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.

In Vivo Cellular Imaging Using Fluorescent Proteins. Methods and Protocols.

Edited by R.M. Hoffman.
2012, pp. 269, Eur 101.60, ISBN: 978-1-61779-796-5.
Springer Science + Business Media, New York, NY, USA.

The discovery and genetic engineering of fluorescent proteins has revolutionized cell biology. What was previously invisible in the cell often can be made visible with the use of fluorescent proteins. This volume presents state-of-the-art research that has contributed to the fluorescent protein revolution to visualize biological processes in the live animal. It covers an array of topics from the employment of the chick CAM model using fluorescent proteins and other fluorescent probes, to intravital fluorescent imaging, as well as 3-dimensional imaging, and design instructions on how to create new and improved far-red and infrared fluorescent proteins, to name a few. Written in the 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 protocols, and notes on troubleshooting and avoiding known pitfalls.

Authoritative and easily accessible, *In Vivo Cellular Imaging Using Fluorescent Proteins: Methods and Protocols* is the first volume in the new field of in vivo cell biology and it serves both professionals and novices with its well-honed methodologies.

Metastasis Research Protocols. Second Edition.

Edited by M. Dwek, S.A. Brooks, U. Schumacher.
2012, pp. 274, Eur 101.60, ISBN: 978-1-61779-853-5.
Springer Science + Business Media, New York, NY, USA.

Diverse molecular, cellular, and environmental events must all come together to allow the successful formation of secondary cancers, metastases. The second edition of *Metastasis Research Protocols,* brings together the most up to date versions of the seminal techniques that were presented in the first edition and also includes new techniques that have recently been shown to be important in illuminating the processes underlying this important area of biology. Presented by top scientists, the collection includes a wide spectrum of articles encompassing important key methods and introduces new methods which are making an impact in the area of metastasis research. Volume 1 includes key cellular and molecular techniques relevant to the exploration of cancer cells and tissues, the focus being on the tools that have been shown to be helpful in unravelling the molecular processes important in cancer metastasis. 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 seeks to aid scientists in the further study of new methods in the area of metastasis research.

The Centrosome. Cell and Molecular Mechanisms of Functions and Dysfunctions in Disease.

Edited by H. Schatten.
2012, pp. 396, Eur 165.80, ISBN: 978-1-62703-034-2.
Springer Science + Business Media, New York, NY, USA.

This book features a diversity of aspects on centrosome biology focused on the role of centrosomes in reproduction, cell and molecular biology of centrosomes, centrosome abnormalities in cancer, and centrosomes in various cell systems. Each section contains a variety of different subtopics written by experts in their respective fields who have contributed significant new knowledge to decipher structure and the multiple functions of this still intriguing central organelle. The chapters include comprehensive and concise reviews of key topics in the field as well as cell and molecular details that are important for the specific subtopics. Cutting edge new information is balanced with background information that is readily understandable for the newcomer and the experienced centrosome researcher alike. In addition, several articles will raise awareness of centrosomes in areas that have not yet considered centrosomes associated with disease including aspects of misguided signal transduction and several others that may find centrosomes as new targets for therapeutic intervention. The topics addressed are selected to be of interest to scientists, students, teachers, and to all who are interested in expanding their knowledge related to centrosomes. The book is intended for a large audience as a reference book on the subject.

Genetically Modified Organisms and Genetic Engineering in Research and Therapy.

Edited by P. Piguet, P. Poindron.
2012, pp. 123, Eur 108.00, ISBN: 978-3-8055-9065-5.
S. Karger AG, Basel, Switzerland.

Genetically modified organisms (GMO) raise societal, political and ethical concerns. They inspire strong resistance or, conversely, enthusiastic assent. The aim of this publication is to give an overview of genetic engineering, starting with the history of the discovery of restriction enzymes continuing with technical aspects of transgenesis to its applications in research

and ethical considerations. Be it the use of single engineered cells or GMO, these applications cover a broad array, ranging from disease-oriented research (but not only), to the promising perspectives of gene therapy.

