

## 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.

### **Essentials of Anatomic Pathology. Volumes 1 and 2, Fourth Edition.**

*Edited by L. Cheng, D.G. Bostwick.*  
2016, pp 2109, Eur 238.16, ISBN: 978-3-319-23379-6  
Springer International Publishing, Cham, Switzerland.

This much widely used reference manual has been extensively revised and expanded to cover the entire field of anatomic pathology. The fourth edition features the incorporation of full-color images in the text with updates of new diagnostic and prognostic information. New classifications and numerous new entities and histologic variants for each organ site will be fully incorporate in each individual chapter (Part II Organ Systems). Useful immunostaining biomarkers and emerging molecular targets and relevant molecular findings that have emerged from recent genomic studies are incorporated in each chapter.

Written by internationally recognized authorities, the comprehensive, evidence-based practice information is presented in an outline format that is clear and easy to follow. Up-to-date and richly detailed, this volume offers both the pathologist-in-training and the practicing pathologist a concise summary of all the critical information needed to recognize, understand and interpret anatomic pathology.

### **Molecular Pathology in Clinical Practice. Second Edition**

*Edited by D.G.B. Leonard.*  
2016, pp 1001, Eur 98.79, ISBN: 978-3-319-19673-2.  
Springer International Publishing, Cham, Switzerland.

This authoritative textbook offers in-depth coverage of all aspects of molecular pathology practice and embodies the current standard in molecular testing. Since the successful first edition, new sections have been added on pharmacogenetics and genomics, while other sections have been revised and updated to reflect the rapid advances in the field. The result is a superb reference that encompasses molecular biology basics, genetics, inherited cancers, solid tumors, neoplastic hematopathology, infectious diseases, identity testing, HLA typing, laboratory management, genomics and proteomics. Throughout the text, emphasis is placed on the molecular variations being detected, the clinical usefulness of the tests and important clinical and laboratory issues.

The second edition of *Molecular Pathology in Clinical Practice* will be an invaluable source of information for all practicing molecular pathologists and will also be of utility for other pathologists, clinical colleagues and trainees.

### **International Manual of Oncology Practice. (iMOP) - Principles of Medical Oncology.**

*Edited by R. Andrade de Mello, A. Tavares, G. Mountzios.*  
2015, pp 1040, Eur 98.79, ISBN: 978-3-319-21682-9.  
Springer International Publishing, Cham, Switzerland.

This textbook addresses themes ranging from the molecular issues of cancer sciences to clinical practice in medical oncology. It clarifies many topics, including molecular oncology, chemotherapy pharmacology and practical issues for clinicians. Systemic treatments in many areas of oncology feature, such as breast cancer, gastrointestinal, thoracic, urological oncology, head and neck tumors, bone tumors, sarcomas and palliative care.

An excellent source for young physicians and researchers in the field of oncology, this book furthers understanding of medical oncology practice and facilitates professionals' treatment of cancer patients. It sets the direction for future research in the field, and will become the readers' regular working tool.

### **Embryonic Stem Cell Protocols. Third Edition.**

*Edited by K. Turksen.*  
2016, pp 449, Eur 114.39, ISBN: 978-1-4939-2953-5.  
Springer Science+Business Media, New York, NY, USA.

This extensive volume explores areas of intense activity related to the very early commitment of stem cells to particular lineages and the progression of differentiation to mature cell stages. Research on embryonic stem cells continues to move very quickly, thus the kinds of studies continue to expand and diversify, and methodologies are continuously being refined and improved, which this book reflects. Written in the highly successful *Methods in Molecular Biology* series format, chapters include introductions on 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.

Comprehensive and fully updated, *Embryonic Stem Cell Protocols, Third Edition* serves as an ideal reference for researchers investigating this rich area of study.

### **Induced Pluripotent Stem (iPS) Cells. Methods and Protocols.**

*By K. Turksen, A. Nagy.*  
2016, pp 496, Eur 114.39, ISBN: 978-1-4939-3054-8.  
Springer Science+Business Media, New York, NY, USA.

