Book Reviews

Editorial Policy. Recently published books and journals (one copy) are invited by the Editorial Office for announcement and review in ANTICANCER RESEARCH (no fee). Each announcement should include the full title of the publication, authors or editors, the number of pages, price, year of publication, ISBN and publisher. Publishers will be notified upon receipt of books and tear sheets of reviews will be sent after publication. Books will be returned to the sender only if the announcement is rejected. Reviews will be objective and clear regarding the content, quality and usefulness of the publication.

The Laboratory Rabbit, Guinea Pig, Hamster, and Other Rodents.
Edited by M.A. Suckow, K.A. Stevens, R.P. Wilson.

The use of laboratory animals in research is critical to the advancement of human and veterinary medicine. In this regard, it is important that the biological features of laboratory animals be understood, and the principles for responsible care and use serve as the foundation for productive research. Toward that goal, this volume serves as a thorough review of the responsible use of these species in research. Authored by leading authorities in the field, the book is organized into sections by species and chapters cover topics such as basic biology, anatomy, physiology, behavior, infectious and non-infectious diseases, husbandry and breeding, common experimental methods, and use of the species as a research model.

This book provides current and detailed information which will help guide scientists, veterinarians, and students. Thoroughly referenced and illustrated the book provides a well organized, easily read volume that serves as both a handy reference and as an authoritative compilation.

Functional Imaging in Oncology.
Edited by J.C. Vilanova, L. Celso Hygino da Cruz Jr., S.E. Rossi.
Springer Science + Business Media, Heidelberg, Germany.

In the new era of functional and molecular imaging, both currently available imaging biomarkers and biomarkers under development are expected to lead to major changes in the management of oncological patients. This two-volume book is a practical manual on the various imaging techniques capable of delivering functional information on cancer, including diffusion MRI, perfusion CT and MRI, dual-energy CT, spectroscopy, dynamic contrast-enhanced ultrasonography, PET, and hybrid modalities. This second volume considers the applications and benefits of these techniques in a wide range of tumor types, including their role in diagnosis, prediction of treatment outcome, and early evaluation of treatment response. Each chapter addresses a specific malignancy and is written by one or more acclaimed experts. The lucid text is complemented by numerous high-quality illustrations that highlight key features and major teaching points.

Edited by N.R. Rose, I.R Mackay.
Elsevier Inc., Academic Press, San Diego, CA, USA.

Since publication of the 4th Edition of The Autoimmune Diseases in 2006, the understanding of the immune mechanisms underlying autoimmunity and autoimmune disease has significantly deepened and broadened. This fully revised 5th Edition incorporates new material and combines common themes underlying inductive and effector mechanisms and therapies that relate generally to the autoimmune disorders. It discusses the biological basis of disease at genetic, molecular, cellular, and epidemiologic levels and includes expanded coverage of autoimmune disease and autoimmune responses to tumors.

Key Features:
- Gives a thorough and an important overview on the entire field, framing individual disease chapters with information that compares and contrasts each disorder and therapy;
- Provides thorough, up-to-date information on specific diseases, along with clinical applications, in an easily found reference for clinicians and researchers interested in certain diseases;
- Keeps readers abreast of current trends and emerging areas in the field;
- Ensures that content is not only up-to-date, but applicable and relevant.

Bone Cancer. Progression and Therapeutic Approaches.
Edited by D. Heymann.

Given the global prevalence of breast and prostate cancers, knowledge of bone biology has become essential for the medical and cancer research communities. This book provides, all in one resource, the most recent data on bone cancer development (cellular and molecular mechanisms), genomic and proteomic analyses, clinical analyses (histopathology, imaging, pain monitoring), as well as new therapeutic approaches and clinical trials for primary bone tumors and bone metastases.

