity may contribute to clinical disorders such as schizophrenia, depression, aggression, pain and stress.

Features
► Focuses on immune effects upon adaptive behavior. ► Provides analysis of immune relationships to abnormal behavior. ► Presents the integration of clinical and experimental neuroimmunology studies.

Fields of interest
Neurosciences; Psychopharmacology; Immunology

Target groups
Clinical and basic scientists in neuroscience, post-doctoral fellows and graduate students, psychologists, physicians, medical residents, health care professionals

Discount group
P

Mitochondria and Cancer

The book begins with a general overview of Warburg Hypothesis, mitochondrial structure and function, and then outline more specifically the metabolic and molecular alterations in mitochondria that are associated with human cancer and their clinical implications. An emphasis is also placed on mtDNA mutations and their potential role in carcinogenesis. The potential use of mitochondria as biomarkers for early detection of cancer, or as unique cellular targets for novel and selective anti-cancer agents will also be discussed.

Features
► Aims to provide a comprehensive analysis of the role mitochondria play in carcinogenesis. ► Will also provide up to date mitochondrial therapeutic approaches for treatment of cancer.

Contents

Fields of interest
Cancer Research; Medical Microbiology; Molecular Medicine

Target groups
Cancer researchers and postgraduate students

Discount group
P
Intracellular Traffic and Neurodegenerative Disorders

This book explores the role of sub-cellular trafficking in the pathogenesis, treatment and prevention of neurodegenerative diseases. Recent findings point to faulty trafficking as contributing to the dysfunction and degeneration of neurons and neural circuits. Increasingly, research is targeting the mechanisms responsible and means to address them therapeutically. This book investigates the ways in which sub-cellular trafficking pathways play a role both in the pathological accumulation of these misfolded proteins and in attempts to clear them. Because subcellular protein trafficking has an important role in the biology of neuronal function and survival, this also addresses how trophic factors maintain cell: cell interactions and how the underlying mechanisms may be compromised in neurodegenerative diseases. Examples where the use of such trophic factors may provide a way to modify neurodegenerative diseases are investigated.

From the contents

Fields of interest
Neurosciences

Target groups
Researchers and scientists in the fields of Alzheimer's Disease and other neurodegenerative diseases

Discount group
P

Tumor Biomarker Discovery
Methods and Protocols

Through a variety of mechanisms, cancer cells provide the biomarker material that can lead to their own detection, which then grants clinicians the opportunity for non-invasive body fluid and tissue analysis able to indicate the presence of tumors or the level of tumor burden. In Tumor Biomarker Discovery: Methods and Protocols, experts in the field present detailed chapters focused on the use and development of panels of biomarker analytes while covering subjects such as nucleic acids and protein-based technologies, metabolic profiling by analytic means or spectroscopy, as well as study designs for biomarker discovery and validation. Written in the highly successful Methods in Molecular Biology” series format, chapters include brief introductions to the topics, lists of the necessary materials or reagents, step-by-step laboratory protocols, and notes on troubleshooting and avoiding known pitfalls.

Features
► Provides a detailed overview of the range of biomarker technologies as written by leading researchers in the field  ► Useful both for researchers interested in new tumor biomarkers and physicians seeking familiarity with new technologies in the clinical setting  ► Covers a wide range of biomarker assay formats and systems  ► Comprehensive guide to pitfalls of biomarker discovery and validation technologies

Fields of interest
Cancer Research; Oncology; Laboratory Medicine

Target groups
Immunologists, cancer researchers, clinicians, pharmaceutical scientists, molecular and cellular biologists

Discount group
P

Cortico-Subcortical Dynamics in Parkinson's Disease

While much currently remains unknown in the field of Parkinson's research, this book assembles all that is currently known about the pathophysiological changes underlying Parkinson's Disease (PD). It aims to integrate key aspects of current PD knowledge and research, specifically how dysfunctions of the non dopamine systems resulting from chronic dopaminergic degeneration could lead to the functional alterations observed in parkinsonism. The understanding of these mechanisms interactions and a proper analysis of the input-output transformations within the cortico-basal ganglia circuitry will contribute to the unveiling of important dynamic features of information processing in the PD brain.

Features
► Multidisciplinary approaches  ► Provides critical reviews about mechanisms of neurodegeneration, particularly within the mesocortical/ mesostriatal DA system

From the contents
Functional Anatomy of the Cortico-subcortical Circuits.- Anatomical Studies of the Cortico-subcortical circuits and Parkinson's Disease.- Physiological Studies of the Cortico-subcortical Dynamics and Parkinson's Disease.- Computational Analyses of the Cortico-subcortical Dynamics and Parkinson's Disease.- Neurobiology and Pathophysiology of Parkinson's Disease.

Fields of interest
Neurosciences; Human Physiology; Neurology

Target groups
Basic and clinical neuroscientists, neurobiologists, physiologists, neurologists, drug discovery and development researchers, medical students working in neurodegenerative diseases

Discount group
P
J. C. Verster, S. Pandi-Perumal, J. G. Ramaekers, J. J. Gier (Eds.)

Drugs, Driving and Traffic Safety

Epidemiological evidence strongly suggests that substances such as alcohol and psychoactive medication are major contributors to road traffic accidents. Unfortunately, patients treated with psychoactive drugs receive little, if any, advice on whether and when it is safe to drive a car. Drugs, Driving and Traffic Safety gives an overview of the effects of different psychoactive drugs and medications on driving ability. It thoroughly discusses effects of alcohol and illicit drugs on driving ability and traffic safety, methods used to examine driving ability and explore accident risks, testing methods for detecting drugs in impaired drivers, and countermeasures to prevent drowsy driving. Leading experts in the field of driving research and traffic safety contribute to the volume. It summarizes the recent scientific evidence, including epidemiological studies, roadside surveys, laboratory tests, driving simulators, and the standardized driving test during normal traffic.

Features
► Provides an overview of psychoactive drugs and medications
► Covers a wide range of medical conditions and medication
► Includes guidelines on studies of driving capability

Fields of interest
Biomedicine general; Human Physiology; Pharmacology/Toxicology

Target groups
Medical professionals, researchers, psychologists, psychiatrists

Discount group
P

M. Zourob, S. Elwary, Biophage Pharma Inc., Montréal, Canada; A. Turner, Cranfield University, Cranfield, UK (Eds.)

Principles of Bacterial Detection: Biosensors, Recognition Receptors and Microsystems

Principles of Bacterial Detection: Biosensors, Recognition Receptors and Microsystems will cover the up-to-date biosensor technologies used for the detection of bacteria. Written by the world’s most renowned and learned scientists each in their own area of expertise, Principles of Bacterial Detection: Biosensors, Recognition Receptors and Microsystems is the first title to cover this expanding research field.

Features
► Will offer practical comparison of technologies with standardization of chapter organization for easy reference
► First title to cover the expanding research field of biosensor technologies used for the detection of bacteria

From the contents

Fields of interest
Biomedical Engineering; Biomedicine general; Biophysics/Biomedical Physics

Target groups
Professionals working in different fields including biomedical, physical, and nanotechnology, veterinary sciences, food QA, bioterrorism and security as well as health surveillance: biotechnologists, biochemists, bioelectrochemists, analytical chemists, chemical engineers, electronic engineers

Discount group
P

BIRKHAUSER

Biomedical and Life Sciences

Due January 2009

2009. Approx. 490 p. 59 illus. Hardcover
► $219.00
SBN 978-3-7643-9922-3

Engineering

Due November 2008

2009. XXVIII, 1012 p. Hardcover
► $119.00
SBN 978-0-387-75112-2
Cultural Competency Training in a Global Society

Cultural competence is more than an admirable goal: it is an essential skill set for mental health professionals working in a diverse global society marked by crisis and trauma. It is essential for clinicians to understand the intricate mix of history and self-concept, identity and tradition that are central not only for ameliorating psychological problems but to foster psychological health and well-being.

As the definition of culture takes on broader meanings—at once embracing multiple identities and increasing globalization—Cultural Competency Training in a Global Society brings a vital perspective and practical understanding to clinical, counseling, and school psychologists, as well as to graduate students entering these fields.

Features
- Editors are known experts on multicultural psychological services and assessment
- Embedding multicultural competency in public sector mental health services is a fast-growing initiative as well as becoming a requirement in numerous states
- This handbook will directly target practitioners who need to be informed about multicultural competency

From the contents

Fields of interest
Cross Cultural Psychology; Clinical Psychology; Social Psychology

Target groups
Counseling psychologists, school psychologists, clinical psychologists, and upper-level graduate students in counseling psychology, school psychology, and clinical psychology

Discount group
P

Assessing Impairment
From Theory to Practice

Impairment and disability are widely used terms, yet considerable disagreement exists as to their relationship—especially when impairment means different things to different professionals in the fields of mental health, medicine, and education. Although diagnostic criteria for various disorders are clearly detailed in the DSM-IV and elsewhere, criteria for impairment remain elusive. And patients with severe limitations but minimal symptoms, or the reverse, further complicate the discussion.

The first in-depth treatment of the theory, definition, and evaluation of this core concept, Assessing Impairment: From Theory to Practice cuts through the confusion and cross-talk. Leading scholars and clinicians offer a robust evidence base for a much-needed reconceptualization of impairment within the context of diagnosis and disability, arguing for a wide-ranging quality-of-life perspective. Legal and ethical questions and civil rights issues. Impairment and disability as they relate to trauma.

Features
- First comprehensive volume of its type on impairment
- A must-have companion volume to the lead editors’ Impairment Rating Scale
- Presents theory that is tied to scientific research and represents an important shift in the conceptualization of impairment in making diagnoses and designing treatment
- Edited by leading scholarly clinicians in this field

Fields of interest
Child & School Psychology; Clinical Psychology; Education (general)

Target groups
Clinical child, school, and educational psychologists

Discount group
P

Encyclopedia of Child Behavior and Development

Features
- Breaks new ground as a major e-reference work for students, educators, researchers, professionals, and clinicians alike
- Provides a one-stop reference resource that offers a foundation of broadly based topics that cover the wide expanse of child behavior and development issues
- Will lead readers to more in-depth texts and articles through Springer’s integrated content platform
- Serves as a reference repository of knowledge for the field as well as a conduit of information from leading research before it trickles down to the standard textbooks
- Offers an extensive cross-referencing system that will facilitate the search and retrieval of information

Fields of interest
Child & School Psychology; Instruction and Learning; Education (general)

Target groups
School psychologists, clinical child psychologists, developmental psychologists

Discount group
P
Bayesian Evaluation of Informative Hypotheses

This book provides the philosophical, statistical and psychological foundation for the evaluation of informed hypotheses.

Features
► Provides a step-by-step explanation aimed mainly at social scientists, of how to formulate and evaluate a set of informative hypotheses (including references to software) ► Easily accessed by social scientists introducing and elaborating the approach from a philosophical, statistical, and psychological point of view

Contents
A philosophical foundation of null, alternative and informative hypotheses, Jan-Willem Romeijn and Rens van de Schoot. - Famous psychological data sets and hypotheses, Paul Boelen and Herbert Hoijtink. - Sampling the posterior distributions of inequality constrained models, Irene Klugkist and Joris Mulder. - Encompassing priors, Irene Klugkist. - Intrinsic bayes factors, Jim Berger. - Bayes factors without priors, Valen Johnson. - Applications of bayes factors based on different prior distributions to classical psychological data sets, Paul Boelen, Floryt van Wesel and Herbert Hoijtink. - The bayes factor versus hypothesis testing using P-values, Susie Bayarri. - The bayes factor versus other model selection criteria, Ming Chen. - Inequality constrained latent class analysis, Herbert Hoijtink. - Inequality constrained multilevel analysis, Bernet Kato and Paul Boelen. - Inequality constrained analysis of contingency tables, Olav Laudy and Paul Boelen. - A philosophers of sciences view on informed hypotheses, Colin Howson.

Fields of interest
Statistics for Social Science, Education, Public Policy, and Law

Target groups
Social scientists, students, researchers

Discount group
P

Contemporary Perspectives on Lesbian, Gay, and Bisexual Identities

Whether one defines sexual orientation as sexual behavior, self-identification, or attraction, sexual orientation is primarily about motivation. The same-sex marriage debate is part of a broader discussion about sexual orientation that we are having as a society. Many of the issues have or should be addressed by psychology and related fields, yet this literature is not yet well-known. Thus, the goal of this volume is to provide a forum for leading scholars to share their work on a variety of topics including the "coming out" experience, same-sex families, hate crimes and bias, and psychobiological underpinning of sexual orientation. Because gays, lesbians, bisexuals and their families live with an evolving legal status for their civing rights and protections, this volume also examines the topic from a legal perspective.

Contents

Fields of interest
Social Psychology; Sex Research/Sex Therapy; Clinical Psychology

Target groups
Clinical researchers, clinical psychologists, policy makers

Discount group
P

Subcortical Structures and Cognition

Implications for Neuropsychological Assessment

Clinical psychologists and neuropsychologists are traditionally taught that cognition is mediated by the cortex and that subcortical brain regions mediate the coordination of movement. However, this argument can easily be challenged based upon the anatomic organization of the brain. The relationship between the prefrontal cortex/ frontal lobes and basal ganglia is characterized by loops from these anterior brain regions to the striatum, the globus pallidus, and the thalamus, and then back to the frontal cortex. There is also a cerebrocerebellar system defined by projections from the cerebral cortex to the pontine nuclei, to the cerebellar cortex and deep cerebellar nuclei, to the red nucleus and then back to thalamus and cerebral cortex, including all regions of the frontal lobes. Therefore, both the cortical-striatal and cortical-cerebellar projections are anatomically defined as re-entrant systems that are obviously in a position to influence not only motor behavior, but also cognition and affect.

Features
► No other books available that discuss the cognitive and emotional aspects of subcortical pathology at the level of clinical neuropsychology ► At the cutting edge of clinical research connecting subcortical processes to cognition and affect

From the contents

Fields of interest
Neuropsychology; Psychiatry; Cognitive Psychology

Target groups
Neuropsychologists, rehabilitation specialists, cognitive neuroscientists, and psychiatrists

Discount group
P
Psychological Aspects of Social Axioms
Understanding Global Belief Systems

While value-based frameworks have offered revealing insights about culture, other conceptual tools need to be explored and deployed for a comprehensive understanding of both culture and individuals and how culture shapes individual processes and outcomes. To achieve this end, the authors and editors of Advances in Research on Social Axioms propose the construct of social axioms to augment values in interpreting culture and the behavior of individuals in their cultural contexts. Social axioms are defined as generalized beliefs about oneself, other people, the social environment, or the spiritual and physical world, and are central to a person’s belief system. Their function is to enhance the survival and functioning of the person in his/her social and physical environment.

Features
- Systematic presentation of the current research inspired by the social axioms framework

From the contents
Introduction to the social axioms framework - Structural evidence and differential item functioning in the social axioms survey - Social axioms among Malay, Chinese, and Kadazandusun psychology students in Sabah, Malaysia - Exploring ethnic and location differences in social axioms in the USA - The psychological mileage of social axioms in Chinese culture - Cynicism in love and in politics - Social axioms in Greece in relation to behavioral strategies - The role of social axioms as antecedents of behavioral intentions within the theory of planned behavior - Applications in Indonesia.

Fields of interest
Cross Cultural Psychology; Clinical Psychology

Target groups
Psychologists

Discount group
P

Handbook on Building Cultures of Peace

Mediation and negotiation, personal transformation, non-violent struggle in the community and the world; these behaviors – and their underlying values – underpin the United Nations' definition of a culture of peace, and are crucial to the creation of such a culture. The Handbook on Building Cultures of Peace addresses this complex and daunting task by presenting an accessible blueprint for this development. Its perspectives are international and interdisciplinary, involving the developing as well as the developed world, with illustrations of states and citizens using peace-based values to create progress on the individual, community, national, and global levels. The result is both realistic and visionary, a prescription for a secure future.

Features
- Interdisciplinary and international analysis that includes economically developed and underdeveloped nations - Chapter authors discuss and formulate the ideas presented in the book in two conferences at Clark University to address how cultures of peace may be established and addressed - Sections and chapters were based on a systematic review of best practices from a multicultural perspective that may be applicable to personal, small group, community, national, and global cultures of peace

Fields of interest
Social Psychology; Clinical Psychology

Target groups
Social psychologists, peace psychologists, social practitioners, policy analysts, upper-level graduate students in psychology, and sociology

Discount group
P

A Guide to Functional Analytic Psychotherapy
Awareness, Courage, Love, and Behaviorism

For more than two decades, Functional Analytic Psychotherapy has brought new meaning – and new meaningfulness – to client/therapist relationships. And clients with disorders as varied as depression, PTSD, and fibromyalgia have benefited from its nuanced, curative power. In A Guide to Functional Analytic Psychotherapy, originators Robert Kohlenberg and Mavis Tsai join with other FAP practitioners to present a clinical framework, addressing points of convergence and divergence with other behavior therapies. Tracing FAP’s emerging evidence base, it takes readers through the deep complexities and possibilities of the therapeutic bond. And the attention to mindfulness and the self makes maximum clinical use of the uniqueness of every client – and every therapist.

Features
- Provides conceptual framework not isolated techniques - Offers a psychotherapeutically useful version of radical behaviorism - Contains ethical guidelines - Covers borderline, narcissistic and multiple personality disorders

Fields of interest
Clinical Psychology; Psychiatry

Target groups
Clinical psychologists, psychiatrists, graduate level students

Discount group
P
Modern Analysis and Applications
The Mark Krein Centenary Conference – Volume 1

This is the first of two volumes containing peer-reviewed research and survey papers based on invited talks at the International Conference on Modern Analysis and Applications. The conference, which was dedicated to the 100th anniversary of the birth of Mark Krein, one of the greatest mathematicians of the 20th century, was held in Odessa, Ukraine, on April 9-14, 2007. The papers describe the contemporary development of subjects influenced by Krein, such as the theory of operators in Hilbert and Krein spaces, differential operators, applications of functional analysis in function theory, theory of networks and systems, mathematical physics and mechanics.

Features
► Wide panorama of the development of functional analysis, operator theory, and their applications
► Many contributions by active members of scientific schools founded by Mark Krein

Fields of interest
Analysis; Operator Theory; Functional Analysis

Target groups
Researchers in operator theory, functional analysis, and integral equations

Discount group
P

Modern Analysis and Applications
The Mark Krein Centenary Conference – Volume 2

This is the second of two volumes containing peer-reviewed research and survey papers based on invited talks at the International Conference on Modern Analysis and Applications. The conference, which was dedicated to the 100th anniversary of the birth of Mark Krein, one of the greatest mathematicians of the 20th century, was held in Odessa, Ukraine, on April 9-14, 2007. The papers describe the contemporary development of subjects influenced by Krein, such as the theory of operators in Hilbert and Krein spaces, differential operators, applications of functional analysis in function theory, theory of networks and systems, mathematical physics and mechanics.

Features
► Wide panorama of the development of functional analysis, operator theory, and their applications
► Many contributions by active members of scientific schools founded by Mark Krein

Fields of interest
Analysis; Operator Theory; Functional Analysis

Target groups
Researchers in operator theory, functional analysis, and integral equations

Discount group
P

Due May 2009
► $249.00
ISBN 978-3-7643-9918-4

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Mathematics

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► $449.00
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Mathematics

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ISBN 978-3-7643-9920-7

Discount group
P
Introduction to Siegel Modular Forms and Dirichlet Series

This is intended for a graduate course on Siegel modular forms, Hecke operators, and related zeta functions. The author's aim is to present a concise and self-contained introduction to an important and developing area of number theory that will serve to attract young researchers to this beautiful field.

Topics include: -analytical properties of radial Dirichlet series attached to modular forms of genera 1 and 2; - the abstract theory of Hecke-Shimura rings for symplectic and related groups; -action of Hecke operators on Siegel modular forms; -applications of Hecke operators to a study of multiplicative properties of Fourier coefficients of modular forms; -Hecke zeta functions of modular forms in one variable and to spinor (or Andrianov) zeta functions of Siegel modular forms of genus two; -the proof of analytical continuation and functional equation (under certain assumptions) for Euler products associated with modular forms of genus two.

Features
► Will become a standard reference on the subject
► Intended for graduate students and keeps prerequisites to a minimum
► Gives provocative examples in the simplest and most accessible terms
► Author is an expert who has originated many important ideas in the subject

Contents
Preface.- Introduction: The Two Features of Arithmetical Zeta Functions.- Modular Forms.- Dirichlet Series of Modular Forms.- Hecke-Operators.- Euler Factorization of Radial Series.- Conclusion: Other Groups, Other Horizons.- Notes.- Short Bibliography.-

Fields of interest
Number Theory; Algebra

Target groups
Graduate students and researchers

Discount group
P

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Unitals in Projective Planes

This book is a monograph on unitals embedded in finite projective planes. Unitals are key structures in projective planes, and have connections with other structures in algebra. They play a significant role in the classification of finite planes and provide a link between groups and geometries. There is a considerable number of research articles about unitals, and there also exist many open problems. This book is a thorough survey of the research literature on embedded unitals which collects this material in book form for the first time. The book is aimed at graduate students and researchers who want to learn about this topic without reading all the original articles.

The primary proof techniques used involve linear algebraic arguments, finite field arithmetic, some elementary number theory, and combinatorial enumeration. Some computer results not previously found in the literature also are mentioned in the text.

Features
► No other book on unitals, book will fill that void
► Text is clear and easy to follow
► Book is well-structured and comprehensive with excellent diagrams

Fields of interest
Geometry; Combinatorics; Algebra

Target groups
Graduate students and researchers

Discount group
P

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Post Quantum Cryptography

Quantum computers will break today's most popular public-key cryptographic systems, including RSA, DSA, and ECDSA. This book introduces the reader to the next generation of cryptographic algorithms, the systems that resist quantum-computer attacks: in particular, post-quantum public-key encryption systems and post-quantum public-key signature systems. Leading experts have joined forces for the first time to explain the state of the art in quantum computing, hash-based cryptography, code-based cryptography, lattice-based cryptography, and multivariate cryptography. Mathematical foundations and implementation issues are included. This book is an essential resource for students and researchers who want to contribute to the field of post-quantum cryptography.

Features
► Contributors to the book take on the big challenge in cryptography, namely: what to do when someone will break the crypto-systems of today

Fields of interest
Number Theory; Data Encryption; Mathematics of Computing

Target groups
Cryptologists in mathematics, computer science, engineering, and industry

Discount group
P
Selected Works of A.I. Shirshov

Translated by: M. Bremner, M. Kotchetov

This book presents translations of selected works of the famous Russian mathematician A.I. Shirshov (1921-1981). He was a pioneer in several directions of associative, Lie, Jordan, and alternative algebras, as well as groups and projective planes. His name is associated with notions and results on Gröbner-Shirshov bases, the Composition-Diamond Lemma, the Shirshov-Witt Theorem, the Shirshov’s Height Theorem, Lyndon-Shirshov words, Hall-Shirshov bases, Shirshov’s theorem on the Kurosh problem for alternative algebras, Shirshov’s theorem on Jordan algebras with two generators. Shirshov’s ideas were used by his student Efim Zelmanov for the solution of the Restricted Burnside Problem. Several famous algebraists provide a detailed comment on the impact of Shirshov’s work on current algebra.

Features
► English translations of Shirshov’s works, which were published only in Russian
► Due to Shirshov’s future leading and unique handling of algebraic problems, the results are still of high interest for current research in algebra

Fields of interest
Mathematics, general; History of Mathematics

Target groups
Specialists and graduate students in algebra and computer algebra

Discount group
P

Research Trends in Combinatorial Optimization
Bonn Workshop 2008

This book, written by leading experts in combinatorial optimization, features in-depth surveys of current research areas in combinatorial optimization in the broad sense, ranging from applied graph theory to mathematical programming. It also contains numerous new results and shows many interesting current research directions. This book will be indispensable for any researcher in combinatorial optimization.

Fields of interest
Operations Research, Mathematical Programming; Computational Mathematics and Numerical Analysis; Discrete Mathematics in Computer Science

Target groups
Mathematicians, computer scientists, graduate students and researchers in operations research

Discount group
P

Principles of Harmonic Analysis

The book is written for graduate students who have read the first book and like to see the proofs which were not given there and/or want to see the full extent of the theory. On the other hand it can be read independently from the first one, only a modest knowledge on Fourier series/transform is required to understand the examples. This book fills a major gap in the textbook literature, as a full proof of Pontryagin Duality and Plancherel Theorem is hard to come by. It is usually given in books that focus on C*-algebras and thus carry too much technical overload for the reader who only wants these basic results of Harmonic Analysis. Other proofs use the structure theory which carries the reader away in a different direction. Here the authors consider the Banach-algebra approach more elegant and enlighting. They provide a streamlined approach that reaches the main results directly, and they also give the generalizations to the non-Abelian case.

Features
► Contains material unavailable elsewhere, including the full proof of Pontryagin Duality and the Plancherel Theorem
► Authors emphasize Banach algebras as the cleanest way to get many fundamental results in harmonic analysis
► Gentle pace, clear exposition, and clean proofs

Contents

Fields of interest
Abstract Harmonic Analysis; Fourier Analysis

Target groups
Graduate students and researchers

Discount group
P

Birkhäuser

Mathematics
Due May 2009
2009. Approx. 250 p. (Contemporary Mathematicians) Hardcover
► $199.00
SBN 978-3-7643-8857-7

Mathematics
Due December 2008
2009. XVIII, 562 p. 79 illus. Hardcover
► $139.00
SBN 978-3-540-76795-4

Mathematics
Due January 2009
2009. Approx. 345 p. (Universitext) Softcover
► $49.95
SBN 978-0-387-85468-7
Implicit Functions and Solution Mappings

The book is about the implicit function paradigm in the classical framework and beyond, focusing largely on properties of solution mappings of variational problems. The purpose of this self-contained work is to provide a reference to the topic and to provide a unified collection of a number of results which are currently scattered throughout the literature. The first chapter of the book treats the classical implicit function theorem in a way that will be useful for students and teachers of undergraduate calculus. The remaining part becomes gradually more advanced, and considers implicit mappings defined by relations other than equations, e.g., variational problems. Applications to numerical analysis and optimization are also provided. The implicit function theorem is one of the most important theorems in analysis and its many variants are basic tools in partial differential equations and numerical analysis. This valuable book is a major achievement and is sure to become a standard reference on the topic.

Features
- An attractive blend of modern topics and classical results
- Authors have included a nice selection of exercises for classroom use
- Ideal reference work which contains a large amount of historical material and references

Contents

Fields of Interest
Analysis; Optimization

Target Groups
Graduate students, researchers

Discount Group
P

Mathematics and Culture VI

The latest in the series Mathematics and Culture probes the interplay between mathematics and the worlds of art, cinema, theatre and history, medicine, biology and aeronautics. Series Editor Michele Emmer has chosen a new collection of essays illuminating these connections in surprising and fascinating ways.

Mathematics and Culture VI includes:
- An homage to the artist Mario Merz, whose work depicted numbers derived from the Fibonacci in curving neon arrays
- Essays on the relationships of mathematics with video and cinema; the complex connections between mathematics and psychoanalysis and the frontiers of applied mathematics
- Chapters on Mathematics and Cartoon; Mathematics and Art; Mathematics and Cinema and Mathematics and Wine and the journeys of Marco Polo and the Venice he left and came home to.

Features
- Book arising from the best international conference series on mathematics and culture

Contents

Fields of interest
Mathematics; general; Visualization; Applications of Mathematics

Target groups
Mathematicians of all kinds, mathematics teachers, lay people interested in mathematics

Discount group
P

Spectral Methods in Surface Superconductivity

These two expert researchers in the field present a comprehensive treatment of key results concerning the Ginzburg-Landau (GL) functional. Spectral Methods in Surface Superconductivity examines in detail the two- and three-dimensional cases of the GL functional as they pertain to superconductivity. Also, instances of large GL parameter kappa are covered, and a variety of exercises and open problems are discussed to further the readers understanding of the material. The authors have provided a great introduction to the applications of partial differential equations and spectral theory.

Features
- Covers groundbreaking results in the fast growing field of superconductivity
- Provides a concrete introduction to PDEs and spectral methods
- Covers two and three dimensional cases of Ginzburg-Landau function extensively
- Exercises and open problems included

Contents

Fields of interest
Functional Analysis; Superconductivity, Superfluidity, Quantum Fluids; Partial Differential Equations

Target groups
Graduate students, researchers

Discount group
P
Combinatorial Number Theory and Additive Group Theory

Additive Combinatorics is a relatively recent term coined to comprehend the developments of the more classical Additive Number Theory, mainly focussed on problems related to the addition of integers. Some classical problems like the Waring problem on the sum of k-th powers or the Goldbach Conjecture are genuine examples of the original questions addressed in the area. One of the features of contemporary Additive Combinatorics is the interplay of a great variety of mathematical techniques, including combinatorics, harmonic analysis, convex geometry, graph theory, probability theory, algebraic geometry or ergodic theory.

This book gathers the contributions of many of the leading researchers in the area and is divided into three parts. The two first parts correspond to the material of the main courses delivered, Additive Combinatorics and non-unique factorizations, by Alfred Geroldinger, and Sums and structure, by Imre Z. Ruzsa. The third part collects the notes of the more classical Additive Number Theory, and Additive Group Theory.

Contents

Fields of interest
Combinatorics

Target groups
Graduate students and lecturers in combinatorics

Discount group
P

Self-dual Partial Differential Systems and Their Variational Principles

This text is intended for a beginning graduate course on convexity methods for PDEs. The generality chosen by the author puts this under the classification of "functional analysis". The applications, however, require a fair knowledge of classical analysis and PDEs which is needed to make judicious choices of function spaces where the self-dual variational principles need to be applied, and these choices necessarily require prior knowledge of the expected regularity of the (weak) solutions. While this text contains many new results, it is the author’s hope that this material will soon become standard for all graduate students.

Features
Contains plenty of examples and exercises
Includes new results which have not been previously presented in book form

Contents

Fields of interest
Functional Analysis; Partial Differential Equations

Target groups
Graduate students and researchers

Discount group
P

Distributions and Operators

This book gives an introduction to distribution theory, based on the work of Schwartz and of many other people. Additionally, the aim is to show how the theory is combined with the study of operators in Hilbert space by methods of functional analysis, with applications to ordinary and partial differential equations. In some of the latter chapters, the author illustrates how distribution theory is used to define pseudodifferential operators and how they are applied in the discussion of solvability of PDE, with or without boundary conditions. Each chapter has been enhanced with many exercises and examples, and a bibliography of relevant books and papers is collected at the end.

A few of the unique topics include: (1) Boundary value problems in a constant-coefficient case; (2) Pseudodifferential Boundary Operators; (3) Families of extensions. Gerd Grubb is Professor of Mathematics at University of Copenhagen.

Features
First book to present distribution theory as a standard text
Contains unique topics
Author has made this easily accessible to advanced undergraduates, as well as graduates

From the contents

Fields of interest
Functional Analysis; Partial Differential Equations

Target groups
Advanced undergraduates, graduate students

Discount group
P
Random matrix theory has developed in the last few years, in connection with various fields of mathematics and physics. These notes emphasize the relation with the problem of enumerating complicated graphs, and the related large deviations questions. Such questions are also closely related with the asymptotic distribution of matrices, which is naturally defined in the context of free probability and operator algebra.

Contents

Fields of interest
Linear and Multilinear Algebras, Matrix Theory; Probability Theory and Stochastic Processes; Functional Analysis

Target groups
Researchers and graduate students

Discount group
P

Stopped Random Walks
Limit Theorems and Applications

Classical probability theory provides information about random walks after a fixed number of steps. For applications, however, it is more natural to consider random walks evaluated after a random number of steps. Examples are sequential analysis, queuing theory, storage and inventory theory, insurance risk theory, reliability theory, and the theory of counters. Stopped Random Walks: Limit Theorems and Applications shows how this theory can be used to prove limit theorems for renewal counting processes, first passage time processes, and certain two-dimensional random walks, and to how these results are useful in various applications. This second edition offers updated content and an outlook on further results, extensions and generalizations. A new chapter examines nonlinear renewal processes in order to present the analogous theory for perturbed random walks, modeled as a random walk plus “noise”.

Features
► Second edition features a new chapter on perturbed random walks, which are modeled as random walks plus “noise” ► Presents updates to the first edition, including an outlook on further results, extensions, and generalizations on the subject ► Close to 100 additional bibliographic references added to some 200 original ones ► Concise blend of material useful for both the researcher and student of probability theory

Fields of interest
Probability Theory and Stochastic Processes; Operations Research, Mathematical Programming

Target groups
For classroom use or self-study

Discount group
P

Topology-Based Methods in Visualization II

Visualization research aims at providing insight into large, complicated data. Topological methods stand out by their solid mathematical ground guiding the algorithmic analysis and its presentation among the various visualization techniques. This book contains 13 peer-reviewed papers resulting from the second workshop on “Topology-Based Methods in Visualization”, held 2007 in Grimma near Leipzig, Germany. All articles present new original work from leading experts that has not been published before. Together, these articles present the state of the art of topology-based visualization research.

Features
► Book on core topic in visualization

From the contents

Fields of interest
Visualization; Topology; Geometry

Target groups
Graduate students, researchers, and professionals in visualization, mathematics, and computer science

Discount group
P
Bridging the Gap to
University Mathematics

Designed as an introduction to higher-education mathematics, Bridging the Gap is the only book of this sort written for students by students. The authors, Martin Gould and Edward Hurst, wrote this book as second-year undergraduates at Warwick University. Their experiences as students have helped them create an approachable and comprehensive introductory text that will be of benefit to anyone looking to make the step-up to university education. This book contains chapters rich with worked examples and exercises covering all the key subject-areas that a first-year undergraduate will encounter, such as Inequalities, Complex Numbers, Probability, Matrices and many more. The authors have also included a “Test Yourself” exercise at the beginning of each chapter so that students will know straightaway which chapters will be of most use to them. Every topic concludes with a “Where Now?” section that helps the reader find out exactly how and where they can apply their newly-learned skills.

Features
► Covers a wider area of subjects than any other book aimed at A-Level-to-undergraduate students
► A “down-to-earth” style makes it more accessible to readers ► The “Test Yourself” exercise at the beginning of each chapter makes it easier for the reader to find out exactly what material they aren’t familiar with

Contents

Fields of interest
Mathematics, general; Engineering, general; Physics, general

Target groups
School-leavers, teachers; education colleges; first-year undergraduate students in the mathematical sciences; lecturers

Discount group
P

Solving the Pell Equation

Pell's Equation is a very simple Diophantine equation that has been known to mathematicians for over 2000 years. Even today research involving this equation continues to be very active, as can be seen by the publication of at least 150 articles related to this equation over the past decade. However, very few modern books have been published on Pell's Equation, and this will be the first to give a historical development of the equation, as well as to develop the necessary tools for solving the equation.

The authors provide a friendly introduction for advanced undergraduates to the delights of algebraic number theory via Pell's Equation. The only prerequisites are a basic knowledge of elementary number theory and abstract algebra. There are also numerous references and notes for those who wish to follow up on various topics.

Features
► Describes modern (and surprising) applications to cryptography ► Includes the most recent advances, with a deeper approach than any other book ► Hugh Williams is Canada's most famous computational number theorist who has published close to 200 articles in top journals ► Michael Jacobson is the known expert on subexponential methods, and a former student of Hugh Williams ► Both authors are known as outstanding expositors

From the contents
Early History of the Pell Equation.- Continued Fractions.- Quadratic Number Fields.- Ideals and Continued Fractions.- Quadratic Number Fields.- Ideals and Continued Fractions.- Some Special Pell Equations.- The Ideal Class Group.- The Analytic Class Number Formula.- Some Additional Analytic Results.

Fields of interest
Number Theory

Target groups
Advanced undergraduates, number theorists - professional and amateur

Discount group
P

Optimization in the Energy Industry

Today, the optimization of production planning processes using IT and quantitative methods is a de-facto standard in the energy industry. The energy problem is challenging and one of the most important political and economical issues in the world. Governments face the problem how to adopt the system of ‘Cap and Trade.’ Especially, energy consuming industries, like steel, power, oil and chemical, are seriously confronted with this problem. The book offers a broad in-depth overview reflecting the requirements, possibilities and limits of mathematical optimization and, especially, stochastic optimization in the energy industry. 22 chapters with world-wide origins illustrate the mathematical requirements based on practical experiences and provide an ideal insight into the energy world – from integration of wind energy, chain of errors in nuclear power plants and scheduling of hydroelectric power stations, over risk assessment in trading activities to various mathematical approaches.

Features
► Provides a broad introduction into the field of energy production and trading by discussion about 20 real world cases ► Besides the overview the reader learns about mathematical optimization methods used to solve these problems

Fields of interest
Calculation of Variations and Optimal Control; Optimization; Operations Research/Decision Theory; Power Engineering

Target groups
Scientists/researchers, practitioners/professionals, graduates/undergraduates; academic/corporate libraries; lecturers/tutors

Discount group
P
The Higher Infinite
Large Cardinals in Set Theory from Their Beginnings

This is the softcover reprint of the very popular hardcover edition. The theory of large cardinals is currently a broad mainstream of modern set theory, the main area of investigation for the analysis of the relative consistency of mathematical propositions and possible new axioms for mathematics. The first of a projected multi-volume series, this book provides a comprehensive account of the theory of large cardinals from its beginnings and some of the direct outgrowths leading to the frontiers of contemporary research. A "genetic" approach is taken, presenting the subject in the context of its historical development. With hindsight the consequential avenues are pursued and the most elegant or accessible expositions given. With open questions and speculations provided throughout the reader should not only come to appreciate the scope and coherence of the overall enterprise but also become prepared to pursue research in several specific areas by studying the relevant sections.

Features
- Has become a standard reference and guide in the set theory community

Fields of interest
Mathematical Logic and Foundations; Topology

Target groups
Researchers and graduate students in set theory, including set-theoretic topology

Discount group
P

A Course in Commutative Banach Algebras

This book provides a thorough and self-contained introduction to the theory of commutative Banach algebras, aimed at graduate students with a basic knowledge of functional analysis, topology, complex analysis, measure theory, and group theory. At the core of this text are the chapters on Gelfand's theory, regularity and spectral synthesis. Special emphasis is placed on applications in abstract harmonic analysis and on treating many special classes of commutative Banach algebras, such as uniform algebras, group algebras and Beurling algebras, and tensor products. Detailed proofs and a variety of exercises are given. The book is intended for graduate students taking a course on Banach algebras, with various possible specializations, or a Gelfand theory based course in harmonic analysis.

Features
- Author has carefully chosen the most important topics within Banach algebra theory
- Incorporates recent advances concerning so-called spectral extension properties and the unique uniform norm property
- Investigates projective tensor products under all aspects of the book
- Exercises are plentiful throughout the text
- Class-tested at the University of Heidelberg, Technical University of Munich, and University of Paderborn

Contents

Fields of interest
Functional Analysis; Operator Theory

Target groups
Graduate students, advanced undergraduates

Discount group
P

The Noether Theorems
Invariance and Conservation Laws in the 20th Century

In 1915 and 1916 Emmy Noether was asked by Felix Klein and David Hilbert to assist them in understanding issues involved in any attempt to formulate a general theory of relativity, in particular the new ideas of Einstein. She was consulted particularly over the difficult issue of the form a law of conservation of energy could take in the new theory, and she succeeded brilliantly, finding two deep theorems. But between 1916 and 1950, the theorem was poorly understood and Noether's name disappeared almost entirely. People like Klein and Einstein did little more then mention her name in the various popular or historical accounts they wrote. Worse, earlier attempts which had been eclipsed by Noether's achievements were remembered, and sometimes figure in quick 'historical' accounts of the time. This book carries a translation of Noether's original paper into English, and then describes the strange history of its reception and the responses to her work.

From the contents

Fields of interest
History of Mathematics; Calculus of Variations and Optimal Control; Optimization; Dynamical Systems and Ergodic Theory

Target groups
 Historians of mathematics and physics, graduate students; anyone interested in the history and philosophy of mathematics and physics

Discount group
P
The Scientific Correspondence of H. A. Lorentz
Volume I

This volume presents a selection of more than 400 letters from and to the Dutch physicist and Nobel Prize winner Hendrik Antoon Lorentz (1853–1928), covering the period from 1883 until a few months before his death. The letters included in this volume have been selected according to various criteria, the most important of which is scientific interest. A second criterion has been the availability of letters both from and to Lorentz, so that the reader can follow the scientific exchange between Lorentz and his correspondent. Of such correspondences only a few unimportant items have been omitted, the emphasis always being on scientific interest. The letters are presented in their original language (which for this volume is mainly German, with a few French and English items); a few Dutch drafts are accompanied by English translations. The book’s editor, Anne Kox, has prepared a biography of Lorentz, as well as annotations of selected letters.

Features
- Unique insight into the minds of the 19th–20th century’s most important physicists
- Preface contains a biography of Lorentz, with details which cannot be found elsewhere
- Contains previously unpublished letters from Einstein, Planck and others

Contents
Preface.- Letters.- General bibliography.- Lorentz bibliography.- Index.

Fields of interest
History of Mathematics; History of Physics; Relativity and Cosmology

Target groups
Physicists, historians of science

Discount group
P

Visualization and Processing of Tensor Fields
Advances and Perspectives

Visualisation and Processing of Tensor Fieldsporides researchers an inspirational look at how to process and visualize complicated 2D and 3D images known as tensor fields. Tensor fields are the natural representation for many physical quantities; they can describe how water moves around in the brain, how gravity varies around the earth, or how materials are stressed and deformed. With its numerous color figures, this book helps the reader understand both the underlying mathematics and the applications of tensor fields. The reader also will learn about the most recent research topics and open research questions.

Features
- Major workshop in core field of visualization

Contents
Part i models for diffusion mri.- Part ii higher-level analysis of diffusion images.- Part iii tensor field visualization.- Part iv tensor field analysis in the physical sciences.- Part v tensor image structure models.- Part vi filtering with tensors.

Fields of interest
Computational Mathematics and Numerical Analysis; Mathematics of Computing; Computer Imaging, Graphics and Computer Vision

Target groups
Researchers in visualization (mathematics and computer science)

Discount group
P

Partial Differential Equations with Numerical Methods

This is the softcover reprint of the very popular hardcover edition. The book is suitable for advanced undergraduate and beginning graduate students of applied mathematics and engineering. The main theme is the integration of the theory of linear PDEs and the numerical solution of such equations. For each type of PDE, elliptic, parabolic, and hyperbolic, the text contains one chapter on the mathematical theory of the differential equation, followed by one chapter on finite difference methods and one on finite element methods. As preparation, the two-point boundary value problem and the initial-value problem for ODEs are discussed in separate chapters. There is also one chapter on the elliptic eigenvalue problem and eigenfunction expansion. The presentation does not presume a deep knowledge of mathematical and functional analysis. Some background on linear functional analysis and Sobolev spaces, and also on numerical linear algebra, is reviewed in two appendices.

Features
- Very well-written
- Elementary introduction

Fields of interest
Numerical Analysis; Partial Differential Equations

Target groups
Advanced undergraduate and beginning graduate students of applied mathematics and engineering

Discount group
P
Global Propagation of Regular Nonlinear Hyperbolic Waves

This monograph describes global propagation of regular nonlinear hyperbolic waves described by first-order quasilinear hyperbolic systems in one dimension. The exposition is clear, concise, and unfolds systematically beginning with introductory material and leading to the original research of the authors. A systematic theory is established - by means of the concept of weak linear degeneracy and the method of (generalized) normalized coordinates - for the global existence and blow-up mechanism of regular nonlinear hyperbolic waves with small amplitude for the Cauchy problem and many other problems. Topics are motivated with a number of physical examples from the areas of elastic materials, one-dimensional gas dynamics, and waves. Aimed at researchers and graduate students in partial differential equations and related topics, this book will stimulate further research and help readers further understand important aspects and recent progress of regular nonlinear hyperbolic waves.

Features
- Provides a complete theory for waves with general system conditions and boundary conditions
- Features many related applications to mechanics and physics
- Contains much material based on the results obtained by the authors in recent years

From the contents

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

Target groups
Researchers and grad students in math and physics

Introduction to Nonlinear Dispersive Equations

The aim of this textbook is to introduce the theory of nonlinear dispersive equations to graduate students in a constructive way. The first three chapters are dedicated to preliminary material, such as Fourier transform, interpolation theory and Sobolev spaces. The authors then proceed to use the linear Schrodinger equation to describe properties enjoyed by general dispersive equations. This information is then used to treat local and global well-posedness for the semi-linear Schrodinger equations. The end of each chapter contains recent developments and open problems, as well as exercises.