This volume aims to be a collection of essential protocols in iPS cell field. It guides readers through multiple facets of stem cell

biology, lineage commitment and differentiation. Written for the *Methods in Molecular Biology* series, 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 protocols that can be used by both experts and novices interested in stem cells..

### **Cancer Gene Profiling. Methods and Protocols. Second Edition.**

*Edited by R. Grützmann, C. Pilarsky.*

2016, pp 256, Eur 98.79, ISBN: 978-1-4939-3203-0.

Springer Science+Business Media, New York, NY, USA.

This second edition volume brings together the experiences of leading scientists in the discipline of cancer gene profiling. Because cancer genes can be profiled in many different ways, *Cancer Gene Profiling: Methods and Protocols, Second Edition* explores different techniques and approaches needed to understand the key stages of cancer development, as using only one technique would be insufficient. This book provides readers with an overview of the state-of-the-art methods that will enable them to perform these experiments, and demonstrates the kind of analysis that is possible in our current biomedical research. 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.

Thorough and cutting-edge, this book is a great resource for any student or practitioner with an interest in cancer gene profiling, and can be used in any well-equipped research laboratory.

### **Proteomics in Systems Biology. Methods and Protocols.**

*Edited by J. Reinders.*

2016, pp 313, Eur 98.79, ISBN: 978-1-4939-3339-6.

Springer Science+Business Media, New York, NY, USA.

This volume presents an overview of contemporary quantitative proteomics methods along with instructions on data interpretation, while providing examples on how to implement proteomics into systems biology. 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.

Thorough and practical, this volume is a valuable resource for researchers who are interested in using proteomics techniques to help answer biological and medical questions..

### **DNA Replication, Recombination, and Repair. Molecular Mechanisms and Pathology.**

*Edited by F. Hanaoka, K. Sugawara.*

2016, pp 555, Eur 197.59, ISBN: 978-4-431-55871-2.

Springer, Tokyo, Japan.

This book is a comprehensive review of the detailed molecular mechanisms of and functional crosstalk among the replication, recombination, and repair of DNA (collectively called the "3Rs") and the related processes, with special consciousness of their biological and clinical consequences. The 3Rs are fundamental molecular mechanisms for organisms to maintain and sometimes intentionally alter genetic information. DNA replication, recombination, and repair, individually, have been important subjects of molecular biology since its emergence, but we have recently become aware that the 3Rs are actually much more intimately related to one another than we used to realize. Furthermore, the 3R research fields have been growing even more interdisciplinary, with better understanding of molecular mechanisms underlying other important processes, such as chromosome structures and functions, cell cycle and checkpoints, transcriptional and epigenetic regulation, and so on. This book comprises 7 parts and 21 chapters: Part 1 (Chapters 1–3), DNA Replication; Part 2 (Chapters 4–6), DNA Recombination; Part 3 (Chapters 7–9), DNA Repair; Part 4 (Chapters 10–13), Genome Instability and Mutagenesis; Part 5 (Chapters 14–15), Chromosome Dynamics and Functions; Part 6 (Chapters 16–18), Cell Cycle and Checkpoints; Part 7 (Chapters 19–21), Interplay with Transcription and Epigenetic Regulation. This volume should attract the great interest of graduate students, postdoctoral fellows, and senior scientists in broad research fields of basic molecular biology, not only the core 3Rs, but also the various related fields (chromosome, cell cycle, transcription, epigenetics, and similar areas). Additionally, researchers in neurological sciences, developmental biology, immunology, evolutionary biology, and many other fields will find this book valuable..

### **Long Non-Coding RNAs. Methods and Protocols.**

*Edited by Y. Feng, L. Zhang.*

2016, pp 298, Eur 98.79, ISBN: 978-1-4939-3376-1.

Springer Science+Business Media, New York, NY, USA.

This volume assembles a broad spectrum of methods used in long non-coding RNAs (lncRNA) research, ranging from computational annotation of lncRNA genes to molecular and cellular analyses of the function of individual lncRNA. This volume also discusses methods used to study circular RNAs and RNA splicing, as well as influential findings on lncRNA in human diseases. 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.