Historical and technical aspects give insights into the problems inherent to the creation of GMO, and illustrate the links and limits between genetic engineering, GMOs and gene therapy. A summary article in English and French structures the links between the different chapters and concepts.

Scientists interested in genetic engineering of single cells or animal models, as well as in gene therapy, will find an up-to-date review on the use and perspectives of transgenesis. However, this publication is also recommended to the public interested in the definition of GMO, which encompasses a much broader array than the genetically modified crops covered by media.

A Laboratory Course in Tissue Engineering.

Edited by M. Kurtis Micou, D.M. Kilkenny.
2013, pp. 284, £38.99, ISBN: 978-1-4398-7893-4.
CRC Press, Boca Raton, FL, USA.

Filling the need for a lab textbook in this rapidly growing field, this volume helps students develop hands-on experience. The book contains fifteen standalone experiments based on both classic tissue-engineering approaches and recent advances in the field. Experiments encompass a set of widely applicable techniques: cell culture, microscopy, histology, immunohistochemistry, mechanical testing, soft lithography, and common biochemical assays. In addition to teaching these specific techniques, the experiments emphasize engineering analysis, mathematical modeling, and statistical experimental design.

Each experiment includes background information, learning objectives, an overview, safety notes, a list of materials, recipes, methods, pre- and postlab questions, and references. Emphasizing the importance for engineering students to develop strong communication skills, each experiment also contains a data analysis and reporting section that supplies a framework for succinctly documenting key results. A separate chapter provides guidelines for reporting results in the form of a technical report, journal article, extended abstract, abstract, or technical poster.

The book is a convenient source of instructional material appropriate for undergraduate or graduate students with fundamental knowledge of engineering and cell biology. All of the experiments have been extensively tested to improve the likelihood of successful data collection. In addition, to minimize lab costs, the experiments make extensive use of equipment commonly found in laboratories equipped for tissue culture.

Management of Prostate Cancer. Third Edition.

Edited by E.A. Klein, J. Stephen Jones.
2012, pp. 428, Eur 160.45, ISBN: 978-1-60761-258-2.
Springer Science + Business Media, New York, NY, USA.

The thoroughly updated and revised third edition of *Management of Prostate Cancer* provides concise and authoritative guidance to today's best therapeutic regimens for the diagnosis and treatment of prostate cancer. Highlighting the latest major advances in the field, the book includes chapters on the most controversial areas of prostate cancer – screening, chemoprevention, and active surveillance; updated chapters on genetic risk and progression, biopsy schemes, treatment of complications, and comparative treatment outcomes for surgery; and new chapters on risk factors, new markers, nomograms, and focal therapy. This volume also features overviews of new and emerging drugs and treatment paradigms for castrate resistant disease, advances that promise to extend life and perhaps even cure a subset of men with metastatic disease.

With its comprehensive illustrations and contributions from renowned experts in the field, this book is an invaluable resource for practitioners in the treatment of prostate cancer.

Primary Liver Cancer. Surveillance, Diagnosis and Treatment.

Edited by N. Reau, F.F. Poordad.
2012, pp. 295, Eur 160.45, ISBN: 978-1-61-779-862-7.
Springer Science + Business Media, New York, NY, USA.

This volume focuses on the many therapies rapidly evolving to assist with controlling hepatocellular carcinoma as well as emerging technologies to assist in early diagnosis as well as prevention. All chapters are written by experts in their fields and include the most up to date information for diagnosis, treatment, surveillance, epidemiology, staging, recurrence and prevention. This volume will serve as a useful resource for clinical gastroenterologists, hepatologists, oncologists, pathologists, and physicians who treat patients with chronic liver disease and hepatocellular carcinoma.

Epigenetic Epidemiology.

Edited by K.B. Michels.
2012, pp. 446, Eur 160.45, ISBN: 978-94-007-2494-5.
Springer Science + Business Media, New York, NY, USA.