Key Features:
- Presents a comprehensive, translational source for all aspects of bone cancer in one reference work;
- Bone cancer experts (from all areas of research and practice) take readers from the bench research (cellular and molecular mechanism), through genomic and proteomic analysis, all the way to clinical analysis (histopathology and imaging) and new therapeutic approaches;
• Clear presentation by bone biologists of the cellular and molecular mechanisms underlying bone tumors and bone cancer metastasis as well as the genomic and proteomic assays used in detecting cancer within given organ systems;
• Clear presentation by oncologists and radiologists of how histopathology, imaging, and pain monitoring can lead to new therapeutic approaches.

Edited by S. Kulkarni, J. Pfeifer.

Clinical Genomics provides an overview of the various next-generation sequencing (NGS) technologies that are currently used in clinical diagnostic laboratories. It presents key bioinformatic challenges and the solutions that must be addressed by clinical genomicists and genomic pathologists, such as specific pipelines for identification of the full range of variants that are clinically important.

This book is also focused on the challenges of diagnostic interpretation of NGS results in a clinical setting. Its final sections are devoted to the emerging regulatory issues that will govern clinical use of NGS, and reimbursement paradigms that will affect the way in which laboratory professionals get paid for the testing.

Autoantibodies.
Edited by Y. Shoenfeld, P.L. Meroni, M.E. Gershwin.
Elsevier B.V., Waltham, MA, USA.

The third edition of Autoantibodies is a comprehensive reference covering the most important known autoantibodies, with particular emphasis on those that display a clinical value. Each chapter focuses on a single family of autoantibodies and reviews its history, definition, origin and source of the antigen recognized; any genetic associations, pathogenic mechanisms that are mediated, methods of detection, and clinical utility. The new edition is fully updated to include recent scientific advances, diagnostic techniques and therapeutic technologies.

Edited by M.A. Hayat.
Elsevier Inc., Academic Press, San Diego, CA, USA.

Understanding the importance and necessity of the role of autophagy in health and disease is vital for the studies of cancer, aging, neurodegeneration, immunology, and infectious diseases.

Comprehensive and up-to-date, this book offers a valuable guide to these cellular processes whilst encouraging researchers to explore their potentially important connections.

This volume explores the role of autophagy in specific diseases and developments, including: Crohn’s Disease, Gaucher Disease, Huntington’s Disease, HCV infection, osteoarthritis, and liver injury. A full section is devoted to in-depth exploration of autophagy in tumor development and cancer. Finally, the work explores the relationship between autophagy and apoptosis, with attention to the ways in which autophagy regulates apoptosis, and the ways in which autophagy has been explored in Lepidoptera, elucidating the use of larval midgut as a model for such exploration. From these well-developed foundations, researchers, translational scientists, and practitioners may work to better implement more effective therapies against some of the most devastating human diseases.

Edited by P.M. Conn.

This volume identifies important animal models and assesses the advantages and disadvantages of each model for the study of human disease. The first section addresses how to locate resources, animal alternatives, animal ethics and related issues, much needed information for researchers across the biological sciences and biomedicine. The next sections of the work offers models for disease-oriented topics, including cardiac and pulmonary diseases, aging, infectious diseases, obesity, diabetes, neurological diseases, joint diseases, visual disorders, cancer, hypertension, genetic diseases, and diseases of abuse.

Pharmacogenomics. Challenges and Opportunities in Therapeutic Implementation.
Edited by Y.-W. F. Lam, L.H. Cavallari.

This volume presents a comprehensive overview of opportunities within specific areas of the field and outlines foreseeable challenges in the application of pharmacogenomics to drug development and therapeutics. Written by leading international authorities, this book includes discussions of academic, regulatory, pharmaceutical, clinical, socio-ethical and economic perspectives to illustrate the complex nature of this field. This book is intended for scientists, clinicians and students who are interested in pharmacogenomic implementation across a variety of settings. It is a practical and indispensable resource on both the opportunities and challenges that allows readers to reflect on the future direction of pharmacogenomics while applying these observations to their own work or research.
Edited by C. Nieder, L.E. Gaspar. 
Springer Science + Business Media, Heidelberg, Germany.