Thorough and cutting-edge, *Long Non-Coding RNAs: Methods and Protocols* is a must-have for molecular biologists,

cell and developmental biologists, specialists who conduct disease-oriented research, and bioinformatics experts who seek a better understanding on lncRNA expression and function by computational analysis of the massive sequencing data that are rapidly accumulating in recent years..

### **Microarray Data Analysis. Methods and Applications. Second Edition.**

*Edited by P.H. Guzzi.*

2016, pp 226, Eur 98.79, ISBN: 978-1-4939-3172-9.

Springer Science+Business Media, New York, NY, USA.

This volume covers a large area, from the description of methodologies for data analysis to the real application. Chapters focus on methodologies for preprocessing of microarray data, a survey of miRNA Data analysis, Cloud-based approaches, application of data mining techniques for data analysis, biclustering to query different datasets, web-based tool to analyze the evolution of miRNA clusters, application of biclustering to mine patterns of co-regulated genes ontologies, microarray and proteomic Data, Gene Regulatory Network Inference, Gene Regulatory Network methods, analysis of Mouse data for metabolomics studies, analysis of microRNA data in Multiple Myeloma, microarray data analysis in Glioblastomas, and microRNA data in Cardiogenesis. Written for the *Methods in Molecular Biology* series, 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, *Microarray Data Analysis: Methods and Applications, Second Edition* aims to ensure successful results in the further study of this vital field.

### **Circulating Tumor Cells.**

*Edited by R.J. Cote, R.H. Datar.*

2016, pp 333, Eur 155.99, ISBN: 978-1-4939-3361-7.

Springer Science+Business Media, New York, NY, USA.

This volume provides the latest research on circulating tumor cells aimed for cancer researchers, scientists, and molecular oncologists. It presents the basic concepts behind circulating tumor cells (CTCs), metastatic biology, and potential applications as to how CTCs can be used in diagnostic biomarkers.

CTCs are cells that have detached from the primary tumor and circulate in the bloodstream. Such cells may become "seeds" for the growth of additional tumors. The field of analysis surrounding cancer metastasis has been steadily growing, and CTCs provide effective biomarkers that can be examined in peripheral blood through a minimally invasive "liquid biopsy" procedure. CTCs offer several exciting applications, not only as markers of disease progression but also as biomarkers of monitoring response to therapy and companion diagnostics for novel anticancer drug development. In recent years there has

been rapid growth and worldwide developments on CTCs, which span both the basic sciences and biomedical engineering fields.

### **Cancer Drug Resistance. Overviews and Methods.**

*Edited by J. Rueff, A.S. Rodrigues.*

2016, pp 314, Eur 114.39, ISBN: 978-1-4939-3345-7.

Springer Science+Business Media, New York, NY, USA.

This volume discusses the latest advancements and technologies used in cancer drug resistance research. The book contains chapters that cover topics such as: studying the mechanics of resistance to DNA damaging therapeutic drugs; studies to delineate the role of efflux transporters; expression of drug transporters; resistance to targeted therapies in breast cancer; the role of microRNAs in current pancreatic cancer treatment; and cancer exosomes as mediators of drug resistance or clinical and molecular methods in drug development and the use of bioinformatics in the management of cancer drug resistance data. Written in the highly successful *Methods in Molecular Biology* series format, chapters include overviews of the main issues in cancer drug resistance and the respective mechanisms, as well as 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, *Cancer Drug Resistance: Overviews and Methods*, is a valuable resource to researchers, oncobiologists and clinical oncologists or anyone else who is interested in the study of cancer and its drug resistances.

### **The Role of Microenvironment in the Control of Tumor Angiogenesis.**

*Edited by D. Ribatti.*

2016, pp 86, Eur 103.99, ISBN: 978-3-319-27818-6.

Springer International Publishing, Cham, Switzerland.

This work describes the importance of tumor microenvironment in favouring tumor progression and angiogenesis.

Under physiological conditions, angiogenesis is dependent on the balance of positive and negative angiogenic modulators within the vascular microenvironment and requires the functional activities of a number of molecules, including angiogenic factors, extracellular matrix proteins, adhesion molecules and proteolytic enzymes.