The exploding field of epigenetics is challenging the dogma of traditional Mendelian inheritance. Epigenetics plays an important role in shaping who we are and contributes to our prospects of health and disease. While early epigenetic research focused on plant and animal models and in vitro experiments, population-based epidemiologic studies increasingly incorporate epigenetic components. The relevance of epigenetic marks, such as DNA methylation, genomic imprinting, and histone modification for disease causation has yet to be fully explored. This book covers the basic concepts of epigenetic epidemiology, discusses challenges in study design, analysis, and interpretation, epigenetic laboratory techniques, the influence of of age and environmental factors on shaping the epigenome, the role of

epigenetics in the developmental origins hypothesis, and provides the state of the art on the epigenetic epidemiology of various health conditions including childhood syndromes, cancer, infectious diseases, inflammation and rheumatoid arthritis, asthma, autism and other neurodevelopmental disorders, psychiatric disorders, diabetes, obesity and metabolic disorders, and atherosclerosis.

Advances in Stem Cell Aging.

Edited by K. Lenhard Rudolph.
2012, pp. 125, Eur 66.00, ISBN: 978-3-318-02170-7.
S. Karger AG, Basel, Switzerland.

Adult stem cells are present in most postnatal tissues of mammals. Tissues with high rates of cell turnover depend on the functional capacity of stem cells for lifelong maintenance of tissue homeostasis. Adult stem cells are also required for the regeneration of tissues in response to injury as in, for example, the regeneration of skeletal muscle. In addition to its function in tissue homeostasis and regeneration, adult stem cells can represent the cell type of origin of various types of cancers including leukemia and colorectal cancer. Stem cells are the most long-lived cells in the proliferative compartment of mammalian tissues. Therefore, stem cells have an increased risk of acquiring mutations that could ultimately lead to the transformation of tissue stem cells.

This publication presents the current knowledge in the field of stem cell aging, which was discussed at the Else Kröner-Fresenius Symposium on Advances in Stem Cell Aging in 2011. It will be of special interest to scientists working on stem cell research, aging, regeneration, and cancer as well as physicians and scientists specializing in geriatric medicine, internal medicine, and surgery.

Pearls and Pitfalls in Head and Neck Surgery. Practical Tips to Minimize Complications. Second Edition.

Edited by C.R. Cernea.
2012, pp. 212, Eur 82.00, ISBN: 978-3-8055-9972-6.
S. Karger AG, Basel, Switzerland.

In this unique volume, leading international experts share their experiences in the management of head and neck tumors, providing a guidebook for all surgeons dealing with head and neck neoplasms.

Each chapter offers a concise description of useful 'pearls' and dangerous 'pitfalls' which must be avoided. Contributions cover topics from thyroid glands, neck metastases, and oral tumors to laryngeal, pharyngeal, and nasopharyngeal tumors, as well as salivary gland tumors, skull base tumors, and reconstruction surgery. In addition to frequent diseases which are encountered in everyday practice, some new therapeutic topics such as video-assisted thyroidectomy, robotic surgery, and management of the neck after organ preservation treatment are discussed.

The 2nd edition has been extended by topical chapters of major practical interest including the latest findings and techniques. The new chapters are clearly indicated and can be recognized easily. Head and neck surgeons, otolaryngologists, neurosurgeons, maxillofacial surgeons, plastic surgeons, radiation and clinical oncologists, and general surgeons, as well as students and residents interested in the management of head and neck tumors, will find this publication an indispensable manual.

Handbook of Clinical Gender Medicine.

Edited by K. Schenck-Gustafsson, P.R. DeCola, D.W. Pfaff, D.S. Pisetsky.
2012, pp. 522, Eur 51.00, ISBN: 978-3-8055-9929-0.
S. Karger AG, Basel, Switzerland.

Gender medicine is an important new field in health and disease. It is derived from top-quality research and encompasses the biological and social determinants that underlie the susceptibility to disease and its consequences. In the future, consideration of the role of gender will undoubtedly become an integral feature of all research and clinical care.