Features
- Includes a nice selection of topics
- Contains a large selection of non-standard exercises
- Accessible presentation of key tools in harmonic and Fourier analysis

Contents

Fields of interest
Partial Differential Equations

Target groups
Advanced undergrads, graduate students

Discount group
P
Dynamical Systems with Applications using MAPLE

From the reviews

- The book will be useful for all kinds of dynamical systems courses. It shows the power of using a computer algebra program to study dynamical systems, and, by giving so many worked examples, provides ample opportunity for experiments. … It is well written and a pleasure to read, which is helped by its attention to historical background.

- Mathematical Reviews (Review of First Edition)

“Dynamical Systems with Applications using Maple” provides an introduction to the theory of dynamical systems with the aid of the Maple algebraic manipulation package. This new edition has been thoroughly updated and expanded to include more applications, examples, and exercises, all with solutions; two new chapters on neural networks and Maplets have also been added. A supplementary e-book with interactive exercises, examples, and solutions will also be published.

Features

- Excellent reviews of the first edition (Mathematical Reviews, SIAM, Reviews, UK Nonlinear News, The Maple Reporter)
- New edition has been thoroughly updated and expanded to include more applications, examples, and exercises, all with solutions
- Two new chapters on neural networks and Maplets have also been added
- Supplementary e-book with interactive exercises, examples, and solutions will also be published

Fields of interest

Applications of Mathematics; Appl.Mathematics/Computational Methods of Engineering; Ordinary Differential Equations

Target groups

Senior undergraduates, graduate students, and working scientists in various branches of applied mathematics, the natural sciences, and engineering

Discount group

P

Elementary Functional Analysis

This nicely written manuscript takes a gentler approach than other functional analysis graduate texts, and includes an improved approach along with a better choice of topics. The concise treatment makes this ideal for a one-semester course. The exercises in this manuscript are numerous and of a very high quality. Interesting historical tidbits are scattered throughout the text, many of which will be new to most readers. The main prerequisites are basic undergraduate courses in real analysis, linear algebra, and point set topology.

Features

- Large number of high quality exercises
- Concise and gentle approach with a unique set of topics
- Historical details are spread throughout the book
- This book has been thoroughly class-tested

Contents


Fields of interest

Functional Analysis

Target groups

Advanced undergrads, grad students

Discount group

P

Moduli in Modern Mapping Theory

The purpose of this book is to present a modern account of mapping theory with emphasis on quasiconformal mapping and its generalizations. The modulus method was initiated by Arne Beurling and Lars Ahlfors to study conformal mappings, and later this method was extended and enhanced by several others. The techniques are geometric and they have turned out to be an indispensable tool in the study of quasiconformal and quasiregular mappings as well as their generalizations. The book is based on recent research papers and extends the modulus method beyond the classical applications of the modulus techniques presented in many monographs.

Features

- Contains new results from leading researchers in the field
- Authors have included an extensive bibliography

Contents


Fields of interest

Analysis; Functional Analysis

Target groups

Graduate students and researchers

Discount group

P

Birkhäuser

Mathematics

Due March 2009

2nd ed. 2009. Approx. 500 p. 350 illus. Softcover

- approx. $59.95

ISBN 978-0-8176-4389-7

Mathematics

Due January 2009

2009. X, 208 p. 5 illus. (Graduate Texts in Mathematics, Volume 253) Hardcover

- $49.95


Mathematics

Due January 2009

2009. Approx. 375 p. 15 illus. (Springer Monographs in Mathematics) Hardcover

- $99.00

T. Mikosch, University of Copenhagen, Denmark

Non-Life Insurance Mathematics
An Introduction with Stochastic Processes

This book offers a mathematical introduction to non-life insurance and, at the same time, to a multitude of applied stochastic processes. It gives detailed discussions of the fundamental models for claim sizes, claim arrivals, the total claim amount, and their probabilistic properties. Throughout the book the language of stochastic processes is used for describing the dynamics of an insurance portfolio in claim size space and time. In addition to the standard actuarial notions, the reader learns about the basic models of modern non-life insurance mathematics: the Poisson, compound Poisson and renewal processes in collective risk theory and heterogeneity and Bühlmann models in experience rating. The reader gets to know how the underlying probabilistic structures allow one to determine premiums in a portfolio or in an individual policy. Special emphasis is given to the phenomena which are caused by large claims in these models. What makes this book special are more than 100 figures and tables illustrating and visualizing not only by a specialised audience such quite a unique textbook which can be used not only by a specialised audience More than 100 figures and tables illustrating and visualizing the theory Every section ends with extensive exercises. They are an integral part of this course since they support the access to the theory.

Features
- Rigorous mathematical introduction and as such a unique textbook which can be used not only by a specialised audience
- More than 100 figures and tables illustrating and visualizing the theory
- Every section ends with extensive exercises
- Book's content is in agreement with the European "Group Consultatif" standards

Fields of interest
Quantitative Finance

Target groups
Students and lecturers of actuarial mathematics, mathematics, economics, physics, statistics, econometrics

Discount group
P

S. K. Mishra, S. Wang, K. K. Lai

Generalized Convexity and Vector Optimization

The present book discusses the Kuhn-Tucker Optimality, Karush-Kuhn-Tucker Necessary and Sufficient Optimality Conditions in presence of various types of generalized convexity assumptions. Wolfe-type Duality, Mond-Weir type Duality, Mixed type Duality for Multiobjective optimization problems such as Nonlinear programming problems, Fractional programming problems, Nonsmooth programming problems, Nondifferentiable programming problems, Variational and Control problems under various types of generalized convexity assumptions.

Features
- Reader will come to know about the present status of the research in this hot area of research field
- Reader does not have to consult various research papers from different journals
- Will provide the reader the present state of knowledge on research done in this area so far

Contents

Fields of interest
Calculus of Variations and Optimal Control; Optimization; Operations Research/Decision Theory

Target groups
Researchers

Discount group
P

M. Muresan, Babes-Bolyai University, Cluj-Napoca, Romania

A Concrete Approach to Classical Analysis

Mathematical analysis offers a solid basis for many achievements in applied mathematics and discrete mathematics. This new textbook is focused on differential and integral calculus, and includes a wealth of useful and relevant examples, exercises, and results enlightening the reader to the power of mathematical tools. The intended audience consists of advanced undergraduates studying mathematics or computer science. The author provides excursions from the standard topics to modern and exciting topics, to illustrate the fact that even first or second year students can understand certain research problems.

Features
- Includes research topics which can be understood by undergraduates
- Author provides numerous exercises and examples

Contents

Fields of interest
Analysis

Target groups
Advanced undergraduates; beginning graduate students

Discount group
P
Equator is a software package designed to generate numerical values of nearly 200 mathematical functions and function families used by engineers, scientists, and others. Among the functions made available by Equator are such simples as cosines and binomial coefficients as well as more elaborate examples such as Bessel functions and elliptic integrals.

Equator is designed to complement the second edition of An Atlas of Functions (Keith B. Oldham, Jan C. Myland, and Jerome Spanier, Springer, 2008), which is available in both print and electronic formats. Full information about this book can be found at www.springerlink.com.

Equator is easy to use and its operation will soon become as intuitive as using your calculator. We hope that you will find it useful.

Features
- Uses the language of mathematics that is common to all branches of science and engineering
- This software obviates the need for tables or programming to find numerical values (once installed onto your Windows XP based PC, this unique function calculator instantly generates precise function values on demand)
- Easy and intuitive to use

Fields of interest
Applications of Mathematics; Special Functions; Real Functions

Target groups
All researchers and students in the science, technology and mathematics disciplines, from All researchers and students in the science, technology and mathematics disciplines, from

Discount group
P

Oscar Zariski's work in mathematics permanently altered the foundations of algebraic geometry. The powerful tools he forged from the ideas of modern algebra allowed him to penetrate classical problems with an unaccustomed depth, and brought new rigor to the intuitive proofs of the Italian School. The students he trained at Hopkins, and later at Harvard, are among the foremost mathematicians of our time.

While what he called his "real life" is recorded in almost a hundred books and papers, this story of his "unreal life" is based upon Parikh's interviews with his family, colleagues, and students, and on his own memories from a series of tape-recorded interviews made a few years before his death in 1986.

First published in 1991, The Unreal Life of Oscar Zariski was highly successful and widely praised, but has been out of print for many years. Springer is proud to make this book available again, introducing Oscar Zariski to a new generation of mathematicians.

Features
- The only biography of the personal life of this important mathematician
- Engaging look at the development of algebraic geometry in the 20th century

Contents
A Foreword for Non-Mathematicians, by David Mumford.
- That Darling Old Lady Kobbri and Chernigov 1899-1918.
- Birds Whirling like Numbers, Kiev 1918-1920.
- Three Great Mathematicians, Rome 1921-1926.
- Reading Pushkin and Dante.
- "Oscar, you are not one of us".
- Walking with Lefschets, Baltimore 1927-1928.

Fields of interest
History of Mathematics; Algebraic Geometry

Target groups
Mathematicians, students

Discount group
P

This edited volume, dedicated to Henry P. Wynn, reflects his broad range of research interests, focusing in particular on the applications of optimal design theory in optimization and statistics. It covers algorithms for constructing optimal experimental designs, general gradient-type algorithms for convex optimization, majorization and stochastic ordering, algebraic statistics, Bayesian networks and nonlinear regression. Written by leading specialists in the field, each chapter contains a survey of the existing literature along with substantial new material.

This work will appeal to both the specialist and the non-expert in the areas covered. By attracting the attention of experts in optimization to important interconnected areas, it should help stimulate further research with a potential impact on applications.

Features
- Devoted to applications of the optimal design theory in optimization and statistics
- Provides comprehensive surveys written by leading generalists
- Each chapter reviews, analyzes, and extends the statistical literature with rigor and clarity

Contents
B. Torsney: W-iterations and Ripples Therefrom.

Fields of interest
Operations Research, Mathematical Programming; Statistics, general; Optimization

Target groups
Researchers, graduate students

Discount group
P
Emerging Applications of Algebraic Geometry

Recent advances in both the theory and implementation of computational algebraic geometry have led to new, striking applications to a variety of fields of research. The articles in this volume highlight a range of these applications and provide introductory material for topics covered in the IMA workshops on "Optimization and Control" and "Applications in Biology, Dynamics, and Statistics" held during the IMA year on Applications of Algebraic Geometry. The articles related to optimization and control focus on burgeoning use of semidefinite programming and moment matrix techniques in computational real algebraic geometry. The new direction towards a systematic study of non-commutative real algebraic geometry is well represented in the volume. Other articles provide an overview of the way computational algebra is useful for analysis of contingency tables, reconstruction of phylogenetic trees, and in systems biology. The contributions collected in this volume are accessible to non-experts, self-contained and informative; they quickly move towards cutting edge research in these areas, and provide a wealth of open problems for future research.

Contents

Fields of interest
Algebraic Geometry; General Algebraic Systems; Applications of Mathematics

Target groups
Researchers

Discount group
P

Numerical Models of Differential Problems

In this text, we introduce the basic concepts for the numerical modelling of partial equation differential equations. We consider the classical elliptic, parabolic and hyperbolic linear equations, but also others, such as the diffusion, transport, and Navier-Stokes equations, as well as equations representing conservation laws. Furthermore, we provide numerous physical examples which underlie such equations. We then analyze numerical solution methods based on finite elements, finite differences, finite volumes, spectral methods and domain decomposition methods. In particular, we discuss the algorithmic and computer implementation aspects and provide a number of easy-to-use programs. It is suitable for students of bachelor and master courses in scientific disciplines, and recommendable to researchers who want to approach this interesting branch of applied mathematics.

Features
► Author faces here the basic concepts for the numerical modelling of partial differential equations
► Outstanding reference work in this branch of applied mathematics

Contents

Fields of interest
Mathematics, general; Analysis; Numerical Analysis

Target groups
Students of bachelor and master courses in scientific disciplines: engineering, mathematics, physics, computational sciences, and information science

Discount group
P

New Developments in Pseudo-Differential Operators

This volume consists of seventeen peer-reviewed papers related to lectures on pseudodifferential operators presented at the meeting of the ISAAC Group in Pseudo-Differential Operators (IGPDO) held at the Middle East Technical University in Ankara, Turkey on August 13-19, 2007, and invited papers by experts in the field. Included in this volume are such topics as analysis and partial differential equations related to the Heisenberg group; global analysis and pseudo-differential analysis on non-compact manifolds and manifolds with singularities; Fourier integral operators and Colombeau algebras with applications to partial differential equations; exotic pseudo-differential operators and regularity results on quasi-elliptic operators and hypoelliptic operators; Stockwell transforms in time-frequency analysis; and pseudo-differential operators on Lie groups with related results to sampling. This volume is a useful complement to the volumes "Advances in Pseudo-Differential Operators", "Pseudo-Differential Operators and Related Topics" and "Modern Trends in Pseudo-Differential Operators" published in the same series in, respectively, 2004, 2006 and 2007.

Features
► Representation of latest trends in pseudo-differential operators
► Emphasis of the role of pseudo-differential operators in analysis, applications and computation
► Presentation of a diversity of topics related to pseudo-differential operators
► Not perceived to be a conference proceedings

Fields of interest
Operator Theory; Partial Differential Equations; Global Analysis and Analysis on Manifolds

Target groups
Graduate students and researchers in analysis, mathematical physics, and mathematical sciences

Discount group
P
S. Roman, Irvine, CA, USA

Lattices and Ordered Sets

This book is intended to be a thorough introduction to the subject of order and lattices and can be used for a course at the graduate or advanced undergraduate level or for independent study. Prerequisites consist mostly of a bit of mathematical maturity, such as that provided by a basic undergraduate course in abstract algebra.

Features

- Written in an appealing style
- Will become a standard text and an invaluable guide
- Contains a plethora of exercises, examples, and illustrations

Contents


Fields of interest
Order, Lattices, Ordered Algebraic Structures; Algebra

Target groups
Advanced undergrads, graduate students

Discount group
P

A. Saracco, Università di Milano-Bicocca, Italia

Extension problems in complex and CR-geometry

This book is both a survey of some aspects of extension problems in Complex Analysis and Geometry and a collection of results by the author. After recalling the preliminary and necessary notions of complex analysis, the survey focuses on extension of holomorphic functions (filling both compact and non-compact holes), on the reflection principle, on extension results via cohomology vanishing, and on the boundary problem. The last two subjects include detailed results by the author on non-compact extension: the cohomology of semi q-coronae and the unbounded boundary problem.

Features

- Presents a large survey on the broad subject of extension in complex analysis and CR geometry
- Endowed with a very extensive bibliography

Contents


Fields of interest
Functions of a Complex Variable; Differential Geometry; Global Analysis and Analysis on Manifolds

Target groups
PhD students and researchers in the field of complex and CR geometry

Discount group
P

K. Sarma, K. Ramasubramanian, M. Srinivas, M. S. Sriram

Ganita-Yukti-Bhasa (Rationales in Mathematical Astronomy) of Jyesthadeva

Volume I: Mathematics
Volume II: Astronomy

Ganita-yukti-bhasa (Rationales in Mathematical Astronomy) of Jyesthadeva (c.1530) is a seminal text of the Kerala school of astronomy. It is composed in the Malayalam language and presents detailed yuktis or explanations and demonstrations for the results and processes of mathematical astronomy. The text, comprising fifteen chapters, is naturally divided into two parts, mathematics and astronomy, and purports to give an exposition of the techniques and theories employed in the computation of planetary motions as set forth in the great treatise Tantrasangraha (c.1500) of Nilakantha Somayaji.

Features

- A long-awaited translation of one of the most important — and hitherto least accessible — works in Indian mathematics, supplemented by detailed explanatory notes and commentary

Fields of interest
History of Mathematics; Astronomy

Target groups
Historians of mathematics and astronomy; philosophers of science; indologists

Discount group
P

Birkhäuser

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Co-published with Hindustan Book Agency (HBA), New Delhi, India

2009. Approx. 1085 p. (Sources and Studies in the History of Mathematics and Physical Sciences) (In 2 volumes, not available separately) Hardcover

$229.00

Discount group
P


$24.95

Due December 2008

Only available in print

2009. Approx. 330 p. 43 illus. Hardcover

$69.95

Discount group
P
G. Shimura, Princeton University, Princeton, NJ, USA

**The Map of My Life**

The purpose of this book is manifold and includes more than just the author’s strict recollections. Shimura not only writes about himself, but also about the atmosphere of the time. As a result, the author includes many things that are completely ordinary and known to almost everyone of my generation. I do so because since they are so ordinary, they will never be written, and as a consequence, will be forgotten.

He has also included his opinions on various historical events and thoughts about human nature. In the latter part of the book, he writes about mathematics, and inevitably he uses technical terms. The reader who is not familiar with these terms should simply read through the passages in question without trying too hard to understand them. After all, this book is not about mathematics, but about how Shimura’s life is related to the development of mathematics. To understand that interaction, it is not necessary to have any special knowledge of mathematics.

**Contents**

Preface.- Childhood.- As a student.- As a mathematically.- A long epilogue.- Appendix.- Afterword.

**Fields of interest**

History of Mathematics; Number Theory; Algebra

**Target groups**

Mathematicians, anyone interested in 20th century mathematics

**Discount group**

P

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N. Sivin, University of Pennsylvania, Philadelphia, PA, USA

**Granting the Seasons**

The Chinese Astronomical Reform of 1280, With a Study of Its Many Dimensions and an Annotated Translation of Its Records

China’s most sophisticated system of computational astronomy was created for a Mongol emperor who could neither read nor write Chinese, to celebrate victory over China after forty years of devastating war. This book explains how and why, and reconstructs the observatory and the science that made it possible.

For two thousand years, a fundamental ritual of government was the emperor’s “granting the seasons” to his people at the New Year by issuing an almanac containing an accurate lunisolar calendar. The high point of this tradition was the “Season-granting system” (Shou-shih li, 1280). Its treatise records detailed instructions for computing eclipses of the sun and moon and motions of the planets, based on a rich archive of observations, some ancient and some new.

**Contents**


**Fields of interest**

History of Mathematics; Astronomy

**Target groups**

Graduate students and researchers in the fields of history of science, mathematics, and Chinese astronomy

**Discount group**

P

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M. Sofonea, Université de Perpignan, France; A. Matei, University of Craiova, Romania

**Variational Inequalities with Applications**

A Study of Antiplane Frictional Contact Problems

This book is motivated by stimulating problems in contact mechanics, emphasizing antiplane frictional contact with linearly elastic and viscoelastic materials. It focuses on the essentials with respect to the qualitative aspects of several classes of variational inequalities (VIs). Clearly presented, easy to follow, and well-referenced, this work treats almost entirely VIs of the second kind, with much of the material being state-of-the-art.

Applied mathematicians and advanced graduate students wishing to enter the field of VIs would benefit from this work as it sets out in detail basic features and results in the mathematical theory of contact mechanics. Researchers interested in applications of numerical analysis pertaining to VIs would also find the work useful. Assuming a reasonable knowledge of functional analysis, this volume is a must for graduate students, practitioners, and engineers engaged in contact mechanics.

**Contents**

Calculus of Variations and Optimal Control; Optimization; Continuum Mechanics and Mechanics of Materials; Global Analysis and Analysis on Manifolds

**Target groups**

Applied mathematicians and advanced graduate students wishing to enter the field of VIs; researchers interested in applications of numerical analysis pertaining to VIs; assuming a reasonable knowledge of functional analysis, a must for graduate students, practitioners, and engineers engaged in contact mechanics

**Discount group**

P
**How Does One Cut a Triangle?**

This second edition, “How Does One Cut a Triangle?” shows how different areas of mathematics can be intertwined to solve a given problem. Soifer brings together geometry, algebra, trigonometry, linear algebra, and rings in a juxtaposition of different mathematical areas that enables mathematics to come alive. In the process the reader is given a taste of what mathematics can do and how mathematicians go about their research.

“How Does One Cut a Triangle?” contains many analytical proofs and counterexamples such as a pool table problem, fifty-dollar problem, five-point problem, and joint problem. By proving these additional examples, Soifer proves that research is a collection of mathematical ideas that have been developed throughout the course of history.

**Features**
- Aims to inspire talented students at various levels and other mathematicians interested in similar problems
- Offers insight on different problem solving methods used to attack the problem, “How Does One Cut a Triangle?”
- Presents example problems and solutions as well as open problems
- Engages a general audience

**Contents**

**Fields of interest**
- Algebra; Combinatorics; Mathematics, general

**Target groups**
- Students at various levels; general readership

**Discount group**
P

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**Mathematics as Problem-Solving**

Various elementary techniques for solving problems in algebra, geometry, and combinatorics are explored in this new second edition, “Mathematics as Problem Solving”. Each new chapter builds off the previous one, enhancing the reader to reach new levels of using logic to solve problems. Every topic is presented in self-contained chapters, offering classical solutions as well as Soifer’s own discoveries that he found through his problem-solving experiences. With roughly 200 different problems and multiple proofs for each, the reader is challenged to approach problems from different angles, and in this way can experience the beauty of mathematics.

**Features**
- Aims to develop young mathematicians’ problem-solving abilities
- Inspires readers to explore a range of methods of solving algebraic, geometric, and combinatorial problems
- Offers examples and practice problems
- Engages a general audience
- First edition was Endorsed by the NCTM

**Contents**

**Fields of interest**
- Algebra; Combinatorics; Geometry

**Target groups**
- Students at various levels, educators; the general public interested in the methods of mathematical problem solving

**Discount group**
P

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**Elementary Number Theory: Primes, Congruences, and Secrets**

This is a textbook about classical elementary number theory and elliptic curves. The first part discusses elementary topics such as primes, factorization, continued fractions, and quadratic forms, in the context of cryptography, computation, and deep open research problems. The second part is about elliptic curves, their applications to algorithmic problems, and their connections with problems in number theory such as Fermat’s Last Theorem, the Congruent Number Problem, and the Conjecture of Birch and Swinnerton-Dyer.

The intended audience of this book is an undergraduate with some familiarity with basic abstract algebra, e.g. rings, fields, and finite abelian groups.

**Contents**
- Preface.- Prime Numbers.- The Ring of Integers Modulo n.- Public-Key Cryptography.- Quadratic Reciprocity.- Continued Fractions.- Elliptic Curves.- Answers and Hints.- References.

**Fields of interest**
- Number Theory; Algebraic Geometry

**Target groups**
- Undergraduate mathematics students, graduate mathematics students, mathematicians, mathematics teachers

**Discount group**
P
Algebraic Function Fields and Codes

The theory of algebraic function fields has its origins in number theory, complex analysis (compact Riemann surfaces), and algebraic geometry. Since about 1980, function fields have found surprising applications in other branches of mathematics such as coding theory, cryptography, sphere packings and others. The main objective of this book is to provide a purely algebraic, self-contained and in-depth exposition of the theory of function fields.

This new edition, published in the series Graduate Texts in Mathematics, has been considerably expanded. Moreover, the present edition contains numerous exercises. Some of them are fairly easy and help the reader to understand the basic material. Other exercises are more advanced and cover additional material which could not be included in the text. This volume is mainly addressed to graduate students in mathematics and theoretical computer science, cryptography, coding theory and electrical engineering.

Features
- Well-established popular textbook

From the contents

Fields of interest
Algebra; Algebraic Geometry; Data Structures, Cryptology and Information Theory

Target groups
Graduate students and lecturers in mathematics and computer science

Discount group
P

Observation and Control for Operator Semigroups

This book studies observation and control operators for linear systems where the free evolution of the state can be described by an operator semigroup on a Hilbert space. The emphasis is on well-posedness, observability and controllability properties. The abstract results are supported by a large number of examples coming mostly from partial differential equations. These examples are worked out in detail. This book is meant to be an elementary introduction in this theory. The first meaning of “elementary” is that the text is aimed to be accessible to any reader familiar with linear algebra, calculus, the basics of Hilbert spaces and differential equations. We introduce everything needed on operator semigroups and most of the background used is summarized in the Appendices, often with proofs. The second meaning of “elementary” is that we only cover results for which we can provide complete proofs.

Features
- Book is to large extent self-contained
- Attempts to unify two approaches traditionally different, one using essentially abstract functional analysis and the other based on techniques coming from partial differential equations
- Main exact observability results are obtained by combining functional analysis with various methods such as multipliers, Ingham-Beurling-type inequalities and Carleman estimates

From the contents

Fields of interest
Systems Theory, Control; Partial Differential Equations; Operator Theory

Discount group
P

Introduction to Partial Differential Equations

A Computational Approach

This is the softcover reprint of a popular book teaching the basic analytical and computational methods of partial differential equations. Standard topics such as separation of variables, Fourier analysis, maximum principles, and energy estimates are included. Prerequisites for this text are the very basics of calculus, linear algebra and ordinary differential equations. Numerical methods are included in the book to show the significance of computations in partial differential equations, and to illustrate the strong interaction between mathematical theory and numerical methods. Great care has been taken throughout the book to seek a sound balance between the analytical and numerical techniques. The authors present the material at an easy pace with exercises and projects ranging from the straightforward to the challenging. The text would be suitable for advanced undergraduate and graduate courses in mathematics and engineering, and it develops basic tools of computational science.

Contents

Fields of interest
Analysis; Partial Differential Equations; Scientific Computing

Target groups
Senior undergraduate and graduate students

Discount group
P
Generalized Measure Theory

This comprehensive text examines the relatively new mathematical area of generalized measure theory. This area expands classical measure theory by abandoning the requirement of additivity and replacing it with various weaker requirements. Each of these weaker requirements characterizes a class of nonadditive measures. This results in new concepts and methods that allow us to deal with many problems in a more realistic way. For example, it allows us to work with imprecise probabilities.

The exposition of generalized measure theory unfolds systematically. It begins with preliminaries and new concepts, followed by a detailed treatment of important new results regarding various types of nonadditive measures and the associated integration theory. The latter involves several types of integrals: Sugeno integrals, Choquet integrals, pan-integrals, and lower and upper integrals. All of the topics are motivated by numerous examples, culminating in a final chapter on applications of generalized measure theory.

Features
- Most up-to-date textbook in the field, covering recent applications
- Numerous examples motivate the theory and exercises at the end of the chapter provide practice to the student
- Useful to an interdisciplinary cadre of mathematicians, engineers, computer scientists and specialists working in decision making

Fields of interest
Measure and Integration; Mathematical Logic and Foundations; Systems Theory, Control

Target groups
Graduate students, instructors, researchers in mathematics, engineering, and computer science

Discount group
P

Nexus Network Journal 11,1

Architecture and Mathematics

In celebration of the 2009 International Year of Astronomy, this issue of the Nexus Network Journal is devoted to relationships between astronomy, mathematics and architecture. Ancient cultures looked to the heavens in order to identify timeless principles for their own creations. Knowledge gained in astronomy was transformed into culture through architecture and design. Papers in this issue look at how astronomy influenced architecture and urban design.

Features
- A group of specialised research papers in the relationships between astronomy, mathematics and architecture
- Each research paper includes a bibliography for further reading
- Authors are from Italy, Portugal, Iran, Germany, and South Korea

Fields of interest
Mathematics, general; Architectural History and Theory

Target groups
Architects, mathematicians, and everyone interested in the subject

Discount group
P

Mathematics

Due November 2008

Hardcover

|$79.95
SBN 978-0-387-76851-9

Due May 2009


|$109.00
SBN 978-3-7643-8973-4
Deconvolution Problems in Nonparametric Statistics

This book gives an introduction to deconvolution problems in nonparametric statistics, e.g. density estimation based on contaminated data, errors-in-variables regression, and image reconstruction. Some real-life applications are discussed while we mainly focus on methodology (description of the estimation procedures) and theory (minimax convergence rates with rigorous proofs and adaptive smoothing parameter selection). In general, we have tried to present the proofs in such manner that only a low level of previous knowledge is needed. An appendix chapter on further results of Fourier analysis is also provided.

Features

- Gives a general unifying approach to statistical deconvolution topics with easy to understand proofs and applications

Contents


Fields of interest

Statistical Theory and Methods

Target groups

Researchers

Discount group

P

Nonlinear Regression with R

R is a rapidly evolving lingua franca of graphical display and statistical analysis of experiments from the applied sciences. Currently, R offers a wide range of functionality for nonlinear regression analysis, but the relevant functions, packages and documentation are scattered across the R environment. This book provides a coherent and unified treatment of nonlinear regression with R by means of examples from a diversity of applied sciences such as biology, chemistry, engineering, medicine and toxicology. R. Subsequent chapters explain the salient features of the main fitting function nls (), the use of model diagnostics, how to deal with various model departures, and carry out hypothesis testing. In the final chapter grouped-data structures, including an example of a nonlinear mixed-effects regression model, are considered.

Features

- Unique because it approaches non-linear regression modeling through the functionality available in R, such that the analysis in many respects is carried out using the same commands and functions as would be used to analyze linear or generalized linear or other models in R

Contents

Introduction.- Getting started.- Starting values and self starters.- More on nls ()- Model diagnostics.- Remedies for model variations.- Uncertainty, hypothesis testing and model selection.- Grouped data.- Appendix A: Datasets and models.- Appendix B: Self starter functions.- Appendix C: Packages and functions.- References.- Index.

Fields of interest

Statistical Theory and Methods; Pharmacology/Toxicology; Numerical and Computational Methods in Engineering

Target groups

Practitioners, students

Discount group

P
S. J. Sheather, Texas A&M University, College Station, TX, USA

**A Modern Approach to Regression with R**

This book focuses on tools and techniques for building valid regression models using real-world data. A key theme throughout the book is that it only makes sense to base inferences or conclusions on valid models.

**Contents**
- Transforming a model with AR(1) errors into a model with iid errors.
- A general approach to transforming GLS into LS.
- Case Study.
- Exercises.
- Mixed Models.
- Random effects.
- Maximum likelihood and restricted maximum likelihood.
- Residuals in mixed models.
- Models with covariance structures which vary over time.
- Modeling the conditional mean.
- Exercises.
- Appendix: nonparametric smoothing.

**Field of interest**
Statistical Theory and Methods

**Target groups**
Grad students

**Discount group**
P

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D. L. Thomson, E. G. Cooch, M. J. Conroy (Eds.)

**Modeling Demographic Processes in Marked Populations**

This book brings together biologists and statisticians in an interdisciplinary synthesis to develop new methods to overcome the most significant challenges and constraints faced by quantitative biologists seeking to model demographic rates. The book is centered on the ten key areas in the field where important problems in demographic analysis are being solved with new statistical methods. Each area presents one overview written by an acknowledged expert in this field, and four original research contributions.

**Features**
- Brings together the latest and best work in this rapidly developing field.
- Provides a cohesive overview of current best-practice and provides stimulus and impetus to the development of the field over the coming years.
- Principal software developments of the last three years are presented.

**Contents**
- Abundance Estimation: Direct, Proxies and Point Counts.
- Population Dynamics.
- Combining Sources of Information.
- Dispersal, Movement and Migration.
- State Uncertainty: Assignment Error and Unobservable States.
- Bayesian Applications: Advances, Random Effects and Hierarchical Models.
- Evolutionary Ecology.
- Wildlife and Conservation Management.
- New Software Developments for Modeling Demographic Processes.
- Open Forum.

**Fields of interest**
Statistical Theory and Methods; Probability and Statistics in Computer Science; Pattern Recognition

**Target groups**
Biodemographers, statisticians, ecologists; all others with an interest in the statistical analysis of demographic rates in marked populations

**Discount group**
P

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A. B. Tsybakov, University of Paris, France

**Introduction to Nonparametric Estimation**

This is a concise text developed from lecture notes and ready to be used for a course on the graduate level. The main idea is to introduce the fundamental concepts of the theory while maintaining the exposition suitable for a first approach in the field. Therefore, the results are not always given in the most general form but rather under assumptions that lead to shorter or more elegant proofs. The book has three chapters. Chapter 1 presents basic nonparametric regression and density estimators and analyzes their properties. Chapter 2 is devoted to a detailed treatment of minimax lower bounds. Chapter 3 develops more advanced topics: Pinsker’s theorem, oracle inequalities, Stein shrinkage, and sharp minimax adaptivity. This book will be useful for researchers and grad students interested in theoretical aspects of smoothing techniques. Many important and useful results on optimal and adaptive estimation are provided.

**Features**
- Concise and self-contained treatment of the theory.
- Thorough analysis of optimality and adaptivity issues.
- Detailed account on minimax lower bounds.

**Contents**
- Nonparametric estimators.
- Lower bounds on the minimax risk.
- Asymptotic efficiency and adaptation.
- Appendix.
- References.
- Index.

**Fields of interest**
Statistical Theory and Methods; Probability and Statistics in Computer Science; Pattern Recognition

**Target groups**
Researchers, grad students

**Discount group**
P
Managing and Mining Uncertain Data

Managing and Mining Uncertain Data, a survey with chapters by a variety of well known researchers in the data mining field, presents the most recent models, algorithms, and applications in the uncertain data mining field in a structured and concise way. This book is organized to make it more accessible to applications-driven practitioners for solving real problems. Also, given the lack of structurally organized information on this topic, Managing and Mining Uncertain Data provides insights which are not easily accessible elsewhere. Managing and Mining Uncertain Data is designed for a professional audience composed of researchers and practitioners in industry.

This book is also suitable as a reference book for advanced-level students in computer science and engineering, as well as the ACM, IEEE, SIAM, INFORMS and AAAI Society groups.

Features
- Survey information included with each chapter is unique in terms of introducing the different topics more comprehensively
- Includes case studies based on real-world examples

Contents

Fields of interest
Database Management; Artificial Intelligence (incl. Robotics)

Target groups
Professionals; advanced-level students in computer science

Discount group
P

Creating Flash Widgets with Flash CS4 and ActionScript 3

Flash-Widgets-Social Networking - they're all big and getting bigger. Together, they form a powerfully easy way to create custom user interfaces for social network developers.

Features
- First book to cover this compelling combination of tools
- This is an exploding market with the added break-out potential of Google's just released OpenSocial APIs
- Written by leading Flash expert with a nose for everything cool in leading-edge software development

Contents

Field of interest
Programming Techniques

Target groups
Beginner to intermediate flash designer/developers and anyone interested in developing for social networks

Discount group
P

Pro Bash Development

This book treats Bash as a full programming language, not only as a macro expansion or scripting tool. It will expose all comers to the full force of Bash, taking it to the limit of its capabilities. Many programmers need to know why and when they need to use Bash, over, say Ruby or Perl. This book is designed to meet their needs.

There are millions of Linux servers and OS X users. For all of them Bash is the default scripting language, yet there is not a single full account of Bash as a programming language. This book is where you can find it.

Features
- The best selling Unix/Linux books are shell scripting books
- This is the definitive account of Bash, the default shell on all OS X and Linux installations
- Shows how to go beyond scripting and teaches the reader to write full programs.

This is the only shell scripting book doing this
- Covers POSIX scripting, making Bash scripts portable to other shells
- Builds on Portable Shell Scripting published by Apress

From the contents

Field of interest
Programming Languages, Compilers, Interpreters

Target groups
Intermediate to advanced Linux, Mac OS X, Unix system administration and Linux & Unix developers

Discount group
C
B. M. Bommarito

Beginning Merb
Replacing Rails with Merb Framework, Datamapper and HAML

Merb is the next evolution for Rails, as a micro, ultra lightweight Ruby-based Web framework, along with Datamapper and HAML, that could give Rails a "run for its money" and perhaps even more so. Merb is gaining popularity as it's easier to learn, and lets developers build lighter, faster, better performing Ruby-based Web applications. Beginning Merb: Replacing Rails with Merb Framework, Datamapper and HAML is the first book on Merb that enables the reader to learn and use the Merb + Datamapper + HAML Web application development stack, as a realistic alternative to Ruby on Rails. This book uses a news Content Management System (CMS) application throughout, as a means to illustrate how easy it is to learn and use Merb. For more information on Merb: http://merb.rubyforge.org/files/README.html http://en.wikipedia.org/wiki/Merb http://merbivore.com/

Features
► First book on Merb, a Ruby on Rails alternative ► First tutorial or beginning level book on Merb ► Ruby and Rails and now Merb are hot technology meme's for today's Open Source and Web Developers

Field of interest
Programming Techniques

Target groups
Beginner to intermediate Ruby / Rails developers

Discount group
C

A. A. Ghorbani, University of New Brunswick, Fredericton, NB, Canada

Network Intrusion Detection and Prevention
Concepts and Techniques

With our society's growing dependency on information technology, systems security is crucial. One of the most critical development phases of a network intrusion detection system is the feature "selection one". A poorly chosen set of features may lead to a significant drop in the detection rate, regardless of the employed detection method. Network Intrusion Detection and Prevention: Concepts and Techniques covers all available aspects of intrusion detection and response systems. This comprehensive book not only covers the latest developments in this field, but reviews the fundamentals in intrusion detection. Case studies are provided at the end of each chapter. Network Intrusion Detection and Prevention: Concepts and Techniques is designed for researchers and practitioners in industry. This book is suitable for advanced-level students in computer science as a reference book as well.

Features
► Covers both theoretical and practical aspects of IDS/IPS ► Useful for a broad audience of practitioners, students and instructors

Contents

Fields of interest
Computer Communication Networks; Data Encryption

Target groups
Researchers and practitioners in industry; advanced-level students in computer science as a reference

Discount group
P

M. Huget, LISTIC-PolytechSavoie, Annecy le Vieux, France

Modelling Multiagent Systems

This book provides an extended state of the art on modelling multiagent systems, including examples for the different notations. Readers can quickly and effectively find which notations are best able to express the most appropriate multiagent concepts. A section on model-driven engineering and domain-specific languages proposes new approaches, worthwhile when existing notations do not provide all the necessary concepts. The book includes a theoretical discussion on notations and how to apply them, as well as a practical discussion on model-driven engineering and domain-specific language.

Target groups
Practitioners, students, researchers

Discount group
P
NetBeans™ Ruby and Rails IDE with JRuby

Ruby and Rails continues to grow and more and more jobs are coming online that require you to effectively develop Ruby and Rails in the Web tier. Beyond the Rails Framework, there are still very few proven tools and IDEs (Integrated Development Environments) to get the job done, at least until now. The NetBeans Ruby and Rails IDE, according to some, is by far the best and proven IDE in Ruby and Rails. Who would’ve thought a Java IDE could do Ruby and Rails? This first to market and officially endorsed NetBeans project book is for Ruby and Rails programmers who want to take advantage of the NetBeans IDE to facilitate their Ruby and/or Rails Web application development.

Features
- First Ruby and Rails IDE book to market; and first NetBeans Ruby and Rails IDE to market
- Officially endorsed by NetBeans project
- Ruby and Rails continue to be an important meme for today's programmer/developer

Contents
1. Installing NetBeans With Ruby Support.

Fields of interest
Programming Techniques

Target groups
Intermediate to advanced Ruby/Rails and Java (for JRuby)

Discount group
P

G. Steinebach, S. Guhathakurta, H. Hagen (Eds.)
Visualizing Sustainable Planning

The authors present the state of the art in the rapidly growing field of visualization as related to problems in urban and regional planning. The significance and timeliness of this volume consist in its reflection of several developments in literature and the challenges cities are facing. First, the unsustainability of many of our current paradigms of development has become evident. We are entering an era in which communities across the globe are strengthening their connections to the global flows of capital, goods, ideas, technologies and values while facing at the same time serious dislocations in their traditional socioeconomic structures. While the impending scenarios of climate change impacts remind us about the integrated ecological system that we are part of, the current discussions about global recession in the media alert us and make us aware of the occasional perils of the globalized economic system.

Features
- State of the art in visualization of urban and regional planning
- Reflects the work of an interdisciplinary team
- Brings together a rich compendium of visualization tools

Fields of interest
Computer Imaging, Graphics and Computer Vision; Simulation and Modeling; Industrial Design

Target groups
Urban and regional planners, graphic designers, project managers

Discount group
P

T. Stridler-Dennison, Iowa City, IA, USA
Mac for Linux Geeks

Linux geeks have been attracted to Mac OS X since its 2001 release, and the fascination continues to grow with every OS update. Mac for Linux Geeks is the ideal book to support and deepen the reader's ability to combine and hybridize the Mac and Linux OS experience. Previewing the Snow Leopard OS X revision (rumored to arrive in January 2009), this book will enable Linux users to be productive on OS X, while taking advantage of Linux tools running on OS X.

Features
- Appeals to all professional Linux users
- Shows how to hybridize the Mac OS X interface and Linux tools
- Teaches OS X powertools to Linux geeks
- Catches the true spirit of Unix philosophy: chose the best tool for the job
- Aimed at Leopard and will include Snow Leopard previews

Contents
Section 1: The Backstory: Switching to OS X.- Section 2: The Comparison: Linux v. OSX.- Section 3: Dual Booting and Virtualization.- Section 4: Building out the Linux environment.- Section 5: Using the many free Apple and Linux tools.- Section 6: Routine System Administration.- Section 7: Security, Backup and Automation.- Section 8: Code.- Section 9: Scripting.- Section 10: Hybridizing the OS X Experience. - Appendix: Linux Tools.

Field of interest
Operating Systems

Target groups
Intermediate Linux, Mac OS X, System Administration and Linux system administrators and power users

Discount group
C
Algebraic Cryptanalysis

Algebraic Cryptanalysis is a guide for advanced-level students and researchers/practitioners entering this new field. This text bridges the gap between a course in cryptography, and being able to read the cryptanalytic literature. Algebraic Cryptanalysis also covers several chapters on finite field linear algebra and the equicomplexity of matrix operations.

This volume introduces several techniques, including linear systems of equations over finite fields, polynomial systems, along with how to adapt the latter to be solved by SAT-solvers. The cipher Keeloq, used in nearly all automobiles with remote key-less entry, is described as a running example, including the manipulation of the equations to enable their solution.

Designed for advanced-level students in computer science and mathematics as a secondary text or reference book. Also suitable for practitioners working for intelligence agencies or security companies. Of special interest to algebraic geometers interested in seeking more applied topics.

Features
- One of first books to cover SAT-solvers, and how it can be used in cryptanalysis; plus chapters on finite field linear algebra and the cipher Keeloq
- Excellent guide for advanced-level students, researchers and practitioners entering the algebraic cryptanalysis field
- Bridges the gap between a course in cryptography, and being able to read the cryptanalytic literature, among academics and industry practitioners

Fields of interest
Data Structures, Cryptology and Information Theory; Field Theory and Polynomials; Linear and Multilinear Algebras, Matrix Theory

Target groups
Advanced-level students in computer science and mathematics, as a secondary text or reference book; practitioners working for intelligence agencies or security companies; algebraic geometers interested in seeking more applied topics

Discount group
P

Information Systems Development

Challenges in Practice, Theory, and Education Volume 1

Information Systems Development (ISD) progresses rapidly, continually creating new challenges for the professionals involved. New concepts, approaches and techniques of systems development emerge constantly in this field. Progress in ISD comes from research as well as from practice.

This conference will discuss issues pertaining to information systems development (ISD) in the inter-networked digital economy. Participants will include researchers, both experienced and novice, from industry and academia, as well as students and practitioners. Themes will include methods and approaches for ISD; ISD education; philosophical, ethical, and sociological aspects of ISD; as well as specialized tracks such as: distributed software development, ISD and knowledge management, ISD and electronic business / electronic government, ISD in public sector organizations, IOS.

Features
- Presents the latest and greatest concepts, approaches, and techniques of systems development - a notoriously transitional field
- Illustrates the newest design and development in information systems, in applications engineering and reengineering, as well as issues concerned with teaching and learning in this field

Fields of interest
Database Management; Information Storage and Retrieval; Information Systems

Target groups
Researchers, students, and practitioners in the field of information systems development.

Discount group
P

Information Systems Development

Challenges in Practice, Theory, and Education Volume 2

Information Systems Development (ISD) progresses rapidly, continually creating new challenges for the professionals involved. New concepts, approaches and techniques of systems development emerge constantly in this field. Progress in ISD comes from research as well as from practice.

This conference will discuss issues pertaining to information systems development (ISD) in the inter-networked digital economy. Participants will include researchers, both experienced and novice, from industry and academia, as well as students and practitioners. Themes will include methods and approaches for ISD; ISD education; philosophical, ethical, and sociological aspects of ISD; as well as specialized tracks such as: distributed software development, ISD and knowledge management, ISD and electronic business / electronic government, ISD in public sector organizations, IOS.

Features
- Presents the latest and greatest concepts, approaches, and techniques of systems development - a notoriously transitional field
- Illustrates the newest design and development in information systems, in applications engineering and reengineering, as well as issues concerned with teaching and learning in this field

Fields of interest
Database Management; Information Storage and Retrieval; Information Systems

Target groups
Researchers, students, and practitioners in the field of information systems development

Discount group
P
Access to Mobile Services

Access to Mobile Services focuses on methods for accessing broadcast based M-services from multiple wireless channels. This book presents a novel infrastructure that provides a multi-channel broadcast framework for mobile users to effectively discover and access composite M-services. Multi-channel algorithms are proposed for efficiently accessing composite services. Access to Mobile Services provides an in-depth survey of wireless data access and motivates the need to treat mobile services differently. A wireless adaptation of Service Oriented Architecture (SOA) is also covered.