In normal tissues, vascular quiescence is maintained by the dominant influence of endogenous angiogenesis inhibitors over angiogenic stimuli.

Tumor angiogenesis is linked to a switch in the balance between positive and negative regulators, and mainly depends on the release by inflammatory or neoplastic cells of specific growth factors for endothelial cells, that stimulate the growth of the blood vessels of the host or the down-regulation of natural angiogenesis inhibitors.

In particular, the inflammatory infiltrate may contribute to tumor angiogenesis, and there are many reports of associations between tumor inflammatory infiltrate, vascularity and prognosis.

New therapeutic approaches have been developed with the aim to control tumor angiogenesis through targeting of different components of tumor microenvironment.

### **Bacterial Therapy of Cancer. Methods and Protocols.**

*Edited by R.M. Hoffman.*

2016, pp 186, Eur 98.79, ISBN: 978-1-4939-3513-0.

Springer Science+Business Media, New York, NY, USA.

This volume explores the evolution of bacterial cancer therapy and describes the modern techniques used in therapy today. The chapters in this book cover a broad range of topics such as the development of tumor-targeting *Salmonella typhimurium* A1-R, a microfluidic device for precise quantification of the interactions between tumor-targeting bacteria and tumor tissue, non-invasive in vivo imaging of bacteria-mediated cancer therapy using bioluminescent bacteria, methods to achieve remote-control of therapeutic gene expression in tumor-targeting bacteria, and cell-cycle decoy of cancer cells resistant to cytotoxic drugs to drug sensitivity by *S. typhimurium* A1-R. This book concludes with a chapter on the future potential of bacterial therapy of cancer. 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.

Thorough and informative, *Bacterial Therapy of Cancer: Methods and Protocols* is a valuable resource for anyone who is interested in cancer and bacterial therapy.

### **Immunotherapy of Cancer.**

*Edited by Y. Yamaguchi.*

2016, pp 358, Eur 124.79, ISBN: 978-4-431-55030-3.

Springer, Tokyo, Japan.

This timely book, published just as cancer immunotherapy comes of age, summarizes the rationale, present status, and future perspective for cancer immunotherapy. Included are explanations of the constitution of the immune system and immun checkpoints, the mechanism of antigen presentation and recognition, valuable modalities, clinical trials and guidance, personalization, and biomarkers, all of which are essential for understanding the success of cancer immunotherapy. This innovative therapy has been investigated worldwide as the fourth line of cancer treatment after the standard treatments of surgery, chemotherapy, and radiotherapy. The progress in fundamental understanding of tumor immunology and the recent advances in clinical trials have opened new avenues with a cancer vaccine in 2010 and immun checkpoint modulation in 2011, with their approval already granted in the United States. Today, there are no doubts, even among experts in cancer chemotherapy and radiotherapy, that the immune system plays a vital role in tumor

eradication. Following American approval, many clinical trials of cancer immunotherapy are being conducted.

With this book the reader will readily understand the paradigm shift in cancer treatment and will realize the importance of cancer immunotherapy. The great value of immunotherapy will be obvious, not only for tumor shrinkage but for prolonging patient survival..

### **Metallothioneins in Normal and Cancer Cells.**

*By P. Dziegiel, B. Pula, C. Kobierzycki, M. Stasiolek, M. Podhorska-Okolow.*

2016, pp 117, Eur 103.99, ISBN: 978-3-319-27471-3.

Springer International Publishing, Cham, Switzerland.

This book describes the structures of Metallothionein (MT) family members and the cellular functions of MT-1, MT-2 and MT-4 isoforms, as well as provides insights into divergent biological roles of MT-3. The authors explain the involvement of MT molecules in various processes related to carcinogenesis, including an organ-specific presentation of current data concerning their potential impact on the progression of various tumors and the regulatory role of MT family members in the function of the immune system.

### **HIV-associated Hematological Malignancies.**

*Edited M. Hentrich, S.K. Barta.*

2016, pp 237, Eur 124.79, ISBN: 978-3-319-26855-2.