Defining the role of gender in medicine requires a broad perspective on biology and diverse skills in biomedical and social sciences. When these scientific disciplines come together, a revolution in medical care is in the making. Covering twelve different areas of medicine, the practical and useful *Handbook of Clinical Gender Medicine* provides up-to-date information on the role of gender in the clinical presentation, diagnosis, and management of a wide range of common diseases.

The contributing authors of this handbook are all experts who, in well-referenced chapters, cogently and concisely explain how incorporation of gender issues into research can affect the medical understanding and treatment of heart disease, osteoporosis, arthritis, pain, violence, and malaria among other conditions. This intriguing and unique medical textbook provides readers with a valuable new perspective to understand biology and incorporate gender issues into the different branches of medicine.

External Beam Therapy. Second Edition.

Edited by P. Hoskin.
2012, pp. 513, £55.00, ISBN: 978-0-19-969656-7.
Oxford University Press, Oxford, UK.

External beam therapy is the most common form of radiotherapy, delivering ionizing radiation such as high-energy x-rays, gamma rays or electron beams directly into the location of the patient's tumour. External Beam Therapy, Second Edition is an essential, practical guide to the use of external beam radiotherapy, highlighting the rapid technological advances made in recent years. It provides a firm background to the physics of external beam radiotherapy, taking the reader through the basic principles and discussing issues such as quality assurance.

Experts within each field then expand upon techniques for treatment delivery within each anatomical site, covering indications, treatment and planning. This new edition also includes information on Stereotactic radiotherapy and coverage on the physics of proton beams. *External Beam Therapy, Second Edition* is an invaluable companion to trainees in medical physics, therapeutic radiography, and clinical or radiation oncology.

Oncofertility Medical Practice. Clinical Issues and Implementation.

Edited by C. Gracia, T.K. Woodruff.
2012, pp. 290, Eur 149.75, ISBN: 978-1-4419-9424-0.
Springer Science + Business Media, New York, NY, USA.

Oncofertility is a specialty that bridges the disciplines of reproductive endocrinology and infertility and oncology, with the goal of expanding the reproductive options of cancer patients. Given fertility risks associated with specific cancer treatments, as well as the improved long-term survival made possible by these therapies, there has been growing interest in expanding reproductive options for cancer patients. Indeed, both cancer survivors and the medical community have acknowledged the importance of patient counseling and the pursuit of fertility preservation options prior to starting cancer treatment.

This volume is the third in a series of timely and indispensable books on fertility preservation for cancer patients—the first one focused on advances in basic science research and the second one offered ethical, legal, and social perspectives on the theme. This book elucidates the latest practices and emerging treatments in oncofertility and provides necessary information on the successes, risks, and limitations of fertility preserving technologies. Authoritative and insightful, written by an impressive multi-disciplinary cadre of specialists, this book is a valuable up-to-date resource for all those practicing in this demanding field.

Bone Tumors. A Practical Guide to Imaging.

By J.S. Wu, M.G. Hochman.
2012, pp. 414, Eur 74.85, ISBN: 978-1-4419-0807-0.
Springer Science + Business Media, New York, NY, USA.

This volume is a concise guide to common tumors encountered by physicians in daily practice. The authors make use of high-yield facts, differential diagnoses, and extensive radiological images to introduce a wide range of bone tumors, focusing on their classic appearance and location in order to provide readers with a solid foundation of knowledge for tumor recognition and evaluation. The book includes explanations of methods for properly evaluating bone lesions, common imaging modalities used for diagnosis, and individual chapters covering different classes of benign and malignant tumors, including cartilage, osseous, fibrous, miscellaneous, and bone metastases. The book concludes with a comprehensive selection of 75 unknown cases, including a brief clinical history, description of imaging findings, best differential diagnoses, and short discussion revealing the most likely diagnosis. *Bone Tumors* is an ideal resource for practicing physicians and residents in radiology, orthopedic surgery, pathology, and primary care.

Biomaterials and Stem Cells in Regenerative Medicine.