A look at the recent oncology literature or a search of one of the common databases reveals a steadily increasing number of nomograms and other prognostic models, some of which are also available in the form of web-based tools. These models may predict the risk of relapse, lymphatic spread of a given malignancy, toxicity, survival, etc. Pathology information, gene signatures, and clinical data may all be used to compute the models. This trend reflects increasingly individualized treatment concepts and also the need for approaches that achieve a favorable balance between effectiveness and side-effects. Moreover, optimal resource utilization requires prognostic knowledge, for example to avoid lengthy and aggressive treatment courses in patients with a short survival expectation. In order to avoid misuse, it is important to understand the limits and caveats of prognostic and predictive models. This book provides a comprehensive overview of such decision tools for radiation oncology, stratified by disease site, which will enable readers to make informed choices in daily clinical practice and to critically follow the future development of new tools in the field.

Edited by J.M. Herman, T.M. Pawlik, C.R. Thomas, Jr.. 
Springer Science + Business Media, Heidelberg, Germany.

The second edition of this book is intended as a definitive text on biliary tract and gallbladder cancers. Specifically, it will serve as a single-source reference on the current knowledge base for the multidisciplinary management of such cancers and thus covers epidemiological, surgical, radiotherapy, and chemotherapy approaches.

A key feature is the demonstration of the impact of cutting-edge technical knowledge on treatment; for example, interventional radiology techniques, novel surgical approaches, and image-guided radiation therapy are all extensively discussed. Diagnosis is also considered in detail, with coverage of novel serum biomarkers, pathologic staging, molecular profiling, and the full range of current and emerging imaging strategies. Further chapters are devoted to epidemiology, the role of growth factor pathways and signal transduction, and histopathology and molecular pathogenesis.

Experienced practitioners in a range of specialties will find this amply illustrated book to be an invaluable source of information on the newest diagnostic and treatment techniques in biliary tract and gallbladder cancer, yet it is also sufficiently concise to offer an introduction to the field for students and community practitioners.

Edited by S.E. Monaco, W.E. Khalbass, L. Pantanowitz. 
S. Karger AG, Basel, Switzerland.

This reference book focuses on the clinical, technical, and pathological aspects of endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA). Its reviews cover all aspects of EBUS-TBNA, including the clinical perspective, technical aspects of the procedure, and cytomorphology of common and uncommon entities, as well as highlights diagnostic challenges. Each chapter features a multitude of full-color high-resolution images and includes key references to the current literature in the field. Additionally, reference tables and informative figures highlight the salient points. The book is unique in that it is written by experienced thoracic surgeons, pulmonary medicine physicians, and cytopathologists who use EBUS-TBNA in a large medical center.

This publication is of interest to individuals learning and practicing cytopathology, in addition to clinicians practicing pulmonary/thoracic medicine or surgery. In short, it provides important pearls of wisdom to create a comprehensive reference for all physicians involved with EBUS-TBNA.

Photodynamic Therapy. From Theory to Application. 
Edited by M.H. Abdel-Kader. 
Springer Science + Business Media, Heidelberg, Germany.

Photodynamic Therapy: From Theory to Application brings attention to an exceptional treatment strategy, which until now has not achieved the recognition and breadth of applications it deserves. The authors, all experts and pioneers in their field, discuss the history and basic principles of PDT, as well as the fundamentals of the theory, methods, and instrumentation of clinical diagnosis and treatment of cancer. Non-oncological applications such as the use of PDT in control of parasites and noxious insects are also discussed. This book serves as a standard reference for researchers and students at all levels, clinical specialists interested in the topic and those in industry exploring new areas for development. A comprehensive exposition of both the theory and application of PDT, this book fills the gaps in the current literature by bringing together both basic understanding of the process of PDT and an expanded vision of its applications.

Angiogenesis and Anti-Angiogenesis in Hematological Malignancies. 
Edited by D. Ribatti. 
Springer Science + Business Media, Heidelberg, Germany.