Springer International Publishing, Cham, Switzerland.

This book presents a general introduction to and review of HIV-associated hematological malignancies, with a special focus on practical management issues. Each of the relevant malignancies is addressed individually, with an overview of treatment approaches, assessment of evidence regarding their efficacy, and discussion of therapeutic controversies. In addition, careful consideration is paid to issues in molecular and clinical pathology, epidemiological aspects, symptomatology, diagnosis, and risk factors. Separate chapters are devoted to autologous and allogeneic stem cell transplantation and to chemotherapy and interactions with antiretroviral agents. Many of the chapters are written by experts who have been instrumental in shifting the balance for people living with HIV and blood cancers. While two decades ago this diagnosis represented a death sentence, advances in treatment have transformed these cancers into often curable conditions. Nevertheless, optimal treatment of hematological malignancies remains a challenge, particularly in patients with severe immunosuppression. This book will be an invaluable source of information for all practitioners in the fields of clinical hematology and medical oncology and HIV medicine.

### **Anti-Cancer N-Heterocyclic Carbene Complexes of Gold(III), Gold(I) and Platinum(II).**

*By T. Zou.*

2016, pp. 164, Eur 106.99, ISBN: 978-981-10-0656-2.

Springer Science+Business Media, Singapore.

This thesis focuses on the development of gold- and non-classical platinum-based anti-cancer agents that display distinctively different anti-cancer mechanisms compared to the commonly used cisplatin. These metal complexes contain N-heterocyclic carbene (NHC) ligands which are able to form strong M-C(NHC) bonds, conferring high stability and favorable lipophilicity, reactivity and binding specificity of metal complexes on biomolecules. The author demonstrates significant advances made in anti-cancer gold(III), gold(I) and platinum(II) complexes. Detailed chemical synthesis, in vitro and/or in vivo anti-cancer activities are clearly presented including: (i) a class of Au(III) complexes containing a highly fluorescent N<sup>3</sup> ligand and NHC ligand that simultaneously act as fluorescent thiol “switch-on” probes and anti-cancer agents; (ii) a dinuclear gold(I) complex with a mixed diphosphine and bis(NHC) ligand displaying favorable stability and showing significant inhibition of tumor growth in two independent mice models with no observable side effects; and (iii) a panel of stable luminescent cyclometalated platinum(II) complexes exhibiting high specificity to localize to the endoplasmic reticulum (ER) domain, inducing ER stress and cell apoptosis. These works highlight the clinical potential that gold and platinum complexes offer for cancer treatment.

### **The Search for Human Chromosomes. A History of Discovery.**

By *W.J. Wall*.

2016, pp 179, Eur 74.89, ISBN: 978-3-319-26334-2.  
Springer International Publishing, Cham, Switzerland.

This book is a broadly historical account of a remarkable and very exciting scientific story—the search for the number of human chromosomes. It covers the processes and people, culminating in the realization that discovering the number of human chromosomes brought as much benefit as unraveling the genetic code itself.

With the exception of red blood cells, which have no nucleus and therefore no DNA, and sex cells, humans have 46 chromosomes in every single cell. Not only do chromosomes carry all of the genes that code our inheritance, they also carry them in a specific order. It is essential that the number and structure of chromosomes remains intact, in order to pass on the correct amount of DNA to succeeding generations and for the cells to survive. Knowing the number of human chromosomes has provided a vital diagnostic tool in the prenatal diagnosis of genetic disorders, and the search for this number and developing an understanding of what it means are the focus of this book.

### **Protein Targeting Compounds. Prediction, Selection and Activity of Specific Inhibitors.**

Edited by *T. Böldicke*.

2016, pp 288, Eur 149.79, ISBN: 978-3-319-22473-2.  
Springer International Publishing, Cham, Switzerland.

This book presents an overview of the most relevant protein knockdown techniques. Readers will find a description of the

generation and use of recombinant human antibodies, ER intrabodies and peptides as well as a description of the working mechanism and potential of the inhibitory action of each of these molecules. The book will also describe the selection and activity of a number of phosphatases, aptamers and allosteric modulators, focusing on A G protein coupled receptors. The book starts with a chapter on the in silico prediction of target-inhibitor interactions.