Designed for researchers and practitioners who work in the general area of mobile services, this book is also suitable for advanced-level students in computer science and electrical engineering.

Features
- First book to provide overview of technical challenges for accessing broadcasted Web services over Wireless media
- Provides innovative solutions for efficiently accessing single and composed services in single and multi-channel wireless environments
- Presents novel infrastructure that provides multi-channel broadcast framework for mobile users to effectively discover and access composite M-services

From the contents

Fields of interest
Computer Communication Networks; Communications Engineering, Networks; Database Management

Target groups
Researchers and practitioners; advanced-level students

Discount group
P

Numerical Geometry of Non-Rigid Shapes

Deformable objects are ubiquitous in the world surrounding us, on all levels from micro to macro. The need to study such shapes and model their behavior arises in a wide spectrum of applications, ranging from medicine to security. In recent years, non-rigid shapes have attracted growing interest, which has led to rapid development of the field, where state-of-the-art results from very different sciences - theoretical and numerical geometry, optimization, linear algebra, graph theory, machine learning and computer graphics, to mention several - are applied to find solutions. This book gives an overview of the current state of science in analysis and synthesis of non-rigid shapes. Everyday examples are used to explain concepts and to illustrate different techniques. The presentation unfolds systematically and numerous figures enrich the engaging exposition. Practice problems follow at the end of each chapter, with detailed solutions to selected problems in the appendix.

Features
- Gives an up-to-date overview of the concepts and techniques in analysis and synthesis of non-rigid shapes
- Bridges the gap between theoretical and applied fields, spanning computer vision, pattern recognition and computer graphics
- Presents practical state-of-the-art algorithms and methods illustrated in real applications
- Engages the reader by using numerous figures and everyday examples

Fields of interest
Computer Imaging, Graphics and Computer Vision; Geometry; Computational Mathematics and Numerical Analysis

Target groups
Graduate students, teachers, researchers, professionals

Discount group
P

Coverage and Knowledge-Processing in Multi-Agent Systems

Agent systems are being used to model complex systems like societies, markets and biological systems. In this book we investigate issues of agent systems related to convergence and interactivity using techniques from agent based modelling to simulate complex systems, and demonstrate that interactivity/exchange and convergence in multi-agent systems are issues that are significantly interrelated.

Topic and features: Introduces the state of the art in multi-agent systems, with an emphasis on agent-based computational economics. Sheds light on the fundamental concepts behind the stability of multi-agent systems. Investigates knowledge exchange among agents, the rationale behind it and its effects on the ecosystem. Explores how information provided through interaction with the system can be used to optimise its performance.

Features
- Sheds light upon the complex interrelation between interactivity/exchange and convergence in multi-agent systems, for the first time
- Provides practical applications of convergence and equilibria in multi-agent systems
- Previous knowledge of neither game theories nor stochastic processes is required

Fields of interest
Artificial Intelligence (incl. Robotics); Game Theory/Economics, Social and Behavioral Sciences; Game Theory/Mathematical Methods

Target groups
Researchers and postgraduate students in computer science and economics

Discount group
P
Secure Key Establishment

Research on Secure Key Establishment has become very active within the last few years. Secure Key Establishment discusses the problems encountered in this field. This book also introduces several improved protocols with new proofs of security. Secure Key Establishment identifies several variants of the key sharing requirement. Several variants of the widely accepted Bellare and Rogaway (1993) model are covered. A comparative study of the relative strengths of security notions between these variants of the Bellare–Rogaway model and the Canetti–Krawczyk model is included. An integrative framework is proposed that allows protocols to be analyzed in a modified version of the Bellare–Rogaway model using the automated model checker tool.

Secure Key Establishment is designed for advanced level students in computer science and mathematics, as a secondary text or reference book. This book is also suitable for practitioners and researchers working for defense agencies or security companies.

Features
- Introduces several improved protocols with new proofs of security
- Identifies several variants of the key sharing requirement including a brief discussion regarding the key sharing requirement
- Provides an integrative framework that allows protocols to be analyzed in a modified version of the Bellare–Rogaway model using the automated model checker tool

Fields of interest
Data Encryption; Data Structures, Cryptology and Information Theory

Target groups
Advanced-level students in computer science and mathematics, as a secondary text or reference; practitioners and researchers working for defense agencies or security companies

Discount group
P

Multimedia Techniques for Device and Ambient Intelligence

Ambient Intelligence is a vision of the future where the world will be surrounded by electronic environments sensitive and responsive to people, wherein devices work in concert to support people in carrying out their everyday life activities, in an easy and natural way. This book is also suitable for advanced-level students in computer science and electrical engineering.

Features
- Will stimulate research and create interdisciplinary collaboration links which allow the exploration of new frontiers in ambient and device intelligence
- Covers the technologies used to improve the intelligence capability of multimedia devices for imaging, image processing and computer vision

Fields of interest
Computer Imaging, Graphics and Computer Vision; Signal Processing; Multimedia Information Systems

Target groups
Researchers and professionals in industry; secondary text for students in computer science and electrical engineering

Discount group
P

Combinatorics to Philosophy
The Legacy of G. C. Rota

Combinatorics to Philosophy: The Legacy of G. C. Rota provides an assessment of G. C. Rota’s legacy to international research in mathematics, philosophy and computer science.

Features
- Supports advanced-level (Ph.D.) courses in mathematics and computer science
- Research institutions (libraries, research departments, universities) in Europe and the USA have a vivid and strong memory of Rota, making this title a “longseller” in international academia

Contents

Fields of interest
Theory of Computation; Computational Mathematics and Numerical Analysis; Combinatorics

Target groups
Research institutions, university libraries; advanced-level students in computer science and mathematics

Discount group
P
Semantic Knowledge Management

Integrating Ontology Management, Knowledge Discovery, and Human Language Technologies

Despite its explosive growth over the last decade, the Web remains essentially a tool to allow humans to access information. Semantic Web technologies like RDF, OWL and other W3C standards aim to extend the Web's capability through increased availability of machine-processable information. Davies, Grobelnik and Mladenic have grouped contributions from renowned researchers into four parts: technology; integration aspects of knowledge management; knowledge discovery and human language technologies; and case studies. Together, they offer a concise vision of semantic knowledge management, ranging from knowledge acquisition to ontology management to knowledge integration, and their applications in domains such as telecommunications, social networks and legal information processing.

From the contents

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

Target groups
Researchers; libraries

Discount group
P

Simulating the Mind
A Technical Neuropsychoanalytical Approach

This is first book to fully address the disparate languages existing between computer scientists and neuro-psychologists in the common field of artificial intelligence. It fosters the existing cooperation between engineers and neuro-psychoanalysts, which we call the fifth generation of artificial intelligence: The technical implementation of the neuro-psychoanalytical model for use in automation systems. Research in this direction is vital for future improvement of automation systems. Included are solicited contributions from leading experts in the fields of process automation, building automation, industry automation, (traditional) artificial intelligence, and neuro-psychoanalysis. This work is not about a behavior-prediction model or a statistical model about humans' behavior, but rather is focuses on a functional model of human mental functions. This approach seems to be most promising for creating machines with human-like intelligence in future times.

Fields of interest
Artificial Intelligence (incl. Robotics); Neuropsychology; Psychoanalysis

Target groups
Researchers and scientists engineers and post-docs working in artificial intelligence, psychotherapy, automation, and cognition

Discount group
P

Electronic-Healthcare Information Security

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

Features
- Covers individual’s health related information, its transferability and secure manner in compliance with national and international legislation and agreements
- Introduces new standards for electronic-healthcare information security, the first comprehensive book dedicated to e-healthcare information security

From the contents

Fields of interest
Health Administration; Information Systems Applications (incl. Internet)

Target groups
Researchers and Professionals

Discount group
P

Electronic-Healthcare Information Security

Due December 2008


$99.00

SBN 978-3-540-88844-4

Electronic-Healthcare Information Security

Due November 2008

2009. XVII, 436 p. 63 illus. Hardcover

approx. $169.00

SBN 978-3-211-09450-7

Electronic-Healthcare Information Security

Due February 2009


approx. $125.00

SBN 978-0-387-84817-4
**Bee-Inspired Protocol Engineering**

From Nature to Networks

Honey bee colonies demonstrate robust adaptive efficient agent-based communications and task allocations without centralized controls – desirable features in network design. This book introduces a multipath routing algorithm for packet-switched telecommunication networks based on techniques observed in bee colonies. The algorithm, BeeHive, is dynamic, simple, efficient, robust and flexible, and it represents an important step towards intelligent networks that optimally manage resources. The author guides the reader in a survey of nature-inspired routing protocols and communication techniques observed in insect colonies. He then offers the design of a scalable framework for nature-inspired routing algorithms, and he examines a practical application using real networks of Linux routers. He also utilizes formal techniques to analytically model the performance of nature-inspired routing algorithms.

**Features**
- Introduces a protocol engineering framework that enables the researchers to implement a bioinspired routing protocol inside Linux and then test it on real-world networks

**From the contents**

**Fields of interest**
- Artificial Intelligence (incl. Robotics); Computer Communication Networks; Communications Engineering, Networks

**Target groups**
- Researchers, practitioners

**Discount group**
- P

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**The Problem Solving Handbook for Computational Biology and Bioinformatics**

Bioinformatics is growing by leaps and bounds; theories/algorithms/statistical techniques are constantly evolving. Nevertheless, a core body of algorithmic ideas have emerged and researchers are beginning to adopt a “problem solving” approach to bioinformatics, wherein they use solutions to well-abstracted problems as building blocks to solve larger scope problems. The Problem Solving Handbook for Computational Biology and Bioinformatics is an edited volume contributed by world renowned leaders in this field. This comprehensive handbook with problem solving emphasis, covers all relevant areas of computational biology and bioinformatics. Web resources and related themes are highlighted at every opportunity in this central easy-to-read reference.

Designed for advanced-level students, researchers and professors in computer science and bioengineering as a reference or secondary text, this handbook is also suitable for professionals working in this industry.

**Features**
- First comprehensive handbook on computational biology and bioinformatics with emphasis on problem solving
- Easy-to-use reference
- Web resources

**Fields of interest**
- Bioinformatics; Computer Imaging, Graphics and Computer Vision

**Target groups**
- Students, researchers in advanced-level courses; professionals in industry

**Discount group**
- P

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**Ontology Economics**

The state of the art in ontology building, and modeling in general, widely disregards the fact that the behavior of rational actors in the modeling process will be driven by individual economic incentives. Creating an ontology requires resources (e.g. labor) from the contributing individuals. If there is a remote possibility the overall benefit of an ontology might exceed the costs for creating the ontology over its lifetime, it may not be created if it’s not economically feasible for each individual required to contribute.

Ontology Economics, an edited volume authored by distinguished leaders in this field, provides a one-stop reference on the economic dimension of building, committing to, and using ontologies which are grounded by economic research. Linked to experience and data from real-world ontology projects, this volume is concise and self-contained. A reference book for advanced-level students and researchers in computer science and engineering; also useful for industry practitioners.

**Features**
- First book to exclusively cover the latest developments on Ontology Economics
- Includes case studies based on real-world examples

**From the contents**

**Fields of interest**
- Information Systems Applications (incl. Internet); Information Systems and Communication Service Technology, Islamabad, Pakistan

**Target groups**
- Advanced-level students and researchers in computer science; practitioners in industry

**Discount group**
- P
Generative and Transformational Techniques in Software Engineering II

This tutorial book presents an augmented selection of the material presented at the International Summer School on Generative and Transformational Techniques in Software Engineering, GTTSE 2007, held in Braga, Portugal, in July 2007. The 7 tutorial lectures presented together with 5 short tutorials and 4 contributions to the participants workshop were carefully selected during multiple rounds of reviewing and improvement. The tutorials given by renowned representatives of complementary approaches and problem domains combine foundations, methods, examples, and tool support.

Fields of interest
Software Engineering; Computer Communication Networks; Computation by Abstract Devices

Target groups
Researchers and professionals

Discount group
P

Information Technology, Information Systems and Knowledge Management

Information Technology, Information Systems and Knowledge Management comprises the proceedings of the first World Summit on the Knowledge Society (WSKS 2008), which took place in Athens, Greece in September 2008. The World Summit on the Knowledge Society is an international attempt to promote dialogue for the main aspects of the Knowledge Society towards a better world for all. The World Summit on the Knowledge Society brings together academics, people from industry, policy makers, politicians, government officers and active citizens to look at the impact of Information Technology, and the knowledge-based era it is creating, on key facets of today's world: the state, business, society and culture.

Information Technology, Information Systems and Knowledge Management is designed for a professional audience composed of researchers and practitioners working in this field. This volume is also suitable for advanced-level students in computer science and business management.

Features
Brings together a critical mass of well-established researchers who work within the field of information technology worldwide. Covers vital information for society that is not yet available in journals.

Fields of interest
Management of Computing and Information Systems; Technology Management; Information Systems

Target groups
Researchers and practitioners working in this field; advanced-level students in computer science and business management

Discount group
P

Grid and Services Evolution

Grids are a crucial enabling technology for scientific and industrial development. Grid and Services Evolution, the 11th edited volume of the CoreGRID series, was based on The CoreGRID Middleware Workshop, held in Barcelona, Spain, June 5-6, 2008. Grid and Services Evolution provides a bridge between the application community and the developers of middleware services, especially in terms of parallel computing. This edited volume brings together a critical mass of well-established researchers worldwide, from forty-two institutions active in the fields of distributed systems and middleware, programming models, algorithms, tools and environments.

Grid and Services Evolution is designed for a professional audience composed of researchers and practitioners within the Grid community industry. This volume is also suitable for advanced-level students in computer science.

Features
Provides bridge between application community and developers of middleware services, especially in terms of parallel computing
CoreGRID brings together a critical mass of well-established researchers worldwide, from forty-two institutions active in the fields of distributed systems and middleware, programming models, algorithms, tools and environments

Fields of interest
Computer Communication Networks; Processor Architectures; Computer Systems Organization and Communication Networks

Target groups
Professionals, researchers, practitioners; advanced-level students in computer science

Discount group
P
Guide to Wireless Ad Hoc Networks

Wireless communication technologies have been undergoing rapid advancements however there are several challenges that still need to be addressed. This book provides a comprehensive guide on the new ideas and results in the areas of mobile ad hoc networks, sensor networks and other ad hoc and ubiquitous computing systems, all in the wireless communication technology field. Wireless ad hoc networks and ubiquitous computing are explored by leading experts in the field from both academia and industry, with various challenges in diverse environments, standards, routing mechanisms, etc. This comprehensive book features in-depth descriptions of terminologies and concepts related to the diverse subject areas in wireless communication. This wide-ranging text will be a valuable reference for researchers, students, instructors, engineers, and strategists seeking the state of the art in the field.

Features
- Contributions all from leading experts in the field of wireless communication technology
- Chapters contain in-depths descriptions of the terminologies and concepts, to provide a wide-ranging, comprehensive volume on the latest trends in ad hoc and ubiquitous computing
- Reports on the rapid advancements in the wireless communication technologies

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

Target groups
Researchers, postgraduate students, advanced undergraduate students

Discount group
P

Bioinformatics
An Introduction

The field of bioinformatics continues to develop energetically. This comprehensive second edition covers new findings using the successful formula of the original text. Bioinformatics: An Introduction is structured into three parts devoted to Information, Biology and Applications. Every section of the book has been thoroughly updated, and expanded where relevant, to take account of significant new discoveries and realizations of the importance of certain concepts. Furthermore new chapters on Algorithms, Data Processing and Biotechnology have been added. Emphasis is placed on the underlying fundamentals and acquisitions of a broad and comprehensive grasp of the field as a whole. This second edition is intended to be a complete study companion for the advanced undergraduate or graduate student. It is self-contained, bringing together the multiple disciplines necessary for a profound grasp of the field into a coherent whole, allowing the reader to gain much insight into the state of art of bioinformatics.

Features
- Provides a comprehensive, self-contained introduction to the field of bioinformatics and state-of-the-art research
- Second edition offers three additional chapters plus many expanded sections
- Brings together the multiple disciplines necessary for a profound grasp of the field

Fields of interest
Bioinformatics; Evolutionary Biology

Target groups
Researchers, graduate students, advanced undergraduates

Discount group
P

Identifying Malicious Code Through Reverse Engineering

Attacks take place everyday with computers connected to the internet, because of worms, viruses or due to vulnerable software. These attacks result in a loss of millions of dollars to businesses across the world. Identifying Malicious Code Through Reverse Engineering provides information on reverse engineering and concepts that can be used to identify the malicious patterns in vulnerable software. The malicious patterns are used to develop signatures to prevent vulnerability and block worms or viruses. This book also includes the latest exploits through various case studies. Identifying Malicious Code Through Reverse Engineering is designed for professionals composed of practitioners and researchers writing signatures to prevent virus and software vulnerabilities. This book is also suitable for advanced-level students in computer science and engineering studying information security, as a secondary textbook or reference.

Features
- Introduces various vulnerabilities within assembly code to assist with targeting vulnerability in a software program
- Covers Patch Analysis, vital information for IDS/IPS security experts trying to locate vulnerable functions or patterns and develop rules/signature for their product
- Includes latest exploits through various case studies

Fields of interest
Computer Communication Networks; Communications Engineering, Networks

Target groups
Professionals and researchers; secondary textbook for advance-level students

Discount group
P
Security and Dependability for Ambient Intelligence

Security and Dependability for Ambient Intelligence is the primary publication for the SERENITY approach, which provides security and dependability (S&D) solutions for dynamic, highly distributed, heterogeneous systems. The objective of SERENITY is to enhance the security and dependability of ambient intelligence systems by providing a framework supporting the automated integration, configuration, monitoring and adaptation of security and dependability mechanisms. 

An edited volume contributed by world leaders in the field, this book covers the foundations of ambient systems, the problems their highly dynamic and heterogeneous nature poses to security and dependability, and solutions.

Features
- Includes case studies demonstrating recognition of the SERENITY approach in specific types of systems
- Covers adaptation of security and dependability solutions as part of ambient intelligence, while existing books on security patterns focus primarily on use of patterns in system development

Fields of interest
Computer Communication Networks; Operating Systems

Target groups
Researchers and practitioners; secondary: reference or secondary text book for graduate-level students

Discount group
P

Network Availability of Internet Services
Threats and Defenses

One of the most compelling problems of the Internet is the lack of a comprehensive and unifying approach to dealing with service security and resilience. Although many such individual reliability mechanisms exist, no general set of policies or standards exists regarding how these mechanisms can be combined to achieve an overall robust state of security for the network.

Network Availability for Internet Services: Threats and Defenses introduces solutions for defending against distributed denial of service (DDoS) attacks. This book proposes and evaluates practical mechanisms that will frustrate these attacks, and protect a wide range of services while maintaining or even improving their performance characteristics. The focus is on network-level faults and attacks. This book provides a practical end-to-end framework that significantly improves service availability and connectivity, without incurring a prohibitive deployment or performance cost.

Features
- First book to focus on current network attacks and defenses on Internet services including Web services, Voice over IP (VoIP), Remote Desktop and Streaming applications
- Includes tradeoffs and limits of each attack; defense mechanism known in terms of performance, scalability and economic cost; evaluates metrics in case studies

Contents

Fields of interest
Information Systems Applications (incl. Internet); Computer Communication Networks

Target groups
Professionals; advanced-level students in computer science

Discount group
P

Machine Learning in Cyber Trust: Security, Privacy, and Reliability

Many networked computer systems are far too vulnerable to cyber attacks that can inhibit their functioning, corrupt important data, or expose private information. Not surprisingly, the field of cyber-based systems is a fertile ground where many tasks can be formulated as learning problems and approached in terms of machine learning algorithms.

This book contains original materials by leading researchers in the area and covers applications of different machine learning methods in the reliability, security, performance, and privacy issues of cyber space. It enables readers to discover what types of learning methods are at their disposal, summarizing the state-of-the-practice in this significant area, and giving a classification of existing work.

Those working in the field of cyber-based systems, including industrial managers, researchers, engineers, and graduate and senior undergraduate students will find this an indispensable guide in creating systems resistant to and tolerant of cyber attacks.

Features
- Provides the reader with an overview of machine learning methods
- Demonstrates how machine learning is used to deal with the security, reliability, performance, and privacy of cyber-based systems
- Presents the state of the practice in machine learning and cyber systems and identifies further efforts needed to produce fruitful results

Contents

Fields of interest
Artificial Intelligence (incl. Robotics)

Target groups
Researchers in machine learning and security

Discount group
P
Pedagogically Founded Courseware Generation for Web-Based Learning
An HTN-Planning-Based Approach Implemented in Paigos

Automatic course generation is a very important area of research with numerous practical applications in e-learning. It has been studied since the 1980s within the fields of intelligent tutoring, AI and education, adaptive hypermedia and web-based educational systems. Many approaches have been proposed, but hardly any have resulted in generic and practically applied systems. A number of problems have remained unresolved. These problems are addressed by this work.

This book focuses on course generation based on Hierarchical Task Network planning (HTN planning). This course generation framework enables the formalization and application of complex and realistic pedagogical knowledge. The volume describes basic techniques for course generation, which are used to formalize seven different types of courses (for instance, introducing the learner to previously unknown concepts and supporting the learner during rehearsal) and several elementary learning goals (e.g., selecting an appropriate example or exercise).

Fields of interest
Artificial Intelligence (incl. Robotics); Computers and Education; Instruction and Learning

Target groups
Researchers and professionals

Discount group

C. Ullrich, DFKI Saarbrücken, Germany
**Advances in Biochemical Engineering / Biotechnology**

Series editor: T. Scheper
Volume 113

J. Zhong, College of Life Science & Biotechnology, Shanghai; F. Bai, Dept. of Biosciences & Bioengineering, Dalian, China; W. Zhang, Dalian Institute of Chemical Physics, Dalian, China (Eds.)

**Biotechnology in China I**

From Bioreaction, Bioseparation to Bioremediation

**Features**
- Covers trends in modern biotechnology
- All aspects of this interdisciplinary technology, where knowledge, methods and expertise are required from chemistry, biochemistry, microbiology, genetics, chemical engineering and computer science, are treated
- More information as well as the electronic version available at springer.com

**From the contents**

**Fields of interest**
Biotechnology; Human Genetics; Molecular Medicine

**Target groups**
Libraries and scientists in biomedicine, biotechnology, biochemical/chemical engineering and applied microbiology; university institutes; research groups in industry

**Discount group**
P

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**Advances in Biochemical Engineering / Biotechnology**

Series editor: T. Scheper
Volume 114

U. Martin, Leibniz Research Labs. for Biotechnology and Artificial Organs, Hanover, Germany (Ed.)

**Engineering of Stem Cells**

**Features**
- Covers trends in modern biotechnology
- All aspects of this interdisciplinary technology, where knowledge, methods and expertise are required from chemistry, biochemistry, microbiology, genetics, chemical engineering and computer science, are treated
- More information as well as the electronic version available at springer.com

**Contents**

**Fields of interest**
Biotechnology; Biochemistry, general; Molecular Medicine

**Target groups**
Libraries and scientists in biomedicine, biotechnology, biochemical/chemical engineering and applied microbiology; university institutes; research groups in industry

**Discount group**
P

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**Handbook of Clinical Nutrition and Aging**

As the older adult population continues to grow, so will the prevalence and incidence of age-related disorders. In Handbook of Clinical Nutrition and Aging, Second Edition, the editors and contributors (a panel of recognized academic nutritionists, geriatricians, clinicians and scientists) have thoroughly updated and revised their widely acclaimed first edition with fresh perspectives and the latest scientific and clinical developments in age-associated disease. New chapters tackle ecological perspectives on adult eating behavior, and behavioral theories applied to nutritional therapies in aging, while topics such as Sarcopenia and Cachexia are discussed in greater detail. The authors outline the physiological basis for each disorder, provide the latest information about the interaction of nutrition with these conditions, and review the potential routes and mechanisms for clinical intervention.

**Features**
- Thoroughly updated and revised new edition
- Presents the most critical clinical issues in geriatric nutrition
- A valuable guide to all who provide care to older adults
- Written by recognized nutritionists, geriatricians, clinicians and scientists

**Fields of interest**
Nutrition; Geriatrics/Gerontology; Internal Medicine

**Target groups**
Nutritionists, geriatricians, gerontologists, internists, family physicians, and dietitians

**Discount group**
MC

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Hydrogels
Biological Properties and Applications

This book is the result of an International conference gathering the most recent results in this field. The studies on Biohydrogels have had a rapid, exponential evolution in the last decades. Starting from one of the first applications of hydrogels in surgery, polyvinylalcohol crosslinked with formaldehyde under the trade name of Ivalon, we passed through PolyHema hydrogels as contact lens materials, hydrophilic polyurethanes (HPU), biodegradable hydrogels for both reconstructive surgery and pharmaceutical delivery systems, and finally more recently, one decade old, the thermoreversible and transient network hydrogels. Of course all these classes of hydrogels have been carefully selected examples of the important concepts and developments using the most recent results in this field. The studies on Biohydrogels have had a rapid, exponential evolution in the last decades. Starting from one of the first applications of hydrogels in surgery, polyvinylalcohol crosslinked with formaldehyde under the trade name of Ivalon, we passed through PolyHema hydrogels as contact lens materials, hydrophilic polyurethanes (HPU), biodegradable hydrogels for both reconstructive surgery and pharmaceutical delivery systems, and finally more recently, one decade old, the thermoreversible and transient network hydrogels. Of course all these classes of hydrogels have been always and continuously studied, improving their performance and field of applications. Recently, most of them have been used as scaffolds for cells, even stem ones, for regenerative applications (tissue engineering).

Fields of interest
Chemistry/Food Science, general; Biochemical Engineering; Industrial Chemistry/Chemical Engineering

Target groups
Researchers

Discount group
P

Coordination Polymers
Design, Analysis And Application

The field of coordination polymer research is now vast, and one of the fastest growing areas of chemistry in recent times, with important work being done on a large variety of different aspects. This book, however, provides for the first time a uniquely broad overview of all the major facets of modern coordination polymer science in the one place. It combines thorough chapters on nets and interpenetration with wide-ranging surveys of transition metal and lanthanoid coordination polymers and their properties (including magnetism, porosity, non-linear optical activity and catalysis).

Features
- The first book to provide a broad overview of all the major facets of coordination polymer research in one place
- Combines chapters on nets and interpenetration with wide-ranging surveys of transition metal and lanthanoid coordination polymers and their properties
- Aims to provide a flavour of each aspect whilst introducing carefully selected examples

Fields of interest
Polymer Sciences; Materials Science; Inorganic Chemistry

Target groups
New postgraduate students taking their first steps in the field as well as an authoritative and detailed reference source for senior specialists in the field

Discount group
P

Food Chemistry

For more than two decades, this work has remained the leading advanced textbook and easy-to-use reference on food chemistry and technology. Its fourth edition has been extensively re-written and enlarged, now also covering topics such as BSE detection and acrylamide. Food allergies, alcoholic drinks, or phystosterols are now treated more extensively. Proven features of the prior editions are maintained: Contains more than 600 tables, almost 500 figures, and about 1100 structural formulae of food components - Logically organized according to food constituents and commodities - Comprehensive subject index. These features provide students and researchers in food science, food technology, agricultural chemistry and nutrition with in-depth insight into food chemistry and technology.

Features
- Bestselling textbook now in its fourth, revised and enlarged edition
- New topics covered
- More extensively treated are food allergies, alcoholic drinks, or phystosterols
- Proven features: Logically organized according to food constituents and commodities and enriched with more than 600 tables, almost 500 figures, and about 1100 structural formulae of food components

From the contents

Fields of interest
Food Science; Agriculture; Analytical Chemistry

Target groups
Advanced students and professionals in food chemistry, food technology or agricultural sciences

Discount group
P

Due February 2009

2009. XII, 200 p. Hardcover
- $59.95
SBN 978-88-470-1103-8

Due December 2008

2009. Approx. 470 p. Hardcover
- $189.00
SBN 978-0-85404-837-2

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Features
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- More extensively treated are food allergies, alcoholic drinks, or phystosterols
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From the contents

Fields of interest
Food Science; Agriculture; Analytical Chemistry

Target groups
Advanced students and professionals in food chemistry, food technology or agricultural sciences

Discount group
P

Due February 2009

2009. XII, 200 p. Hardcover
- $59.95
SBN 978-88-470-1103-8

Due December 2008

2009. Approx. 470 p. Hardcover
- $189.00
SBN 978-0-85404-837-2
**Handbook of Drug Nutrient Interactions**

The goal of this work is to provide an updated compilation of information on drug-nutrient interactions that enables health care providers to better manage their patients. The book will meet this goal by providing both the scientific basis and clinical relevance for many interactions along with appropriate recommendations. A specific objective is to provide a tool for clinicians to use in understanding, identifying, distinguishing, predicting, optimizing, managing, and ultimately preventing significant adverse drug-nutrient interactions to optimize patient care. An additional objective is to challenge clinicians to be aware of potential drug-nutrient interactions in their daily practices, to document them regularly, and to investigate them further.

**From the contents**


**Fields of interest**

Nutrition

**Target groups**

Physicians, pharmacists, nurses, dietitians, and others in training or in clinical practice

**Discount group**

MC

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**Nanofluidics**

**Nanoscience and Nanotechnology**

In his celebrated lecture at the APS meeting in 1959, Richard Feynman pondered the potential of miniaturization in the physical sciences and proposed a variety of new nano-tools. Since then, many of these predictions have become reality including the development and application of nanofluidics. This timely book fills a gap in the current reference literature in this exciting and growing field and is dedicated to the field of nanofluidics with a focus on bioanalytical applications. These nanoscale analytical instruments employ micromachined features and are able to manipulate fluid samples with high precision and efficiency.

**Contents**


**Fields of interest**

Nanotechnology; Analytical Chemistry; Fluids

**Target groups**

Accessible to experts and non-experts alike and is essential reading for all advanced nanobiotechnology courses within academic institutions

**Discount group**

P
Genetic Engineering in Livestock
New Applications and Interdisciplinary Perspectives

Assisted by: F. Wütscher,

Recently, the first "zoopharming" product has reached market approval: it is a recombinant human protein for medical use that is produced in the milk of transgenic goats. In addition, other transgenic animals, including faster-growing salmon and "environmentally friendly" pigs with reduced levels of phosphate in their faeces are awaiting regulatory approval. These are only some examples of upcoming applications of genetic engineering in farm animals. Other potential applications include traditional breeding goals such as higher milk or meat yields, leaner meat, and disease resistance. While genetic engineering in livestock opens a huge range of possibilities, it also brings about concerns of safety and justification: does genetic engineering affect animal welfare? Is it safe and morally acceptable to apply genetic engineering to farm animals for the various purposes that are envisaged?

Contents
Introduction.- Transgenic farm animals: current status and perspectives for agriculture and biomedicine.- Novel developments in techniques to generate transgenic animals.- Animal welfare perspectives on the creation of transgenic farm animals.- Assessing the welfare of transgenic farm animals.- Ethical aspects of livestock genetic engineering.- Current developments in zoopharming.- Market development of biopharmaceuticals.

Fields of interest
Biomedical Engineering; Animal Genetics and Genomics; Ethics

Target groups
Scientists and researchers

Discount group
P

Physicochemical Behavior and Supramolecular Organization of Polymers

As the title suggests, this monograph features the physicochemical behavior and supramolecular organization of polymers. The book consists of four chapters dealing with solution properties, viscoelastic behavior, physicochemical aspects at interfaces and supramolecular structures of polymeric systems. The classical treatment of the physicochemical behavior of polymers is presented in such a way that the book will meet the requirements of a beginner in the study of polymeric systems in solution and in some aspects of the solid state, as well as those of the experienced researcher in other types of materials. Physicochemical behavior and Supramolecular Organization of Polymers is ultimately, a contribution to the chemistry of materials; it is a powerful reference tool for students and scientists working both in polymer chemistry, polymer physics and materials science.

Features
- Reports the physicochemical behaviour of polymers in solution, bulk, and at 2-D interfaces
- Describes the supramolecular organization of polymers

Contents

Fields of interest
Physical Chemistry; Polymer Sciences

Target groups
Students and scientists working in polymer chemistry, polymer physics and materials science

Discount group
P
Fire Retardancy of Polymers
New Strategies and Mechanisms

Globally, fire retardants are needed to satisfy a multibillion dollar market and fire retardancy of polymeric materials is an important component of fire safety. This book covers the latest developments in new fire retardant systems including: (1) nanoparticulate fillers, sometimes combined with conventional fire retardants; (2) intumescent formulations and their recent applications in bulk polymers, fibers and textiles; (3) test-methods for material flammability; (4) material-specific aspects of combustion, smoke and toxicity.

Features
- Includes formulation, modelling and investigation of the behaviour of intumescent coatings for fire protection
- Includes a discussion on trends in textile fire retardancy, and flammability regulations
- The influence of fire retardants on the fire toxicity is discussed in detail, followed by an investigation of the toxic products from burning fire retarded polymer nanocomposites

Fields of interest
- Polymer Sciences; Physical Chemistry; Materials Science

Target groups
- Fire retardant materials' developers, environmentalists looking for alternatives to brominated flame retardants, engineers needing to use fire safe materials in their projects

Discount group P

Medical Foods from Natural Sources

Currently most published books on enteral nutrition support focus only on issues such as the rationale; specific nutrient requirements for various disease conditions; and practical approaches to the delivery, monitoring, and complications prevention while providing enteral nutrition support. None offer information relating to the developmental aspects of enteral foods, e.g. processing technology, types of ingredients, physicochemical and nutritional characteristics, shelf life evaluations, etc. These aspects are critical because they affect the overall acceptability, tolerance, and effectiveness of enteral nutrition support.

Medical Foods from Natural Sources discusses the development of the enteral foods from the natural sources for the patients, such as barley, rice, eggs, milk, etc., and presents methods on how to prepare enteral foods from natural sources for use.

Features
- Communicates the novel technology for developing enteral foods from natural sources
- Discusses the results of the clinical trials conducted in various categories of patients
- Evaluates efficacy of the natural ingredients-based enteral foods

Fields of interest
- Food Science; Chemistry/Food Science, general; Nutrition

Target groups
- Upper level undergraduate and postgraduate students taking courses in food science, food technology, nutrition and dietetics; scientists and researchers in the areas of food science and technology/food industry and pharmaceutical industries; university professors in the areas of food science, food technology, food and nutrition, and dietetics; food industries and pharmaceuticals involved in the development and marketing of medical foods and nutraceuticals; chemists, food scientists, nutritionists, agronomists, biologists, physicians and other medical fraternities; groups involved in policy-making and implementation of health- and patient-care system

Discount group P

Miniaturization and Mass Spectrometry

The explosion in the late 20th century of the field of analytical chemistry and particularly for biological purposes has led to a need for fast, integrated, portable, more reliable and more sensitive tools that could handle reduced amount of samples. Microfluidics and lab-on-a-chip devices provide a good answer to this quest to miniaturized and enhanced analysis and they lend themselves well to mass spectrometric detection as similar amounts of samples in the low microliter range are handled on a chip and required for a single MS analysis.

Miniaturization and Mass Spectrometry illustrates this trend and focuses on one particular analysis technique, mass spectrometry whose popularity has "dramatically" increased in the last two decades with the explosion of the field of biological analysis and the development of two "soft" ionization techniques, ESI and MALDI which enable the analysis of large but fragile molecules, such as biological molecules (DNA, proteins, oligosaccharides).

Features
- Consists of a good introduction on the coupling of microfluidics to mass spectrometry techniques
- Demonstrates the advantages of such a coupling: the MS analysis benefits from improved sample preparation when performed on a chip while MS gives "more information" on the sample handled on the chip compared to a conventional optical detection

Fields of interest
- Analytical Chemistry

Target groups
- Undergraduates and graduates alike as well as anyone working in the field or related areas

Discount group P
Chemistry of the Solar System

This book is an appealing, concise, and factual account of the chemistry of the solar system. It includes basic facts about the chemical composition of the different bodies in the solar system, the major chemical processes involved in the formation of the Sun, planets, and small objects, and the chemical processes that determine their current chemical make-up. There are numerous informative summary tables and data is presented in graphical form which is useful for identifying common features of the major processes that determine the current chemical state of the planets.

Contents

Fields of interest
Physical Chemistry, Extraterrestrial Physics, Space Sciences; Environmental Chemistry

Target groups
General readers with a background in chemistry who would enjoy reading about the chemical diversity of the solar system's objects as well as an introductory textbook for graduate classes in planetary sciences

Discount group
P

Biotechnology for Fuels and Chemicals

The Twenty-Ninth Symposium

In Biotechnology for Fuels and Chemicals: The Twenty-Ninth Symposium, leading US and international researchers from academia, industry, and government exchange cutting-edge technical information and update current trends in the development and application of biotechnology for sustainable production of fuels and chemicals. This symposium emphasizes advances in biotechnology to produce high-volume, low-price products from renewable resources, while improving the environment. The major areas of interest include advanced feedstock production and processing, enzymatic and microbial biocatalysis, bioprocess research and development, opportunities in biorefineries, and commercialization of biobased products. International and domestic progress on producing liquid biofuels, especially ethanol and biodiesel, is highlighted, and related topics, including bioseparations and optimal integration of biochemical and thermochemical conversion technologies, are featured.

Features
- State-of-the-art research by leading experts
- Advanced feedstock production and processing
- Discussion of latest research breakthroughs and results
- New trends in thinking about integrated multiproduct biorefineries
- Review of international progress in producing liquid biofuels
- Bioprocess research and development innovations
- Development and commercialization of biobased products

Fields of interest
Biotechnology; Biochemical Engineering

Target groups
Biochemists, biotechnologists, biochemical engineers

Discount group
P

Wine Chemistry and Biochemistry

The aim of this book is to describe chemical and biochemical aspects of winemaking that are currently being researched. The first part of the book summarizes the most important aspects of winemaking technology and microbiology. The second most extensive part deals with the different groups of compounds, how these are modified during the various steps of the production process, and how they affect the wine quality, sensorial aspects, and physiological activity, etc. The third section describes undesirable alterations of wines, including those affecting quality and food safety. Finally, the treatment of data will be considered, an aspect which has not yet been tackled in any other book on enology. In this chapter, the authors not only explain the tools available for analytical data processing, but also indicate the most appropriate treatment to apply, depending on the information required, illustrating with examples throughout the chapter from enological literature.

Features
- Scientifically written including current trends but also in a style that is clear and easy to understand
- Useful book for wine researchers and enologists alike, as well as for winemakers and other professionals of the sector, and students of enology, food technology, and similar disciplines

From the contents
Foreword.- Introduction.- New prospects in wine manufacture.- Trends in wine microbiology.- Yeast autolysis as an enological process.- Technological adjuvants in winemaking.- Enzymes in wine-making.- Nitrogen compounds.

Fields of interest
Food Science; Biochemistry, general

Target groups
Wine researchers and enologists alike, as well as for winemakers and other professionals of the sector; students of enology, food technology, and similar disciplines

Discount group
P
Transporters as Targets for Drugs
With contributions by numerous experts

Features
- In each volume an overview chapter introduces the newcomer to the topic covered
- Series covers hot topics of frontier research summarized by reputed scientists in the field
- Review series is topic related
- Online version available on SpringerLink: springerlink.com

Fields of interest
Medicinal Chemistry; Pharmacology/Toxicology; Organic Chemistry

Target groups
Medicinal chemists working in chemistry, medicine, pharmacy and biology

Discount group
P

Nanochemistry
A Chemical Approach to Nanomaterials

From reviews of the first edition
- A gem in the scientific literature...a beautifully written and richly illustrated book that is unlike any other
- Science, 21 July 2006, Vol 313
- An invaluable reference book for undergraduate and graduate students. As a superb textbook for teaching of materials chemistry and nanotechnology
- Advanced Materials, 1/2006
- ...wonderful book....insightful perspective on nanochemistry
- Physical Sciences Educational Reviews, October 2006, Vol. 7, Issue 2

The global success of the 1st edition of Nanochemistry, along with exceptionally rapid change in the field, has necessitated the publication of a 2nd edition after only three years. This truly major update highlights the latest breakthroughs using more than eighty new case histories, more problem sets, and more teaching principles.

Features
- Major update highlights the latest breakthroughs using over 80 new case histories, more problem sets, and more teaching principles
- Using simple language, and focusing on the concepts, it covers all chemistry techniques commonly used to synthesize nanomaterials
- The extensive bibliography will satisfy those hungry for more detail

Fields of interest
Nanotechnology; Materials Science; Food Science

Target groups
Graduate and advanced undergraduate students of chemistry, nanoochemistry and materials science

Discount group
P

Electrochemistry at the Nanoscale

For centuries, electrochemistry has played a key role in technologically important areas such as electroplating or corrosion. In recent decades, electrochemical methods are receiving increasing attention in important strongly growing fields of science and technology such as nanosciences (nanoelectrochemistry) and life-sciences (organic and biological electrochemistry).

Characterization, modification and understanding of various electrochemical interfaces or electrochemical processes at the nanoscale, has led to a huge increase of the scientific interest in electrochemical mechanisms as well as of application of electrochemical methods in novel technologies.

This book presents exciting emerging scientific and technological aspects of the introduction of the nanodimension in electrochemical approaches are presented in 12 chapters/subchapters.

Features
- As nanosciences and nanoengineering are considered core technologies for the 21st century and strongly growing fields, the impact of the book can be expected to be very significant
- Contains theoretical and applied contributions in the different fields of nanoelectrochemistry, and hence will be of interest in a large scientific area

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

Target groups
Graduate students and researchers in a variety of fields of science and engineering, such as chemistry, physics, electrochemistry, materials science, biology, and microtechnology; potential textbook

Discount group
P

Due January 2009
Only available in print

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

2nd ed. 2009. Approx. 770 p. Hardcover
≈ $89.95

Due November 2008
2009. Approx. 560 p. 265 illus. (Nanostructure Science and Technology) Hardcover
≈ $159.00
A Primer for the Exercise and Nutrition Sciences
Thermodynamics, Bioenergetics, Metabolism

The subject of thermodynamics is rarely found in Nutrition and Exercise Physiology textbooks. Yet this material is fundamental to any serious inquisition concerning energy exchange. This book provides a fresh approach to the study of energy expenditure by introducing the latest concepts in open system thermodynamics and cellular to whole-body energy exchange. The text traces biological energy exchange, from the molecules in the food we eat to the energy demands of rest, physical exertion and its recovery. The carefully researched text advances traditional exercise physiology concepts by incorporating contemporary thermodynamic and cellular physiology principles into the context of a ‘working’ metabolism.

Fields of interest
Nutrition; Animal Physiology; Biochemistry, general

Target groups
Sports nutritionists, biochemists, physiologists, and sports medicine specialists

Discount group
P

Molecular Thermodynamics of Complex Systems

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

Contents

Fields of interest
Inorganic Chemistry

Target groups
Scientists and practitioners in the mentioned fields

Discount group
P

Ingredients in Meat Products
Properties, Functionality and Applications

This book discusses not only the basic ingredients that are traditionally used in meat products, but also novel and emerging ingredients, where much basic research work is still being done. The basic chemistry of each type of ingredient is presented, as well as the advantages and disadvantages of each. This work is a single reference volume of the current state of knowledge as it relates to this area. The contributions are technical in nature, but at the same time, are of practical value to the meat processing industry at large, especially those involved in product development and formulation.

Features
► The first single volume devoted solely and exclusively to the use of functional non-meat ingredients in the formulation, development and manufacturing of meat products ► Describes the fundamental concepts that govern the functional behavior of non-meat ingredients in meat systems ► Presents the latest meat-related research on each type of ingredient

From the contents

Fields of interest
Food Science

Target groups
Food science/meat science researchers, educators, and students (particularly those with an interest in meat science and meat processing); technical personnel working in the meat processing and ingredient supplier industries; personnel in government who deal with the regulation of the use of non-meat ingredients in meat products

Discount group
P

Chemistry and Materials Science

Due November 2008

2009. XIV, 166 p. 61 illus. Hardcover
► $99.00
SBN 978-1-60327-382-7

Chemistry and Materials Science

Due December 2008

2009. Approx. 270 p. Hardcover
► approx. $319.00
SBN 978-3-540-69114-3

Chemistry and Materials Science

Due November 2008

2009. Approx. 375 p. 32 illus. Hardcover
► $99.00
SBN 978-0-387-71326-7
Electrotechnologies for Extraction from Food Plants and Biomaterials

Recently, the electrotechnologies based on the effects of pulsed electric fields (PEF), such as ohmic heating (OH) and DC electric field, have gained real interest in the field of food processing. These techniques efficiently enhance methods of extraction from food plants and dehydration of biosolids. The PEF and pulsed OH techniques preserve the nutritional, functional, structural and sensory properties of products better than conventional extraction technologies. The electrofiltration and electro-osmotic dewatering can be very effective for the separation of bioproducts and dehydration of food wastes.