It has been generally accepted that angiogenesis is involved in the pathogenesis of hematological malignancies, like acute and
chronic leukemia, lymphoma, myelodysplastic syndromes, myeloproliferative neoplasms and multiple myeloma. The extent of angiogenesis in the bone marrow has been correlated with disease burden, prognosis and treatment outcome. Reciprocal positive and negative interactions between tumor cells and bone marrow stromal cells, namely hematopoietic stem cells, fibroblasts, osteoblasts/osteoclasts, endothelial cells, endothelial progenitor cells, T cells, macrophages and mast cells, mediated by an array of cytokines, receptors and adhesion molecules, modulate the angiogenic response in hematological tumors. More recently, it has been emphasized the pro-angiogenic role of the so called “vascular niche”, indicating a site rich in blood vessels where endothelial cells and mural cells such as pericytes and smooth muscle cells create a microenvironment that affects the behavior of several stem and progenitor cells, in hematological malignancies.

Phospholipases in Health and Disease.
Edited by P.S. Tappia, N.S. Dhalla.
Springer Science + Business Media, Heidelberg, Germany.

Phospholipases generate lipid signaling molecules through their hydrolytic action on phospholipids and are known to regulate function of a variety of cells under normal and diseased conditions. While several physiological, biochemical and molecular techniques have identified key players involved in different disease processes, phospholipases have also emerged as critical players in the pathogenesis of a number of different diseases including cancer and heart disease. In addition, phospholipases are also implicated in such conditions as brain disorder/injury, kidney and immune cell dysfunction.

This volume is a compilation of review articles dedicated to the study of the field with respect to biochemical and molecular mechanisms of normal and abnormal cell function. The wide range of area covered here is of interest to basic research scientists, clinicians and graduate students, who are engaged in studying pathophysiological basis of a variety of diseases. Furthermore, this book highlights the potential of the different phospholipases as therapeutic targets as well as part of prevention strategies. Twenty three articles in this book are organized in four sections that are designed to emphasize the most characterized forms of the phospholipases in mammalian cells. The first section discusses general aspect of phospholipases. Section two covers the role and function of phospholipase A in different pathophysiological conditions. The third section is focussed on phospholipase C which is believed to play a central role in transmembrane signaling. The final section covers phospholipase D which is present in a variety of different cells. The book illustrates that the activation of phospholipases is of fundamental importance in signal transduction affecting cell function. Overall, this book discusses the diverse mechanisms of phospholipase mediated signal transduction in different pathophysiological conditions and raises the possibility of specific forms of phospholipases serving as novel targets for drug development.

Pathology of Melanocytic Nevi and Melanoma.
Third Edition.
Edited by R.L. Barnhill, M.W. Piepkorn, K.J. Busam.
Springer Science + Business Media, Heidelberg, Germany.

Highly acclaimed in the field, this volume has once again been fully revised, updated, and expanded to reflect the most recent advances and techniques in the field of melanoma pathology. New chapters on mucosal melanoma, ocular melanoma, and pigmented lesions of the nail apparatus have been included in this new edition. The successful focus and format of the previous editions have been preserved. Each lesion and diagnosis is clearly illustrated with the aid of a wealth of digitally enhanced full-color photomicrographs. A concise description of the clinical features, histopathology, differential diagnosis, and outstanding characteristics of each lesion provides readers with a quick yet comprehensive overview of each topic covered. Pathology of Melanocytic Nevi and Melanoma is the essential reference for every practicing dermatopathologist, pathologist, dermatologist, and cancer research scientist today.

Monoclonal Antibodies. Methods and Protocols.
Edited by V. Ossipow, N. Fischer.
Springer Science + Business Media, New York, NY, USA.

This volume expands upon the previous edition with current, detailed modern approaches to isolate and characterize monoclonal antibodies against carefully selected epitopes. This edition includes new chapters covering the key steps to generate high quality monoclonals via different methods, from antigen generation to epitope mapping and quality control of the purified IgG. Chapters are divided into four parts corresponding to four distinct objectives. Part I covers monoclonal antibody generation, Part II deals with monoclonal antibody expression and purification, Part III presents methods for monoclonal antibody characterization and modification, and Part IV describes selected applications of monoclonal antibodies. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls.