Edited by M. Ramalingam, S. Ramakrishna, S. Best.
2012, pp. 546, £95.00, ISBN: 978-1-4398-7925-2.
CRC Press, Boca Raton, FL, USA.

Work in the area of biomaterials and stem cell therapy has revealed great potential for many applications, from the treatment of localized defects and diseases to the repair and replacement of whole organs. Researchers have also begun to develop a better understanding of the cellular environment needed for optimal tissue repair and regeneration *Biomaterials and Stem Cells in Regenerative Medicine* explores a range of applications for biomaterials and stem cell therapy and describes recent research on suitable cell scaffolds and substrates for tissue repair and reconstruction.

Featuring contributions by experts in the field, the book explores important scientific and clinical aspects. It covers the basic science involved in structure and properties, techniques and technological innovations in processing and characterization, and applications of biomaterials and stem cells.

Topics include: Polymeric systems for stem cell delivery; The potential of membranes and porous scaffolds in tissue repair, including myocardial, periodontal, ophthalmic, and bone tissues; The optimization of the interaction between stem cells and biomaterial substrates; The source and nature of stem cells for tissue engineering applications; The clinical translation of stem cell–based tissue engineering for regenerative medicine

This unique book bridges the gaps in experimental approaches and understanding among the materials science and engineering, biological sciences, and biomedical science and engineering communities, making it a valuable reference for those working in the multidisciplinary field of biomedical research.

Colorectal Cancer. Oxford Oncology Library.

Edited by D. Swinson, M. Seymour.
2012, pp. 128, £19.99, ISBN: 978-0-19-959020-9.
Oxford University Press, Oxford, UK.

Colorectal cancer is one of the leading causes of cancer-related death in the world. 25% percent of patients present with advanced disease and, despite complete surgical resection of early stage disease, 50% of patients relapse. The treatment of colorectal cancer has advanced rapidly in recent years, and controversies persist regarding optimal management (e.g. whether combination chemotherapy should be used first-line or in a staged fashion, how long to treat patients for and whether to use an intermittent or continuous schedule and whether to refer for a radical approach for advanced patients).

Part of the *Oxford Oncology Library,* this pocketbook summarises the epidemiology and risk factors for developing colorectal cancer and the basic biology of the disease. The evidence governing approaches in diagnosis and oncological management both surgical and non-surgical of the primary tumour is also covered, including which surgical approaches to use and indications for neoaduvant / adjuvant radiotherapy and chemotherapy. Providing perspectives from the different disciplines involved including surgery, medical oncology, radiation oncology and palliative care, this pocketbook will serve as an invaluable reference for all health care professionals involved in the management of patients with colorectal cancer.

Electrokinetic Particle Transport in Micro-/Nanofluidics: Direct Numerical Simulation Analysis.

By S. Qian, Y. Ai.
2012, pp. 382, £82.00, ISBN: 978-1-4398-5438-9.
CRC Press, Boca Raton, FL, USA.

Numerous applications of micro-/nanofluidics are related to particle transport in micro-/nanoscale channels, and electrokinetics has proved to be one of the most promising tools to manipulate particles in micro/nanofluidics. Therefore, a comprehensive understanding of electrokinetic particle transport in micro-/nanoscale channels is crucial to the development of micro-/nanofluidic devices.

This volume provides a fundamental understanding of electrokinetic particle transport in micro-/nanofluidics involving electrophoresis, dielectrophoresis, electroosmosis, and induced-charge electroosmosis. The book emphasizes the direct numerical simulation of electrokinetic particle transport phenomena, plus several supportive experimental studies. Using the commercial finite element package COMSOL Multiphysics®, it guides researchers on how to predict the particle transport subjected to electric fields in micro-/nanoscale channels.

Researchers in the micro-/nanofluidics community, who may have limited experience in writing their own codes for numerical simulations, can extend the numerical models and codes presented in this book to their own research and guide the development of real micro-/nanofluidics devices.

The Edge of Medicine. Stories of Dying Children and Their Parents.