Features
► Presents the effects of these emerging electrotechnologies in a comprehensive manner
► Focuses on the latest developments in this field

Contents

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

Target groups
Food scientists, food engineers, technologists, research scientists, professors

Discount group
P

Lithium-Ion Batteries
Science and Technologies

This book is a compilation of up-to-date information relative to Li-Ion technology. It provides the reader with a single source covering all important aspects of Li-Ion battery operations. It fills the gap between the old original Li-Ion technology and present state of the technology that has developed into a high state of practice. The book is designed to provide a single source for an up-to-date description of the technology associated with the Li-Ion battery industry. It will be useful to researchers interested in energy conversion for the direct conversion of chemical energy into electrical energy as a textbook. University people will find a comprehensive description of the state-of-the-art of the Li-Ion system.

Features
► Editors and contributors are all experts in the field
► All contributors are Japanese or of Japanese ancestry
► Presents a thorough survey of the most up-to-date technologies in Li-Ion batteries

From the contents

Fields of interest
Electrochemistry; Industrial Chemistry/Chemical Engineering; Electrical Power Generation and Transmission

Target groups
Electrochemists in academia, battery researchers and developers in industry

Discount group
P
Planar Double-Gate Transistor
From technology to circuit

This book on Double-Gates devices and circuit is unique and aims to reinforce the synergy between the research activities on CMOS sub-32nm devices and the design of elementary circuits. The goal is to point out how we can take advantage of new transistor structures to come up with new basic cells and concepts that exploit the electrical features of these new devices and the breakthrough they bring.

Planar Double-Gate Transistor will mainly focus on SOI CMOS transistors, fully depleted with double independent planar Gates (Independent Planar Double Gates Transistors: IPDGT), a potential candidate for the sub-32 nm technological nodes planned for production in 2013 in the current ITRS Roadmap.

Features
► First book dealing with Technology and Design Interaction► Covers all aspects of IC Design with advanced technologies: process, device modelling, characterization, and circuit design of analogue, digital and memory circuits► Introduces new circuit concepts taking benefit of the double-gate device structures

Fields of interest
Circuits and Systems; Solid State Physics and Spectroscopy; Optical and Electronic Materials

Target groups
Engineers, researchers and graduate level students in the field of solid-state circuits and devices

Discount group
P

Spatial Temporal Patterns for Action-Oriented Perception in Roving Robots

This book presents action oriented perception from a novel point of view, dealing with complex systems and applied to mobile robotics. It presents a blend of biologically inspired algorithms and robot prototypes and complex nonlinear dynamics. Carefully edited outcome of a European research Project called “SPARK”, whose aim is to develop completely new sensing-perceiving-moving artefacts.

Contents
Perception for action in insects. - Principles of insect locomotion. - Bottom-up approach for cognitive control. - High level approaches to cognitive control. - Model for action oriented perception, starting from the application of nonlinear dynamics. - Rigorous proofs on the learning abilities of the Recurrent neural networks used for memory and planning. - New visual sensor and processor. - SPARK hardware board. - The robotic platforms.

Fields of interest
Vibration, Dynamical Systems, Control; Complexity; Automation and Robotics

Target groups
Researchers, engineers, graduate students in cognition and applied complex systems biorobotics, biological cybernetics, microelectronics, mobile robotics

Discount group
P

Due February 2009

► $159.00
ISBN 978-3-540-88463-7
QRD-RLS Adaptive Filtering

This book provides tools and knowledge in a simple way such that the reader is able to implement a particular QRD-RLS algorithm tailored for the application at hand. The material presents not only classical and recent research results but also the expertise of a number of authors that have contributed to the development of this fast converging class of adaptive filter algorithms. The intended audience encompasses graduate students, researchers, and practitioners working in the field of adaptive filtering or in need of using a robust and fast converging algorithm.

**Features**
- Provides a comprehensive framework of QRD-RLS adaptive filtering
- Compiles the research of more than a decade into a single publication
- Includes an important class of algorithms that are efficient in terms of speed of convergence, computational complexity, and numerical stability
- Covers algorithms for many scenarios such as single channel, multichannel, and output filtering

**Contents**
- QR Decomposition: An Annotated Bibliography
- Introduction to Adaptive Filters
- Conventional and Inverse QRD-RLS Algorithms
- Fast QRD-RLS Algorithms
- QRD Least-Squares Lattice Algorithms
- Multichannel Fast QRD-RLS Algorithms
- Household-Based RLS Algorithms
- Numerical Stability Properties
- Finite and Infinite Precision Properties of QRD-RLS Algorithms
- On Pipelined Implementations of QRD-RLS Adaptive Filters
- Weight Extraction of Fast QRD-RLS Algorithms
- Linear Constrained QRD-Based Algorithm

**Fields of interest**
- Signal Processing
- Communications Engineering
- Networks
- Control Engineering

**Target groups**
- Students, researchers, and practitioners interested in RLS adaptive filtering and implementing fast converging algorithms

**Discount group**
- P

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Complex Systems and Self-organization Modelling

The concern of this book is the use of emergent computing and self-organization modelling within various applications of complex systems. The authors focus their attention both on the innovative concepts and implementations in order to model self-organizations, but also on the relevant applicative domains in which they can be used efficiently.

This book is the outcome of a workshop meeting within ESM 2006 (Eurosis), held in Toulouse, France in October 2006.

**Features**
- Devoted to the use of emergent computing and self-organization modelling within various applications of complex systems
- Presents innovative concepts and implementations in order to model self-organizations
- Presents multidisciplinary approaches for getting representations of complex systems and using different methods to extract emergent structures

**Contents**
- Part I Complex system modelling and methodology
- Part II Swarm intelligence and neuronal learning
- Part III Socio-environmental complex modelling and territorial Intelligence
- Part IV Emotion and cognition modelling
- Part V Production systems and simulation

**Fields of interest**
- Vibration
- Dynamical Systems
- Control
- Complexity
- Dynamical Systems and Ergodic Theory

**Target groups**
- Researchers, engineers, graduate students in nonlinear dynamics, complexity

**Discount group**
- P

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Digital Terrestrial Broadcasting Networks

Digital Terrestrial Broadcasting Networks approaches the existing framework for digital terrestrial broadcasting, particularly the results of the Regional Radiocommunication Conference held in 2006. That conference established a new frequency plan for Europe, Africa and parts of Asia for digital terrestrial broadcasting. The book introduces the currently existing terrestrial broadcasting systems as well as the regulatory framework by which they can begin operating. Most importantly the book explains details of the GE06 Agreement, particularly Articles 4 and 5. It also discusses the frequency plan itself and the constraints it has been derived under. The book addresses the implementation of the GE06 Plan, which leads directly to all issues related to network planning and optimization of networks. Finally, the future development of the Plan and the digital dividend is addressed.

**Features**
- Approaches the existing framework for digital terrestrial broadcasting, particularly the results of the Regional Radiocommunication Conference held in 2006
- Covers issues like sharing the UHF spectrum with mobile communication services and also touches upon the World Radio Conference 07 to be held in the fall in Geneva

**Contents**
- Introduction
- Digital Terrestrial Broadcasting Systems
- Spectrum Management
- Coverage Prediction
- Frequency Planning Basics
- Network Planning Basics
- RRC-06 and GE06
- Future Developments

**Fields of interest**
- Signal Processing
- Communications Engineering
- Networks
- Microwaves, RF and Optical Engineering

**Target groups**
- Engineers in the fields of digital broadcasting, frequency planning, and network planning

**Discount group**
- P
Game Theoretic Risk Analysis of Security Threats

Game Theoretic Risk Analysis of Security Threats introduces reliability and risk analysis in the face of threats by intelligent agents. More specifically, game-theoretic models are developed for identifying optimal and/or equilibrium defense and attack strategies in systems of varying degrees of complexity. The book covers applications to networks, including problems in both telecommunications and transportation. However, the book’s primary focus is to integrate game theory and reliability methodologies into a set of techniques to predict, detect, diminish, and stop intentional attacks at targets that vary in complexity. In this book, Bier and Aziaiez highlight work by researchers who combine reliability and risk analysis with game theory methods to create a set of functional tools that can be used to offset intentional, intelligent threats (including threats of terrorism and war). These tools will help to address problems of global security and facilitate more cost-effective defensive investments.

Features
- The first book to apply game-theoretic models and reliability theory to defending infrastructure against intelligent attacks
- Demonstrates attack-defense models that avoid the mathematical quagmire of full game-theoretic modeling

Fields of interest
Quality Control, Reliability, Safety and Risk; Game Theory, Economics, Social and Behavioral Sciences; Applications of Mathematics

Target groups
Academic researchers and graduate students in operations research, reliability, and maintenance management, as well as homeland security practitioners

Discount group
P

Unexploded Ordnance Detection and Mitigation
Proceedings of the NATO Advanced Study Institute on Unexploded Ordnance Detection and Mitigation, II Ciocco, 20 July - 2 August 2008

The detection and neutralization of unexploded ordnance (UXO) has been of major concern for very many decades; at least since the First World War. UXO continues to be the subject of intensive research in many fields of science. While today’s headlines emphasize the mayhem resulting from the placement of improvised explosive devices (IEDs), humanitarian landmine clearing continues to draw significant global attention as well. In many countries of the world, landmines threaten the population and hinder reconstruction and fast, efficient utilization of large areas of the mined land in the aftermath of military conflicts. The reports in this volume, written by world leaders from academia, Government and industry, describe how basic ideas from mathematics, radar, sonar and chemistry can be combined with ongoing improvements in hardware and computation, as well as very new advances in multisensor data fusion.

Features
- Elementary treatment accessible to scientists of varied backgrounds
- Special attention given to Ground-Penetrating Radar

Fields of interest
Remote Sensing/Photogrammetry; Scientific Computing; Pattern Recognition

Target groups
Mathematicians, computer scientists, chemists, engineers in government, industry, academia and the military

Discount group
P

Functional Design Errors in Digital Circuits
Diagnosis Correction and Layout Repair

Functional Design Errors in Digital Circuits Diagnosis covers a wide spectrum of innovative methods to automate the debugging process throughout the design flow: from Register-Transfer Level (RTL) all the way to the silicon die. In particular, this book describes: (1) techniques for bug trace minimization that simplify debugging; (2) an RTL error diagnosis method that identifies the root cause of errors directly; (3) a counterexample-guided error-repair framework to automatically fix errors in gate-level and RTL designs; (4) a symmetry-based rewiring technology for fixing electrical errors; (5) an incremental verification system for physical synthesis; and (6) an integrated framework for post-silicon debugging and layout repair. The solutions provided in this book can greatly reduce debugging effort, enhance design quality, and ultimately enable the design and manufacture of more reliable electronic devices.

Features
- Comprehensive scope and solutions: from RTL to post-silicon debugging
- The innovative techniques covered in this book are recent and have been featured by MIT Technology Review, EE Times, SCD Source, IEEE Computer, and other sources

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

Target groups
Engineers in EDA companies planning to develop automatic debugging tools, companies that wish to automate their debugging flows, semiconductor companies facing post-silicon debugging challenges, researchers and students that wish to learn state-of-the-art circuit debugging algorithms

Discount group
P
Language-driven Exploration and Implementation of Partially Re-configurable ASIPs

Increasing complexity of modern embedded systems demands system designers to ramp up their design productivity without compromising performance goals. This is promoted by modern Electronic System Level (ESL) techniques. Language-driven Exploration and Implementation of Partially Re-configurable ASIPs addresses an important segment of the ESL area by modeling partially re-configurable processors via high-level Architecture Description Language (ADL). This approach also hints at imminent evolution in the area of re-configurable system design.

Features
- Presents a strong background and various perspectives of partially re-configurable processor design
- Goes through the history of partially re-configurable processor evolution, making the reader knowledgeable about the past research as well as the roadblocks faced over time

Contents
1 Introduction. 2 Background. 3 Related Work. 4 rASIP Design Space. 5 Pre-fabrication Design Space Exploration. 6 Pre-fabrication Design Implementation. 7 Post-fabrication Design Space Exploration and Implementation. 8 Case Study. 9 Past, Present, and Future.

Fields of interest
Circuits and Systems; Special Purpose and Application-Based Systems

Target groups
Professionals, engineering heads (CTO, VP) of the EDA /ESL industry, researchers in the area of microprocessor design, EDA tools, ESL tools and reconfigurable system design

Discount group
P

Humans in Outer Space - Interdisciplinary Odysseys

The space-faring nations are heading for the human exploration of the Moon, Mars and Near-Earth Objects. They might be soon prepared with regard to technology development. But they also need to benefit from the humanities (history, philosophy, anthropology), the arts as well as the social sciences (political science, economics, law) for mastering this immense endeavour. The European Science Foundation (ESF), the European Space Agency (ESA), and the European Space Policy Institute (ESPI) have organised the first comprehensive trans-disciplinary dialogue on humans in outer space. It investigates the human quest for odysseys beyond Earth’s atmosphere and reflects on the implications of the findings of extra-terrestrial life. The articles in this book present, for the first time, a comprehensive analysis by all relevant disciplines responding to the questions of how, why and with what goals humans explore outer space.

Features
- Unique interdisciplinary approach to space matters perspectives by prominent experts bridge between hard sciences, social sciences and humanities

Fields of interest
Political Science

Target groups
Space engineers and scientists, political scientists, policy analysts, think tanks

Discount group
P
An introduction to structural optimization

This textbook gives an introduction to all three classes of geometry optimization problems of mechanical structures: sizing, shape and topology optimization. The style is explicit and concrete, focusing on problem formulations and numerical solution methods. The treatment is detailed enough to enable readers to write their own implementations. On the book's homepage, programs may be downloaded that further facilitate the learning of the material covered. The mathematical prerequisites are kept to a bare minimum, making the book suitable for undergraduate, or beginning graduate, students of mechanical or structural engineering. Practicing engineers working with structural optimization software would also benefit from reading this book.

Features
- Introductory text that covers all three basic classes of geometry optimization problems of mechanical structures: size, shape as well as topology optimization
- The mathematics is kept at an elementary level
- The algorithms are described in sufficient detail to enable readers to make their own implementations

Fields of interest
Engineering Design; Structural Mechanics; Optimization

Target groups
Graduate and final year undergraduate students of mechanical and civil engineering

Discount group
P

Future Spacecraft Propulsion Systems
Enabling Technologies for Space Exploration

In this second edition of Future Spacecraft Propulsion Systems, the authors demonstrate the need to break free from the old established concepts of expendable rockets, using chemical propulsion, and to develop new breeds of launch vehicle capable of both launching payloads into orbit at a dramatically reduced cost and for sustained operations in low-Earth orbit. The next steps to establishing a permanent ‘presence’ in the Solar System beyond Earth are the commercialisation of sustained operations on the Moon and the development of advanced nuclear or high-energy space propulsion systems for Solar System exploration out to the boundary of interstellar space.

In the future, high-energy particle research facilities may one day yield a very high-energy propulsion system that will take us to the nearby stars, or even beyond. Space is not quiet: it is a continuous series of nuclear explosions that provide the material for new star systems to form and provide the challenge to explore.

Features
- Updates and expands the information in the first edition of Future Spacecraft Propulsion Systems
- Includes new material on fusion propulsion
- Puts spacecraft propulsion in perspective, from earth orbit launchers to astronomical/space exploration vehicles
- Demonstrates the logical expansion of propulsion concepts
- Looks at the design limitations imposed by the mission requirements

Fields of interest
Astronomy; Astrophysics

Target groups
Researchers, designers, and professionals working in industrial space research, private companies, and government agencies; legislators

Discount group
P

Fuzzy Rationality
A Critique and Methodological Unity of Classical, Bounded and other Rationalities

This monograph is special in its orientation. It is first of its kind devoted to bringing to the general scientific community, the epistemic foundation of fuzzy paradigm composed of its logic and mathematics of reasoning. It is first of a sequence of treaties on fuzzy decision-choice rationality. The monograph presents the structure of general rationality and points of entry of classical, bounded and related rationalities. Fuzzy decision-choice rationality is then introduced as a critique and methodological unity of classical and bounded rationalities.

Features
- Establishes an essential epistemic framework of fuzzy paradigm and the rationality that it induces for approximate reasoning
- Presents the theory and knowledge of how fuzzy paradigm instructs us in our understanding of cognitive movements from categories of potential to categories of actual
- Describes the role that fuzzy rationality plays in our information-knowledge enterprise

Contents

Fields of interest
Appl. Mathematics/Computational Methods of Engineering; Artificial Intelligence (incl. Robotics); Logic

Target groups
Researchers, engineers, graduate students in fuzziness, soft computing, philosophy

Discount group
P
**Epistemic Foundations of Fuzziness**  
**Unified Theories on Decision-Choice Processes**  

This monograph is a second in the series of treatment on fuzzy rationality as an enveloping of decision-choice rationalities where limited information, vagueness, ambiguities and inexactness are essential characteristics of our knowledge structure and reasoning process. The volume is devoted to a unified epistemic models and theories of decision-choice under total uncertainties.

**Features**
- Presents the essential structure of optimal fuzzy rationality in decision-choice actions and its philosophical and mathematical foundations
- Defines a framework for unified epistemic models of decision-choice processes
- Focuses on theory of knowledge and the role of fuzzy paradigm and fuzzy rationality

**Contents**

**Fields of interest**
- Appl. Mathematics/Computational Methods of Engineering; Artificial Intelligence (incl. Robotics); Logic

**Target groups**
- Researchers, engineers, graduate students in fuzzines, soft computing, philosophy

**Discount group**
P

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**Fuzziness and Approximate Reasoning**  
**Epistemics on Uncertainty, Expectation and Risk in Rational Behavior**

This monograph is special in its orientation and contribution to current state of our understanding of decision-choice process and knowledge production. Its special orientation is to bring to the scientific community the discussions on the epistemic structure of the relationships among uncertainty, expectations, risk, possibility, probability and how the rules of fuzzy paradigm and the methods of fuzzy rationality bring new and different understanding to the relationships. At the level of theory of knowledge, it presents the structure and epistemic analysis of uncertainty, expectations and risk in decision-choice actions through the characteristics of substitution-transformation and input-output processes in categorical dynamics of actual-potential duality.

**Features**
- Develops an epistemic framework for understanding fuzzy paradigm and fuzzy optimal decision-choice rationality
- Focuses on unified epistemic models of decision-choice processes

**Contents**

**Fields of interest**
- Appl. Mathematics/Computational Methods of Engineering; Artificial Intelligence (incl. Robotics); Logic

**Target groups**
- Researchers, engineers, graduate students in fuzziness, soft computing, philosophy

**Discount group**
P

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**The Language of Design**  
**Theory and Computation**

“The Language of Design” articulates the theory that there is a language of design. Drawing upon insights from computational language processing, the language of design is modeled computationally through latent semantic analysis (LSA), lexical chain analysis (LCA), and sentiment analysis (SA). The statistical co-occurrence of semantics (LSA), semantic relations (LCA), and semantic modifiers (SA) in design text is used to illustrate how the reality producing effect of language is itself an enactment of design, allowing a new understanding of the connections between creative behaviors. The computation of the language of design makes it possible to make direct measurements of creative behaviors which are distributed across social spaces and mediated through language. The book demonstrates how machine understanding of design texts based on computation over the language of design yields practical applications for design management.

**Features**
- Demonstrates how machine understanding of design texts, based on computation over the language of design, yields practical applications for design management

**Contents**

**Fields of interest**
- Computer-Aided Engineering (CAD, CAE) and Design; Engineering Design; Industrial Design

**Target groups**
- Postgraduates and researchers studying design theory and management, and allied disciplines such as artificial intelligence, organizational behavior, and human factors and ergonomics

**Discount group**
P
Changeable and Reconfigurable Manufacturing Systems

"Changeable and Reconfigurable Manufacturing Systems" discusses key strategies for success in the changing manufacturing environment. Changes can often be anticipated but some go beyond the design range, requiring innovative change enablers and adaptation mechanisms. The book presents the new concept of Changeability as an umbrella framework that encompasses paradigms such as agility, adaptability, flexibility and reconfigurability. It provides the definitions and classification of key terms in this new field, and emphasizes the required physical/hard and logical/soft change enablers. The book presents cutting edge technologies and the latest research, as well as future directions to help manufacturers stay competitive. It contains original contributions and results from senior international experts, together with industrial applications. The book serves as a comprehensive reference for professional engineers, managers, and academics in manufacturing, industrial and mechanical engineering.

Features
- The first book to deal with the new concept of changeability of manufacturing systems and its physical and logical technological enablers

Fields of interest
- Manufacturing, Machines, Tools; Quality Control, Reliability, Safety and Risk; Engineering Economics, Organization, Logistics, Marketing

Target groups
- Researchers, postgraduates, and senior undergraduates in industrial, mechanical, and manufacturing engineering; industrial professionals (senior and mid-level managers as well as specialists); consultants to industry

Discount group
- P

The Automotive Chassis

Volume 1: Components Design

The aim of the book is to be a reference book in automotive technology, as far as automotive chassis (i.e. everything that is inside a vehicle except the engine and the body) is concerned. The book is a result of a decade of work heavily sponsored by the FIAT group (who supplied material, together with other automotive companies, and sponsored the work). The first volume deals with the design of automotive components and the second volume treats the various aspects of the design of a vehicle as a system.

Features
- There is no book covering the whole range covered by this book

From the contents

Fields of interest
- Automotive and Aerospace Engineering; Machinery and Machine Elements; Engineering Design

Target groups
- Automotive engineering students and engineers in industry, as a handbook and reference book

Discount group
- P

The Automotive Chassis

Volume 2: System Design

This work serves as a reference concerning the automotive chassis, i.e. everything that is inside a vehicle except the engine and the body. It is the result of a decade of work mostly done by the FIAT group, who supplied material, together with other automotive companies, and sponsored the work. The first volume deals with the design of automotive components and the second volume treats the various aspects of the design of a vehicle as a system.

Features
- Covers both theoretical and the practical aspects
- Deals with updated points like numerical modelling and virtual prototyping
- Contains a large number of illustrations showing the design of actual components and systems, from many different manufacturers, together with worked numerical examples

From the contents

Fields of interest
- Automotive and Aerospace Engineering; Machinery and Machine Elements; Engineering Design

Target groups
- Automotive engineering students and engineers in industry

Discount group
- P
The effectiveness of management of any type of organization depends largely on the effectiveness of the decisions made at the various levels of the organization, their timeliness, resourcefulness and efficiency.

New developments in information technology offer opportunities for greatly improving the decision making and as a result operational processes at all levels of an organization. New real time information management systems permit delegation of many decision management functions to the lowest competent level in an organization and thereby not only eliminate the need for some middle management or intermediate functions, but also assure much more responsive and informed operational management.

**Features**
- Provides a practical and readily implementable approach to improvements in organizational management, enhancement of job satisfaction, and introduction of more responsive organizations capable of efficient change so as to follow new developments in demand, technology, business or market environments, and social relationships.

**Fields of interest**
- Quality Control, Reliability, Safety and Risk;
- Communications Engineering, Networks;
- Engineering Economics, Organization, Logistics, Marketing

**Target groups**
- Managers, manufacturers, students of business administration, consultants, government officials, business communication specialists, the educated public, and investors

**Discount group**
- P

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**Advancements in Electric Machines**

This book discusses the state-of-the art of electric machines, associated components and contemporary trends of their development. Novel electric machines considered in this book have been limited to rotary electric machines. Linear electric machines and linear actuators have not been included.

This volume has three main objectives: (1) Firstly, to promote electrical machines as the most popular machines of everyday life and increase awareness in this area; (2) Secondly, to stimulate innovations in electrical machines and electro-mechanical drives; (3) Thirdly, to help educators revitalize Power Engineering curricula and change research strategy towards what industry and mankind needs.

**Features**
- No book on advancements in electric machines has been published so far.
- Trends and future development of electric machines are predicted.

**From the contents**
- Introduction.
- Why electric machines continue to naturally grow.
- Material engineering.
- High power density machines.
- High speed machines.
- Other type of novel motors.
- Electric motors for medical and clinical applications.
- Generators for portable power applications.
- Superconducting electric machines.
- Naval electric machines.
- Scenario for nearest future. Abbreviations. Index.

**Fields of interest**
- Power Engineering; Mechanical Engineering; Control Engineering

**Target groups**
- Electrical, electronic, control, mechanical and electromechanical engineers and executives involved in the applications, technology, and innovations in electrical machines; an important resource for researchers, professors, businessmen, graduate students and all enthusiasts of electrotechnology.

**Discount group**
- P

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**Multi-Objective Memetic Algorithms**

The application of sophisticated evolutionary computing approaches for solving complex problems with multiple conflicting objectives in science and engineering have increased steadily in the recent years. Within this growing trend, Memetic algorithms are, perhaps, one of the most successful stories, having demonstrated better efficacy in dealing with multi-objective problems as compared to its conventional counterparts. Nonetheless, researchers are only beginning to realize the vast potential of multi-objective Memetic algorithm and there remains many open topics in its design.

This book presents a very first comprehensive collection of works, written by leading researchers in the field, and reflects the current state-of-the-art in the theory and practice of multi-objective Memetic algorithms.

**Features**
- Recent research on Multi-objective Memetic Algorithms

**From the contents**
- Part I Introduction Evolutionary Multi-Multi-Objective Optimization – EMMOO.
- Part II Knowledge Infused in Design of Problem-Specific Operators Solving Time-Tabling Problems using Evolutionary Algorithms and Heuristics Search.
- Part III Knowledge Propagation through Cultural Evolution Risk and Cost Tradeoff In Economic Dispatch Including Wind Power Penetration Based on Multi-objective Memetic Particle Swarm Optimization.

**Fields of interest**
- Appl. Mathematics/Computational Methods of Engineering; Artificial Intelligence (incl. Robotics)

**Target groups**
- Engineers, researchers, and graduate students in computational intelligence and computer science and memetic algorithms.

**Discount group**
- P

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| $179.00 |
| SBN 978-1-4020-8995-4 |

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**Engineering**

**Due February 2009**

| $199.00 |
| SBN 978-3-540-88050-9 |

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New Series

Evolutionary Learning and Optimization

Series editors: M. Lim, Y. Ong

The past 3 decades have witnessed a tremendous growth in evolutionary learning and optimization and related research. Evolutionary Learning and Optimization (ELO) involves Techniques including genetic algorithms/evolutionary algorithms, neural networks, Ant colony optimization, tabu search, simulated annealing, particle Swarm optimization, etc. While these techniques are usually able to address the problems that are configured to tackle complex problems well, researchers are beginning to realize that such techniques are often problem-specific in nature.

Furthermore, it is becoming “fashionable” to combine two or more techniques of computational intelligence in the hope that the hybridization will result in synergistic alliance of strategies for problem-solving. In recent years, it has become generally accepted that most of these hybridizations do indeed have one common trait. They usually involve some form of knowledge enhancement or learning incorporated in the system, giving rise to progressive performance improvement. Such learning is then used as a basis to influence the transitional solution states of the search process. Another trend that is evident is that the hybridization is not only confined within the realm of stochastic search techniques. The realization that conventional search techniques and specialized heuristics are often necessary to augment the stochastic approaches is becoming evident. Conventional and heuristics optimization techniques extend the reach of stochastic approaches by virtue of its rigorous emphasis on precision and efficiency. Besides, the richness of classical optimization techniques and heuristics provides a whole new dimension when coupled with modern stochastic evolutionary techniques.

This book series aims to bridge the dichotomy of modern evolutionary techniques, conventional optimization approaches and heuristics. It propels the maxim that the old and the new can come together and be combined synergistically to scale new heights in problem-solving. To reach such a level, numerous research issues will emerge and researchers will find the book series a convenient medium to track the progresses made.

Features
► Provides a comprehensive coverage of the Extreme Learning Machine (ELM)
► Includes derivations and proofs of the theorems and its universal approximation properties

Fields of interest
Appl. Mathematics/Computational Methods of Engineering; Artificial Intelligence (incl. Robotics); Applications of Mathematics

Target groups
Researchers, engineers; graduate students in evolutionary computation and computer science

Discount group
P

Extreme Learning Machine

This book introduces the newly developed Extreme Learning Machine (ELM) including its theories and learning algorithms. ELM is a unified framework of broad type of generalized single-hidden layer feedforward networks. Unlike traditional popular learning methods, ELM requires less human interventions and can run thousands times faster than those conventional methods. ELM automatically determines all the network parameters analytically, which avoids trivial human intervention and makes it efficient in online and real-time applications.

The topics covered in this book are as follow:
Conventional learning theories and learning algorithms; Learning theory of Extreme learning machine; Basic extreme learning machine; Incremental extreme learning machine; Online sequential extreme learning machine; Applications of extreme learning machine.

Source codes for implementing ELM applications in MATLAB will be included for readers to quickly apply the technique.

Features
► The first and only book on the subject with so many engineering applications besides the theory
► Covers not only linear problems of Thermal Stresses, as earlier books do, but nonlinear problems, e.g., contains the whole chapter on Creep Analysis due to Thermal Stresses; this is absolutely unique

Fields of interest
Theoretical and Applied Mechanics; Continuum Mechanics and Mechanics of Materials; Structural Mechanics

Target groups
Advanced textbook and reference for graduate students and PhD candidates of mechanical engineering, civil engineering, aerospace engineering, nuclear engineering, theoretical and applied mechanics, engineering science, and of applied mathematics and engineering physics; also, a handbook on thermal stresses to scientists and practicing engineers

Discount group
P

Due December 2008

► $219.00

Due May 2009

2009. Approx. 200 p. (Evolutionary Learning and Optimization, Volume 1) Hardcover
► approx. $159.00
ISBN 978-3-540-88817-8
Cooperative, collaborating autonomous systems are at the forefront of research efforts in numerous disciplines across the applied sciences. There is constant progress in solution techniques for these systems. However, despite this progress, cooperating systems have continued to be extremely difficult to model, analyze, and solve. Theoretical results are very difficult to come by. Each year, the International Conference on Cooperative Control and Optimization (CCO) brings together top researchers from around the world to present new, cutting-edge, ideas, theories, applications, and advances in the fields of autonomous agents, cooperative systems, control theory, information flow, and optimization. The works in this volume are a result of invited papers and selected presentations at the Eighth Annual International Conference on Cooperative Control and Optimization, held in Gainesville, Florida, January 30 – February 1, 2008.

**Features**
- Proceedings of the 8th International Conference on Cooperative Control and Optimization held in Gainesville, Florida, January 30-February 1, 2008.
- Recent results in the growing field of cooperative autonomous systems.

**Fields of interest**
Control Engineering; Vibration, Dynamical Systems, Control; Systems and Information Theory in Engineering.

**Target groups**
Engineers, researchers, and students in control engineering.

**Discount group**
P

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**Knowledge Processing and Decision Making in Agent-based Systems**

Knowledge processing and decision making in agent-based systems constitute the key components of intelligent machines. The contributions included in the book are: Innovations in Knowledge Processing and Decision Making in Agent-Based Systems; Towards Real-World HTN Planning Agents; Mobile Agent-Based System for Distributed Software Maintenance; Software Agents in New Generation Networks: Towards the Automation of Telecom Processes; Multi-agent Systems and Paraconsistent Knowledge; An Agent-based Negotiation Platform for Collaborative Decision-Making in Construction Supply Chain; An Event-Driven Algorithm for Agents at the Web; A Generic Mobile Agent Framework Toward Ambient Intelligence; Developing Actionable Trading Strategies; Agent Uncertainty Model and Quantum Mechanics Representation; Agent Transportation Layer Adaptation System; Software Agents to Enable Service Composition through Negotiation; Advanced Technology Towards Developing Decentralized Autonomous Flexible Manufacturing Systems.

**Features**
- Contains the latest research in the area of knowledge processing and decision making in agent-based systems.

**Fields of interest**

**Target groups**
Engineers, researchers, and graduate students in Computational Intelligence and Computer Science.

**Discount group**
P

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**Unleash the System On Chip using FPGAs and Handel C**

Unleash the System On Chip using FPGAs and Handel C is an attempt to empower the design community by delivering the ‘know-how’ developed by the authors with their vast experience in VLSI design. The book effectively showcases carving of SoC through (1) ‘Concept to Product’ approach, (2) ‘C’ based methodology at higher level of abstraction, (3) ‘Bottom up & design reuse philosophy’, (4) Edifying with the soft IP cores in Handel C, (5) Pragmatic approach to bridge the gap between design metrics, (6) Synergical approach for combining reconfiguration of FPGAs with soft IP cores, (7) Partial reconfiguration, ‘concurrent hardware software SoC realization’ through Xilinx EDK, (8) ‘Network on Chip’, (9) Co-simulation & integration of third party tools, (10) Development of interesting case studies such as fuzzy logic controllers, arithmetic on chip etc., (11) Cores for control system using ‘picoblaze’, (12) Actual screenshots & step by step design flow.

**Features**
- Addresses the proliferation of ‘SoC’ a technology of immense importance.
- Ready made Soft IP Cores given in Handel C.
- Presents Know-how for accelerated design and enhanced productivity.
- Design case studies realized using Industry Standard and Leading EDA Tools.
- Covers important concepts such as Network On Chip, Fuzzy Controller, IP cores etc.

**Fields of interest**
Circuits and Systems; Special Purpose and Application-Based Systems.

**Target groups**
Soc designers from industry, academia, research professionals in VLSI, computer science, electronics, electrical engineering, graduate and postgraduate students of electronics engineering, electrical engineering, systems engineering, VLSI engineering, mechatronics, computer engineering.

**Discount group**
P

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**Unleash the System On Chip using FPGAs and Handel C**

Unleash the System On Chip using FPGAs and Handel C is an attempt to empower the design community by delivering the ‘know-how’ developed by the authors with their vast experience in VLSI design. The book effectively showcases carving of SoC through (1) ‘Concept to Product’ approach, (2) ‘C’ based methodology at higher level of abstraction, (3) ‘Bottom up & design reuse philosophy’, (4) Edifying with the soft IP cores in Handel C, (5) Pragmatic approach to bridge the gap between design metrics, (6) Synergical approach for combining reconfiguration of FPGAs with soft IP cores, (7) Partial reconfiguration, ‘concurrent hardware software SoC realization’ through Xilinx EDK, (8) ‘Network on Chip’, (9) Co-simulation & integration of third party tools, (10) Development of interesting case studies such as fuzzy logic controllers, arithmetic on chip etc., (11) Cores for control system using ‘picoblaze’, (12) Actual screenshots & step by step design flow.

**Features**
- Addresses the proliferation of ‘SoC’ a technology of immense importance.
- Ready made Soft IP Cores given in Handel C.
- Presents Know-how for accelerated design and enhanced productivity.
- Design case studies realized using Industry Standard and Leading EDA Tools.
- Covers important concepts such as Network On Chip, Fuzzy Controller, IP cores etc.

**Fields of interest**
Circuits and Systems; Special Purpose and Application-Based Systems.

**Target groups**
Soc designers from industry, academia, research professionals in VLSI, computer science, electronics, electrical engineering, graduate and postgraduate students of electronics engineering, electrical engineering, systems engineering, VLSI engineering, mechatronics, computer engineering.

**Discount group**
P
Knowledge-Based Neurocomputing: A Fuzzy Logic Approach

Artificial neural networks (ANNs) serve as powerful computational tools in a diversity of applications including: classification, pattern recognition, function approximation, and the modeling of biological neural networks. Equipped with procedures for learning from examples, ANNs can solve problems for which no algorithmic solution is known.

In this monograph, the authors introduce a novel FRB, referred to as the Fuzzy All-permutations Rule-Base (FARB). They show that inferring the FARB, using standard tools from fuzzy logic theory, yields an input/output relationship that is mathematically equivalent to that of an ANN. Conversely, every standard ANN has an equivalent FARB. They provide the explicit bidirectional transformation between the ANN and the corresponding FARB.

Features
- Presents the state of the art in knowledge-based neurocomputing
- Presents a new connection between artificial neural networks (ANNs) and a special fuzzy rule-base - the all permutations fuzzy rule-base (FARB)

Contents
Introduction.- The FARB.- The FARB-ANN Equivalence.- Rule Simplification.- Knowledge Extraction Using the FARB.- Knowledge-Based Design of ANNs.- Conclusions and Future Research.- A Proofs.- B Details of the LED Recognition Network.

Fields of interest

Target groups
- Researchers, engineers, graduate students in fuzziness and neurocomputing

Discount group
- P

Tools and Applications with Artificial Intelligence

In recent years, the use of Artificial Intelligence (AI) techniques has been greatly increased. The term “intelligence” seems to be a “must” in a large number of European and International project calls. AI Techniques have been used in almost any domain. Application-oriented systems usually incorporate some kind of “intelligence” by using techniques stemming from intelligent search, knowledge representation, machine learning, knowledge discovery, intelligent agents, computational intelligence etc. The Workshop on “Applications with Artificial Intelligence” seeks for quality papers on computer applications that incorporate some kind of AI technique. The objective of the workshop was to bring together scientists, engineers and practitioners, who work on designing or developing applications that use intelligent techniques or work on intelligent techniques and apply them to application domains (like medicine, biology, education etc.), to present and discuss their research works and exchange ideas in this book.

Features
- Latest research results of tools and applications with Artificial Intelligence
- Outcome of the International Workshop on Applications with Artificial Intelligence held in Patras, Greece, October 29-31 2007

Fields of interest

Target groups
- Engineers, researchers, and graduate students in computational intelligence and machine learning

Discount group
- P

Structural Complexity Management

An Approach for the Field of Product Design

Product design is characterized by a steady increase in complexity. The main focus of this book is a structural approach on complexity management. This means, system structures are considered in order to address the challenge of complexity in all aspects of product design. Structures arise from the complex dependencies of system elements. Thus, the identification of system structures provides access to the understanding of system behavior in practical applications. The book presents a methodology that enables the analysis, control and optimization of complex structures, and the applicability of domain-spanning problems. The methodology allows significant improvements on handling system complexity by creating improved system understanding on the one hand and optimizing product design that is robust for system adaptations on the other hand. Developers can thereby enhance project coordination and improve communication between team members and as a result shorten development time.

Features
- Approach to the major shortcomings of existing methods and the applicability of comprehensive and domain-spanning problems
- Network visualization in graphs and matrices have been enhanced in order to allow for better system understanding and user interaction
- Practical procedures for the analysis, control, and optimization of complex system structures have been generated

Fields of interest
- Complexity; Engineering Design; Engineering Economics, Organization, Logistics, Marketing

Target groups
- Engineers, business manager

Discount group
- P
Current Technology Developments of WiMax Systems

Recent developments on wireless communication technology have resulted in tremendous innovations to make broadband wireless networks able to compete with 3G cellular network. IEEE 802.16X standards have not only specified WiMax wireless access networks but also designed a framework of wireless metropolitan area networks with mobility functionality. It is obvious that with further development of various WiMax technologies, wide range of high-quality, flexible wireless mobile applications and services could be provided, which will revolutionarily improve our modern life to achieve the goal of accessing the global information at any place and at any time by any mobile device in the future. Current Technology Developments of WiMax Systems addresses the recent developments of WiMax technologies for both academia and industry. It is expected to be a good reference for further research and development on WiMax systems.

Features
- Is on current hot topic of WIMAX in communications and networking
- Reflects the current progress on WiMAX technology
- Provides tutorials on WiMAX to researchers
- Has proposals and solutions as examples to engineering
- Covers wide a range of issues relevant to WiMAX networks

Fields of interest
Communications Engineering, Networks; Computer Communication Networks

Target groups
Academic researchers, university faculties and research students, engineers and who are interested in wireless communications and networking

Discount group
P

Design of Ship Hull Structures
A Practical Guide for Engineers

In this book, the four authors show us the condensed experience how to design ship hull structures from a practical viewpoint. In three parts, the book presents the fundamentals, the theory and the application of structural design of hulls. The topics are treated comprehensively with an emphasis on how to achieve reliable and efficient ship structures. The authors have in particular introduced their experiences with the rapid increase of ship sizes as well as the introduction of ship types with a high degree of specialization. The associated early failures of these “new” structures have been analyzed to provide the readers with illustrations why structural design needs to be carried out on several levels in order to ensure that correct loading is applied and that local structural behaviour is properly understood.

Features
- Written from the practical design viewpoint
- Comprehensive guide through all parts of the general arrangement plan
- Condenses the experiences of three generations of ship designers

Contents

Fields of interest
Engineering Design; Structural Mechanics

Target groups
Designers of ship hull structures; students

Discount group
P

Simulation-based Case Studies in Logistics
Education and Applied Research

"Simulation-based Case Studies in Logistics" presents an intensive learning course on the application of simulation as a decision support tool to tackle complex logistic problems. The book describes and illustrates different approaches to developing simulation models at the right abstraction level to be used efficiently by engineers when dealing with strategic, tactical or operational decisions in logistic systems. 11 simulation-based case studies in logistics and supply chain management are discussed, based on the results of applied research, covering application areas such as production logistics, warehousing, transportation, material flow management, and hospital logistics. "Simulation-based Case Studies in Logistics" is an essential text for postgraduate engineering students and researchers working in the area of logistics modeling and simulation.

Features
- Provides an intensive learning course on the application of simulation as a decision support tool to tackle complex logistic problems
- Extensive case studies allow students to follow and integrate the typical phases of a simulation-based study that leads to problem-solving

From the contents

Fields of interest
Engineering Economics, Organization, Logistics, Marketing; Production/Logistics; Simulation and Modeling

Target groups
Postgraduate students involved in simulation and modelling in logistics, supply chain management, and manufacturing systems

Discount group
P
Innovative Applications in Data Mining

Data mining consists of attempting to discover novel and useful knowledge from data, trying to find patterns among datasets that can help in intelligent decision making. However, reports of real-world case studies are not generally detailed in the literature, due to the fact that they are usually based on proprietary datasets, making it impossible to publish the results. This kind of situation makes hard to evaluate, in a precise way, the degree of effectiveness of data mining techniques in real-world applications. On the other hand, researchers of this field of expertise usually exploit public-domain datasets. This volume offers a wide spectrum of research work developed for data mining for real-world application. In the following, we give a brief introduction of the chapters that are included in this book.

Features
- Recent advances in data mining

Contents

Fields of interest
Appl. Mathematics/Computational Methods of Engineering: Artificial Intelligence (incl. Robotics)

Target groups
Researchers, engineers, graduate students in computational intelligence

Discount group
P

Intelligent Agents in the Evolution of Web and Applications

The book presents the innovative research on the theory and applications of the use of intelligent agents in the evolution of Web. Recent advances in the fusion of intelligent agents and their applications have generated tremendous interest among researchers and application engineers in this area. The Web has become an integral part of society and is expanding rapidly. It is useful to integrate modern intelligent paradigms such as intelligent agents with the web technology to fuse human-like behaviour in the web. It is planned to evolve this book in three volumes. The provisional contents in this book will be based on intelligent agents in Web's knowledge processing, knowledge search and navigation, events handling, decision making and reasoning.

Features
- Contains the latest research in the area of fusion of intelligent agents with web technology and applications

Contents

Fields of interest
Appl. Mathematics/Computational Methods of Engineering: Artificial Intelligence (incl. Robotics)

Target groups
Engineers, researchers, and graduate students in computational intelligence and computer science

Discount group
P

Biofuels for Road Transport
A Seed to Wheel Perspective

“Biofuels for Road Transport: A Seed to Wheel Perspective” provides a review of the history, the current status and perspectives for biofuels used in road transport, across the full ‘seed-to-wheel’ life cycle of these fuels. Successive chapters cover the history of biofuels; the first- and second-generation liquid fuels and biofuels for powering electric vehicles; fossil fuel replacement, land requirement, greenhouse gas balances and environmental burdens of ethanol, esters derived from fatty acids (‘biodiesel’), Fischer-Tropsch diesel and HTU diesel; competing technologies (fossil fuels, increases in energy-efficiency and photovoltaic power) and how they compare to biofuels; and the perspectives for biofuels. Cost, availability, technological development, competition with biomass for food and for soil organic carbon and environmental perspectives are also discussed.