Authoritative and practical, this volume provides crucial initial steps of monoclonal antibody generation and characterization with state-of-the-art protocols.

Innate DNA and RNA Recognition. Methods and Protocols.
Springer Science + Business Media, New York, NY, USA.
This volume presents validated experimental strategies to dissect nucleic acid sensing in vitro and in vivo sources. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls.

Authoritative and practical, this book provides a resource for immunologists, molecular biologists, virologists, microbiologists, and researchers studying how the innate immune system handles nucleic acids from endogenous or foreign sources.

**Transcription Factor Regulatory Networks. Methods and Protocols.**

**Exocytosis and Endocytosis. Second Edition.**
*Edited by A.I. Ivanov.*

Focused on one of the most important and fascinating fields of modern biology, this volume presents a comprehensive collection of protocols for cutting-edge research techniques used to study transcription factor regulatory networks. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and key tips on troubleshooting and avoiding known pitfalls.

Authoritative and practical, this volume aids scientists in the further study into post-genomic or the personal genomic era.

**DNA Vaccines. Methods and Protocols. Third Edition.**
*Edited by M. Rinaldi, D. Fioretti, S. Iurescia.*

This volume explores innovative approaches and technologies used to design, deliver, and enhance the efficacy of DNA vaccines. Featuring applications which should be of great value in moving vaccines from research to clinic, this detailed volume includes sections on DNA vaccine design and enhancement, delivery systems, production, purification, and quality, as well as chapters on new vaccine applications. Written in the highly successful Methods in Molecular Biology series format, chapters contain introductions their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls.

Authoritative and practical, this book serves the important role of further documenting the potential of the DNA vaccination as a platform technology for treatment and prevention of human disease.

**Autophagy in Health and Disease.**
*Edited by R.A. Gottlieb.*

Autophagy plays a critical role in organ homeostasis and abnormalities in autophagy have been linked to a growing list of pathologic processes in cancer, infections disease, metabolic diseases and inflammatory diseases.

This volume provides pertinent coverage of the cardiovascular system, immune system, gastrointestinal tract, as well as conditions such as diabetes and ischemia. It presents the fundamentals of autophagy with tissue-specific considerations and also addresses defects in autophagy in the context of human diseases. Each chapter is written by a leading expert in the topic and the material is targeted towards a broader, medically-oriented readership, making this book a valuable resource for researchers, graduate students, and professionals.

**Stem cells. Scientific Facts and Fiction. Second Edition.**
*Edited by C. Mummery, A. van de Stolpe, B. Roelen, H. Clevers.*

Key Features:

- Explains in straightforward, non-specialist language the basic biology of stem cells and their applications in modern medicine and future therapy;
- Includes extensive coverage of adult and embryonic stem cells both historically and in contemporary practice;
- Richly illustrated to assist in understanding how research is done and the current hurdles to clinical practice; images available electronically;
- Revised edition of British Medical Association Book award winner.

Correlative Light and Electron Microscopy II.
Edited by T. Müller-Reichert, P. Verkade.

This volume combines two (or more) imaging modalities in one experiment to deliver information above and beyond the capability of either modality alone. As such, the CLEM technology has begun to establish itself as a very powerful technique within the Biomedical research field. Since the publication of the first volume on CLEM, further approaches have been developed to combine the two imaging worlds: light and electron microscopy. Furthermore the integration of other imaging technologies, such as X-ray microscopy, have proven to be very valuable to the expanding field of Correlative Microscopy.

With the current plethora of imaging techniques available each biological research question will require its own dedicated CLEM approach. Utilizing the power of CLEM for instance, one is able to pick out one particular event, from a crowded environment, for ultrastructural analysis at high resolution. This particular strengths of each represented CLEM approach, and the application to its biological research question, is highlighted.

Presenting recent advances in the field, this second volume is focused on three key topics relevant for CLEM experiments: the development of probes; the processing and registration of light and electron microscopic images; and the automated registration of data collected by both imaging modalities. Motivated by the editors’ own research, this volume is hoped to further stimulate interaction between the imaging and scientific communities.