By D.J. Bearison.
2012, pp. 213, £32.50, ISBN: 978-0-19-538927-2.
Oxford University Press, Oxford, UK.

Pediatric end-of-life care raises exceedingly difficult questions: Is there a natural trajectory for children to die in hospitals or at home? How might we, in developmentally appropriate ways, involve children in end-of-life decisions?

While there is no 'correct' way to die, David Bearison concludes that all end-of-life issues in pediatrics boil down to finding ways to respect and honor what patients, under the purview of their families, find is best for them. This issue is conceptually simple, but practically complex, as Dr. Bearison highlights in *The Edge of Medicine*. The book tells the stories of dying children and their families, capturing the full range of uncertainties, hopes and disappointments, and ups and downs of children near the end of life. *The Edge of Medicine* serves as the perfect follow-up to David Bearison's *When Treatment Fails: How Medicine Cares for Dying Children,* which is based on the narratives of hospital staff caring for dying children (and their families). Together with its prequel, This book presents a more complete picture of what happens when everyone involved, from medical staff to patients and their families, is struggling with paediatric end-of-life care. The Author relies on narrative to bridge the disconnect among abstract theories, medical technologies, and clinical realities.

Breast Cancer Sourcebook. Fourth Edition.

Edited by A.L. Sutton.
2012, pp. 608, US$95.00, ISBN: 978-0-7808-1279-6.
Omnigraphics, Inc., Detroit, MI, USA.

This volume provides updated information about breast cancer and its causes, risk factors, diagnosis, and treatment. Readers will learn about the types of breast cancer, including ductal carcinoma *in situ,* lobular carcinoma *in situ,* invasive carcinoma, and inflammatory breast cancer, as well as common breast cancer treatment complications, such as pain, fatigue, lymphedema, hair loss, and sexuality and fertility issues. Information on preventive therapies, nutrition and exercise recommendations, and tips on living with cancer are also included, along with a glossary of related terms and a directory of organizations that offer additional information to breast cancer patients and their families.

Omnigraphics' Health Reference Series is designed for the general reader seeking guidance on how to avoid serious illness by following preventive lifestyles and recognizing early warning signs. It also supports the layperson who has received a diagnosis of a serious disease or disorder as well as the family member or nonprofessional caregiver who must learn to care and to cope with the illness. Each volume in the series deals comprehensively with a particular area of medical concern and contains material found in publications issued by the National Institutes of Health and other agencies and associations. Nowhere else can general readers find this information conveniently collected, coordinated, and indexed in book form.

Therapy Dogs in Cancer Care. A Valuable Complementary Treatment.

By D.A. Marcus.
2012, pp. 193, Eur 53.45, ISBN: 978-1-4614-3377-4.
Springer Science + Business Media, New York, NY, USA.

Dogs that visit patients with cancer have been convincingly shown to reduce stress, loneliness, and mood disturbance that may complicate cancer care. In addition, dogs may provide important motivation for patients to maintain rehabilitation

programs that have been shown to reduce cancer risk and improve cancer survival. Outlining all of these issues and many more, this volume is a ground-breaking, highly innovative addition to the literature on cancer care. Detailing a comprehensive summary of truly impressive research demonstrating the ability of dogs to serve an important therapeutic role within the cancer arena and in other serious medical conditions, the text provides highly practical advice and very helpful "tips" to ensure that those who wish to employ dogs to assist the cancer patient have the necessary knowledge and "tools" to optimize outcomes. Authored by Dawn A. Marcus, MD, an expert in both pain management and health improvement through human and dog interaction, *Therapy Dogs in Cancer Care: A Valuable Complementary Treatment* is an extremely well-organized, well-researched, and highly readable book.

Providing practical suggestions to effectively incorporate dogs into cancer care, with detailed instructions about requirements for therapy dogs to ensure visits are safe and limit unwanted spread of infection, this book is an invaluable reference that will inform and delight both the clinician desiring a "how-to" text as well as the casual reader.