Features
- Provides a science-based view of current biofuels for road transport, and their future
- Topic is approached from a ‘seed-to-wheel’ perspective covering the full life cycle of the biofuel

Contents

Fields of interest
Renewable Energy Sources; Automotive and Aerospace Engineering; Environmental Engineering/ Biotechnology

Discount group
P
Fatigue of Structures and Materials

This book is primarily a textbook written for people working on fatigue problems of engineering structures and materials associated with design, predictions, load spectra and experimental verifications. Many different fields of interest are involved, as the block diagram on the front cover indicates. It is of great importance that all these aspects are well recognized and understood. The author explains the various topics in a number of chapters. Understanding of the fatigue phenomena covering both crack initiation and crack growth is emphasized in view of possible influences of design variables, material selection, production technology and load spectra on the fatigue performance of a structure. Prediction methods for fatigue lives and fatigue crack growth are discussed as well as verification by experiments. Load spectra analysis and statistical aspects are also addressed.

Features

► The updated version of a textbook that has proved its worth over the years  ► The added CD-ROM will be a valuable tool for a new generation of students

Fields of interest

Mechanical Engineering; Engineering Design; Structural Mechanics

Target groups

Persons in structural design offices, testing laboratories, teachers, researchers on fatigue problems and students

Discount group

P

Threats, Risks, and Sustainability

Answers by Space

Development is challenged by, at least until 2050, a strong population growth, more severe environmental strains, growing mobility, and dwindling energy resources. All these factors will lead to serious consequences for humankind. Inadequate agricultural resources, water supply and non-renewable energy sources, epidemics, climate change, and natural disasters will further heavily impact human life. European Space Policy Institute (ESPI), sheds a new light on threats, risks and sustainability by combining approaches from various disciplines. It analyzes what could be the contribution of space tools to predict, manage and mitigate those threats. It aims at demonstrating that space is not a niche but has become an overarching tool in solving today's problems.

Features

► Unique interdisciplinary approach to space matters  ► Perspectives by prominent experts

Field of interest

Space Exploration and Astronautics

Target groups

Space engineers and scientists, political scientists, policy analysts

Discount group

P

Sharing a Vision

Systems and Algorithms for Collaboratively-Teleoperated Robotic Cameras

The monograph written by Dezhen Song is focused on a robotic camera simultaneously controlled by multiple online users via the Internet. A challenging match between the collaboratively tele-operated robotic cameras and the needs from nature environment observation is sought, which greatly extends the domain of online robots in both application and technology development directions, including building construction site monitoring, public space surveillance, and distance education. New solutions are proposed which demonstrate the enormous potential of Internet-based infrastructures for immediate success in the market.

Features

► Excellent picture of the State of the Art in collaboratively teleoperated robotic cameras (CTRC)

Contents


Fields of interest

Automation and Robotics; Image Processing; Quantum Optics, Quantum Electronics, Nonlinear Optics

Target groups

Researchers, graduate students and professionals in Robotics, Computer Vision and Multimedia

Discount group

P
Advances in Computational Vision and Medical Image Processing Methods and Applications

The present book contains extended versions of papers presented in the international Conference VIPIMAGE 2007 – ECCOMAS Thematic Conference on Computational Vision and Medical Image, held in Faculdade de Engenharia da Universidade do Porto, in 17–19 of October 2007. This conference was the first ECCOMAS thematic conference on computational vision and medical image processing. It covers topics related with image processing and analysis, medical imaging and computational modeling and simulation, considering their multidisciplinary.

This book collects the state-of-the-art research, methods and new ideas on the subject of computational vision and medical image processing contributing for the development of these areas of knowledge.

Features
► Multidisciplinary  ► A set of papers from international experts  ► Novel methods, techniques and methodologies  ► First ECCOMAS conference concerning imaging processing area

Fields of interest
Computer Imaging, Graphics and Computer Vision; Image Processing; Imaging / Radiology

Target groups
Researchers and students of the related scientific fields, such as image processing and analysis, computational modeling and simulation and medical imaging as well as from several multidisciplinary fields, such as computational vision, computer graphics, computational mechanics, mathematics, physics, and medicine

Discount group
P

Web Mining Applications in E-commerce and E-services

Web mining applications in E-commerce and E-services is a new research direction in the area of web mining. Among all of the possible applications in web research, e-commerce and e-services have been identified as important domains for Web-mining techniques. Web-mining techniques also play an important role in e-commerce and e-service Web sites and services are used. This book therefore collects new developments and high quality researches for the readers of this book to understand the topics of web mining applications in e-commerce and e-services as well as the state of the arts in this area. The chapters in this book include web usage mining and user browsing behavior analysis, semantic web mining, web performance mining, web mining for users’ need understanding, web mining for social network analysis and web mining for P2P services.

Features
► Latest research on web mining applications in E-commerce and E-services

From the contents

Fields of interest
Appl. Mathematics/Computational Methods of Engineering; Artificial Intelligence (incl. Robotics); Information Systems

Target groups
Researchers, engineers, graduate students in computational intelligence, and e-commerce

Discount group
P

Design of Flexible Production Systems Methodologies and Tools

Manufacturing Flexibility is usually seen as the answer to demands in present markets. It can be characterized by short lead times, tight product tolerances, pressure on costs, frequent changes demand and continuous evolution of the technological requirements of the products. However, the competitiveness of a firm can be strongly affected by the burden of capital intensive investments into system flexibility.

Designing optimized manufacturing systems represents a very complex problem. Manufacturing strategy, risk appraisal and management techniques, scenario analysis and system performance evaluation must be jointly taken into account over the system's lifecycle. Moreover, traditional system architectures usually do not represent the most efficient solutions to properly face new production contexts. Dedicated systems are not able to adapt to changes of the product characteristics while flexible systems often offer more flexibility than what is really needed.

Features
► New approach to design flexible manufacturing system architectures (Focused Flexibility Manufacturing Systems-FFMSs) endowed with the right level of flexibility required by the specific production problem  ► Addressed production problems are analyzed by methods and tools giving manufacturing system solutions with flexibility degree tuned on the production problem itself

From the contents

Field of interest
Manufacturing, Machines, Tools

Target groups
Postgraduate students, researchers

Discount group
P
**Complex Systems in Knowledge-based Environments: Theory, Models and Applications**

The book presents the latest research on the theory, models and applications of complex systems in knowledge-based environment. The amount of information is increasing at an exponential rate. Thus, our systems are getting complex day by day. For example the world wide web carries practically infinite information. The real challenge is to reinvent theory to deal with complex systems.

The provisional contents in this book will be based on the theory and practical applications of complex systems in knowledge-based environment. The contents will be based on but not limited to: Advanced Knowledge-Based paradigms in complex systems; Information models and architectures of complex systems; Intelligent agents in complex systems design; Multi-media systems and practical applications.

**Features**
- Presents the latest developments in complex systems in knowledge based environments

**Fields of interest**
Applied Mathematics/Computational Methods of Engineering; Artificial Intelligence (incl. Robotics)

**Target groups**
Researchers, graduate students, and practitioners in computer science and engineering

**Discount group**
P

**Advances in Queueing Theory and Network Applications**

Advances in Queueing Theory and Network Applications presents several useful mathematical analyses in queueing theory and mathematical models of key technologies in wired and wireless communication networks such as channel access controls, Internet applications, topology construction, energy saving schemes, and transmission scheduling. In sixteen high quality chapters, this work provides novel ideas, new analytical models, and simulation and experimental results by experts in the field of queueing theory and network applications.

The text serves as a state-of-the-art reference for a wide range of researchers and engineers engaged in the field of queueing theory and network applications, and can also serve as supplemental material for advanced courses in operations research, queueing theory, performance analysis, traffic theory, as well as theoretical design and management of communication networks.

**Features**
- Most recent advances in and examination of future research activities in queueing theory and network applications
- Five distinct Parts, covering: Queuing Processes, Single-Server Queues, Multiple Queues, Finite-Buffer Queues, and Network Applications
- Self-contained chapters on distinct issues and topics in the field

**Fields of interest**
Communications Engineering, Networks; Systems and Information Theory in Engineering; Operations Research, Mathematical Programming

**Target groups**
Academic and industrial scientists, university professors, engineers, researchers, post-graduate students of computer science and engineering interested in the development and application of queueing theory

**Discount group**
P

**Engineering**

*Due February 2009*

2009. Approx. 400 p. (Studies in Computational Intelligence, Volume 168) Hardcover

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**Engineering**

*Due January 2009*

2009. Approx. 330 p. 20 illus. Hardcover

approx. $109.00  

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**Engineering**

*Due January 2009*

2009. Approx. 400 p. 110 illus. (Series on Integrated Circuits and Systems) Hardcover

$129.00  

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Mining Complex Data

The aim of this book is to gather the most recent works that address issues related to the concept of mining complex data. The whole knowledge discovery process being involved, our goal is to provide researchers dealing with each step of this process by key entries. Actually, managing complex data within the KDD process implies to work on every step, starting from the pre-processing (e.g. structuring and organizing) to the visualization and interpretation (e.g. sorting or filtering) of the results, via the data mining methods themselves (e.g. classification, clustering, frequent patterns extraction, etc.). The papers presented here are selected from the workshop papers held yearly since 2006.

Features
- First publication focusing specifically on mining complex data

Contents
Part I: General aspects of complex data.- Part II: Rules extraction.- Part III: Graph Data Mining.- Part IV: Data Clustering.

Fields of interest
Appl. Mathematics/Computational Methods of Engineering; Artificial Intelligence (incl. Robotics)

Target groups
Researchers, engineers, graduate students in computational intelligence, data mining

Discount group
P
P. Blanchard, D. Volchenkov, University of Bielefeld, Germany

Mathematical Analysis of Urban Spatial Networks

Cities can be considered to be among the largest and most complex artificial networks created by human beings. Due to the numerous and diverse human-driven activities, urban network topology and dynamics can differ quite substantially from that of natural networks and so call for an alternative method of analysis. The intent of the present monograph is to lay down the theoretical foundations for studying the topology of compact urban patterns, using methods from spectral graph theory and statistical physics. These methods are demonstrated as tools to investigate the structure of a number of real cities with widely differing properties: medieval German cities, the webs of city canals in Amsterdam and Venice, and a modern urban structure such as found in Manhattan. Last but not least, the book concludes by providing a brief overview of possible applications that will eventually lead to a useful body of knowledge for architects, urban planners and civil engineers.

Contents
Complex Networks of Urban Environments.- Wayfinding and Affine Representations of Urban Environments.- Exploring Community Structure by Diffusion Processes.- Spectral Analysis of Directed Graphs and Interacting Networks.- Urban Area Networks and Beyond.- Index.

Fields of interest
Complexity; Landscape/Regional and Urban Planning; Cities, Countries, Regions

Target groups
Researchers

Discount group
P

A. Buchleitner, C. Viviescas, M. Tiersch (Eds.)

Entanglement and Decoherence
Foundations and Modern Trends

Entanglement and (de-)coherence arguably define the central issues of concern in present day quantum information theory. Entanglement being a consequence of the quantum mechanical superposition principle for composite systems, a better understanding of the environment-induced destruction of coherent superposition states is required to devise novel strategies for harvesting quantum interference phenomena. The present book collects a series of advanced lectures on the theoretical foundations of this active research field, from mathematical aspects underlying quantum topology to mesoscopic transport theory. All lectures start out from an elementary level and proceed along a steep learning curve. This makes the material particularly suitable for student seminars on the more fundamental theoretical aspects of quantum information, and equally useful as supplementary reading for advanced lectures on this topic.

Contents
Geometry of State Spaces.- Basic Concepts of Entangled States.- Topology and Quantum Computing.- Entanglement in Phase Space.- Introduction to Decoherence Theory.- Diffusive Spin Transport.- Index.

Fields of interest
Quantum Computing, Information and Physics; Quantum Physics; Information and Communication, Circuits

Target groups
Graduate students, lecturers, researchers

Discount group
P

B. Castellani, Kent State University, Ashtabula, OH, USA; F. W. Hafferty, University of Minnesota, Duluth, MN, USA

Sociology and Complexity Science
A New Field of Inquiry

Sociology and Complexity Science is the first book in over a decade to survey the cutting-edge research taking place at the intersection of complexity science and sociology, including such innovative areas as computational sociology, the new science of networks, sociocybernetics, new social systems theory, and the British-based school of complexity. Sociology and Complexity also showcases a new method for studying social complexity, called the Social Systems Toolbox (SST). The SST is a toolbox of “working” concepts and procedural techniques crated to help researchers assemble their own model of a social system. The concepts are specifically designed to give researchers a practical framework for organizing their empirical inquiries into the structure and dynamics of most social systems. Another notable feature of our book is its companion website, an internet-based resource for learning about the theories, concepts, and methods of complexity science and its integration with sociology.

Features
► Surveys all the major areas involved in the integration of sociology and complexity science
► Useful for researchers in complexity and sociologists
► Presenting real life application of the theory of complex nonlinear systems to sociology
► Includes working concepts and a companion website

Fields of interest
Complexity; Sociology; Vibration, Dynamical Systems, Control

Target groups
Researchers, engineers, graduate students in nonlinear dynamics, complexity, sociology

Discount group
P
This book is the first comprehensive introduction to X-ray and neutron reflectivity techniques and illustrates them with many examples. After a pedagogical introduction on the interaction of X-rays and neutrons with matter, the interplay between the statistics of rough surfaces and interfaces and the scattering of radiation is considered in detail. Specular reflectivity and diffuse scattering are discussed next, in chapters 3 and 4. The approximations are rigorously introduced and many experimental effects are discussed. The specific aspects of neutron reflectivity require separate treatment, given in chapter 5. Chapter 6 turns to X-ray reflectivity by rough multilayers. Eventually, chapter 7 introduces and discusses the by now well-established method of grazing incidence small angle X-ray scattering to investigate nanostructures.

Contents

Fields of interest
Solid State Physics and Spectroscopy; Surfaces and Interfaces, Thin Films; Characterization and Evaluation Materials

Target groups
Graduate students, lecturers, researchers

Discount group
P

The monograph describes behavior of cosmic rays (CR) mostly in magnetosphere of the Earth's and concisely of some other planets. This problem became very important last time both theoretically because it closely connected with the Earth's Magnetosphere Physics (by CR may be checked different magnetospheric models) and practically (CR determined sufficient part of space weather effects on satellites and aircrafts). The book contains eight chapters, in which are considered history on CR geomagnetic effects discovery and its importance for determining of the nature of CR (energetic charged particles or gamma rays, see Chapter 1), the first explanations of geomagnetic effects in the frame of dipole approximation of the Earth's magnetic field (Chapter 2), trajectory computations of cutoff rigidities, transmittance functions, asymptotic directions, and acceptance cones in real geomagnetic field with taking into account higher harmonics (Chapter 3).

From the contents

Fields of interest
Astronomy, Astrophysics and Cosmology; Astronomy; Astrophysics

Target groups
Experts and students in CR research, solar-terrestrial physics, magnetosphere physics, and space physics

Discount group
P
The Kinetic Theory of Inert Dilute Plasmas

This book results from recent studies aimed at answering questions raised by astrophysicists who use values of transport coefficients that are old and often unsatisfactory. The few books dealing with the rigorous kinetic theory of a ionized plasma are based on the so called Landau (Fokker-Planck) equation and they seldom relate the microscopic results with their macroscopic counterpart provided by classical non-equilibrium thermodynamics. In this book both issues are thoroughly covered. Starting from the full Boltzmann equation for inert dilute plasmas and using the Hilbert-Chapman-Enskog method to solve the first two approximations in Knudsen’s parameter, we construct all the transport properties of the system within the framework of linear irreversible thermodynamics. This includes a systematic study of all possible cross effects (which, except for a few cases, were never treated in the literature) as well as the famous H-theorem.

Features
- Unified formalism to deal with dilute non-equilibrium plasmas
- Deep analysis of the physical content of magneto-hydrodynamics
- Unravels the strong relationship between micro- and macroscopic features of plasmas
- Illustrates the influence of magnetic fields in plasma kinetic theory

Fields of interest
Atoms and Molecules in Strong Fields, Plasma Physics; Thermodynamics; Astrophysics

Target groups
Graduate students and researchers in physics, mathematics and astrophysics, working on plasmas, and astrophysical problems

Discount group
P

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Handbook of Stochastic Methods
For the Natural and Social Sciences

This classic text and reference collects, in simple language and deductive form, the many formulae and methods that can be found in the scientific literature on stochastic methods. To be useful to students and practitioners as a practical tool, the book is written without excessive mathematical rigour, yet restricted to those methods and approximations thereof, that can be systematized and controlled in a quantitative way. Over time, new editions have been expanded in scope for a widening readership that now encompasses all of the quantitative natural and social sciences. This fourth edition has been thoroughly updated and restructured, and features a large amount of entirely new material, including but not limited to aspects of driven stochastic systems, the application and validity of simulation methods as well as applications to financial markets.

Features
- The leading reference text in the field for many years and continuously updated and expanded
- Features new sections and chapters on quantitative finance, adiabatic elimination and simulation methods
- Rewritten in many places for better clarity and more in-depth mathematical exposition

From the contents

Fields of interest
Stochastic Physics; Complexity; Game Theory/Mathematical Methods

Target groups
Students, practitioners

Discount group
P

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Lecture Notes on the General Theory of Relativity
From Newton’s Attractive Gravity to the Repulsive Gravity of Vacuum Energy

This book is the result of more than twenty years of lecturing a master course on the General Theory of Relativity at the University of Oslo, Norway, by Dr. Øyvind Grøn. The text has been continuously updated by Dr. Grøn and is written so students can follow the deductions all the way throughout the book. The conceptual content of the general theory of relativity is presented briefly but reasonably and completely. Both bachelor students and master students will find the text useful as the manuscript is organized to easily find the topics one wants to read about, with separate lists of contents, figures, definitions, examples, and an index.

Features
- Text is a brief yet complete introduction to general relativity, continuously revised so that the lectures and the text are as up to date as possible
- The ideal student book for a course in general relativity, written by an author who has been complimented in several book reviews for writing comprehensive texts on general relativity
- Suited for self study of general relativity and is an understandable and comprehensive text on the subject

From the contents
Newton’s law of universal gravitation.- The special theory of relativity.- Vectors, tensors and forms.- Rotating and accelerated reference frames.- Covariant differentiation.- Curvature.- Einstein’s field equations.

Fields of interest
Relativity and Cosmology; Mathematical Methods in Physics; Astronomy, Astrophysics and Cosmology

Target groups
Advanced undergraduate and graduate students in the field of the general theory of relativity; physicists and researchers working in cosmology

Discount group
P
Evolution of Silicon Sensor Technology in Particle Physics

This informative monograph describes the technological evolution of silicon detectors and their impact on high-energy particle physics. The author here marshals his own first-hand experience in the development and also the realization of the DELPHI, CDF II and the CMS tracking detector. The basic principles of small strip- and pixel-detectors are presented and also the final large-scale applications. The Evolution of Silicon Detector Technology acquaints readers with the manifold challenges involving the design of sensors and pushing this technology to the limits. The expert will find critical information that is so far only available in various slide presentations scattered over the worldwide web. This practical introduction of silicon sensor technology and its day to day life in the lab also offers many examples to illustrate problems and their solutions over several detector generations.

Features
- Surveys the technological evolution of silicon detectors and their impact on high-energy particle physics
- Includes coverage of the DELPHI, CDF II and the CMS tracking detectors
- Covers both small strip- and pixel-detectors and the final large-scale applications
- Provides a stimulating practical introduction to silicon sensor technology and its day to day life in the lab

Fields of interest
Elementary Particles and Nuclei

Target groups
Scientists working in this field

Discount group
P

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

Editor-in-chief: W. Martienssen

Molecules and Radicals
Volume 26

Magnetic Properties of Free Radicals
I. Fischer (Ed.)

Subvolume E

Inorganic Radicals, Metal Complexes and Nonconjugated Carbon Centered Radicals
H. Fischer (Ed.)

Part 1

Part 1

With contributions by: R. Claridge, R. D. Farley, S. Marque, C. C. Rowlands, P. Tordo

Features
- Standard Reference Book with selected and easily retrievable data from the fields of physics and chemistry collected by acknowledged international scientists
- Also available online in www.springerLink.com
- http://www.landolt-boernstein.com

Fields of interest
Atoms, Molecules, Clusters and Plasmas

Target groups
Scientists and researchers in the fields of physics and chemistry

Discount group
L

Astronomical Optics and Elasticity Theory

Astronomical Optics and Elasticity Theory provides a very thorough and comprehensive account of what is known in this field. After an extensive introduction to optics and elasticity, the book discusses variable curvature and multimode deformable mirrors, as well as, in depth, active optics, its theory and applications. Further, optical design utilizing the Schmidt concept and various types of Schmidt correctors, as well as the elasticity theory of thin plates and shells are elaborated upon. The very didactic and fairly easy-to-read presentation of the topic will enable PhD students and young researchers to actively participate in challenging astronomical optics and instrumentation projects.

Features
- Didactic style and comprehensive coverage
- Equations are derived in comprehensible manner
- Enables PhD students and young researchers to actively participate in modern astronomical optics projects
- Contains a portrait gallery of pioneers of optics and elasticity theory

Contents

Fields of interest
Astronomy; Microwaves, RF and Optical Engineering; Applied Optics, Optoelectronics, Optical Devices

Target groups
Graduate students, researchers, astronomers, optical engineers, mechanical engineers

Discount group
P

S. Marque, C. C. Rowlands, P. Tordo
Comparative Aeronomy

Features
- Covers all aspects of solar system aeronomy
- Presents the observations and findings of many recent space missions

Contents

Fields of interest
Planetary science; Extraterrestrial Physics, Space Sciences

Target groups
Researchers in the fields of planetary science, aeronomy, space science, and atmospheric science

Discount group
P

Physics of Black Holes
A Guided Tour

Black Holes are still considered to be among the most mysterious and fascinating objects in our universe. Awaiting the era of gravitational astronomy, much progress in theoretical modeling and understanding of classical and quantum black holes has been achieved.

The present volume serves as a tutorial, high-level guided tour through the black hole landscape: information paradox and black hole thermodynamics, numerical simulations of black hole formation and collisions, braneworld scenarios and stability of black holes with respect to perturbations are treated in great detail, as is their possible occurrence at the LHC.

An outgrowth of a topical and tutorial summer school, this extensive set of carefully edited notes has been set up with the aim of constituting an advanced-level, multi-authored textbook which meets the needs of both postgraduate students and young researchers in the fields of modern cosmology, astrophysics and (quantum) field theory.

Contents

Fields of interest
Relativity and Cosmology; Physics beyond the Standard Model; Astrophysics

Target groups
Graduate students, lecturers, researchers

Discount group
P

Optical Measurement Techniques
Innovations for Industry and the Life Sciences

Devoted to novel optical measurement techniques that are applied both in industry and life sciences, this book contributes a fresh perspective on the development of modern optical sensors. These sensors are often essential in detecting and controlling parameters that are important for both industrial and biomedical applications. The book provides easy access for beginners wishing to gain familiarity with the innovations of modern optics.

Features
- Up-to-date overview on applications of optical sensors in materials science, nanotechnology and optics

Contents

Fields of interest
Optical Spectroscopy, Ultrafast Optics; Applied Optics, Optoelectronics, Optical Devices; Physics and Applied Physics in Engineering

Target groups
Scientists

Discount group
P

Earth and Environmental Science

Due November 2008
Reprinted from Space Science Reviews, 139/1-4, 2008.
2009. Approx. 500 p. (Space Sciences Series of ISSI, Volume 29) Hardcover
► approx. $179.00

Physics and Astronomy

Due January 2009
2009. Approx. 510 p. (Lecture Notes in Physics, Volume 769) Hardcover
► $129.00
ISBN 978-3-540-88459-7

Discount group
P

Physics and Astronomy

Due January 2009
► $179.00
ISBN 978-3-540-71926-7
Structure in Complex Networks

In the modern world of gigantic datasets, which scientists and practitioners of all fields of learning are confronted with, the availability of robust, scalable and easy-to-use methods for pattern recognition and data mining are of paramount importance, so as to be able to cope with the avalanche of data in a meaningful way. This concise and pedagogical research monograph introduces the reader to two specific aspects - clustering techniques and dimensionality reduction - in the context of complex network analysis. The first chapter provides a short introduction into relevant graph theoretical notation; chapter 2 then reviews and compares a number of cluster definitions from different fields of science.

Contents

Fields of interest
Complexity; Statistical Physics; Game Theory/ Mathematical Methods

Target groups
Graduate students, lecturers, researchers

Discount group
P

The Rotation of Sun and Stars

The Sun and stars rotate in different ways and at different rates of velocity, and knowledge of how they rotate is important in understanding the formation and evolution of stars and their structure. The wide variety of stars offers an equally wide variety of rotation rates and rotational evolution. From the slowly rotating stars to stars rotating close to their breakup velocities, different techniques and models have to be developed to study rotation and its effects on physical aspects of stars. In fact, one currently witnesses a complete renewal of astrophysical ideas about stellar rotation, mainly due to the development of new models including high-order effects of rotation and magnetism. This book, while not attempting to answer all questions about rotation, given that many issues still have to be further investigated, focuses on the basics and some particular aspects while aiming to show why it is important, from a physical point of view, to study stellar rotation.

Contents

Fields of interest
Astronomy; Geophysics/Geodesy; Astrophysics

Target groups
Graduate students, lecturers

Discount group
P
**Lunar Outpost**
The Challenges of Establishing a Human Settlement on the Moon

Lunar Outpost provides a detailed account of the various technologies, mission architectures, medical requirements and training needed to return humans to the Moon within the next decade. It focuses on the means by which a lunar outpost will be constructed and also addresses major topics such as the cost of the enterprise and the roles played by private companies and individual countries. The return of humans to the surface of the Moon will be critical to the exploration of the solar system. The various missions are not only in pursuit of scientific knowledge, but also looking to extend human civilization, economic expansion, and public engagement beyond Earth. As well as NASA, China's Project 921, Japan's Aerospace Exploration Agency, Russia, and the European Space Agency are all planning manned missions to the Moon and, eventually, to Mars.

**Features**
- Addresses comprehensively the logistics of returning to the Moon by the year 2020
- Describes the transportation and exploration challenges humans will face roaming the lunar surface
- Details for general readers the spacecraft, launch vehicle and life support designs
- Provides a unique insight into the training processes of future Moon travelers

**Fields of interest**
Popular Science in Astronomy

**Target groups**
Spacelight enthusiasts, popular science readers, and journalists

**Discount group**
T

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**Introduction to Nonextensive Statistical Mechanics**
Approaching a Complex World

Metaphors, generalizations and unifications are natural and desirable ingredients of the evolution of scientific theories and concepts. Physics, in particular, obviously walks along these paths since its very beginning. This book focuses on nonextensive statistical mechanics, a current generalization of Boltzmann-Gibbs (BG) statistical mechanics, one of the greatest monuments of contemporary physics. Conceived more than 130 years ago by Maxwell, Boltzmann and Gibbs, the BG theory exhibits uncountable – some of them impressive – successes in physics, chemistry, mathematics, and computational sciences, to name a few. Presently, more than two thousand publications, by over 1800 scientists around the world, have been dedicated to the nonextensive generalization. Remarkable applications have emerged, and its mathematical grounding is by now relatively well established.

**Features**
- Generalization of the ubiquitous Boltzmann-Gibbs theory
- First pedagogical book on the subject, written by the proponent of the theory
- Many applications to interdisciplinary complex phenomena in virtually all sciences, ranging from physics to medicine, from economics to biology, through signal and image processing and others
- Detailed derivation of results
- Many detailed illustrations

**Fields of interest**
Complexity; Statistical Physics; Astrophysics

**Target groups**
Graduate students in physics, researchers of statistical mechanics

**Discount group**
P

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**Fundamentals of Cryobiology**
Physical Phenomena and Mathematical Models

The book gives a summary of the state of the art of cryobiology and its applications. The accent is on the underlying physical phenomena, which are common in such opposite applications as cryosurgery and cryoconservation, and the corresponding mathematical models, including numerical ones. The treatment of some more special issues is moved to the appendices. The glossary contains definitions and explanations of the major entities. All the topics considered are well referenced. The book is useful to both biologists and physicists of different level including practitioners and graduate students.

**Features**
- Deals with the basics and applications of cryobiology and cryomedicine
- Includes theoretical treatment and experimental approach
- A reference work for scientists and practitioners alike

**Contents**

**Fields of interest**
Biophysics/Biomedical Physics; Life Sciences, general

**Target groups**
Academic libraries; scientists, advanced students

**Discount group**
P
Variational Principles of Continuum Mechanics
I. Fundamentals

Features
► Concise and understandable book about variational principles of continuum mechanics
► Accessible to applied mathematicians, physicists and engineers who have an interest in continuum mechanics
► Interesting innovative textbook for graduate students

Contents

Fields of interest
Continuum Mechanics and Mechanics of Materials; Applied Mathematics/Computational Methods of Engineering; Applications of Mathematics

Target groups
Researchers, graduate and postgraduate students in continuum mechanics, mechanics, mathematical physics, and applied mathematics

Discount group
P

Variational Principles of Continuum Mechanics
II. Applications

Features
► Concise and understandable book about variational principles of continuum mechanics presenting the classical models
► Accessible to applied mathematicians, physicists and engineers who have an interest in continuum mechanics
► Interesting innovative textbook for graduate students

Contents

Fields of interest
Continuum Mechanics and Mechanics of Materials; Applied Mathematics/Computational Methods of Engineering; Applications of Mathematics

Target groups
Researchers, graduate and postgraduate students in continuum mechanics, mechanics, mathematical physics, and applied mathematics

Discount group
P

Nanobiotechnology and Nanobiology

Nanobiotechnology is a rapidly developing field of research. Ever more applications are emerging from all branches of nanobiotechnology in medicine, pharmacy, cosmetics, chemical and agro-industry. The book presents the basics, fundamental results and latest achievements of nanobiotechnological research. It extends as far as promising applications of new nanomaterials and newly discovered nanoeffects. Additionally, a large variety of nanobio-analysis methods is presented. The book will appeal to graduate students, researchers and engineers.

Features
► Covers major developments in nanobiophysics, nanobiology, and nanomethods in medicine
► Emphasizes the applications of nanobiology and nanotechnology
► Integrates physics, biology, and medicine of nanosystems
► Mainly a textbook for graduate students, but also reference work for researchers

From the contents

Fields of interest
Nanotechnology; Biophysics/Biomedical Physics; Biological Microscopy

Target groups
Libraries; graduate students, scientists, practitioners

Discount group
P
Handbook of Sample Preparation for Scanning Electron Microscopy and X-Ray Microanalysis

This Handbook is a complete guide to preparing a wide variety of specimens for the scanning electron microscope and x-ray microanalyzer. Specimens range from inorganic, organic, biological, and geological samples to materials such as metals, polymers, and semiconductors which can exist as solids, liquids, and gases. While the Handbook complements the best-selling textbook, Scanning Electron Microscopy and X-Ray Microanalysis, Third Edition, by Goldstein, et al., it is entirely self-contained and describes what is needed up to the point the sample is put into the instrument. Photomicrographs of each specimen complement the many sample preparation "recipes". Additional chapters describe the general features of specimen preparation in relation to the different needs of scanning electron microscopes and x-ray microanalyzer, and an appendix covers chemicals and equipment applicable to any of the recipes.

Features
► Identifies problems that all specimens present in examining their structure and analysis in the SEM. ► Describes a series of protocols to ensure that a specimen is properly prepared once the particular problems are identified. ► Guides the reader through a general approach to the problem before a particular procedure is applied to the requirements of a given sample.

Contents

Fields of interest
Characterization and Evaluation Materials; Biological Microscopy; Condensed Matter and Material Sciences

Target groups
Anyone who uses scanning electron microscopy and x-ray microanalysis as part of their research.

Discount group
P

Theoretical Surface Science
A Microscopic Perspective

Progress continues in the theoretical treatment of surfaces and processes on surfaces based on first-principles methods, i.e. without invoking any empirical parameters. In this book, the theoretical concepts and computational tools necessary and relevant for a microscopic approach to the theoretical description of surface science is presented, together with a detailed discussion of surface phenomena. This makes the book suitable for both graduate students and for experimentalists seeking an overview of the theoretical concepts in surface science. This second enlarged edition has been carefully revised and updated, a new chapter on surface magnetism is included, and novel developments in theoretical surface science are addressed.

Features
► This 2nd enlarged and updated edition also includes a chapter on surface magnetism and addresses novel developments in theoretical surface science. ► Only some experimentally oriented books and textbooks on surface science have been available so far. This book will fill this gap. ► Summarizes the basics, concepts and theoretical background of surface phenomena

Contents

Fields of interest
Surfaces and Interfaces, Thin Films; Solid State Physics and Spectroscopy; Physics and Applied Physics in Engineering

Target groups
Graduate students and scientists

Discount group
P

Magnetoelectronics of Microwaves and Extremely High Frequencies in Ferrite Films

This book is devoted to an entirely new direction of the magnetoelectronics of millimetric waves in layered structures containing epitaxial ferrite films. The new electrodynamic approach for research of electromagnetic waves in layered bigyrotropic structures- excitation of waves in converters with parallel and orthogonal orientations- is evaluated. In addition, the results of experimental research are mentioned and new methods of not destroying diagnostics of ferrite films magnetic parameters are considered. The discrepancy of resonant frequencies and the magnetic fields corresponding to them, determined from magneto-optical and electrodynamic theories, is shown. Results of research on parameters of passive devices on milliwatt and kilowatt levels of capacity on millimetric waves are also explained in this text.

Features
► Covers questions of the development of the new theory of excitation and distribution of fast and slow electromagnetic waves in bigyrotropic and ferrite. ► The book's material addresses processes in layered bigyrotropic structures and characterizes directions of promotion in new this new and emerging area of research.

Fields of interest
Magnetism, Magnetic Materials; Electromagnetism, Optics and Lasers; Classical Electrodynamics, Wave Phenomena

Target groups
Post-graduate students and researchers in the field of radiophysics and magnetoelectronics of millimetric waves and those specializing in device design using ferrites.

Discount group
P
Machining with Nanomaterials

“Machining with Nanomaterials” focuses on the application of thin film nanostructures to the solution of machining problems. The solution to machining materials in an environmentally conscious manner is to use newly developed thin film superlattice layer coatings that provide a means to eliminate the use of flood cooling and the associated peripheral equipment. The practical significance of the development of these coatings is related to eliminating the need for cooling and lubrication by fluids and the need to machine at ever increasing cutting speeds. The effects of reducing tool life is a particular challenge in high speed machining, and this text explains how coatings can improve tool life, reduce machining costs, and machine in an environmentally acceptable way.

Features
- Provides a complete overview of the nature of tools and nanostructured coatings
- Discusses the nature of lubrication and cooling between workpiece and tool
- Discusses the significant nanoscale coatings currently available for use and describes experiments conducted on industrial alloys and workpiece materials
- Explains how coatings are deposited and qualified

Fields of interest
Nanochemistry; Metallic Materials; Surfaces and Interfaces, Thin Films

Target groups
Materials scientists, academic researchers, and industrial engineers interested in or currently developing machining techniques using nanomaterials and working in the fields of nanotechnology and nanomanufacturing

Discount group
P

Device Applications of Silicon Nanocrystals and Nanostructures

Recent developments in the technology of silicon nanocrystals and silicon nanostructures, where quantum-size effects are important, are systematically described including examples of device applications. Due to the strong quantum confinement effect, the material properties are freed from the usual indirect-or direct-bandgap regime, and the optical, electrical, thermal, and chemical properties of these nanocrystalline and nanostructured semiconductors are drastically changed from those of bulk silicon. In addition to efficient visible luminescence, various other useful material functions are induced in nanocrystalline silicon and periodic silicon nanostructures.

Features
- Offers the first comprehensive treatment of recent advances in quantum-sized silicon device technology
- Presents systematic and vivid descriptions from a technological viewpoint, providing a realistic perspective on forthcoming silicon device concepts in the post-scaling era
- Shows how silicon nanocrystal technology is fundamental to the future of silicon electronics, optoelectronics, and photonics

Fields of interest
Nanochemistry; Optical and Electronic Materials; Superconductivity, Superfluidity, Quantum Fluids

Target groups
Researchers in academia, industrial companies, and government institutes; also appropriate for use as a textbook for university graduate courses in nanoelectronics, nanophotonics, and related fields

Discount group
P

Nanobioelectronics – for electronics, biology, and medicine

The range of themes addressed in this book emphasize key aspects and the future perspectives of nano-bioelectronics. The book discusses the electronic coupling of DNA and proteins with electronic devices to build new information systems and to apply the systems as biosensors. The exploitation of networks of neurons connected with electronic devices in future information processing systems and the use of nano-objects to assess cellular function is also discussed in detail. The topics of these hybrid nano-bioelectronic systems are both interesting for fundamental research and to enhance industrial competitiveness through research, education, and transfer of technology.

Features
- One of the first books on nanobiotechnology, this volume will survey the many results in this rapidly developing field

Fields of interest
Nanochemistry; Biotechnology; Biochemical Engineering

Target groups
2nd-year specialist degree courses in physics engineering and biotechnology, corresponding to 5th-year courses; researchers in physics, biology, biotechnology, chemistry, electronics, medicine; ST-M. Agilent, DATALOGIC and many others companies and spin-offs working in the field

Discount group
P
Charged Semiconductor Defects
Structure, Thermodynamics and Diffusion

Defects in semiconductors have been studied for many years, in many cases with a view toward controlling their behaviour through various forms of “defect engineering”. For example, in the bulk, charging significantly affects the total concentration of defects that are available to mediate phenomena such as solid-state diffusion. Surface defects play an important role in mediating surface mass transport during high temperature processing steps such as epitaxial film deposition, diffusional smoothing in reflow, and nanostructure formation in memory device fabrication. “Charged Semiconductor Defects” details the current state of knowledge regarding the properties of the ionized defects that can affect the behaviour of advanced transistors, photo-active devices, catalysts, and sensors.

Features
► Details the current state of knowledge regarding the properties of ionized defects in advanced transistors, photo-active devices, catalysts, and sensors

Fields of interest
Solid State Physics and Spectroscopy; Optical and Electronic Materials; Continuum Mechanics and Mechanics of Materials

Target groups
Researchers and process developers in the microelectronics and nanotechnology industries; researchers, post-doctoral and graduate students in the fields of materials science, chemical engineering, solid state physics, and electrical engineering; researchers, post-doctoral and graduate students involved with computational model development (e.g., density-functional theory, molecular dynamics, Hartee-Fock, and Monte Carlo simulations, as well as systems-based methods); researchers in the defense and energy sectors seeking to better understand the effects of radiation damage on microelectronics devices

Discount group
P

Transmission Electron Microscopy

This groundbreaking text has been established as the market leader throughout the world. Profusely illustrated, Transmission Electron Microscopy, A Textbook for Materials Science provides the necessary instructions for successful hands-on application of this versatile materials characterization technique. For this first new edition in 12 years, many sections have been completely rewritten with all others revised and updated. The new edition also includes an extensive collection of questions for the student, providing approximately 800 self-assessment questions and over 400 questions that are suitable for homework assignment. Four-color illustrations throughout also enhance the new edition.

Features
► Undisputed market leader, now completely revised and updated ► First-ever TEM text with four-color illustrations throughout ► Includes approximately 800 self-assessment questions and over 400 questions suitable for homework assignment ► Ideal for use as a teaching text and as a hands-on reference for materials scientists

Fields of interest
Characterization and Evaluation Materials; Nanotechnology; Solid State Physics and Spectroscopy

Target groups
Advanced undergraduate and graduate students

Discount group
P

Electrical Conductive Adhesives with Nanotechnologies

“Electrical Conductive Adhesives with Nanotechnologies” begins with an overview of electronic packaging and discusses the various adhesives options currently available, including lead-free solder and ECAs (Electrically Conductive Adhesives). The material presented focuses on the three ECA categories specifically, Isotropically Conductive Adhesives (ICAs), Anisotropically Conductive Adhesives/Films (ACA/ACF) and Nonconductive Adhesives/Films (NCA/NCF). Discussing the advantages and limitations of each technique, and how each technique is currently applied. Lastly, a detailed presentation of how nano techniques can be applied to conductive adhesives is discussed, including recent research and development of nano component adhesives/nano component films, their electrical properties, thermal performance, bonding pressure and assembly and reliability.

Features
► Compares and contrasts lead-free soldering techniques and electrically conductive adhesives and discusses the advantages of electrically conductive adhesives ► Discusses isotropically conductive adhesives, anisotropically conductive adhesives/films, non-conductive adhesives/films, their current applications, in industry, advantages and limitations, recent developments and nano technology applications

From the contents

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

Target groups
Industrial and academic researchers, specifically packaging engineers, industrial electronics packaging engineers, and those engaged in packaging applications

Discount group
P
Surface Engineering of Polymer Membranes

Surface Engineering of Polymer Membranes covers the processes that modify membrane surfaces to improve their in-service performance, meaning, to confer surface properties which are different from the bulk properties. Purposes may be to minimize fouling, modulate hydrophilicity/hydrophobicity, enhance biocompatibility, create diffusion barriers, provide functionalities, mimic biomembranes, fabricate nanostructures, etc. First, the basics of surface engineering of polymer membranes are covered. Then topics such as surface modification by graft polymerization and macromolecule immobilization, biomimetic surfaces, enzyme immobilization, molecular recognition, and nanostructured surfaces are discussed. This book provides a unique synthesis of the knowledge of the role of surface chemistry and physics in membrane science.

Features
► Presents comprehensive studies on the chemical and physical behaviors of membrane surfaces ► Provides a unique synthesis of our knowledge on the role of surface engineering in membrane science ► Elaborates novel methods for constructing bio-functional membranes from traditional polymer membranes ► Will serve as an informative reference source of value to expert and non-expert alike

Fields of interest
Polymer Sciences; Surfaces and Interfaces, Thin Films; Biomaterials

Target groups
Libraries and institutes

Discount group
P

Oxide and Nitride Semiconductors
Processing, Properties and Applications

This is a unique book devoted to the important class of both oxide and nitride semiconductors. It covers processing, properties and applications of ZnO and GaN. The aim of this book is to provide the fundamental and technological issues for both ZnO and GaN. Materials properties, bulk growth, thin and thick films growth, control of polarity and application, nonpolar growth, structural defects, optical properties, electrical properties, nanostructures, and light emitters based on GaN and ZnO are treated succinctly. The unique format of touching both materials in each chapter enables this book to be very fresh, essential, and easy-to-access for readers who have interests in, and need getting more involved with, the most exciting compound semiconductors, ZnO and GaN.

Features
► Covers the major developments in wide band gap semiconductors ► Deals with the most important material for current applications, GaN, and future optoelectronic applications, ZnO ► Integrates materials growth and characterization as well as applications ► A reference work for both researchers and practitioners

From the contents

Fields of interest
Optical and Electronic Materials; Solid State Physics and Spectroscopy; Applied Optics, Optoelectronics, Optical Devices

Target groups
Scientists, practitioners; academic libraries; advanced students

Discount group
P
Cartography and Art

The contributions in this book address the use of ‘different’ geo-communication tools that could allow for improved visualization of geography—by incorporating ART. It is envisaged that the work of this book will help to re-define how we can better visualise Space and Place, considering: Science, Technology and Art.

The book is therefore a celebration of the ‘meeting point’ between Art and Cartography. It provides a starting point for a journey that will explore innovative methods and techniques for representing our world using the complementary techniques from Art, Science and technology.

Features
► Helps to re-define how we can better visualize Space and Place, considering Science, Technology and Art

Fields of interest
Geographical Information Systems/Cartography; Graphic Design

Target groups
Researchers and postgraduate students in cartography, geography, and the arts and architecture

Discount group
P

Hurricanes and Climate Change

Recent studies suggest that tropical cyclones are more powerful than in the past with the most dramatic increase in the North Atlantic. The increase is correlated with an increase in ocean temperature. A debate concerns the nature of these increases with some scientists attributing them to a natural climate fluctuation and others suggesting climate change related to anthropogenic increases in forcing from greenhouse gases.

A Summit on Hurricanes and Climate Change was held during the spring of 2007 on the island of Crete that brought together leading academics and researchers on both sides of the scientific debate to discuss new research and express opinions about what will happen in the future with regard to hurricane activity. This proceedings volume highlights the state-of-the-science research into various aspects of the hurricane-climate connection. It is likely that the science presented here will lead to new research that will help answer crucial questions about our sustainable future.