Human Papillomavirus. Bench to Bedside.
S. Karger AG, Basel, Switzerland.

Human papillomavirus (HPV) infection transcends multiple fields of science and medicine. The management of HPV-related disease is demanding and often requires a persistent multimodal approach involving various medical disciplines.

In this volume, experts present a comprehensive view of HPV research with an emphasis on clinical presentations, diagnosis, management and vaccine development. The state of the art in molecular biology is provided in addition to discussions on clinical morphology and the utility of dermatoscopy in identifying HPV disease. In a multidisciplinary approach to dermatological, plastic and reconstructive, gynecological, otolaryngological and colorectal management, different treatment strategies are highlighted.

Finally, Dr. Neil Christensen discusses viral immunology, and the difficulties and successes in the development of an HPV vaccine. Bringing together basic science and clinical information on HPV, this book is an excellent resource and reference for all researchers and clinicians who encounter human papillomavirus-related disease.

Emerging Applications of Molecular Imaging to Oncology.
Edited by M.G. Pomper, P.B. Fisher.

This volume 124 in the series Advances in Cancer Research provides invaluable information on the exciting and fastmoving field of molecular imaging in oncology. This book offers ten authoritative reviews on the topic:

- Quantitative Radiology: Applications to Oncology
- The Intricate Role of CXCR4 in Cancer
- Recent Advances in Nanoparticle Based Nuclear Imaging of Cancers
- Molecular-Genetic Imaging of Cancer
- Real-Time Fluorescence Image-Guided Oncologic Surgery
- Cerenkov imaging: seeing the light
- Molecular Imaging of the Tumor Microenvironment for Precision Medicine and Theranostics
- Tracking Cellular and Immune Therapies in Cancer
- Developing MR probes for Molecular Imaging
- Clinical Translation of Molecular Imaging Agents used in PET Studies of Cancer.

Cytokine Bioassays. Methods and Protocols.
Edited by I. Vancurova.
Humana Press, Springer Science + Business Media, New York, NY, USA.

This volume provides a comprehensive collection of classic and cutting-edge methodologies that are used to analyze and quantify cytokines and their biological activities in complex biological and clinical samples. Chapters are divided into three main categories, the first category details the immunodetection of released cytokines in tissue culture supernatants, plasma, serum, and whole blood samples by immunoassays. The second part focuses on the analysis of biologically active cytokines by bioassays using neutralizing antibodies, chemotaxis assay, cytokine-induced phagocytosis assay, proteasome activity assay, and analysis of cytokine-induced immunoglobulin class switching. Part three presents
analysis of intracellular cytokines by flow cytometry, immunohistochemistry, immunofluorescence confocal microscopy, and western blotting. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and key tips on troubleshooting and avoiding known pitfalls.

Authoritative and practical, Cytokine Bioassays: Methods and Protocols is written by experienced, basic, and clinical researchers with hands-on knowledge of the described protocols. This book will be of interest not only to biochemists, molecular biologists and immunologists but also to physician-scientists working in the field of cytokine research.

By A.W. Norman, H.-L. Henry.

This authoritative textbook describes the biochemistry, cell biology, physiology and molecular biology of hormones. The third edition includes:

• New full-color format includes over 300 full color, completely redrawn images;
• Companion Web site will host all images from the book as PPT slides and .jpeg files;
• All chapters have been completely updated and revitalized.
  Coverage of the hypothalamus has been integrated into the anterior pituitary chapter;
• Updated references.

A Quick Guide to Cancer Epidemiology.
By P. Boffetta, S. Boccia, C. La Vecchia.
Springer Science + Business Media, Heidelberg, Germany.

This Brief provides core concepts in cancer epidemiology and also gives a snapshot of the epidemiology of seventeen human cancers. The Brief aims to provide—with quantitative focus—estimates of the global burden of neoplasms, of recent and likely future trends, distribution, causes and strategies for prevention for major groups of cancers. Finally, the Brief will give an overview of several factors that cause cancer including dietary factors, tobacco smoking, obesity and alcohol consumption.