Features
► Unique in its scope drawing from an international community of scholars in the field of hurricane climate science ► Science addresses a variety of perspectives ranging from the micro-physics of lightning to geological evidence of prehistoric storminess

Fields of interest
Meteorology/Climatology; Climate Change; Ecotoxicology

Target groups
Climatologists, meteorologists, oceanographers, geographers, hurricane specialists

Discount group
P

Rogue Waves in the Ocean

The book is written for specialists in the fields of fluid mechanics, applied mathematics, nonlinear physics, physical oceanography and geophysics, and also for students learning these subjects. It includes a wide range of observational data on rogue (or freak) waves in the seas and coastal waters, as well as presenting a basic statistical description of extreme water waves. The book describes the modern approaches, including theoretical and numerical models applied to explain the physical origin of such anomalous waves on the sea surface, taking into account wind flow above waves and also variable bathymetry and currents. Apart from these analytical and numerical approaches, laboratory experiments and in-situ observations are reported too.

Features
► Uses fully nonlinear hydrodynamical numerical models, with the consideration of wind flow above water waves and includes detailed analysis of real freak wave events

Contents

Fields of interest
Oceanography; Geophysics/Geodesy; Mechanics, Fluids, Thermodynamics

Target groups
Geophysicists, physical oceanographers; libraries; professionals, scientists, lecturers

Discount group
P

Earth and Environmental Science

Due December 2008

2009. Approx. 400 p. (Lecture Notes in Geoinformation and Cartography) Hardcover

► $199.00
ISBN 978-3-540-68567-8

Earth and Environmental Science

Due November 2008

2009. Approx. 400 p. 25 illus. Hardcover

► $199.00
ISBN 978-0-387-09409-0

Earth and Environmental Science

Due December 2008


► $199.00
ISBN 978-3-540-88418-7
Groundwater Geophysics
A Tool for Hydrogeology

Features
- Demonstrates the applications of geophysical techniques to hydrogeological problems

Contents
Petrophysical Properties of Permeable and Low-permeable Rocks.
- Seismic Methods.
- Electromagnetic Methods.
- The Transient Electromagnetic Method.
- Ground Penetrating Radar.
- Magnetic Resonance Sounding.
- Magnetic, Geothermal, and Radioactivity Methods.
- Radiomagnetotellurics.
- Microgravimetry.
- Direct Push-Technology.
- Vertical Flows in Groundwater Monitoring Wells.
- Aquifer Structures-Pore Aquifers.
- Aquifer Structures: Fracture Zones and Caves.
- Groundwater Quality-Saltwater Intrusions.
- Geophysical Characterisation of Aquifers.
- Groundwater Protection: Vulnerability of Aquifers.
- Groundwater Protection: Mapping of Contaminations.

Fields of interest
Geophysics/Geodesy; Hydrogeology; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution

Target groups
Scientists, researchers; libraries, institutes (hydrogeology, geophysics, env. engineering, hydraulic engineering)

Discount group
P

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Increasing Seismic Safety by Combining Engineering Technologies and Seismological Data

Proceedings of the NATO Advanced Research Workshop on Increasing Seismic Safety by Combining Engineering Technologies and Seismological Data, Dubrovnik, Croatia, 19-21 September 2007

Too often the Earth’s surface acted as a divide between seismologists and engineers. Now it is becoming clear that the building behaviour largely depends on the seismic input and the buildings on their turn act as seismic sources, in an intricate interplay that non-linear phenomena make even more complex. These phenomena are often the cause of observed damage enhancement during past earthquakes. While research may pursue complex models to fully understand soil dynamics under seismic loading, we need also simple models valid on average, whose results can be easily transferred to end users.

Features
- Joint discussion and conclusions between seismologists and engineers
- Case histories focused on less expensive techniques
- Updated state of the art with reference to most recent experience in different countries

Fields of interest
Applied Geosciences; Civil Engineering; Geotechnical Engineering

Target groups
Earthquake engineers, engineering seismologists, applied geophysicists, geotechnical engineers

Discount group
P

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Modelling Ocean Climate Variability

The book provides a comprehensive review of the historical development and the present status of ocean circulation models. The analysis extends from simple analytical approaches to the latest high-resolving numerical models with data assimilation. The authors – pioneer scientists in ocean and shelf sea modelling – examine the evolution of Western and Eastern modelling conceptions during the second half of the last century. They present the current state of the art in ocean climate modelling and offer examples for several oceans and shelf seas. The book contains a critical analysis of literature on ocean climate variability modelling, and of the strengths and weaknesses of major approaches. It explores the future developments in the field, with a focus on models based on the synthesis of numerical simulation and field observation, and on nonlinear thermodynamical model data synthesis.

Features
- Compilation of theory with emphasis on thermodynamic forcing
- Review of the history of modelling conceptions
- Discussion of adjustment strategy for model initialization
- Presentation of new regional applications
- Examination of modern methods in numerical modelling of ocean variability

Fields of interest
Oceanography; Math. Appl. in Environmental Science; Meteorology/Climatology

Target groups
Scientists, researchers and professionals in the fields of oceanography, fluid dynamics, numerical modelling and climate variability, and for graduate and post-graduate students of these subjects

Discount group
P
D. Sarma, National Geophysical Research Institute, Hyderabad, India

Geostatistics with Applications in Earth Sciences

This book has been designed to serve as a text book for post graduate-students and research workers in earth sciences who require a back-ground of and a feel for statistics and the theory of regionalised variables. Although the word geostatistics is used throughout Europe signalling the theory of regionalised variables as propounded by geoscientists at the Centre de Geostatistique, France, still it was considered necessary to include in this book some important classical statistical methods which are essential for modelling the processes concerning earth resource systems for optimum appraisal. The first four chapters deal with the classical statistical methods including a discussion on Box-Jenkins models of time series analysis. The next four chapters deal with a discussion on the theory of regionalised variables and restricted upto Kriging (stationary case). The last chapter deals exclusively with the software developed for some of the problems.

Features
- Written from the perspective of the mining industry
- Includes codes for six computer programs
- Includes good worked examples

Fields of interest
Math. Applications in Geosciences; Mineral Resources; Quantitative Geology

Target groups
Post-graduate students and researchers in earth sciences

Discount group
P

W. Strubelt, Federal Office for Building and Regional Planning, Berlin/Bonn, Germany (Ed.)

Guiding Principles for Spatial Development in Germany

As an annual of the five leading German institutes working in the field of the analysis of spatial development and policies, this book will present discussions about the guiding principles for spatial development being a virulent new approach to the future development of Germany in spatial differentiation. The papers will discuss these guiding principles theoretically and empirically.

Features
- Overview of current problems of spatial development in Germany
- Newest discussion about the guiding principles for spatial development in Germany

Contents
What is a ”Leitbild”? Some reflections on the origin and use of the German expression for guiding principles.- Guiding principles for spatial development.- The importance of guiding principles for structural change in small towns.- Urban metabolism and the surface of the city.- Shaping cultural landscapes – Regional governance as a way of implementing a new concept of spatial planning.- Integrated overall concepts for urban development policy: the example of the University and Hanseatic City of Greifswald.

Fields of interest
Landscape/Regional and Urban Planning; Civil Engineering

Target groups
Research and teaching in geography, regional science, and planning, regional economics

Discount group
P

H. Xing, University of Queensland, St. Lucia, QLD, Australia

Advances in Geocomputing

This book provides a concise overview of the recent development in geocomputing, which covers the model construction and result visualisation, advanced computational theory and high performance software development on supercomputers and their applications in simulating geodynamics, crustal dynamics, earthquakes, tsunami and rock physics spanning different scales. A DVD-ROM is attached together with this book for the image and animation files of the amazing simulation results.

Fields of interest
Computer Applications in Geosciences; Simulation and Modeling

Target groups
Academic and corporate libraries; scientists and researchers; students and lecturers

Discount group
P
N. Yajima, N. Izutsu, T. Imamura, T. Abe

**Scientific Ballooning**

**Technology and Applications of Exploration Balloons Floating in the Stratosphere and the Atmospheres of Other Planets**

The aim of this book is to introduce scientific ballooning to the many people who are interested in the use of balloons for scientific applications. The book offers a basic understanding of the engineering details and the scientific research giving rise to balloon activities going on today. Above all, the book will serve as a guidebook for young scientists and researchers seeking to become involved in space science and technology by participating in balloon projects. The book deals with three types of balloons: large stratospheric balloons used for scientific purposes, rubber balloons used for aero-logical observations, and planetary balloons to be used in the atmospheres of other planets. The book provides many figures and photographs, and offers a systematic description of balloon technologies and related matters from historical background to current research topics.

**Features**

- First book to provide a thorough account of scientific ballooning aimed at scientists and engineers in related fields
- Proposes solutions to problems concerning conventional balloon design and manufacturing for improved balloon strength independent of balloon size

**Contents**


**Fields of interest**

Meteorology/Climatology; Astronomy;

**Target groups**

Researchers working in planetology, atmospheric science, and meteorology

**Discount group**

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X. Yang, Florida State University, Florida, FL, USA (Ed.)

**Remote Sensing and Geospatial Technologies for Coastal Ecosystem Assessment and Management**

In this landmark publication, leading experts detail how remote sensing and related geospatial technologies can be used for coastal ecosystem assessment and management. This book is divided into three major parts. In the first part several conceptual and technical issues of applying remote sensing and geospatial technologies in the coastal environment are examined. The second part showcases some of the latest developments in the use of remote sensing and geospatial technologies when characterizing coastal waters, submerged aquatic vegetation, benthic habitats, shorelines, coastal wetlands and watersheds. Finally, the last part demonstrates a watershed-wide synthetic approach that links upstream stressors with downstream responses for integrated coastal ecosystem assessment and management.

**Features**

- Interdisciplinary approach, cutting-edge technologies, and comprehensive coverage

**Contents**


**Fields of interest**

Geographical Information Systems/Cartography; Geography (general); Geocology/Natural Processes

**Target groups**

Students and professionals dealing with remote sensing, geospatial technologies, and coastal science

**Discount group**

P

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A. Zaicenco, I. Craifaleanu, I. Paskaleva (Eds.)

**Harmonization of Seismic Hazard in Vrancea Zone**

With Special Emphasis on Seismic Risk Reduction

Proceedings of the NATO Science for Peace Project on Harmonization of Seismic Hazard and Risk Reduction in Countries Influenced by Vrancea Earthquakes, Chisinau, Moldova, 20 May 2008

This volume summarizes the main findings of the NATO Science for Peace Project SfP-980468 Harmonization of Seismic Hazard and Risk Reduction in Countries Influenced by Vrancea Earthquakes. It addresses the problems of regional seismic hazard assessment, its application to the Vrancea area and related strong ground motion. The book covers a range of topics: from hazard assessment to site effects and microzonation, from protection of historical buildings to the study of the dynamic properties of the soft soils and paleo-seismology.

**Features**

- Modern methods in seismic hazard and risk assessment
- Comprehensive study of Vrancea intermediate-depth earthquakes
- Earthquake impact on structures

**Fields of interest**

Applied Geosciences; Civil Engineering; Math. Applications in Geosciences

**Target groups**

Seismologists, geophysicists, civil engineers

**Discount group**

P
Amazon Peasant Societies in a Changing Environment

Political Ecology, Invisibility and Modernity in the Rainforest

Amazonia is never quite what it seems. Despite regular attention in the media and numerous academic studies the Brazilian Amazon is rarely appreciated as a historical place home to a range of different societies. Often left invisible are the families who are making a living from the rivers and forests of the region. Broadly characterizing these people as peasants Amazon Peasant Societies in a Changing Environment seeks to bring together research by anthropologists, historians, political ecologists and biologists.

A new paradigm emerges which helps understand the way in which Amazonian modernity has developed. This book addresses a comprehensive range of questions from the politics of conservation and sustainable development to the organization of women’s work and the diet and health of Amazonian people.

Features

► Provides a comprehensive, interdisciplinary overview of different aspects of Amazonian societies from health to history
► Empirical research based on long term fieldwork and in-depth analysis from the latest Amazonian studies
► Discusses political aspects of environmentalism
► Forges new understanding of Brazilian Amazonia

Fields of interest

Social Sciences, general; Anthropology; History

Target groups

Academic historians, social scientists and natural scientists with an interest in Brazil, especially the Amazon, undergraduate and postgraduate students doing courses on Latin America, journalists, social activists, workers in non-governmental organizations

Discount group

P

Addressing Global Environmental Security Through Innovative Educational Curricula


As the importance of environmental security increases worldwide, colleges and universities are evaluating how well they are preparing the next generation of environmental scientists and managers and developing new educational approaches. In this volume, we examine: (1) current educational practices and the need for change, (2) educational needs from the perspective of employers and professionals, and (3) new practices in higher education in environmental fields.

Features

► Reviews current trends in education, including Barcelona and Copernicus Charter
► Offers critical assessment of the shortfalls of current educational practices
► Discusses what employers are looking for in recent graduates

Fields of interest

Science Education; Environmental Management; Interdisciplinary Studies

Target groups

University and environmental professors, environmental studies departments at colleges and universities, employers of entry level environmental scientists (consulting firms, government and non governmental organizations), environmental policy managers

Discount group

P

Principles of Natural Resource Stewardship

Resilience-Based Management in a Changing World

This is a textbook for Natural Resource Management, Resource Conservation and Ecosystem Management, as well as other related or more specialized courses.

Most textbooks on natural resource and ecosystem management are dominated by a steady-state view that interprets change as gradual and incremental and disregards interactions across scales. Management implementation of steady-state theory and policies tends to invest in controlling a few selected ecosystem processes, at the expense of long-term social-ecological resilience - i.e., the capacity of the system to cope with surprise and abrupt changes. Loss of resilience makes systems more vulnerable to both expected and unforeseen changes.

Features

► Textbook for Natural Resource Management and related courses
► First textbook to take a resilience-based approach to the ecology and management of resources. It focuses on ecosystems ability to adapt to change
► Chapin is the author of Principles of Terrestrial Ecosystem Ecology and Plant Physiological Ecology
► Provides a framework for managing resources in a world dominated by uncertainty and change

Fields of interest

Environmental Management; Nature Conservation; Ecotoxicology

Target groups

Natural resources, conservation, ecosystem management; undergrad and grad students; managers and policy makers with ecology, anthropology, economics, and political science backgrounds

Discount group

P

Humanities, Social Sciences and Law

Due December 2008

► approx. $219.00
Also available as softcover
► approx. $89.95
ISBN 978-1-4020-9313-0

Earth and Environmental Science

Due March 2009

2009. Approx. 400 p. 136 illus., 16 in color. Hardcover
► approx. $49.95
Public Participation and Better Environmental Decisions

The Promise and Limits of Participatory Processes for the Quality of Environmentally Related Decision-making

Public Participation and Better Environmental Decisions is about a specific ‘promise’ that participation holds for environmental decision-making. Many of the arguments for public participation in (inter)national environmental policy documents are functional, that is to say they see public participation as a means to an end. Sound solutions to environmental problems require participation beyond experts and political elites. Neglecting information from the public leads to legitimacy questions and potential conflicts.

There is a discourse in the literature and in policy practice as to whether decision-making improves in quality as additional relevant information by the public is considered. The promise that public participation holds has to be weighed against the limitations of public participation in terms of costs and interest conflicts.

Features
- Examines the relation between public participation and the quality of decision making from a functional perspective
- Contributes to an important discourse on the role of public participation in environmental decision making
- Explores cases of environmental decision making in different policy settings and countries and from different disciplinary angles

Fields of interest
Environment, general; Environmental Law/Policy/Ecojustice; Political Science

Target groups
Researchers and specialists in environmental sciences, professional planners, civil servants in environmental policy and environmental-related fields, undergraduate students, NGO’s, environmentally conscious citizens

Discount group
P

The Handbook of Environmental Chemistry

Editors-in-chief: O. Hutzinger, A. Kostianoy, D. Barceló
Volume 5

Water Pollution
Part 5S

Emerging Contaminants from Industrial and Municipal Waste
D. Barceló, M. Petrovic (Ed.)
Subvolume 5S/1

Emerging Contaminants from Industrial and Municipal Waste
D. Barceló, M. Petrovic, CSIC Barcelona, Spain (Eds.)

Emerging Contaminants from Industrial and Municipal Waste
Occurrence, Analysis and Effects

The group of non-regulated contaminants termed “emerging contaminants” mainly comprises products used in large quantities in everyday life, such as human and veterinary pharmaceuticals, personal care products, surfactants and surfactant residues, plasticizers and various industrial additives.

Fields of interest
Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; Atmospheric Protection/Air Quality Control/Air Pollution; Ecotoxicology

Target groups
Scientists, engineers, graduate students in the field of environmental sciences, risk assessment and risk controlling, toxicology and ecology; decision-makers in government, industrial and regulatory bodies

Discount group
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Discount group
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Discount group
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C. M. Hoover, US Forest Service, Durham, NH, USA (Ed.)

**Field Measurements for Forest Carbon Monitoring**

*A Landscape-Scale Approach*

This volume is a comprehensive guide to the methods and techniques employed in forest carbon inventory and monitoring. Since forest carbon research is interdisciplinary, it is unlikely that any one investigator will possess expertise in all of the types of measurements needed to conduct forest carbon research at scales larger than a forest stand. Techniques used to characterize standing stocks of carbon in a forest, measure key carbon fluxes, and collect related data (such as forest canopy nitrogen concentrations and meteorological measurements) that are required to drive process models, develop predictive relationships, and link to remote sensing data are described in detail. In addition to the measurement methods, the chapters include background information, necessary calculations, and equipment requirements.

**Features**
- Brings together all of the methods needed for measuring and monitoring forest carbon pools and fluxes into one volume
- Presents a roadmap for creating forest carbon monitoring sites that can be used as a link between remotely sensed data and national scale inventories
- Includes a chapter on lessons learned while implementing the protocols at a variety of field sites

**Fields of interest**
- Ecology; Forestry; Climate Change

**Target groups**
- Ecologists, forestry professionals, environmental scientists, principal investigators, PhD students on multidisciplinary carbon cycle research projects (i.e. geographers, climatologists, ecological modelers)

**Discount group**
P

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R. E. Hester, University of York, UK; R. M. Harrison, University of Birmingham, UK (Eds.)

**Electronic Waste Management**

Electronic waste management includes computers, mobile phones and entertainment equipment: items which are simply discarded as new technologies become available. Electronic waste contains toxic and carcinogenic compounds, which can pose a risk to the environment. However, if handled correctly, electronic waste presents a valuable source of secondary raw materials. The European Union has implemented the Waste Electrical and Electronic Equipment directive (WEEE Directive) to tackle this growing problem. This book discusses the directive and examines current legislation in the USA and other parts of the world, considering the opportunities and threat posed by this form of waste.

**Features**
- Provides an up-to-date review of the scale of the waste problem, the impact of recent legislation such as the Waste Electrical and Electronic Equipment Directive (WEEE)
- While the emphasis is on European practice, comparisons with other countries such as the USA, Japan and China are made

**Fields of interest**
- Waste Management/Waste Technology; Engineering Economics, Organization, Logistics, Marketing; Industrial Chemistry/Chemical Engineering

**Target groups**
- All involved with electrical and electronic waste management through its comprehensive review of recent EU legislation and the subsequent impact on manufacturers and users of electronic equipment.

**Discount group**
P

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A. Marcomini, G. W. Suter II, A. Critto (Eds.)

**Decision Support Systems for Risk-Based Management of Contaminated Sites**

This book, after an introduction about the environmental and socio-economic relevance of contaminated sites in Europe and the United States, and about the risk-based environmental management concepts and principles, provides an analysis of the main steps and tools for the development of decision support systems: environmental risk assessment, multi-criteria analysis, spatial analysis and geographic information system, indices and indicators definition.

It is addressed primarily to environmental risk managers and to decision makers involved in a sustainable management process for contaminated sites, including contaminated lands, river basins and coastal lagoons. Decision support systems are intended to meet their needs. They must be aware of what decision support systems and capabilities are available so that they can decide which to use and what new systems should be developed.

A secondary audience is the environmental scientists who gather data and perform assessments to support decisions.

**Features**
- Risk-based contaminated land management, is of great interest in the EU where this is a developing area. An EU directive on soil protection and risk based management of contaminated sites will be enforced in the next year or two
- There is no other book available that collects methodologies and tools in this field
- DSSs developed in Italy and Germany will be new to US users and will expand their potential resources

**Fields of interest**
- Environmental Management; Geographical Information Systems/Cartography; Ecotoxicology

**Target groups**
- Environmental risk managers, decision makers involved in sustainable management process for contaminated sites, environmental scientists, students of environmental science

**Discount group**
P
Advances in Wind Energy and Conversion Technology

With an annual growth rate of over 35%, wind is the fastest growing energy source in the world today. As a result of intensive research and developmental efforts, the technology of generating energy from wind has significantly changed during the past five years. The book brings together all the latest aspects of wind energy conversion technology - right from the wind resource analysis to grid integration of the wind generated electricity. The chapters are contributed by academic and industrial experts having vast experience in these areas. Each chapter begins with an introduction explaining the current status of the technology and proceeds further to the advanced lever to cater for the needs of readers from different subject backgrounds. Extensive bibliography/references appended to each chapter give further guidance to the interested readers.

Features
- Provides in-depth discussion on all the major aspects of wind energy conversion technology
- Academic and industrial experts share their expertise and experiences in wind energy conversion systems through various chapters grouped in to eight sections
- A detailed section on offshore wind farms is included in this volume. Economic and environmental aspects of wind energy conversion are also given due emphasis

Fields of interest
- Nature Conservation; Environmental Management; Atmospheric Protection/Air Quality Control/Air Pollution

Target groups
Researchers, academics, and graduate students working in the following disciplines: wind energy, renewable energy, environmental science and engineering, applied energy, applied physics, energy economics and applied meteorology

Discount group
P

Real World Ecology
Large-Scale and Long-Term Case Studies and Methods

Ecological and environmental research has increased in scope and complexity in the last few decades, from simple systems with a few managed variables to complex ecosystems with many uncontrollable variables. These issues encompass problems that are inadequately addressed using the types of carefully controlled experiments that dominate past ecological research. Contemporary challenges facing ecologists include whole ecosystem responses to planned restoration activities and ecosystem modifications, as well as unplanned catastrophic events such as biological invasions, natural disasters, and global climate changes. Major perturbations implicated in large-scale ecological alterations share important characteristics that challenge traditional experimental design and statistical analyses. These include: - Lack of randomization, replication and independence; - Multiple scales of spatial and temporal variability; - Complex interactions and system feedbacks.

Features
- Addresses specific research methods needed for large-scale studies, which have become increasingly important
- Links environmental and ecological issues to experimental design, analysis, and interpretation
- Appropriate for use in ecological methods and natural resource management courses, and as a companion to statistical textbooks
- Useful for academic scientists, government employees, and those in the private sector who conduct biological assessments and environmental impact statements

Fields of interest
- Ecosystems; Applied Ecology; Landscape Ecology

Target groups
Experimental and theoretical ecologists, environmental scientists, biostatisticians, researchers, students in policy and natural resource management courses

Discount group
P

Women in Biotechnology
Creating Interfaces

Women in Biotechnology presents a unique study of the relationships and communications between women scientists, particularly those working in biotechnology. This is achieved by creating interfaces or collecting different point of views over several disciplines (i.e. economy, sociology, biology, genetics) to bridge the communication gap among science, the humanities and different feminist groups.

The publication of this book is the first step in building a new scientific community that shares a common interest in improving the awareness of women scientists who are not an integral part of the decision-making processes in their respective fields. In this respect, Women in Biotechnology endeavours to address the ethical and bio-political implications in the different branches of contemporary research, and to promote the need of women holding decision-making power to consolidate the scientific and social responsibility to all scientists.

Features
- View of biotechnology written from women’s perspectives
- Aid to help improve scientists’ responsibility to the decision-making processes affecting society at large
- Encourages dialogue within interdisciplinary sciences and with the scientific community

Fields of interest
- Life Sciences, general; Biotechnology; Gender Studies

Target groups
- Undergraduate students, biotechnology researchers, women scientists, socio-economic researchers, feminist associations, science communicators, and gender studies institutes

Discount group
P
Reviews of Environmental Contamination and Toxicology
Continuation of Residue Reviews

Editors-in-chief: D. M. Whitacre

Volume 196
D. M. Whitacre, Summerfield, NC, USA (Ed.)

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

Features
► Publishes detailed scientific review articles on all aspects of environmental contamination and associated toxicological consequences
► Facilitates the task of accessing and interpreting cogent scientific data
► Of interest to researchers, resource managers, and policy administrators

Contents
Environmental Impact of Pesticides in Egypt.
Biodegradation of Perfluorinated Compounds.
Lead Stress Effects on Physio-Biochemical Activities of Higher Plants.
Environmental Fate and Toxicology of Carbaryl.
Managing Hazardour Pollutants in Chile: Arsenic.
Atrazine Interaction with Estrogen Expression Systems.

Fields of interest
Environmental Management; Ecotoxicology; Pollution, general

Target groups
Researchers, industry scientists

Discount group
P

Reviews of Environmental Contamination and Toxicology
Continuation of Residue Reviews

Editors-in-chief: D. M. Whitacre

Volume 197
H. Garelick, H. Jones, London, UK (Eds.)

International Perspectives on Arsenic Pollution and Remediation

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

Features
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► Of interest to researchers, resource managers, and policy administrators

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► Of interest to researchers, resource managers, and policy administrators

Fields of interest
Ecotoxicology; Environmental Health; Pollution, general

Target groups
Researchers, industry scientists

Discount group
P
Reviews of Environmental Contamination and Toxicology

Continuation of Residue Reviews

Editors-in-chief: D. M. Whitacre

Volume 199

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Features
► Publishes detailed scientific review articles on all aspects of environmental contamination and associated toxicological consequences
► Facilitates the task of accessing and interpreting cogent scientific data
► Of interest to researchers, resource managers, and policy administrators

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

Target groups
Researchers, industry scientists

Discount group
P

In Situ Bioremediation of Perchlorate in Groundwater

H. Stroo, Reston, VA, USA; C. H. Ward, Houston, TX, USA (Eds.)

This volume presents a critical analysis and timely synthesis of the past decade of intensive research, development, and demonstrations on the in situ bioremediation of perchlorate in groundwater. An overview of the current state-of-understanding of perchlorate remediation is followed by basic principles of microbial processes, abiotic processes, and the engineering and implementation issues underlying the technologies described. Characterization of both anthropogenic and natural sources of perchlorate, including isotopic analysis to distinguish between differing sources, precedes discussions of the advantages, performance and relative costs of applying a range of remedial technologies. Active, semi-passive, and passive in situ bioremediation are fully described and compared with emphasis on field application.

Fields of interest
Environmental Management; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; Civil Engineering

Target groups
Remediation project managers, hazardous waste site managers, Federal, State, and local facilities managers, drinking water treatment engineers, Federal, State, and local water quality engineers, scientists, and regulators, environmental scientists, environmental microbiologists, hydrologists, hydrogeologists, environmental engineering process design scientists and engineers, chemical engineers and civil engineers

Discount group
P

Atmospheric Ammonia

Detecting emission changes and environmental impacts. Results of an Expert Workshop under the Convention on Long-range Transboundary Air Pollution

M. Sutton, S. Reis, S. Baker (Eds.)

Anthropogenic emissions of ammonia cause a host of environmental impacts, including loss of biodiversity, soil acidification and formation of particulate matter in the atmosphere. Under the auspices of the UNECE Convention on Long Range Transboundary Air Pollution, around 80 international experts met to review the state of scientific knowledge. This book reports their analysis. It concludes that threshold levels for ammonia effects have been underestimated and sets new values, it assesses the independent evidence to verify reported reductions in regional ammonia emissions, and it reviews the uncertainties in modelling ammonia, both in “hot spots” and at the regional scale.

Features
► Explains the current state of knowledge of the behaviour of ammonia in the environment
► Reports new critical level values

From the contents

Fields of interest
Atmospheric Protection/Air Quality Control/Air Pollution; Environmental Chemistry; Ecotoxicology

Target groups
Academics, practitioners, scientists and researchers interested in the behaviour of ammonia in the environment

Discount group
P
As a result of arms control efforts over the past 50 years, nuclear material is subject to strict national controls and tough international treaties. But there are still almost no controls, other than a voluntary International Atomic Energy Agency code of conduct, on the sorts of radiological sources used to make radiological dirty bombs. Radiological sources are used all over the world for a wide range of peaceful purposes, including smoke detectors, medical devices, meteorology, mining and thermoelectric generators.

**Features**
- Comprehensive history of International Radiological security controls
- Potential Radiological terrorism scenarios
- Operational responses to radiological terrorism
- New technologies for detecting radiological sources

**Fields of interest**
Effects of Radiation/Radiation Protection; International & Foreign Law/Comparative Law; Emergency Services

**Target groups**
Strategic studies students/consultants, international relations students/consultants, nuclear non-proliferation experts, homeland security organizations/consultants

**Discount group**
P
Salinity and Water Stress
Improving Crop Efficiency

Salinity and water stress limit crop productivity worldwide and generate substantial economic losses each year, yet innovative research on crop and natural resource management can reveal cost-effective ways in which farmers can increase both their productivity and their income. Presenting recent research findings on salt stress, water stress and stress-adapted plants, this book offers insights into new strategies for increasing the efficiency of crops under stressful environments. The strategies are based on conventional breeding and advanced molecular techniques used by plant physiologists, and are discussed using specific case studies to illustrate their potential.

The book emphasizes the effects of environmental factors on specific stages of plant development, and discusses the role of plant growth regulators, nutrients, osmoprotectants and antioxidants in counteracting their adverse affects.

**Features**
- Many different contributors give insight in their specific views on the topics (highly interesting for scientists working in this field)
- Authors from various geographical regions
- Topical: abiotic stress is the most important factor for crop yield reduction
- Practical examples provide state of the art information
- Provides reference material for abiotic stress researchers

**Fields of interest**
Plant Physiology; Agriculture; Soil Science & Conservation

**Target groups**
Post graduate students and researchers in the fields of stress physiology and plant physiology in general; researchers in horticulture, agronomy, crop science, conservation, environmental management and ecological restoration

**Discount group**
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Microinjection
Methods and Applications

As the number of sequenced genomes continues to increase, understanding the functions of newly discovered molecules will require greater efficiency and further study within the context of live cells. In Microinjection: Methods and Protocols, expert researchers contribute methods utilizing microinjection techniques ranging from expression of RNA to the integration of DNA into the genome with the ultimate goal of learning about gene expression, signal transduction, and protein function within these living cells. This versatile volume updates established techniques such as cRNA expression in Xenopus oocytes, and examines new, cutting-edge technologies, including antisense morpholino oligonucleotides, RNAi for knockdown experiments, and the use of integrase and transposase for the production of transgenic animals, all through microinjection techniques that can be easily adopted by any lab.

**Features**
- Explores a wide variety of model systems, including human, mouse, sea urchin, starfish, zebrafish, and Xenopus oocytes, transformed Caenorhabditis elegans, and tissue culture cells
- Contains detailed methods easily adaptable to virtually any system
- Expands the capabilities of cellular and molecular biology laboratories and provides scientists with a valuable mechanistic understanding

**Fields of interest**
Biotechnology

**Target groups**
Molecular and cellular biologists, systems biologists, biotechnologists, developmental biologists, protein scientists

**Discount group**
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Chromatin Protocols

Significant advancements have been made in the study of chromatin structure and function over the past fifty years but none as spectacular as those made in the last decade due to the development of novel techniques and the ability to sequence large stretches of DNA. In Chromatin Protocols, Second Edition, expert researchers delineate these cutting-edge techniques via step-by-step laboratory methods and protocols, which encompass a wide array of topics from the isolation of nucleosomes, assembly of nucleosomes and study of the basic chromatin structure to detailed analysis of histone modifications and chromatin function. Written in the highly successful Methods in Molecular Biology™ series style, chapters include brief introductions to the subjects, lists of the necessary materials and reagents, readily reproducible protocols, and Notes sections which highlight tips on troubleshooting and avoiding known pitfalls.

**Features**
- Provides an easily accessible reference volume for analysis of chromatin structure and function incorporating the latest techniques
- Includes detailed, step by step guidelines for the analysis of chromatin structure and its role in transcription, replication and other biological processes

**Fields of interest**
Biochemistry, general

**Target groups**
Biochemists, molecular and cellular biologists

**Discount group**
P

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Due January 2009

2009. Approx. 245 p. (Tasks for Vegetation Science, Volume 44) Hardcover

**Due January 2009**
2009. Approx. 225 p. 50 Illus. (Methods in Molecular Biology, Volume 518) Hardcover

2nd ed. 2009. Approx. 400 p. 51 Illus., 2 in color. (Methods in Molecular Biology, Volume 523) Hardcover
DAISIE, Bern, Switzerland

**Handbook of Alien Species in Europe**

Biological invasions by alien (non-native) species are widely recognized as a significant component of human-caused global environmental change and the second most important cause of biodiversity decline. Alien species threaten many European ecosystems and have serious environmental, economic, and health impacts. The DAISIE (Delivering Alien Invasive Species Inventories for Europe) project has now brought together all available information on alien species in Europe (terrestrial, aquatic, and marine) and from all taxa (fungi, plants, animals). Thus for the first time, an overview and assessment of biological invasions in the Pan-European region is finally possible.

**Features**
- First of its kind for Europe
- Comprehensive: all taxa, all habitats
- Includes 100 fact sheets of the most invasive alien species in Europe, each with distribution map and colour picture
- Accompanied by an internet database providing free additional information

**Fields of interest**
Ecology; Conservation Biology/Ecology; Environmental Management

**Target groups**
Ecologists, environmental scientists, biologists, botanists, zoologists; institutions involved in management and control of alien and invasive species: biological control, SFTs, pesticide producing companies; local, national, and international stakeholders, decision-makers and politicians with responsibility on conservation, environmental, fisheries, agriculture, trading...; issues; economists dealing with the damage caused by invasive species; people involved in using or managing ecosystems (e.g., marine, freshwater, forests, grasslands, agricultural) under invasion pressure

**Discount group**
P

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**Photoprotection, Photoinhibition, Gene Regulation, and Environment**

Photoprotection, Photoinhibition, Gene Regulation, and Environment examines the processes whereby plants monitor environmental conditions and orchestrate their response to change, an ability paramount to the life of all plants. “Excess light”, absorbed by the light-harvesting systems of photosynthetic organisms, is an integrative indicator of the environment, communicating the presence of intense light and any conditions unfavorable for growth and photosynthesis. Key plant responses are photoprotection and photoinhibition. In this volume, the dual role of photoprotection responses in the preservation of leaf integrity and in redox signaling networks modulating stress acclimation, growth, and development is addressed. In addition, the still unresolved impact of photoinhibition on plant survival and productivity is discussed.

**Features**
- Exciting new research is unveiling a central role of chloroplast processes that are simultaneously involved in both protection and signaling
- Provides a guide to future research into resolving current controversies and integrating the understanding of cellular signaling networks
- Discusses the full continuum of processes from protection by defense mechanisms to cell death and senescence

**Fields of interest**
Plant Sciences; Plant Ecology; Plant Biochemistry

**Target groups**
Advanced undergraduate students, graduate students, and researchers interested in plant ecology, stress physiology, plant biochemistry, integrative biology and photobiology

**Discount group**
P

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**Extracellular Matrix Protocols**

The study of the extracellular matrix has significantly expanded over the past decade. Although thoroughly researched, the complexity and the dynamic nature of the matrix are still under extensive investigation, yielding a growing number of methods of analysis. In Extracellular Matrix Protocols: Second Edition, expert researchers explore this developing field and provide a number of techniques which can be reproduced in most cell biology labs. This edition contains methods that represent cutting edge unique technologies which are well worth exposure to the broad field and may encourage collaboration with expert labs. Chapters include information on molecular biology techniques to study gene expression, biophysical and biochemical methods for the analysis of structure and composition, and cell biology methods for assessment of cell behavior, matrix assembly and tissue engineering applications.

**Features**
- A comprehensive protocol book featuring cutting-edge methods and techniques to study molecular, cellular, biochemical, and biophysical aspects of the extracellular matrix
- Bench-tested in-vivo, ex-vivo and in-vitro methods written by experts who provided detailed step-by-step instructions and trouble-shooting
- Easy-to-follow techniques that ensure reproducibility and save time and resources

**Discount group**
P

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**Biomedical and Life Sciences**

**Due December 2008**

- $169.00  

**Due November 2008**

2009. XXII, 382 p. (Advances in Photosynthesis and Respiration, Volume 21) Softcover
- $139.00  
  ISBN 978-1-4020-9281-7

**Due January 2009**

2nd ed. 2009. Approx. 335 p. 59 illus., 9 in color. (Methods in Molecular Biology, Volume 522) Hardcover
- $110.00  
  ISBN 978-1-58829-984-4
Marine Toxins as Research Tools

Marine organisms produce a wide array of toxins, many of which are not only structurally unusual, but also show potent and interesting modes of action. Since the discovery of tetrodotoxin, a pufferfish toxin, as a potent and selective blocker of Na+ channels in 1964, it has been widely used as a research tool in pharmacological and physiological research. This has led to the identification of a number of important biological functions for Na+ channels. In recent years, much biological research has been carried out at molecular and cellular levels, and therefore selective inhibitors of enzymes and selective antagonist/agonists of receptors and channels have become increasingly important research tools. Accordingly, interest in using such compounds as reagents has increased. Marine toxins are some of the most popular research tools and have already contributed much to our understanding of biological processes and disease mechanisms.

Features
- Highlights the crucial importance of marine toxins as research tools and potential drugs

Fields of interest
Biotechnology; Environmental Engineering/Biotechnology; Pharmacology/Toxicology

Target groups
Scientists, researchers, pharmacologists

Discount group
P

South American Primates
Comparative Perspectives in the Study of Behavior, Ecology, and Conservation

This will be the first time a volume will be compiled focusing on South American monkeys as models to address and test critical issues in the study of nonhuman primates. In addition, the volume will serve an important compliment to the book on Mesoamerican primates recently published in the series under the DIPR book series. The book will be of interest to a broad range of scientists in various disciplines, ranging from primatology, to animal behavior, animal ecology, conservation biology, veterinary science, animal husbandry, anthropology, and natural resource management. Moreover, although the volume will highlight South American primates, chapters will not simply review particular taxa or topics. Rather the focus of each chapter is to examine the nature and range of primate responses to changes in their ecological and social environments, and to use data on South American monkeys to address critical theoretical questions in the study of primate behavior, ecology, and conservation.

Features
- First time a volume will be compiled summarizing new approaches in the study of South American primate taxa  
- Will be an important compliment to the book on Mesoamerican primates recently published  
- Color insert

Fields of interest
Ecology; Zoology; Behavioural Sciences

Target groups
Libraries, researchers, scientists, professionals, graduate students in the fields of primatology, physical anthropology, zoology, animal science and psychology

Discount group
P

The Vicuña
The Theory and Practice of Community Based Wildlife Management

The vicuña is one of the few success stories of wildlife conservation. The focus is now shifting from protection to sustainable use. Internationally, policy development has followed the community-based conservation paradigm, which holds that economic benefits from wildlife management practices bring greater commitment on the part of local communities to protect both the species and its habitat. This book takes the position that sustainability is not guaranteed by sustainable use, and that both education and regulation are required to prevent the proliferation of unsustainable practices.

The research from the countries presented in this book demonstrate the animal welfare, ecological, economic, social, and conservation trade-offs, which exist between different management systems. This links economics, social and conservation research to provide a unique insight into the viability of community-based wildlife management of a species which until recently was viewed simply as a conservation priority.

Features
- Most books on this species are in Spanish  
- There is a strong South American market for this title

Fields of interest
Animal Ecology; Nature Conservation; Environmental Management

Target groups
Wildlife management practitioners, academics interested in community-based wildlife management, international/government agencies involved in endangered species regulation, graduate students

Discount group
P
Landscape Ecological Applications in Man-Influenced Areas
Linking Man and Nature Systems

Since the last century of ecological history, landscape ecologists have played a role in solving many hot issues linking development and conservation of landscape. Recently, cause and consequences of landscape change are significantly related to rapid urbanization and land transformation in populated area. Therefore, ecological applications on the man-influenced area are a worldwide issue and challenge in landscape ecology.

The aim of Landscape Ecological Applications in Man-Influenced Areas is not only to expand concept of landscape ecology, but also to apply its principle to man-influenced ecosystems. New dimensions of landscape ecological research in a global change such as urbanization, biodiversity, and land transformation are explored in this book. This book also includes several case studies concerning landscape analysis and evaluation using spatial analysis and landscape modelling for establishing sustainable management strategy in urban and agricultural landscapes.

Features
- Focusing diverse landscape ecological applications in man-influenced area
- Development of new framework of landscape ecology in multiscales
- Suggesting socio-ecological solution for evaluation and planning of man-influenced landscape
- Integrative approaches for landscape ecological practice
- Representative landscape ecology book that publishes Asian perspectives

Fields of interest
- Landscape Ecology
- Urbanism
- Ecosystems

Target groups
- Scholars, graduate students and decision makers
- Teachers in landscape ecology, environmental science and global ecology
- IALE, INTECOL, ESJ, ESC, IVAS, EAFES, ESK and ESA members

Discount group
- P

The Great Barrier Reef
Biological, Environment and Management

The Great Barrier Reef Marine Park is 344,400 square kilometres in size and is home to one of the most diverse ecosystems in the world. This comprehensive guide describes the organisms and ecosystems of the Great Barrier Reef, as well as the biological, chemical and physical processes that influence them. Contemporary pressing issues such as climate change, coral bleaching, coral disease and the challenges of coral reef fisheries are also discussed. In addition, the book includes a field guide that will help people to identify the common animals and plants on the reef, then to delve into the book to learn more about the roles the biota play.

Beautifully illustrated and with contributions from thirty-three international experts, The Great Barrier Reef is a must-read for the interested reef tourist, student, researcher and manager. While it has an Australian focus, it can equally be used as a baseline text for most Indo-Pacific coral reefs.

Features
- Introduction to the major features of GBR reefs and major anthropogenic impacts on reefs
- Exciting and contemporary account of the issues that face the world's most complex marine ecosystem
- World research leaders explaining the complex threats that reefs face
- Explaining both taxonomic groups and processes of reefs

Fields of interest
- Freshwater & Marine Ecology
- Environmental Management
- Nature Conservation

Target groups
- Students, researchers, teachers, and planters

Discount group
- P

Breeding Plantation Tree Crops: Temperate Species

Tree species are indispensable to human needs. Due to their long life cycle and environmental sensitivity, breeding trees for sustainable production is a formidable challenge on order to meet the demands of growing human population and industries. Fruit crops such as apple, cocoa, mango, citrus, litchi, pear, dates, and coconut or industrial crops including rubber and tea, improving yield under the optimal, sub-optimal and marginal areas call for a unified worldwide efforts. While the uniqueness of coconut as ‘kalpavriksha’ (Sanskrit-meaning tree of life) makes its presence in every continent from Far East to South America, tree crops like cocoa, oil palm, rubber, apple, peach and walnut prove their environmental sensitivity towards tropical, sub tropical and temperate climates. Date palm is quintessential for desert climate. Thus, from soft drinks to brewerries to oil to tires, the value addition offers a spectrum of products to human kind, enriched with nutritional, environmental, financial, and trade related attributes.

This volume is a compilation of information on breeding of temperate tree species and provides first hand comprehensive knowledge to research, teach, and make policies.

Features
- Covers almost all temperate tree plantation crops
- Serves as a reference book for all users (researchers, teachers, students)
- Many chapters include biotechnology and molecular components, more like a package breeding and appropriate molecular techniques

Fields of interest
- Plant Sciences
- Plant Genetics & Genomics
- Agriculture

Target groups
- Students, researchers, teachers, and planters

Discount group
- P
Breeding Plantation Tree Crops: Tropical Species

Tree species are indispensable to human needs. Due to their long life cycle and environmental sensitivity, breeding trees for sustainable production is a formidable challenge in order to meet the demands of growing human population and industries. Fruit crops such as apple, cocoa, mango, citrus, litchi, pear, dates, and coconut or industrial crops including rubber and tea, improving yield under the optimal, sub-optimal and marginal areas call for unified worldwide efforts. While the uniqueness of coconut as 'kalpavriksha' (Sanskrit-meaning tree of life) makes its presence in every continent from Far East to South America, tree crops like cocoa, oil palm, rubber, apple, peach and walnut prove their environmental sensitivity towards tropical, subtropical and temperate climates. Date palm is quintessential for desert climate.

Features
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Contents

Fields of interest
Plant Sciences; Plant Genetics & Genomics; Agriculture

Target groups
Students, researchers, teachers and planters

Discount group
P

Biology of Microorganisms on Grapes, in Must and in Wine

Winemaking depends on a complex group of microorganisms such as yeasts, bacteria, and fungi, which colonize grapes, must and wine. Understanding their wine-relevant activities is essential for improving the selection and management of novel starter cultures and consequently wine quality. In contrast to previous publications, this book consistently focuses on the biology of wine-associated microbes. An international expert board of wine researchers describes the relevant systematic, ecological, physiological and genetic aspects of wine microbiology. The diversity of wine-related species, their energy, primary and secondary metabolism are important topics that have significant impacts on aroma production and off-flavour formation. The growth management of microbial species, stimulating and inhibitory growth factors and cell-cell interactions are also discussed; chapters on modern molecular and maintenance methods including rapid and real-time identification round off the book.

Features
► The editors and authors are well-known experts, researchers and teachers in wine science, oenology and viticulture from different wine-growing countries  ► Helmut König, Institute of Microbiology and Wine Research, Johannes Gutenberg University of Mainz, is involved in the International Wine Education Program of the Global Network “Great Wine Capitals”

Fields of interest
Microbiology; Plant Biochemistry; Biotechnology

Target groups
Wine researchers and winemakers; teachers and students of microbiology, oenology and viticulture; wine managers; oenophiles; persons employed in the wine, beverage or food industry

Discount group
P

Alien Reptiles and Amphibians

The conservation threat posed by invasive alien species has become well-recognized over the past two decades, even as the problem continues to increase rapidly in scope. Research and management attention to this issue has, however, been taxonomically biased toward groups having large, obvious impacts, and the invasive potential of other organisms with subtle or cryptic impacts remains largely unassessed. Alien reptiles and amphibians, although providing a few of the better-known examples of severe invasion impacts, have never been scientifically assessed as a group for their potential invasiveness. This book examines the means by which alien reptiles and amphibians are transported by humans; surveys their ecological, evolutionary, economic, and health impacts; reviews the management responses taken against them; and summarizes the immediate research and management efforts needed to mitigate the threat posed by these organisms.

Features
► First comprehensive database of herpetofaunal introductions worldwide  ► First globally comprehensive pathway analysis for alien herpetofauna  ► First summary and assessment of impacts resulting from alien herpetofauna  ► First critical review of managerial and research needs required to reduce impacts from alien herpetofauna

Fields of interest
Conservation Biology/Ecology; Vertebrates; Fish & Wildlife Biology & Management

Target groups
Scientists and students studying invasive-species biology; scientists and students studying herpetology; invasive-species managers; environmental organizations; herpetoculturists

Discount group
P
J. G. Lundgren, USDA-ARS, Brookings, SD, USA

**Relationships of Natural Enemies and Non-prey Foods**

There are very few natural enemies so maladapted as to rely on prey as their sole nutritional resource. The importance of non-prey sources of nutrition have received disproportionately less attention than prey when one considers how important non-prey foods are to the evolution and ecology of natural enemies. This book examines the intricate and diverse interactions between non-prey foods and natural enemies from both parties’ perspectives, beginning at an organismal level and taking the reader on a journey that illustrates how these interactions are inextricably tied to the outcome of biological control programs targeting insects and weed seeds.

**Features**
- Organized according to major classes of non-prey foods, including micro-organisms, sugar sources, pollen, and seeds
- Complete compilations of granivorous carabids and pollinivorous natural enemies
- Discusses the nutrition and defense of non-prey foods, as pertinent to entomophagous species
- Outlines broad similarities in the morphology and physiology of entomaphagous insects that facilitates omnivory

**Fields of interest**
Invertebrates; Plant Pathology; Zoology

**Target groups**
Academics, scientists, researchers, graduates

**Discount group**
P

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J. N. Marchant-Forde, Agricultural Research Service, West Lafayette, USA (Ed.)

**The Welfare of Pigs**

The domestic pig is perceived as an animal with intelligence and character and yet, in the industrialized world, the majority of people have had little or no contact with them. Pigs are subject to a wide range of environments from the tropics to the sub-arctic, ranging from small-scale, extensive systems to large-scale intensive systems. They may spend their whole life on one farm or may be subject to long-distance transport multiple times. Not surprisingly, many aspects of their life experiences can impact their welfare.

This book brings together a team of leading pig welfare research scientists to review the natural history of the pig, the welfare of pigs at different stages of life and to indicate what the future holds in terms of pig welfare. The text is aimed at researchers and teachers working in veterinary and animal science together with those working in the pig industry and for governmental and non-governmental animal welfare organizations.

**Features**
- Up-to-date systematic reviews of pig welfare at different stages
- One of the first books to deal exclusively with the welfare of the pig
- Written by 16 leading authors with experience of pig research and production in Europe and N. America
- Summarizes the impact of live-stock production on the pig, relative to its natural ecology

**From the contents**
1. Introduction To The Welfare Of Pigs;
2. The Natural Behavior Of The Pig;
3. Advances In The Study Of Cognition, Behavioural Priorities And Emotions;
4. Welfare Of Dry Sows;
5. Welfare Of Pigs In The Farrowing Environment;
6. Housing The Fattening Pig;
7. Pigs And Humans.

**Fields of interest**
Agriculture; Animal Physiology; Neurobiology

**Target groups**
Research workers, graduate students, swine producers, animal science educators, animal welfare legislators/campaigners

**Discount group**
P

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V. Mathura, Roskamp Institute, Sarasota, FL, USA; P. Kangueane, School of Mechanical and Production Engineering, Singapore

**Bioinformatics**

**A Concept-Based Introduction**

Bioinformatics is an evolving field that is gaining popularity due to genomics, proteomics and other high-throughput biological methods. The function of bioinformatic scientists includes biological data storage, retrieval and in silico analysis of the results from large-scale experiments. This requires a grasp of knowledge mining algorithms, a thorough understanding of biological knowledge base, and the logical relationship of entities that describe a process or the system. Bioinformatics researchers are required to be trained in multidisciplinary fields of biology, mathematics and computer science. Currently the requirements are satisfied by ad hoc researchers who have specific skills in biology or mathematics/computer science. But the learning curve is steep and the time required to communicate using domain specific terms is becoming a major bottle neck in scientific productivity. This workbook provides hands-on experience which has been lacking for qualified bioinformatics researchers.

**Features**
- Textbooks provide a practical introduction to bioinformatics and computer technologies
- Workbook which spends more time showing students techniques and applications, problems and solutions
- Less theoretical, more practical and applied, and can be used as a companion to a more comprehensive text

**Fields of interest**
Bioinformatics

**Target groups**
Undergraduate and graduate students taking courses in bioinformatics, computational biology, genomics and proteomics; interdisciplinary researchers

**Discount group**
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Biomedical and Life Sciences

**Due January 2009**

2009. Approx. 375 p. (Progress in Biological Control, Volume 7) Hardcover
- approx. $149.00
  SBN 978-1-4020-9234-3

Biomedical and Life Sciences

**Due January 2009**

- $179.00
  SBN 978-1-4020-8908-4

Biomedical and Life Sciences

**Due November 2008**

2009. Approx. 205 p. 23 illus., 3 in color. Hardcover
- $69.95
  SBN 978-0-387-84869-3
This book provides the reader with an insight into the dominant factors determining the specific transmembrane transfer processes in proteins. The authors discuss high-field EPR in conjunction with site-specific mutation strategies and employ advanced quantum chemical computation methods for data interpretation in order to reveal fascinating protein structures and dynamics. Both theory and practise are covered, including state-of-the-art high-field EPR research both in terms of instrumentation development and application to paradigmatic biological systems and future perspectives.

Features
- Documents both background knowledge and results of the latest research in the field
- Includes comparisons of information content of EPR, ENDOR, Triple resonance, ESEEM and PELDOR taken at different microwave frequencies and magnetic fields
- Provides an outlook to future developments and references for further reading

Fields of interest
Analytical Chemistry

Target groups
Scientists, professionals, academics and post graduate students working in this field

Discount group
P

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It is generally accepted that neuropsychiatric disorders have a biological basis. Pathological changes leading to illness have been confirmed for Alzheimer’s (amyloid plaques) and Parkinson’s disease (loss of dopaminergic transmission) and are the foundation for studies on the molecular biology of these disorders. For other neuropsychiatric disorders, in particular for schizophrenic and affective disorders, molecular causes appear to be more complex and therefore remain hypothetical, despite decades of research. Changes in a number of neuronal pathways and structures have been reported to be associated with these disorders and are currently under extensive investigation. The present volume reviews recent knowledge with emphasis on ongoing research findings. Current hypotheses based on these findings are described and discussed.

Features
- Gives an overview about ongoing research and most promising findings into molecular causes for disorders that affect the human brain

From the contents

Fields of interest
Entomology; Forestry; Ecology

Target groups
Forestry, forest entomology, and pest management communities

Discount group
P

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K. Moebius, A. N. Savitsky, University of Berlin, Germany

High-Field EPR Spectroscopy on Proteins and their Model Systems
Characterization of Transient Paramagnetic States

This book provides the reader with an insight into the dominant factors determining the specific transmembrane transfer processes in proteins. The authors discuss high-field EPR in conjunction with site-specific mutation strategies and employ advanced quantum chemical computation methods for data interpretation in order to reveal fascinating protein structures and dynamics. Both theory and practise are covered, including state-of-the-art high-field EPR research both in terms of instrumentation development and application to paradigmatic biological systems and future perspectives.

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Fields of interest
Analytical Chemistry

Target groups
Scientists, professionals, academics and post graduate students working in this field

Discount group
P

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Nucleic Acids and Molecular Biology
Series editor: H. J. Gross
Volume 23
D. B. Wildenauer, Graylands Hospital, Claremont, Australia (Ed.)

Molecular Biology of Neuropsychiatric Disorders

It is generally accepted that neuropsychiatric disorders have a biological basis. Pathological changes leading to illness have been confirmed for Alzheimer’s (amyloid plaques) and Parkinson’s disease (loss of dopaminergic transmission) and are the foundation for studies on the molecular biology of these disorders. For other neuropsychiatric disorders, in particular for schizophrenic and affective disorders, molecular causes appear to be more complex and therefore remain hypothetical, despite decades of research. Changes in a number of neuronal pathways and structures have been reported to be associated with these disorders and are currently under extensive investigation. The present volume reviews recent knowledge with emphasis on ongoing research findings. Current hypotheses based on these findings are described and discussed.

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Entomology; Forestry; Ecology

Target groups
Forestry, forest entomology, and pest management communities

Discount group
P

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Invasive Forest Insects, Introduced Forest Trees, and Altered Ecosystems
Ecological Pest Management in Global Forests of a Changing World

Demand for timber and fibre continues to grow and is being met by increased reliance on plantation forestry. Many of the plantations that are being grown around the globe are non-native species that have characteristics of rapid growth and good commercial qualities. In some cases, the high rates of production are a result of the absence of native herbivore and diseases. This limited pest status is threatened as pest species move around the globe. At the same time there is concern about threats of these non-native plantation species on native communities and the impact of changing climates on forest productivity. This volume explores many of these issues for the first time.

Features
- Deals with the aspect of arthropod management in significant detail
- Summarizes the state-of-the-art knowledge in ten key areas

From the contents
Prokaryotic Symbionts in Plants

Endophytic prokaryotes can invade the tissue of the host plant without triggering defense reactions or disease symptoms. Instead, they promote the growth of the host plant due to their ability to fix atmospheric dinitrogen and/or to produce plant growth-promoting substances. This Microbiology Monographs volume presents up-to-date knowledge on the interactions between plants and beneficial prokaryotes, including the use of genomics for the analysis of plant-prokaryote symbioses and their evolution. Presented are rhizobia-legume, actinorhizal and cyanobacterial symbioses.

Contents

Fields of interest
Microbiology; Plant Sciences; Agriculture

Target groups
Scientists in microbiology, plant sciences, microbial ecology and agriculture

Discount group
P

Membrane Proteomics
Methods and Protocols

With the great cellular and therapeutic importance of plasma membrane proteins, unbiased technologies such as proteomics become even more vital as they have the power to define patterns of membrane protein expression characteristic of distinct states of cellular development, differentiation or disease, and thereby identify novel markers of, or targets for intervention in, disease. In Membrane Proteomics: Methods and Protocols, leading experts in the field compile a laboratory bench resource which provides a comprehensive toolkit of proven methods. The volume delves into various modifications to standard two-dimensional gel electrophoresis protocols as well as liquid chromatographic methods, protocols for the enrichment of diverse classes of plasma membrane proteins, in silico approaches, and cutting-edge techniques for quantitative membrane protein profiling.

Features
➤ Collects together in one volume the diverse practical approaches to analyzing membrane proteins ➤ Includes both wet lab and in silico approaches ➤ Includes protocols for the isolation of plasma membrane and organellar membrane proteins ➤ Covers both prokaryotic and eukaryotic membrane proteins ➤ Describes methods useful and accessible to both novice and dedicated proteomic laboratories

Fields of interest
Proteomics

Target groups
Cell biologists, protein scientists, pharmaceutical scientists, molecular biologists

Discount group
P

The Welfare of Animals
The Silent Majority

The welfare of animals is a subject that challenges every one of us. We use animals for food, companionship, sport and clothing and even the welfare of wild animals is affected by human activities. We are increasingly questioning whether this is necessary, desirable and humane. This book provides a framework to make those difficult decisions. Aspects of welfare that are important to animals are considered, as well as their rights to different welfare standards. Provision for animal welfare depends as much on culture, gender and other societal influences as any scientific advances in management systems. The influence of intensification of animal use, especially in food production, on welfare is considerable and the international scale of welfare issues with different types of animals is discussed.

Features
➤ Considers animal welfare from a broad, and especially humanitarian, perspective ➤ Provides a framework for deciding on the humaneness of our treatment of animals ➤ An international approach to animal welfare, drawing on the author’s experiences ➤ Incorporates the author’s unique experiences with a wide range of animals ➤ A personal journey of exploration of our interactions with animals

Fields of interest
Life Sciences, general; Vertebrates; Philosophy of Nature

Target groups
Anyone connected with the animal industries worldwide; members of the public interested in animal welfare; libraries, veterinary faculty, veterinarians and students, agriculture and animal science faculty and students, animal welfare professionals (academics, researchers, students), animal industry staff, including farmers, zoo and shelter managers; animal welfare organisations and staff; philosophers, theologians interested in animal welfare

Discount group
P
Science for Agriculture and Rural Development in Low-income Countries

Since 1998, the Dutch Ministry of Agriculture, Nature Management and Food Quality (LNV) promotes development-orientated agricultural and environmental research and strengthening of North-South partnerships through its International Cooperation (DLO-IC) research programme. By 2005, some 70 collaborative North-South projects had been carried out. All science groups in Wageningen University and Research Centre (WUR) were involved in the implementation of the programme and at least half the projects and activities undertaken were directly related to Rural Development and Sustainable Agriculture (RDSA).

Facing new challenges with respect to sustainable development strategies for low-income countries, related to global environmental change and globalization of markets, an interdisciplinary Wageningen research group set out to draw lessons from the DLO-IC projects of the last eight years, stimulate discussion and support identification of a future research agenda for RDSA. In that process, special emphasis was given to lessons for future thinking about the contribution of agriculture to: 1) poverty alleviation and rural livelihoods; 2) food security, human nutrition and health; 3) environmental sustainability and natural resource management.

Fields of interest
Agriculture; Environment, general; Development Economics

Target groups
Scientists and decision makers with a stake in rural development and sustainable agriculture in sub-saharan Africa, Asia (and Latin America), including fellow scientists, research managers, potential investors (donors R&D), planners and policy makers from “the North and the South” (national and international research centers dealing with agriculture, environment and rural development)

Discount group
P

The Chloroplast
Interactions with the Environment

Chloroplasts are vital for life as we know it. At the leaf cell level, it is common knowledge that a chloroplast interacts with its surroundings – but this knowledge is often limited to the benefits of oxygenic photosynthesis and that chloroplasts provide reduced carbon, nitrogen and sulphur. This book presents the intricate interplay between chloroplasts and their immediate and more distant environments. The topic is explored in chapters covering aspects of evolution, the chloroplast/ cytoplasm barrier, transport, division, motility and bidirectional signalling. Taken together, the contributed chapters provide an exciting insight into the complexity of how chloroplast functions are related to cellular and plant-level functions. The recent rapid advances in the presented research areas, largely made possible by the development of molecular techniques and genetic screens of an increasing number of plant model systems, make this interaction a topical issue.

Features
► Presents the chloroplast as an organelle with multiple roles especially interaction and communication with their surroundings  ► Highlights the different aspects such as plastid evolution, the chloroplast/cytoplasm barrier, transport into and out of chloroplasts, chloroplast division and motility and signalling between chloroplasts and their environment

Fields of interest
Plant Physiology; Cell Biology; Plant Biochemistry

Target groups
Institutes, libraries, scientists

Microbial Megaplasmids

Megaplasmids are extrachromosomal genetic elements in the size range of 100 kb and larger. They are found in physiologically and phylogenetically diverse groups of bacteria and archaea. By definition, megaplasmids are not essential for the viability of their hosts under all growth conditions, but, paradoxically many megaplasmids carry the genetic information for the defining and characteristic traits of the organism in which they reside. Microbial Megaplasmids reviews our knowledge of the extensively studied representatives, such as the catabolic plasmids of the pseudomonads, the rhizobial Sym plasmids, the Ti plasmids of the genus Agrobacterium and the giant enterobacterial virulence plasmids. It also presents snapshots of more recently discovered megaplasmids. The contribution of megaplasmids to the biology of their hosts is described, highlighting the interactions between megaplasmid and chromosomal genes.

From the contents
Megaplasmids in Archaea; Megaplasmids and Biodegradation; Megaplasmids in Plant Symbionts and Pathogens; Megaplasmids in Human Pathogens; Megaplasmids and Special Metabolic Functions.

Fields of interest
Microbial Genetics and Genomics; Agriculture; Medical Microbiology

Target groups
Researchers working in the fields of general, medical and agricultural microbiology

Discount group
P
Transgenic Maize
Methods and Protocols

As increasing global population and continuing economic development ensure the need for further production and cultivation of maize, the necessity of the application of transgenic technology to this model species and crop plant grows steadily. In Transgenic Maize: Methods and Protocols, experts in the various disciplines of the field contribute readily reproducible protocols covering such topics as transformation methods, transgenic maize in research, the analysis of transgenic plants, and breeding with transgenics. Written in the highly successful Methods in Molecular Biology™ series format, the chapters present brief introductions to their respective topics, lists of the necessary materials and reagents, step-by-step laboratory protocols, and notes on troubleshooting and avoiding known pitfalls.

Features
► Contains a comprehensive set of methods for developing transgenic maize varieties, including construct design, transformation, analysis, and breeding
► Includes methods in tissue culture, molecular biology, biochemistry, genetics, and agronomy
► Presents data from case studies of research with transgenic maize
► Displays full-color plates to illustrate the utility of fluorescent marker proteins

Fields of interest
Plant Sciences; Plant Genetics & Genomics;

Target groups
Plant scientists, geneticists, molecular and cellular biologists

Discount group
P

Two Dimensional Electrophoresis Protocols

Two-dimensional electrophoresis (2DE) remains one of the most popular techniques for proteomic comparisons. Revolutionized by the development of immobilized pH gradient strips, this vital process has benefited greatly from recent developments in staining, mass spectrometry, and bioinformatics. In Two-Dimensional Electrophoresis Protocols, expert researchers examine these cutting edge proteomics methodologies, explore their application to a wide range of biological materials, and look at how these developments have helped standardize the design, execution, and analysis of proteomics experiments. Chapters reflect key steps in 2DE experiments, including sample preparation, staining, post-translational modification, spot identification, and bioinformatics.

Features
► Covers a wide biological range of proteome sources including microbes, plants and animals
► Addresses key aspects of experimental design
► Includes some of the latest approaches such as DIGE and detection of post-translational modification

Fields of interest
Proteomics

Target groups
Protein scientists, molecular and cellular biologists

Discount group
P

Plant Genomics
Methods and Protocols

Plant genomics is a growing and constantly evolving field of study, one which has gained much ground in past years through the development of advanced research and data management tools. In Plant Genomics: Methods and Protocols, expert researchers explore the current issues and methodologies of this expanding field, specifically addressing areas of gene discovery and the functional analysis of genes with a focus on the primary tools and sub-disciplines of genetic mapping, mRNA, protein and metabolite profiling. Chapters employ exciting new methods to investigate molecular plant breeding technology and gene functional analysis via transformation, mutation, protein function, and gene expression. Composed in the highly successful Methods in Molecular Biology series format, each chapter contains a brief introduction, step-by-step methods, a list of necessary materials, and a Notes section which shares tips on troubleshooting and avoiding known pitfalls.

Features
► Provides insight into use of model plant species for genomics
► Includes exceptional descriptions of bioinformatics tools available to plant genomics
► Offers a clear description of mapping gene expression patterns in plants

Fields of interest
Plant Sciences; Plant Genetics & Genomics

Target groups
Plant scientists, plant geneticists, molecular and cellular biologists

Discount group
P
Multi-Source National Forest Inventory
Methods and Applications

Building on more than a decade of innovative research into multi-source forest inventory (MS-NFI) this book presents full details of the development, outputs and applications of the improved k-NN method. The method, which was pioneered in Finland in 1990, is rapidly becoming a world standard in forest inventory, having been adopted as standard in Finland and Sweden, and recently introduced in Austria and across the US. The book describes in detail the full MS-NFI process, and the input data used – including field data, satellite images, and digital map data, as well as coarse-scale variation of forest variables. It also presents comprehensive information on the types of outputs which can be derived, including maps and statistics, describing, for example, stock volumes and development, dominant tree species, age-class distribution, and large and small-scale variation.

Features
► Includes fully updated details of the k-NN method and its applications
► Author (Erkki Tomppo) 1997 Marcus Wallenberg prize for the initial development of this method
► K-NN method in operative use in Finland, Sweden, US and Austria and rapidly becoming the ‘world standard’ in forest inventory and earth observation

Fields of interest
Forestry Management; Geographical Information Systems/Cartography; Environmental Monitoring/Analysis

Target groups
Government departments and bodies involved in forest policy, management and monitoring and assessment, forest managers, and researchers and graduate students interested in forest inventory, modelling and analysis, people interested in Earth observation, ecology and broader areas of environmental and natural resource management

Discount group
P

Essential Fish Habitat Mapping in the Mediterranean

Proper designation of Essential Fish Habitat (EFH) is a highly important spatial measure in any management of fishery resources. EFH is defined as those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity, a definition that includes the physical, chemical and biological properties of marine areas and the associated sediment and biological assemblages that sustain fish populations throughout their full life cycle.

This book presents latest advances in EFH mapping and modelling and introduces the environmental approach to EFH identification through the combined use of latest technologies and advanced techniques, such as Remote Sensing, Geographic Information Systems and Spatial Statistics.

Features
► Presents accumulated knowledge in a growing research field
► Integrates 3 different disciplines in the process (remote sensing, GIS, statistics)
► Introduces the environmental approach to habitat mapping of marine resources

Fields of interest
Freshwater & Marine Ecology; Fish & Wildlife Biology & Management; Bioinformatics

Target groups
Fisheries biologists, marine biologists, fisheries managers, physical/biological oceanographers

Discount group
P

DNA Replication: Methods and Protocols

Since the discovery of DNA structure and throughout the ensuing “DNA era”, the field of DNA replication has expanded to cover a vast number of experimental systems. In DNA Replication: Methods and Protocols, expert researchers present a collection of techniques and approaches used to investigate DNA replication with an emphasis on the most recent technological developments. Beginning with several informative introductory review chapters, this extensive volume is organized for clarity while fully encouraging innovation by the mixing of methods to create new techniques. Written in the highly successful Methods in Molecular Biology™ series format, chapters contain brief introductions to the topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and notes on troubleshooting and avoiding known pitfalls.

Features
► Presents a collection of methods described by the experts in the field of DNA replication
► Contains overview chapters as an introduction to the field of DNA replication and as a guide in selecting the methods to use
► Covers techniques for various biological systems, including viral, bacterial, yeast and mammalian DNA replication
► Provides detailed, step-by-step protocols for setting up a technique

Fields of interest
Animal Genetics and Genomics; Biochemical Engineering; Genetic Engineering

Target groups
Geneticists, molecular and cellular biologists, biochemists, biophysicists

Discount group
P
K. M. Wantzen, K. Rothhaupt, M. Mörtl, M. Cantonati, L. G.-Tóth, P. Fischer (Eds.)

**Ecological Effects of Water-level Fluctuations in Lakes**

Most aquatic ecosystems have variable water levels. These water-level fluctuations (WLF) have multiple effects on the organisms above and below the waterline. Natural WLF patterns in lakes guarantee both productivity and biodiversity, while untimely floods and droughts may have negative effects. Human impacts on WLF have led to a stabilization of the water levels of many lakes by hydraulic regulation, untimely drawdown due to water use, or floods due to water release from hydropower plants in the catchments.

This book provides a first review in this field. It presents selected papers on the ecological effects of WLF in lakes, resulting from a workshop at the University of Konstanz in winter 2005. Issues addressed here include the extent of WLF, and analyses of their effects on different groups of biota from microorganisms to vertebrates.

**Features**
- Analyzes the current situation of lakes and thereby documents it for future comparisons after the effects of climatic changes
- Combines a conceptual framework with geographically and taxonomically different case studies, and with applied issues

**Fields of interest**
Freshwater & Marine Ecology; Ecosystems; Fish & Wildlife Biology & Management

**Target groups**
Limnologists, hydrologists, benthologists and fisheries biologists

**Discount group**
P

Reprinted from HYDROBIOLOGIA 613, 2008
2009. Approx. 185 p. (Developments in Hydrobiology, Volume 204) Hardcover

$189.00
SBN 978-1-4020-9191-9
Turkey's Accession to the European Union
An Unusual Candidacy

European views on Turkey's membership in the EU have been split between those in support of its full integration and those advocating a privileged partnership. To the extent that many of the latter proposals imply that Turkey will be partially integrated within Europe in certain areas, the question of Turkey's accession is probably not about 'if', but about 'how much' integration there will be within the Union's structures. The purpose of this book is not to offer a definitive response to this question. The book aims instead to examine the complexity of the issues pertaining to Turkey's prospective EU membership by presenting several, often divergent, accounts of the political, security and socio-economic dimensions of the entire process. The book provides a forum for an exchange of views among distinguished scholars and researchers from different national backgrounds in order to contribute to the ongoing public discussion of Turkey's accession.

Features
- Multidimensional approach to Turkey's accession to European Union
- Examination of the complexity of this membership with regards to political, security and socio-economic dimensions
- Scholarly contribution to ongoing debate over Turkey's accession
- Presents most recent developments on the topic

Fields of interest
Political Science; European Integration; Law and Economics

Target groups
Academic/corporate libraries; researchers, scientists, political, and economic think tanks in European and international affairs

Discount group
P

Innovation Policies, Business Creation and Economic Development
A Comparative Approach

This volume explores the dynamics of the innovation process in developing countries with respect to economic growth. First, the book focuses on the relationship between innovation and economic development from a macroeconomic perspective, with an emphasis on incorporating technological change and intellectual property rights into the theoretical model. This section also considers that the meaning of such fundamental terms as "innovation", "entrepreneurship", and "macroeconomic policies", vary considerably across nations and cultures, with profound implications for the development of policies designed to promote new business creation, growth, and competitiveness. The second section of the book focuses on a microeconomic approach, taking a sociological approach to the economics of creativity at the organizational level.

Features
- Showcases original empirical and theoretical research on the timely topic of entrepreneurship and economic growth
- Integrates analysis at both macroeconomic and firm levels, with a particular emphasis on small and medium-sized enterprises
- Features contributions from both established researchers and fresh voices from the developing world

Fields of interest
Entrepreneurship; Economic Growth; Economic Policy

Target groups
Academics, researchers, and students in entrepreneurship and related areas of economic policy, economic development, knowledge management, and technological innovation; entrepreneurs, policymakers, and community leaders specializing in technology, innovation, and economic development

Discount group
P

Stifling Political Competition
How Government Has Rigged the System to Benefit Demopublicans and Exclude Third Parties

Stifling Political Competition examines the history and array of laws, regulations, subsidies and programs that benefit the two major parties and discourage even the possibility of a serious challenge to the Democrat-Republican duopoly. The analysis synthesizes political science, economics and American history to demonstrate how the two-party system is the artificial creation of a network of laws, restrictions and subsidies that favor the Democrats and Republicans and cripple potential challenges. The American Founders, as it has been generally forgotten, distrusted political parties. Nowhere in the U.S. Constitution are parties mentioned, much less given legal protection or privilege. This provocative book traces how by the end of the Civil War the Republicans and Democrats had guaranteed their dominance and subsequently influenced a range of policies developed to protect the duopoly.

Features
- Provocative arguments concerning the dynamics of party politics, with practical recommendations for reform
- Prolific and outspoken author prepared to promote to mainstream media
- Crisp, concise, engaging presentation will appeal to general readers, students and researchers alike

Fields of interest
Political Science; History

Target groups
General readers interested in politics, current affairs and political history; professors, students, and researchers of political science, public choice theory, and political history; policymakers, political activists, political consultants, lobbyists, and other policy professionals

Discount group
P
M. Dreyer, DIALOGIK, Stuttgart, Germany; O. Renn, University of Stuttgart, Germany

**Food Safety Governance**

**Integrating Science, Precaution and Public Involvement**

This book offers a detailed analysis and a set of carefully measured suggestions towards achieving greater integration of science, precaution, and public involvement in current arrangements for European food safety governance. The devised governance framework provides a distinctive system of methodologies, participatory processes, and institutional configurations that demonstrates practical advice of how complex and conflicting food safety demands might be reconciled. At the core of the suggestions for procedural reform is a design with four governance stages (framing, assessment, evaluation, management, with participation and communication as cross-cutting activities), and an organisation into four assessment and management tracks distinguishing between risk-, precaution-, concern- and prevention-based approaches. In addition, the book suggests an innovative food safety interface structure designed to improve the politics-science-society coordination throughout the governance process.

**Contents**

Part 1: A General Framework for the Precautionary and Inclusive Governance of Food Safety;

Part 2: Input and Commentaries by Key Actors in Food Safety Governance.

**Fields of interest**

R & D/Technology Policy; Quality Control, Reliability, Safety and Risk; Food Science

**Target groups**

Scientists, professionals in EU administration

**Discount group**

P

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M. R. Fairholm, G. W. Fairholm

**Understanding Leadership Perspectives**

**Theoretical and Practical Approaches**

There is no dearth of popular books on leadership, often extolling the virtues of charismatic, celebrity leaders or offering simplistic formulas for “inspiring the troops” to achieve “extraordinary results”. However, empirical research and exploration of leadership and its many elements is in much less supply. Confronted by failures of leadership in all of our major institutions - business, government, educational, cultural, medical, and spiritual - researchers, concerned citizens, and would-be leaders alike are interested in the prospects for achieving effective leadership. This book fills a gap in the literature of Leadership Studies by presenting the Leadership Perspectives Model (LPM), which observes and analyzes leadership through five distinct orientations: scientific management, excellence management, values leadership, trust cultural leadership, and spiritual leadership.

**Features**

- The political, business, and cultural climate demands new approaches to leadership
- Authors are father and son, both pioneers in the field of “leadership studies”
- Addresses such “soft” issues as values-based leadership, spiritual leadership, ethics, and organizational culture in a rigorous analytical framework

**Fields of interest**

Management; Personnel Management; Ethics

**Target groups**

Researchers, academics, and students of leadership, management, organizational behavior, industrial psychology, human resource management, ethics, political science, and sociology; business leaders, entrepreneurs, managers, and aspiring leaders in all types of industries and organizations; policymakers and leaders in the public and non-profit sectors; human resource professionals, trainers, consultants

**Discount group**

P

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P. Flaschel, University of Bielefeld, Germany

**The Macrodynamics of Capitalism**

**Elements for a Synthesis of Marx, Keynes and Schumpeter**

This book provides an introduction to basic as well as advanced macrodynamics, viewed as a disequilibrium theory of fluctuating growth. It builds on an earlier attempt to reformulate the foundations of macroeconomics from the perspective of real markets disequilibrium and the conflict over income distribution between capital and labor. It does so, not because it seeks to support the view that this class conflict is inevitable, but rather from the perspective that an understanding of this conflict may help to formulate social principles and policies that can help to overcome class conflict at least in its cruder forms. It is further hoped that such an understanding can even lead to rational procedures and rules that may turn this conflict into a consensus-driven interaction between capital and the employable workforce.

**Features**

- Assembles ideas of Marx, Keynes and Schum- peter in an integrated macrodynamic framework
- Criticizes the Neoclassical Synthesis, providing an alternative framework
- Offers a rigorous alternative to mainstream macrodynamics with applications to the UK and the US

**Contents**

Goodwin Growth Cycles in a Keynes Trade Cycle. Temporary Equilibrium, Distribution-Driven Demand Cycles and Unbalanced Growth: Keynes, the “Classics” and the “New Classics”: A Simple Presentation of Basic Differences.- After Keynes: Real Growth and (In-)Stability.- Distributive Stability by the Reserve Army Mechanism: Marx’s Contribution.

**Fields of interest**

Economic Theory/ Mathematical Methods; Methodology and the History of Economic Thought; Economic Systems

**Target groups**

Researchers

**Discount group**

P

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Business and Economics

**Due February 2009**


► approx. $119.00

ISBN 978-3-540-69308-4

Business and Economics

**Due November 2008**


► $99.00


Business and Economics

**Due January 2009**

Originally published by Peter Lang Verlag, 1993

2nd ed. 2009. Approx. 450 p. Hardcover

► $189.00

Vinzenz Bronzin's Option Pricing Models
Exposition and Appraisal

In 1908, Vinzenz Bronzin, a professor of mathematics at the Accademia di Commercio e Nautica in Trieste, published a booklet in German entitled Theorie der Prämiengeschäfte (Theory of Premium Contracts) which is an old type of option contract. Almost like Bachelier's now famous dissertation (1900), the work seems to have been forgotten shortly after it was published. However, almost every element of modern option pricing can be found in Bronzin's book. He derives option prices for an illustrative set of distributions, including the Normal. - This volume includes a reprint of the original German text, a translation, as well as an appreciation of Bronzin's work from various perspectives (economics, history of finance, sociology, economic history) including some details about the professional life and circumstances of the author. The book brings Bronzin's early work to light again and adds an almost forgotten piece of research to the theory of option pricing.

Features
- Almost forgotten highlight in early option pricing theory
- Interdisciplinary works in economics, history of finance, sociology and economic history
- Multidisciplinary book on historical foundations of finance

Fields of interest
Finance /Banking; Methodology and the History of Economic Thought; History

Target groups
Academic/corporate libraries; scientists and researchers in finance and financial economics, historians, sociologists

Discount group
P

Macroeconomic Policy
Demystifying Monetary and Fiscal Policy

Macroeconomic policy is an applications-oriented text designed for individuals who desire a hands-on approach to analyzing the effects of fiscal and monetary policies. MBA and Executive MBA students who appreciate the importance of monetary and fiscal analysis will find this text to be right on target. Financial analysts and individual investors who need to strip away economic myths and jargon and systematically examine and understand the effects of macro policies on variables such as inflation, output, employment and interest rates, will also find the book extremely useful. A unique feature of this book is the extensive use of specially written “newspaper” articles designed to simulate current macroeconomic news. Each chapter contains exercises that enable the reader to relate specific underlined passages in these articles to the theory presented in preceding chapters.

Features
- Second edition incorporates greater open-economy approach to macroeconomic analysis and employs a much more global focus
- Readers can practice relating macroeconomic theory to real-world events using specially written articles contained in the book designed to simulate current macroeconomic news

Contents

Fields of interest
Macroeconomics; Finance /Banking

Target groups
Students

Discount group
P

Working with India
The Softer Aspects of a Successful Collaboration with the Indian IT & BPO Industry

Globalization requires effective international and cross-cultural collaboration. When project teams from Western cultures first come into contact with colleagues from the Indian IT and BPO industry, prejudices against the new and unknown are typically amplified. This book is a start on the journey of cultural appreciation for managers, project leaders, and offshore coordinators working together with Indians. It is also a resource for business managers and company strategists seeking to understand the softer aspects behind the headlines that the Indian IT and BPO industry so frequently creates. Being both academically well researched and an account of the author's many years of personal experience in India, the book opens with a description of cultural dimensions that help to break down culturally driven matters. It provides background information about India as a country and a social system.

Contents

Fields of interest
Management of Computing and Information Systems; Industrial Organization; Personnel Management

Target groups
Managers, consultants, project leaders, and members working with counterparts in India

Discount group
P
H. Nakayama, M. Yoon, Y. Yun

Sequential Approximate Multi-Objective Optimization Using Computational Intelligence

This book highlights a new direction of multi-objective optimization, which has never been treated in previous publications. When the function form of objective functions is not known explicitly as encountered in many practical problems, sequential approximate optimization based on metamodels is an effective tool from a practical viewpoint. Several sophisticated methods for sequential approximate multi-objective optimization using computational intelligence are introduced along with real applications, mainly engineering problems, in this book.

Features
► No book on the subject so far
► Since no explicit functions form of objectives is available in many practical (in particular, engineering design) problems, optimization using metamodels is very important in practice
► Book is also a good application of computational intelligence techniques

Contents
Basic Concepts of Multi-Objective Optimization
- Interactive Programming Methods for Multi-Objective Optimization
- Multi-objective Optimization and Computational Intelligence
- Sequential Approximate Optimization (Meta-Modelling)
Using Computational Intelligence
- Combining Aspiration Level Approach and Computational Intelligence for Sequential Approximate Multi-Objective Optimization
- Engineering applications

Fields of interest
Operations Research/Decision Theory; Optimization; Discrete Mathematics in Computer Science

Target groups
Scientists and researchers, practitioners and professionals, graduates and undergraduates, lecturers and tutors

Discount group
P

H. Patzelt, Max Planck Institute of Economics, Jena, Germany; T. Brenner, University of Marburg, Germany (Eds.)

Handbook of Bioentrepreneurship

Providing an important and timely overview of research on the exciting area of entrepreneurship in biotechnology, this Handbook of Bioentrepreneurship examines one of the most promising industries of the 21st century. While genetically engineered food and biopharmaceuticals have made biotechnology part of our everyday life, starting a biobusiness is among the most complex and risky entrepreneurial tasks given long development cycles, high technological and market uncertainty, and high capital intensity. Providing unparalleled in-depth and detailed analysis, this Handbook sheds light on business models and strategies, financing, cooperation networks between firms and universities, among other issues. With new developments in biotechnology increasingly in the news, this is an important source for readers interested in public policy, entrepreneurship, and business in the 21st century.

Features
► Most up-to-date, in-depth analysis about starting up a biotechnology venture
► Well known authors from the Max Planck Institute of Economics, Entrepreneurship, Growth and Public Policy Group

From the contents
Introduction to the Handbook of Bioentrepreneurship
- Biotechnology Dynamics at the Global Scale
- Geographic Clustering in Biotechnology: Social Networks and Firm Foundations
- Innovation Networks in Biotechnology: Strategy and Strategic Thinking in Biotechnology Entrepreneurship
- Research on Strategic Alliances in Biotechnology: An Assessment and Review
- Mergers and Acquisitions in the Biotechnology Industry
Public Support in the Biotechnology Industry

Fields of interest
Entrepreneurship; Regional Science; R & D/Technology Policy

Target groups
Academic researchers, executives and managers, policymakers

Discount group
P

S. Tsenkova, University of Calgary, AB, Canada

Housing Policy Reforms in Post-Socialist Europe
Lost in Transition

The book provides unique insights into the process of housing reforms in post-socialist Europe during its transition to markets and democracy. It explores the relationships between housing policy and housing system performance in nine countries: Albania, Bulgaria, Bosnia and Herzegovina, Croatia, Former Yugoslav Republic of Macedonia, Romania, Republic of Moldova, Serbia and Montenegro. The research captures important housing policy and market dynamics producing tangible outcomes of the transition processes. Using a comparative framework for analysis and evaluation, the book provides an enduring and sound illustration of the post-socialist experience highlighting patterns of diversity, complexity and institutional transformation in the new path-dependent housing systems in the region. The research is driven by the premise that housing policy matters and that better policies lead to more efficient housing system performance.

Fields of interest
Economic Policy; European Integration; Sociology

Target groups
Researchers and scholars

Discount group
P
D. Fasnacht

**Open Innovation in the Financial Services**
Growing Through Openness, Flexibility and Customer Integration

Open innovation means gathering new ideas hatched outside organizational boundaries and leveraging new delivery models through collaboration. Fasnacht’s book, as the first of its kind, discusses open business models in the context of the financial services industry. He explores the developments during the last twenty years, including the recent subprime crisis and explains the vital transition from a closed model of operation to open innovation. Fasnacht explains, based on a number of examples, why the transition is necessary and how it can be mastered. The case studies explain how to integrate the client into the firm’s innovation process and emphasize the importance of marketing and revenue potential.

**Features**
- Innovative and inspiring: Open business models for financial institutions
- A plea for thinking outside of organizational boundaries

**Contents**
- Introduction
- The Strategic Value of Growth and Innovation
- Leading Through the Changing Business Environment
- Open Innovation – the New Business Paradigm
- Transition Strategies to Open Innovation
- Developing a Set of New Management Practices
- Providing a Culture of Open Innovation
- Conclusion

**Fields of interest**
Management; Finance /Banking; Entrepreneurship

**Target groups**
Researchers and professionals in banking and financial services

**Discount group**
P

M. Keiblach, J. Pawan Tamvada, D. B. Audretsch, Max Planck Institute of Economics, Jena, Germany (Eds.)

**Sustaining Entrepreneurship and Economic Growth**
Lessons in Policy and Industry Innovations from Germany and India

Academic research on developed countries has scientifically evaluated the role of entrepreneurship on economic growth, market expansion, commercializing innovation, and reducing unemployment. In this research, regions or industries with higher rates of entrepreneurship show higher levels of innovation and economic growth. The literature on entrepreneurship and innovation has largely ignored developing countries, despite the positive results from new venture investments in India, China, and elsewhere. This volume bridges this gap by bringing together research by scholars in Germany and India, whose analysis of entrepreneurship, innovation, and economic development in their respective countries reveals commonalities. Covering such timely issues as R&D and labor policies and including case examples from the chemical, biotech, and IT industries, the authors offer insight into the entrepreneurial process.

**Features**
- Provides unique insights into the relationships among entrepreneurship, innovation, and economic development, with in-depth comparison of Germany (developed world) and India (developing world)
- Covers such timely topics as demographic, financial, and technological aspects of new venture creation
- Illustrative examples from such industries as biotech and information technology

**Fields of interest**
Entrepreneurship; Economic Growth; R & D/Technology Policy

**Target groups**
Scientists, professors, students, and researchers of entrepreneurship, innovation, and economic development; policymakers and think tank analysts, development experts, venture capitalists

**Discount group**
P

G. F. Knolmayer, P. Mertens, A. Zeier, J. T. Dickersbach

**Supply Chain Management Based on SAP Systems**
Architecture and Planning Processes

Supply Chain Management (SCM) is not a buzzword like many others in management and IT - it is here to stay. "Megatrends" such as globalization and increasing specialization result in a complex division of labor at national and international levels. Lean and agile supply chains have become a major management target, and the interorganizational coordination of business processes has become highly relevant. The complexity of today’s supply chains cannot be mastered without the support of powerful information systems. SAP has established itself as the market leader in this type of IT systems. The book describes SCM using a pyramidal framework and relates it to the SAP SCM Solution Map. Desired features of IT support for SCM are formulated, and the extent to which SAP systems provide these features is shown. We describe the functionalities of SAP APO® in detail, present case studies on implementing and running SAP SCM™ systems, and discuss SCM aspects of the new SAP Business ByDesign™ approach.

**Features**
- Practical software solutions
- Real-life case studies
- Renowned authors
- Expert knowledge directly from SAP

**Contents**
- Fundamentals of Supply Chain Management
- Application Systems in the Individual Business Functions
- SAP’s Supply Chain Management System
- Recent Developments in Order and Supply Chain Management Based on SAP Systems
- Case Studies on Supply Chain Management
- Internet Resources for Supply Chain Management

**Fields of interest**
Information Systems; Information Systems Applications (incl.Internet); Engineering Economics, Organization, Logistics, Marketing

**Target groups**
Managers and consultants

**Discount group**
P

Business and Economics
**Due January 2009**
2009. Approx. 300 p. Hardcover
- approx. $79.95
- ISBN 978-3-540-88230-3

Business and Economics
**Due November 2008**
- $99.00

Business and Economics
**Due December 2008**
- $69.95
- ISBN 978-3-540-68737-3
Direct Store Delivery
Concepts, Applications and Instruments

Direct Store Delivery (DSD) is a key method of selling and distributing products for a variety of industries. In the consumer products industry, DSD is one of the strategic key growth areas, as the process delivers a broad range of business benefits to all parties of the value chain. Today, 24 of the world’s Top 30 Fast Moving Consumer Goods companies employ the DSD business process. Although DSD is gaining major and steadily increasing attention in the market, it has hardly been covered by literature and empirical studies. For the first time and including the input of both practitioners and academics, this book throws light on the topic of DSD from different perspectives, providing fresh insights and benefits. The book covers diverse topics. Among others, it delivers a deeper understanding of the DSD business process and why companies use it.

**Features**
- State-of-the-art collection of knowledge on DSD

**From the contents**

**Fields of interest**
- Management
- Production/Logistics
- Procurement

**Target groups**
Researchers and professionals in logistics, supply chain management, and procurement

**Discount group**
P

Building Routes to Customers
Proven Strategies for Profitable Growth

Building Routes to Customers explains the powerful “Routes-to-Market” approach for driving profitable growth. World-class organizations including IBM, Microsoft, HP, Cisco, Hitachi, Adobe and Plantronics, and hundreds of smaller companies, have adopted RTM to develop and execute highly successful go-to-market strategies and tactics. With a step-by-step approach and dozens of examples, the authors show how you can use RTM to: (1) Determine the optimal level of spending for each function in marketing, sales and customer service, for each market segment, product and service. (2) Optimize your marketing mix and sales and distribution channels to maximize revenue and profitability throughout the product life cycle. (3) Get everyone in product management, marketing, sales, customer service, and your distribution partners aligned and working together to maximize results. (4) Get the right products and services to the right customers at the right time. (5) Retain existing customers and create profitable new ones.

**Features**
- Introduces the Routes-to-Market principles – a powerful approach to all departments along the product chain, optimizing resources, and making strategic decisions
- Showcases real-life experiences from such leading companies as Adobe Systems, IBM, Microsoft, and Sun Microsystems, as well as startups

**Fields of interest**
- Marketing
- Management
- Production/Logistics

**Target groups**
- Business leaders, executives, and managers in strategy, marketing, sales, finance/controlling, operations, and product development; professors, students, and researchers of corporate strategy, marketing, sales, finance/controlling, operations, and product development; corporate board members, investors

**Discount group**
P

The Purchasing Chessboard
64 Methods to Reduce Cost and Increase Value with Suppliers

The “golden” age of purchasing, in which it was relatively easy to achieve annual cost reductions of between one and three percent, has come to an end. The major reasons for this are the consolidation in many supplier markets, rising energy costs, and growing resource consumption in many emerging markets such as China. To support companies that need to master the challenges in purchasing and achieve significant value propositions, the authors have developed the Purchasing Chessboard. The Purchasing Chessboard provides a suitable purchasing strategy for every constellation of buying power and selling power.

**Features**
- A new strategic framework for supply managers: the Purchasing Chessboard
- Get to know 64 methods to reduce cost and increase value with suppliers
- Developed and presented by A.T. Kearney management consultants
- Includes a foldout map of the chessboard for parallel reading

**Contents**
Purchasing: between a rock and a hard place? Survey results: the state of purchasing in industry; A paradigm shift in purchasing: - From four basic strategies to 64 methods: Manage spend; Change nature of demand; Leverage competition among suppliers; Seek joint advantage with supplier: - Using the Purchasing ChessboardTM: A company’s fingerprint on the Purchasing ChessboardTM: Example of applying the Purchasing ChessboardTM: “The Purchasing ChessboardTM: Closing Remarks.

**Fields of interest**
- Procurement
- Management

**Target groups**
Executive managers with responsibility for purchasing and supply management

**Discount group**
P

B. Schwenker, Roland-Berger Strategy Consultants, Hamburg, Germany; K. Spremann, University St. Gallen, Switzerland

Management between Strategy and Finance
The Four Seasons of Business

Companies’ decision-making and planning systems find themselves in a constant tug of war between strategic and financial considerations. The authors analyze these two opposing currents in business thinking, dissecting their differences and identifying their best practices. They also develop an approach that reconciles the two conflicting schools of thought – without watering down their differences. Schwenker und Spremann argue that both strategic and financial perspectives can serve as a compass in management’s decision-making processes: Which perspective to choose depends on the phase of business. The authors distinguish four phases in the company lifecycle – phases in which the business must find the proper position, develop, grow and, ultimately, earn. In the first two phases, strategic considerations should take priority; in the latter two phases, financial considerations rule the day.

Features
► The key advantage of this book is that it provides a solid and well-argued overview of the two schools of thought, strategic and financial thinking ► Indicates a path through the conflict between financial and strategic thinking ► Written by a top-manager and a well-known scientist

Fields of interest
Management; Finance /Banking; Entrepreneurship

Target groups
Practitioners

Discount group
P

Due December 2008
► $79.95
SBN 978-3-540-85274-2

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2009. Approx. 600 p. Hardcover
► approx. $199.00
SBN 978-3-540-88801-7

R. Vishwanath, C. Krishnamurti (Eds.)

Investment Management
A Modern Guide to Security Analysis and Stock Selection

Sound investment decisions require an in-depth knowledge of the financial markets and available financial instruments. This book provides students and professionals with an understanding of the role and activities of an equity security analyst within the investment process. Emphasis is on understanding the process of analyzing companies; the valuation process; and the challenges of achieving success in a highly competitive capital market. The authors present a comprehensive compendium on the financial theory, the empirical evidence and the mathematical tools that form the underlying principles of investment decisions.

Contents
Introduction to Securities Markets and Investment Management.- Financial Theories.- Financial Statements and Equity Prices.- Valuation Models.- Equity Options.- Behavioral Finance and Summary,

Fields of interest
Finance /Banking

Target groups
Business libraries; professionals in banking and finance; students

Discount group
P
World Court Digest
Volume 4: 2001 - 2005

Prepared by: P. Minnerop, LMU Munich, Germany; K. Oellers-Frahm, F. Schorkopf, MPI for Comparative Public Law and International Law, Heidelberg, Germany; C. Walter, University of Münster, Germany

The World Court Digest continues the Fontes Iuris Gentium, a series that presents the decisions of the Permanent Court of International Justice and the International Court of Justice up to 2000. The new volume covers the period from 2001 to 2005. All important pronouncements of the Court in its judgments and advisory opinions are systematically arranged under specific topics taken from substantive and procedural international law. The World Court Digest provides reliable access to the decisions of the most significant international judicial organ on questions as important as the right of self-defence, the use of force, i.e. in the Yugoslavian context, consular matters, questions of immunity, maritime and territorial delimitation, revision of judgments and the effect of provisional matters.

Fields of interest
European Law/Public International Law

Target groups
Libraries, international courts and tribunals; researchers, ministries

Discount group
P

Building a Future on Peace and Justice
Studies on Transitional Justice, Conflict Resolution and Development
The Nuremberg Declaration on Peace and Justice

There has been definitive progress in a world in which blanket amnesties were granted at times with little hesitation. There is a growing understanding that accountability has pragmatic as well as principled arguments in its favour. Practical arguments as much as shifts in the norms have created a situation in which the choice is increasingly seen as "which forms of accountability" rather than a stark choice between peace and justice. It is socio-political transformation, not just an end to violence, that is needed to build sustainable peace. This book addresses these dilemmas through a thorough overview of the current state of legal obligations; discussion of the need for a holistic approach including development; analysis of the implications of the coming into force of the ICC; and a series of "hard" case studies on internationalized and local approaches devised to navigate the tensions between peace and justice.

Features
- Practical and conceptual clarity for options and agendas to make transitional justice approaches accessible without disrupting fragile peace processes

Fields of interest
European Law/Public International Law; Political Science; Criminal Law

Target groups
Scholars, practitioners, government officials, civil society representatives, international organizations, libraries

Discount group
P

Constitutional Democracy in a Multicultural and Globalised World

From the reviews
- The book is "full of profound insights, stimulating reflections and ideas, and creative provocations, such as the authors’ continuous scepticism towards the liberal political and state theory". Defining the multicultural state as the essential political community of the 21st century and redefining the basic concepts of the theory of state to that effect, the book may become a milestone in the history of political and state theory - Ulrich K. Preuss, International Journal of Constitutional Law, 2006
- It is a great merit of Thomas Fleiner and Lidija R. Basta Fleiner that they identify both internal changes of a personal substrate of contemporary states and the challenges of globalization not only with an astonishing seismological sensitiveness; moreover, they do it in a manner, which distinguishes their book with regard to other works on the theory of the State - Felix Hanschmann, Kritische Justiz, 2005

Features
- A theory of the state of the 21st century, facing the challenges of internal heterogeneity and the pressures of its unprecedented globalized interdependence without giving up democracy and the rule of law

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

Target groups
Policy analysts on institution and state reconstruction and nation-building, experts for constitutional negotiation, non-governmental civil society groups dealing with human rights and democratic governance, scientists/researchers, students

Discount group
P

Due January 2009

Humanities, Social Sciences and Law

Due December 2008

2009. VII. 935 p. (World Court Digest, Volume 4) Hardcover
▼ $199.00
SBN 978-3-540-87466-9

Due January 2009

2009. Approx. 700 p. Hardcover
▼ $189.00
SBN 978-3-540-85753-7

Due January 2009

Original German edition published in the series Enzyklopädie der Rechts- und Staatswissenschaft: Abteilung Rechtswissenschaft

2009. Approx. 750 p. Hardcover
▼ $159.00
SBN 978-3-540-76411-3
L. F. Guder, Berlin

The Administration of Debt Relief by the International Financial Institutions
A Legal Reconstruction of the HIPC Initiative

This study addresses the mechanisms of debt relief for Heavily Indebted Poor Countries (HIPC) jointly coordinated by the International Monetary Fund and the World Bank. It describes the content of the HIPC program and classifies it as a legally non-binding instrument under public international law. A case study on Ghana illustrates the HIPC relief process, sheds light on its implementation practice and provides insight into the collaboration between HIPC creditors and debtors. The study explains the process of creditor coordination and the ways in which IMF and World Bank succeeded to establish a sovereign state insolvency mechanism for their highly indebted member states.

From the contents
Introduction.- Multilateral Debt Relief for Heavily Indebted Poor Countries.- The Heavily Indebted Poor Countries Initiative (HIPC).- Debt Relief under the G-8: The Multilateral Debt Relief Initiative (MDRI).- Case Study: The Contemporary History of Debt Relief in Ghana.- Doctrinal Reconstruction of HIPC in a Public International Law Perspective.- Multilateral Debt Relief Under HIPC – Global Governance Perspectives.- Issues of Legitimacy.- Conclusions.

Fields of interest
European Law/Public International Law; Development Economics

Target groups
Libraries, IO's, NGO's

Discount group
P

Z. Kembayev, Almaty, Kasachstan

Legal Aspects of the Regional Integration Processes in the Post-Soviet Area

Legal Aspects of the Regional Integration Processes in the Post-Soviet Area is the first ever comprehensive overview of regional integration processes in the territory of the former USSR introducing the core concepts of regional integration theory and presenting a solid foundation of factual information regarding all the regional integration agreements (RIAs) operating in the Eurasian landmass and consisting of the former Soviet republics. The book analyzes the legal nature and background of the regional integration in the framework of the Commonwealth of Independent States, the Russian-Belarusian Union, the Single Economic Space, the Eurasian Economic Community and the Collective Security Treaty Organization. It also deals with the RIAs created outside of the Russian control in the format of GUAM and among Central Asian countries. Finally, the book contains conclusive remarks attempting to assess the possibility of the creation of an Eurasian Union.

Fields of interest
European Law/Public International Law; Regional Science

Target groups
Libraries

Discount group
P

Humanities, Social Sciences and Law

Due December 2008


$129.00
SBN 978-3-540-88608-2

Humanities, Social Sciences and Law

Due January 2009


$139.00
SBN 978-3-540-87651-3
The World as a Mathematical Game
John von Neumann and Twentieth Century Science

From the contents

Fields of interest
History of Science; History of Mathematics; History of Physics

Target groups
Mathematicians, computer scientists, physicists, biologists, economists, social scientists, and historians in these fields

The Greatest Comets in History
Broom Stars and Celestial Scimitars

The Greatest Comets in History is unique. There are a few books on comets that make passing reference to some of the famous and spectacular objects of earlier years, and a few descriptive catalogues are available, but little detailed descriptive information is contained in either of these sources. This book fills the vacant niche that exists between general books, academic (and often cryptic) catalogues, and huge detailed catalogues such as Kronk’s Cometography. The Greatest Comets in History is a detailed descriptive account – in non-technical language – of what are deemed to have been the most spectacular and notable comets ever recorded, beginning with ‘Aristotle’s Comet’ of 372 BC and ending with McNaught’s Comet of 2007. Halley’s Comet is given a separate chapter and there is an introductory chapter on comets in general, explaining in lay terms what they are and correcting a few popular misconceptions.

Features
► Written for astronomers of all levels – from interested “armchair” astronomers to professionals and History of Astronomy students
► Gathers together descriptive information on major historical comets that is not readily available elsewhere
► Gives a good comparison between recent comets and their older counterparts
► Contains a wealth of interesting facts not found in regular astronomy books

Contents

Fields of interest
Popular Science in Astronomy; Astronomy; History of Physics

Target groups
Amateur astronomers and ‘armchair’ astronomers

Discount group
P

BIRKHÄUSER

Due March 2009
► $119.00
ISBN 978-3-7643-9893-8

Due November 2008
2009. Approx. 270 p. 47 illus., 8 in color. Softcover
► $34.95
International Handbook of Inter-religious Education

This Handbook has the potential to redress the distortion of information about particular religions, to add to understanding about what religions have in common, and to suggest how they can work together for justice and peace. In the present day there is a vital resurgence of interest in religions, with new movements emerging from long established religious traditions. There is also, around the world, a growing sense of the need to preserve indigenous religions, even when these have accommodated to imported traditions. The Handbook gives a voice to this resurgence of interest, and addresses inter-religious education from a range of religious viewpoints and contexts. The publication is very timely especially in light of the religious divisiveness that has accompanied globalization. This Handbook is unique in that it features ongoing deliberations about the evolution of a project and chronicles both successes and failures. The book is a collection of grounded exemplars of informal learning that can work together for justice and peace. In the long established religious traditions. There is also, around the world, a growing sense of the need to preserve indigenous religions, even when these have accommodated to imported traditions. The Handbook gives a voice to this resurgence of interest, and addresses inter-religious education from a range of religious viewpoints and contexts. The publication is very timely especially in light of the religious divisiveness that has accompanied globalization. This Handbook is unique in that it features ongoing deliberations about the evolution of a project and chronicles both successes and failures. The book is a collection of grounded exemplars of informal learning that can work together for justice and peace.

Features
- Very timely in light of the religious divisiveness that can be present in the contemporary world and in light of the World Parliament of Religions to be held in Melbourne, Australia in 2009.
- The first time that such a group of scholars has addressed itself to this issue in a co-ordinated way.
- Represents the current scholarship of inter-religious education from an international perspective and provides direction for its future.

Fields of interest
Sociology of Education; Educational Philosophy; Religious Studies

Target groups
Academics, researchers, research students, teachers, ministers of religion, inter-faith groups, administrators of religious education programs, authors of religious curricular materials

Discount group
P

Collective Improvisation in a Teacher Education Community

This is the story of a teacher education initiative. The project A Community of Inquiry in Teacher Education (CITE) has aimed to transform learning to teach from an experience based on the acquisition of skills to one centred on the cultivation of certain dispositions. As small-scale reform initiatives go (36 aspiring teachers each year) CITE has had a long and vibrant life, despite some inevitable struggles. It is the longevity of CITE that prompted the authors to turn their inquiries about teaching and learning to the challenges of sustaining their own project. The result is a collection that chronicles some of their own experiments, deliberations, and the lessons learned through their many experiences. It is more accurate to say that Collective Improvisation is many stories, not just one. That is because this book represents the perspectives of university-based instructors, school partners, former students, and graduate student researchers.

Features
- Includes the voices of students (aspiring teachers) who are rarely asked to contribute to such projects.
- Unique as a “self-study” because it features ongoing deliberations about the evolution of a project and chronicles both successes and failures.
- One of the few books that looks at the self study of an entire teacher education programme rather than one course or instructor.

Fields of interest
Teacher Education; Educational Technology; Instruction and Learning

Target groups
University-based teacher educators, school-based administrators and teachers, graduate students in education, researchers in teacher education and educational reform.

Discount group
P

Recovering Informal Learning
Wisdom, Judgement and Community

For too long, theories and practices of learning have been dominated by the requirements of formal learning. Quite simply this book seeks to persuade readers through philosophical argument and empirically grounded examples that the balance should be shifted back towards the informal. These arguments and examples are taken from informal learning in very diverse situations, such as in leisure activities, as a preparation for and as part of work, and as a means of surviving undesirable circumstances like dead-end jobs and incarceration. Informal learning can be fruitfully thought of as developing the capacity to make context sensitive judgments during ongoing practical involvements of a variety of kinds. Such involvements are necessarily indeterminate and opportunistic. Hence there is a major challenge to policy makers in shifting the balance towards informal learning without destroying the very things that are desirable about informal learning and indeed learning in general.

Features
- Advances a new theory of learning.
- Illustrates the argument with interesting empirically grounded exemplars of informal learning.
- Challenges common taken-for-granted assumptions about learning.
- Invites a rethink of what lifelong learning might mean.
- Provides recommendations for policy makers, theorists and practitioners.

Fields of interest
Educational Policy; Educational Philosophy; Vocational Education

Target groups
Teacher educators, workplace educators, educational policy makers, adult educators, vocational educators, continuing education professionals, philosophers and other theorists of education, human resource developers, undergraduate and postgraduate students on courses concerned with education.

Discount group
P
M. J. Jacobson, Nanyang Technological University, Singapore (Ed.)

**Designs for Learning Environments of the Future**

*International Learning Sciences Theory and Research Perspectives*

Designs for Learning Environments of the Future presents current research by leading scientists around the world who are exploring the design of technologies that may form the foundations of learning environments of the future. In a field that changes as quickly as technology does, it is necessary that a book like this provides a representative survey of the wide range of types of advanced learning technologies that are currently being explored at leading research groups around the world—such as multi-user virtual environments, 2D and 3D modeling systems, intelligent pedagogical agents, and collaboration tools for synchronous and asynchronous learner interactions. The importance of basing the design features of these technological tools and environments on the most current theoretical and research based perspectives into how students learn is also stressed.

**Features**

- Provides a representative survey of the wide range of types of advanced learning technologies
- Internationally recognized authors known for their innovative approaches for designing and using technologies that support learner centered pedagogy
- Discusses a variety of theories and research principles

**Fields of interest**

Educational Technology; Instruction and Learning

**Target groups**

Researchers and graduate students in the learning and cognitive sciences, educators in the physical and social sciences as well as instructional technologists and educational software developers, educational policymakers, and curriculum designers

**Discount group**

P

R. Kimbell, K. Stables, University of London, UK

**Researching Design Learning**

*Issues and Findings from Two Decades of Research and Development*

Design and Technology evolved in the school curriculum from the mid 1960s. By the 1980s it had become mainstream for the British government to fund research exploring what learners could do when challenged with design & technology tasks. The authors worked together on that project, producing in 1991 the first seminal research report on learners’ capability in design and technology. This book summarises the lessons learned from this and other projects. The book’s messages centre on the designing activity, on learning, teaching and assessment, and, more widely, on what can be learnt about the research process itself. The authors aim to answer questions such as: How does the active, concrete learning tradition enable cognitive and emotional growth? What influences bear upon the process; the teacher, the environment, the task, the learners themselves? Researching such questions, their concerns have integrated the conceptual, the practical and the pedagogic.

**Features**

- A unique, issues-based account of research in design learning
- Active learning processes explored and explained through multiple case studies
- A practical, useable guide to research processes

**Fields of interest**

Education (general); Higher Education; Design, general

**Target groups**

Teacher educators, researchers in design and technology education

**Discount group**

P

N. Law, A. Yuen, R. Fox, A. Chow, University of Hong Kong, China (Eds.)

**Educational Innovations Beyond Technology**

*Nurturing Leadership and Establishing Learning Organizations*

The text explores the concept of innovation, and analyse and compare different dimensions of innovation found in the various case studies; the transfer of innovation and the mechanisms of change; on an innovative online case study database on education innovations that has been designed to be used by education practitioners to support organizational leadership, international collaboration and reflective practice in the Asia Pacific Economic Cooperation (APEC) eEducation Leadership initiative; on a project aimed to support the establishment of communities of practice for education practitioners facilitated through an extendable online database that can be used to contribute and share case studies of their own ICT-supported pedagogical innovations. It discusses roles of the teacher and the anticipated changes to the education profession at a system level, in the coming decade on the basis of emerging changes observed in the case studies, and leadership issues at the school level.

**Features**

- Makes an original contribution to the field
- Based on solid research with evidence that is drawn from many countries in the world

**Fields of interest**

Educational Technology; Instruction and Learning

**Target groups**

Professionals and researchers working in various sectors within education or in closely related disciplines/professions, teachers, teacher educators, technology coordinators, instructional designers, principals, administrators, education policy makers and researchers interested in educational change, change management and leadership, integration of technology in education, comparative education and comparative methods in education

**Discount group**

P
M. Pavlova, Griffith University, QLD, Australia

**Technology and Vocational Education for Sustainable Development**

**Empowering Individuals for the Future**

The ways education for sustainable development can be addressed in teaching and learning are among the most urgent challenges for modern educational theory and practice. This book explores the unique contribution technology and vocational education can provide to meet these urgent needs.

Part 1 examines various concepts from different areas of knowledge that are used to develop a comprehensive understanding of the ways sustainable development, education for sustainable development and empowerment are related and can be conceptualised. Practical strategies are suggested and a model for pre-service teacher training programs is developed. Part 2 explores how general issues are reflected in local norms, values and behaviours within the Russian context. The case study illustrates the importance of understanding the political and sociocultural context of a country in order to develop empowerment strategies that work for that particular society as they reflect specific local histories, values and traditions.

**Features**
- Proposes strategies for addressing ESD
- Proposes application for teacher training programs through the developed model
- Analyses case study of the Russian approach (as a country in transition) for SD and ESD
- Introduces the concepts of the ethics of aesthetics, aesthetics for sustainability and aesthetics of sustainability, in the context of technology and vocational education

**Fields of interest**
Vocational Education; Sustainable Development

**Target groups**
Technology and vocational educators: academics, students, teachers, and policy makers; comparative educators: academics, students, teachers, and policy makers

**Discount group**
P

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**Seeking Integrity in Teacher Education**

**Transforming Student Teachers, Transforming My Self**

In this book, a teacher educator examines her practice as a way of learning about teaching as well as challenging teacher education. It is about how one teacher educator sought to transform the perspectives of her student teachers, in order to better prepare them to teach diverse populations of students, while challenging her own beliefs about how best to do that. The author seeks integrity in her practice, defined as her ability to enact what she teaches pre-service teachers to do. In particular, this book is a self-study that contributes to understanding the broader question: How much can one affect and change the discourse within education when one also inhabits the characteristics that are privileged by the institution?

The teacher education literature supports the need to study this type of self-reflection. Other researchers have pointed out that the role of teacher educators’ cultural identities in reforming education has been largely ignored in the literature.

**Features**
- Offers a unique perspective on the symmetrical relationship involved with teaching teachers how to teach while challenging the very context in which that occurs

**Fields of interest**
Teacher Education; Instruction and Learning

**Target groups**
Teacher educators (both practicing and in training) and those who conduct self-study

**Discount group**
P

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**Integrated Science**

**New Approaches to Education**

**A Virtual Roundtable Discussion**

Across science and engineering, new opportunities are unfolding at the convergence of traditional fields. To meet the demands for students with interdisciplinary education, new undergraduate curricula have emerged. Biomedical engineering, for example, builds upon foundations in biology, physics, chemistry and materials science coupled with engineering design principles.

In building successful interdisciplinary science programs, however, many questions must be addressed. Although many resources exist for developing and implementing new academic programs, there does not exist in a single volume that adequately address this important topic. Integrated Science: New Approaches to Education is a focused collection of essays addressing the myriad challenges associated with conceptualizing, developing, implementing and measuring the success of new undergraduate programs in interdisciplinary science and engineering fields. This book will provide an overview of this process drawn from a broad perspective of experts.

**Features**
- Will discuss new approaches to graduate training in the sciences including the decline of both the large laboratory and the usefulness of traditional Ph.D. program
- Covers the politics, sociology and economics of integrated science with essays offering contending perspectives on interdisciplinary science education as well as focused discussions of issues of diversity and economic analysis

**Fields of interest**
Science Education; Popular Science in Medicine and Health; Life Sciences, general

**Target groups**
Researchers working in any interdisciplinary science field ranging from the life sciences to the hard science to the human sciences; of interest to the science education market as well as department heads and curriculum developers on scientific programs at both the undergraduate and graduate levels

**Discount group**
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Higher Education: Handbook of Theory and Research

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

Features

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

From the contents

Rankings and Classifications in Higher Education: A European Perspective.
Institutional Transformation and the Advancement of Women Faculty: The Case of Academic Science and Engineering.
The State, the Market and the Institutional Estate: Revisiting Contemporary Authority Relations in Higher Education.

Field of interest

Higher Education

Target groups

Researchers, students, administrators, and policy makers in higher education

Discount group

P

 nation-Building, Identity and Citizenship Education: Cross-cultural Perspectives

It is argued that authentic and democratic schools could better prepare for active citizenship and for a strong civil society which are seen to be the foundation of a democratic state. Various chapters critique the dominant discourses and debates pertaining to cultural identity, set against the current climate of growing social stratification and unequal access to quality education for all. The book opens discourses related to globalisation and the state, and approaches to constructing national, ethnic and religious identities in the global culture. The ambivalent and problematic relationship between the State, globalisation and the construction of cultural identity is explored. Using a number of diverse paradigms, ranging from critical theory to globalisation, the authors, by focusing on globalisation, ideology and social justice attempt to examine critically recent trends in multicultural education policies, and their impact of identity politics.

Features

► Examines central discourses surrounding the debate of democracy, access and equity in schooling globally
► Illustrates how the relationship between globalisation, democracy and education policy affects current models and trends in schooling globally
► Demonstrates ideological imperatives of globalization and its impact on democracy and equality

Fields of interest

Comparative Education; Sociology of Education; Political Science

Target groups

Higher education sector, college academics, education research centres, graduate students in education policy studies

Discount group

P

Due November 2008

 ► $79.95
 ISBN 978-1-4020-9280-4

Due February 2009

 ► $119.00
Sourcebook of Family Theories and Methods
A Contextual Approach

This unique sociohistorical account of family studies traces the development of various theories or methods within the context of the social values, technological changes, and political events of the twentieth century. Each chapter discusses the origins of a particular theory or method, its core assumptions, its applications, and its link to preceding and succeeding theories or methods.

Features
- Emphasizes not only family theories but also research methods and the relationship between the two
- Places each theory and method in the sociohistorical context of its formulation
- Emphasizes multicultural dimensions through discussion of how each theory and method takes into account differences in age, ethnicity, race, and gender
- Includes contributions from leading family practitioners and scholars

Fields of interest
Family Relations; Sociology; Social Work

Target groups
Family sociologists, family therapists, psychologists working with families, social workers, and policy experts

Discount group
P

Effective Multicultural Teams
Theory and Practice

Theory and Practice of Multicultural Teams (TPMT) will help students understand the most current theory and practice perspectives relevant to multicultural teams, and apply these theories as team members and/or managers, facilitators and leaders. It is designed for classroom use in management and organizational behavior courses where students at the graduate and certificate level are developing skills to work in teams. It is intended to be a core text but may be used as a supplemental text as well.

TPMT is unique in that it utilizes a tri-lens approach: cultural differences, social identity, and individual personality differences. The initial four chapters written by the co-editors provide a comprehensive and integrative overview of the importance of multicultural teamwork theory and practice; current trends; a conceptual framework for team eectiveness; approaches to understanding the impact of culture, social identity and personality on teamwork; and the developmental stages of teams.

Features
- TPMT offers a conceptual framework to understand and effectively manage multicultural teams
- TPMT contains current research on multicultural teams utilizing the lens of both global and domestic diversity
- TPMT focuses on unique tri-lens approach in looking at individual differences: culture, social identity, and personality

From the contents

Fields of interest
Management; Industrial and organisational psychology; Cross Cultural Psychology

Target groups
Graduate students in management and organizational behavior/organisation psychology courses

Discount group
P

People and Things
A Behavioral Approach to Material Culture

The core of archaeology is the relationship between people and things. Left without informants and, in many cases, textual data, archaeologists strive to reconstruct past life through the window of artifacts: things made, used, and modified by individuals while particiating in the activities of everyday life. According to behavioral archaeologists, our ability to understand the relationship between people and things in the present is the foundation for archaeological reconstruction of the past.

This comprehensive text sets forth a theory for understanding the relationship between people and things. Humans, whether in the distant past or in our current world, make choices while inventing, developing, replicating, adopting, and using their technologies. A wide arc of factors, from utilitarian to social and religious can affect these choices. The theoretical model presented here provides the means to understand how people, whether it be Paleolithic stone tool makers or 21st century computer designers and users, negotiate these myriad factors throughout the artifact's life history. While setting forth a behavioral theory, the book also engages the ideas of other competing theories, focusing especially on agency, practice, and selectionism.

Features
- Definitive guide to the theory of behavioral archaeology
- First time these six diverse case studies have been published together
- Compares and contrasts behavioral archaeology with other prevailing theoretical models to fully explain the theory

Fields of interest
Archaeology; Anthropology

Target groups
Academic archaeologists, archaeological theorists, graduate-level archaeology students

Discount group
P
New Perspectives on Human Sacrifice and Ritual Body Treatments in Ancient Maya Society

The central goal of this book is to contribute to the timely discussion and understanding of Maya sacrifice and related posthumous body manipulation. Most school children in the US learn about the Maya and their practices based on their cultural and religious beliefs in their Social Studies classes. But a number of new sites have been discovered, giving an interdisciplinary group of researchers a channel to discuss these acts and their meaning. The editors bring together not only archaeologists but anthropologists, forensic anthropologists, art historians and bioarchaeologists, giving the volume a more complete perspective on these sites and the material culture and biological evidence found there.

The field of archaeology is growing to include the physical remains of ritual practice along with the material remains and this book can be seen as an example of who the study of ancient civilizations can be more comprehensive.

Features

- Brings together an international group of contributors to report on human sacrifice and body manipulation in Mayan culture
- Can be used comparatively in other cultures which had similar practices
- Includes explicitly bioarchaeological approaches

Fields of interest

Archaeology

Target groups

Archaeology students, as well as students in social and cultural anthropology, especially those interested in Maya culture; physical anthropologists and those studying the significance of human sacrifice and bone/body manipulation

Discount group

P

Due November 2008

2009. X, 322 p. 126 illus. (Interdisciplinary Contributions to Archaeology) Softcover

$39.95

Modalities and Multimodalities

This book is intended to provide a philosophically- and historically-based introduction to modal logic, offering to every reader, even those with little specific background, a conceptually clear path through the labyrinth of contemporary modal logic. This is done by emphasizing the notion of multimodality while delineating the formal side of the semantics and proof theory behind the topics in a smooth and gentle pace. The conceptual thread which ties the book together passes through topics like the development of modal logic from standard logic; the syntax and semantics of normal modal systems; the seminal ideas behind completeness, incompleteness, canonicity and finite models; the temporal logics, the logics of knowledge and belief; the generalized syntactical and semantical treatment of multimodalities and finally the pleasures and difficulties of quantified modal logic.

Features
► Intends to offer, through the background of multimodal logics, a panel where philosophers, logicians, linguists, mathematicians and computer scientists will find a common ground of interest
► Also designed as a repertory of ideas for students interested in progressive inquiry in modal and multimodal logics

Contents

Fields of interest
Logic; Philosophy; History of Philosophy

Target groups
Logicians, philosophers, linguists, mathematicians, computer scientists

Discount group
P

White and Black Posthumanism

Computer technology, pharmacology, genetics and neurosciences offer people the possibility of making fundamental technical changes to themselves. In keeping with post-humanist theory, a post-human being will result from the modifications humans perform on the human organism: the ‘post-human’, which will have a massively broader spectrum of bodily and intellectual capabilities compared to humans. Post-humans won’t need certain human characteristics anymore. It has been assumed that such beings won’t even need a sense of consciousness, since it might be more of a hindrance to the smooth functionality of action that will be needed in the future. This would mean the oft-anticipated ‘end of man’ that seems almost unimaginable today could become a reality in an unforeseen way. This book brings light to the post-humanist scenario critically by focusing on the aspects of philosophy, psychoanalysis, and cognitive science.

Features
► Imbeds post-humanism in the developments of psychology, neurosciences and the theory of cultural evolution

Fields of interest
Interdisciplinary Studies; Philosophy of Man; Philosophy of Mind

Target groups
Philosophers, psychologists, neurologists, cognitive scientists

Discount group
P

Towards Mathematical Philosophy

The first group of papers in this volume collects contributions to pure and applied modal logic. The problems discussed here range from the structure of lattices of normal and other modal propositional logics to modal proof theory and to the semantics of quantified modal logic.

The second group of papers concern Many-valued logics - an extensive domain of strictly logical investigations having its roots in philosophical questions concerning the nature of logical values. Logical investigations in cognitive science have successfully utilized methods and systems of belief revision, non-monotonic logic and dynamic epistemic logic. The volume deals with local issues of belief revision. The volume closes with papers making contributions which may be seen to belong to the field of formal epistemology, the area applying logical, probabilistic, game-theoretic and other formal methods to problems and issues in epistemology and philosophy of science.

Features
► Contains some of the highest level contributions to Logic
► Is the first book promoting Mathematical Philosophy as an interdisciplinary field
► Is a collection of articles applying methods of logic – or more generally those of mathematics – to solve problems from logic itself and from other sciences

Fields of interest
Mathematical Logic and Foundations; Logic; Arithmetic and Logic Structures

Target groups
Logicians, mathematicians, epistemologists, philosophers of science

Discount group
P

Due December 2008

► $209.00
Territorial Rights

Liberal defences of nationalism have become prevalent since the mid-1980s. Curiously, they have largely neglected the fact that nationalism is primarily about land. Should liberals throw up their hands in despair when confronting conflicting claims stemming from incommensurable national narratives and holy texts? Should they dismiss conflicting demands that stem solely from particular cultures, religions and mythologies in favour of a supposedly neutral set of guidelines? Does history matter? Should ancient injustices interest us today? Should we care who reached the territory first and who were its prior inhabitants? Should principles of utility play a part in resolving territorial disputes? Was John Locke right to argue that the utilisation of land counts in favour of its acquisition? And should western style settlement projects work in favour or against a nation’s territorial demands? When and how should principles of equality and equal distribution come into play?

Features
- Systematic method of approaching international territorial disputes
- A set of orderly general guidelines for the evaluation and arbitration of territorial disputes
- Places the territorial issue at the head of the liberal-nationalist agenda

From the contents

Fields of interest
Law Theory/Law Philosophy; Political Philosophy; International & Foreign Law/Comparative Law

Target groups
Scholars of political and moral philosophy, political science, legal theory, sociology, international relations, political geography and historians

Discount group
P

Quantum Reality, Relativistic Causality, and Closing the Epistemic Circle

In July 2006, a major international conference was held at the Perimeter Institute for Theoretical Physics, Canada, to celebrate the career and work of a remarkable man of letters. Abner Shimony, who is well known for his pioneering contributions to foundations of quantum mechanics, is a physicist as well as a philosopher, and is highly respected among the intellectuals of both communities. In line with Shimony’s conviction that philosophical investigation is not to be divorced from theoretical and empirical work in the sciences, the conference brought together leading theoretical physicists, experimentalists, as well as philosophers. This book collects twenty-three original essays stemming from the conference, on topics including history and methodology of science, Bell’s theorem, probability theory, the uncertainty principle, stochastic modifications of quantum mechanics, and relativity theory. It ends with a transcript of a fascinating discussion between Lee Smolin and Shimony.

Features
- Articles by many of the leading researchers in physics and philosophy of physics
- Wide range of topics including history and methodology of science, Bell’s theorem, probability theory, the uncertainty principle, stochastic modifications of quantum mechanics, and relativity theory.
- Transcript of a wide-ranging discussion between Smolin and Shimony, two of the best-known thinkers in these areas

Fields of interest
Quantum Physics; Philosophy of Science; Relativity and Cosmology

Target groups
Professionals and students in physics, interested in the foundations of their field; professionals and students in philosophy of science

Discount group
P

Causation, Coherence and Concepts

Wolfgang Spohn, born 1950, is one of the most distinguished analytic philosophers and philosophers of science of Germany, editor-in-chief of Erkenntnis for more than 13 years, author of two books and more than 60 papers covering a wide range: epistemology, metaphysics, and philosophy of science, philosophical logic, philosophy of language and mind, and the theory of practical rationality. This collection presents 15 of his most important essays on theoretical philosophy. The centre piece is his uniquely successful theory of the dynamics of belief, tantamount to an account of induction and nowadays widely acknowledged as ‘rationality’. Like any account of induction, this theory has deep implications ingeniously elaborated in the papers included. They cover an account of deterministic and also probabilistic causation, initially subjectively relativized, but then objectivized in a projectivist sense, and an account of explanation and of strict, of ceteris paribus, and of chance laws.

Features
- Gives an excellent overview over the thoughts of a distinguished analytic philosopher
- Unfolds the philosophical significance of ranking theory which equals that of probability theory
- Offers valuable insights on the nature of causation, laws, coherence, and concepts

Fields of interest
Philosophy of Science; Epistemology; Philosophy of Language

Target groups
All academic philosophers from the graduate student level upwards, in particular epistemologists, philosophers of science, and philosophers of mind and language, also theoretical linguists, cognitive scientists, statisticians, and AI researchers insofar they are interested in foundational issues

Discount group
P
Explorations in Architecture

Teaching, Design, Research

Initiated and published in conjunction with the official Swiss contribution to the 11th International Architecture Exhibition in Venice, Italy 2008 (September 14th to November 23rd). Symposia and events are planned in Venice, Zurich, Basel and Hamburg.

General editor: Bundesamt für Kultur

The job description of the architect has fundamentally changed with the emergence of a globalized society, and it will continue to do so in the future. Already today, the demands of the job no longer correspond to the profile on which classical architectural training is based.

In this context, the question that arises is no longer that of the building alone, but also that of a changed approach to building and new pathways within design itself. This is where Explorations comes in: internationally celebrated authors, all of whom are professors as well and hence directly involved in the processes they describe, address the principal topics of contemporary architectural research.

Features

- A discussion book and handbook that offers a clear and understandable introduction to the topic
- A topic of burning interest that will continue to gain importance internationally thanks to the Bologna Process at universities
- Symposia and other events in Switzerland, Italy, Germany, and the United States will continue to pursue the theses of this publication and the issues it raises beyond the Biennale

Fields of interest

Architectural History and Theory; Architecture, general

Target groups

Architects, researchers, professors, tutors, students

Discount group

Architecture Professional

Counterpoint: Daniel Libeskind

Architect Daniel Libeskind, known for his dynamic, fractured compositions, is also recognized for introducing a new critical discourse to architecture. In an enormous variety of projects around the world - major cultural institutions, convention centers, universities, hotels, commercial centers, and residential work - he has manifested his commitment to expanding the horizons of architecture and urbanism. Counterpoint: Daniel Libeskind is the first comprehensive portrait of the work of Studio Daniel Libeskind, which was established in Berlin in 1989 and moved to New York in 2003 after winning the World Trade Center design competition. Drawn from a series of interviews with celebrated architecture critic Paul Goldberger, Counterpoint exemplifies Libeskind’s multidisciplinary approach, which reflects a profound interest in philosophy, art, music, literature, theater, and film. Featured projects include the Jewish Museum Berlin, the Felix-Nussbaum-Haus in Osnabrück, the recently completed Royal Ontario Museum in Toronto, the extension to the Denver Art Museum, the MGM Mirage CityCenter in Las Vegas, a multi-building complex in Busan, South Korea, and the Danish Jewish Museum in Copenhagen.

Features

- Author is of international renown
- Documents all of Libeskind’s high-profile projects such as the Jewish Museum in Berlin and the Royal Ontario Museum in Toronto
- Highly attractive object with exclusive graphic design

Field of interest

Architects

Target groups

Architects, urban planners, students

Discount group

Architecture Professional

Before Architecture.

Vor der Architektur


11th International Architecture Exhibition – La Biennale di Venezia 2008


Bettina Götz, the commissioner of the Austrian exhibit at the 11th architecture at the Biennale di Venezia, discusses the “Before Architecture” theme of the exhibition with three key case studies. Volume 1: Josef Lackner (1931–2000), whose uncompromising approach to architecture is examined in five of his buildings. PAUHOF (Michael Hofstätter, born in 1953, and Wolfgang Pauzenberger, born in 1955), whose conceptual work methods link utopias with reality creating added social value.

In volume 2, the German architecture theorist and sociologist Werner Sewing explores the issue of residential construction as a neglected field of work in terms of perception and theory. His exploration of this subject in discussion with seven Austrian architecture offices also researches common practices in this field.

The beautifully crafted, two-volume catalog in a slipcase is an enduring documentation of this subject.

Features

- Three positions: Josef Lackner, PAUHOF, Residential Construction
- Two-volume catalog of the Austrian exhibit

Fields of interest

Architectural History and Theory; Architects

Target groups

Architects, students, art historians

Discount group

Architecture Professional

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Sustainable City Form

The CityForm consortium's latest book Sustainable City Form is the first book to report on an empirical multi-disciplinary study specifically designed to address urban sustainability. Drawing together the various dimensions of sustainability – economic, social, transport, energy and ecological – the book examines their relationships both to each other and to urban form.

The essential basis of the book is that the core projects (dimensions) each take a common list of elements of urban form and, drawing on the consortium's latest research, review the sustainability issues from their specific perspective. The elements of urban form include density, land use, position/accessibility/transport infrastructure and characteristics of the built environment.

Features
► First book to report on an empirical multi-disciplinary study specifically designed to address urban sustainability ► First book to examine the issue within a coherent framework that draws in the different dimensions of the issue ► First book on the subject that will bring the main contributors from different perspectives together to write the conclusion

Contents
1. Issues and concepts; M. Jenks, C. Jones.-
2. Elements of urban form; M. Jenks et al.-
3. Travel and mobility; N. Ferguson, L. Woods.-
4. Environment and biodiversity; R.G. Davies et al.-
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10. Ecological and psychological benefits of urban green space; K.N. Irvine et al.-
11. Complementarities and contradictions; M. Jenks et al.

Fields of interest
Cities, Countries, Regions; Environment, general; Energy Economics

Target groups
Researchers and Professional

Discount group
P

E. Krasny, Vienna

The Force is in the Mind
The Making of Architecture

How and where is architecture created today? Where do architects find their inspiration? What design tools do they use? This book offers a behind-the-scenes look at twenty high-profile international architecture firms and provides authentic glimpses of the architects' individual creative worlds. Rather than a collection of glossy portraits, the volume offers a step-by-step account of the design process, made vivid and three-dimensional by "snapshots" of the studios and texts with quotations from conversations with the architects.

Each firm is depicted with a characteristic tool; the result is an overview of the tools used by successive generations of professional architects as they change over time, a phenomenon that has never been fully documented until now.

Features
► Presents tools and sources of inspiration with which design strategies are developed
► Illustrates the hands-on process of "doing architecture" ► Provides an overview of the tools of the architectural profession, from the pencil to computational design

Fields of interest
Architecture, general; Architects

Target groups
Architects, students, designers; all interested in culture

Discount group
Architecture Professional

H. Weber

Heidi Weber 50 Years
Ambassador for Le Corbusier 1958 - 2008

From the summer of 1958, when she first met Le Corbusier in Cap Martin, until today, Heidi Weber has worked tirelessly to popularize his work. She was the first to have certain pieces of Le Corbusier's furniture industrially manufactured, she published his graphic works, and she organized countless exhibitions devoted to him. She even had Le Corbusier himself design a building especially for her collection: the Heidi Weber Museum ("La Maison de l'Homme") in Zurich, which opened in 1967; it is the only museum in the world exclusively devoted to the great architect's work as a visual artist. This volume documents these fifty years of activity with illustrations of more than one hundred of Le Corbusier's works from Heidi Weber's collection, including paintings, drawings, collages, sculptures, tapestries, furniture, plans, and models. It not only tells the story of a woman of tireless commitment and vision; it offers a fascinating synthesis of Le Corbusier's work as a visual artist in all its myriad facets.

Features
► The pioneering life's work of an eminent collector ► Unique pictorial documentation of the late Le Corbusier

Fields of interest
Architects

Target groups
Architects

Discount group
Architecture Professional

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