Key aspects of this book are:

- Selection strategies for monoclonal and recombinant human antibodies
- Selection strategies for ER intrabodies, peptides and aptamers
- Examples of the most efficient inhibitors and their applications in protein biochemistry and cell biology
- Antibodies for cancer therapy and inhibitors of angiogenesis.

The book will be of great interest to scientists and students working in the life sciences on all areas related to protein biology. The variety of methods to modulate the activities of specific proteins which are introduced here will be of great benefit to the reader who is interested in general protein research or to readers who have very specific protein related questions.

### **microRNA: Basic Science. From Molecular Biology to Clinical Practice.**

Edited by *G. Santulli*.

2015, pp 235, Eur 149.79, ISBN: 978-3-319-22379-7.  
Springer International Publishing, Cham, Switzerland.

This volume explores microRNA pathophysiology, focusing on basic concepts in molecular and cellular biology. Chapters contributed by leading scientists examine recently discovered pathways in several processes, including aging, diabetes, cardiovascular disease, hematopoiesis, and mitochondrial fitness. The authors contextualize microRNAs within epigenetics and micropeptidomics, angiogenesis and atherosclerosis, endometrial pathophysiology, and more. Throughout, numerous color photographs, diagrams of molecular pathways, and tables enhance the text.

*microRNA: Basic Science* is an ideal companion to both *microRNA: Medical Evidence* and *microRNA: Cancer*. Taken together, these three books provide a state-of-the-art overview of this rapidly-expanding and fascinating field, from the molecular level to clinical practice. It will be invaluable to medical students, physicians, and researchers, as a complete and unique guide in the exploration of microRNA in basic science, cancer and clinical practice.

### **microRNA: Cancer. From Molecular Biology to Clinical Practice.**

Edited by *G. Santulli*.

2015, pp 257, Eur 149.79, ISBN: 978-3-319-23729-9.  
Springer International Publishing, Cham, Switzerland.

This volume thoroughly explores of the functional role of microRNAs in cancer. It not only expertly describes the

molecular mechanisms underlying the malignant transformation process but also compiles cutting-edge research on microRNAs in several forms of cancer, including colorectal cancer, pancreatic cancer, leukemia/lymphoma, prostate cancer, lung cancer, ovarian cancer, and bone cancer. Distinguished experts, currently working in prestigious institutions, elegantly discuss these fundamental themes. The text, which opens with a foreword by the renowned Dr. Carlo M. Croce, is enhanced by abundant color photographs, schemes, diagrams, and tables that fully support and complement the content.

This volume is an ideal companion to both *microRNA: Basic Science* and *microRNA: Medical Evidence*. Taken together, these three books provide a state-of-the-art overview of this rapidly-expanding and fascinating field, from the molecular level to clinical practice. It will be invaluable to medical students, physicians, and researchers, as a complete and unique guide in the exploration of microRNA in basic science, cancer and clinical practice.

### **Cell Reprogramming. Methods and Protocols.**

*Edited by P.J. Verma, H. Sumer.*

2015, pp 271, Eur 101.64, ISBN: 978-1-4939-2847-7.

Springer Science+Business Media, New York, NY, USA.

This volume provides an understanding of the factors involved in nuclear reprogramming, which is essential for the success of reprogramming. The book is aimed at reprogramming differentiated cells and germ line transmission of pluripotent stem cells and features chapters that deal with reprogramming-related issues such as analysis of mitochondrial DNA in reprogrammed cells and the isolation of reprogramming intermediates; alternative methods for nuclear transfer; the production of germ-line chimeras from embryonic stem cells and induced pluripotent stem cells; and neonatal care and management of somatic cell nuclear transfer derived offspring. 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 cutting-edge, this book is the perfect guide for molecular biologists, stem cell biologists, clinicians, biotechnologists, students, veterinarians and animal care technicians involved with reprogramming, nuclear transfer and transgenesis.

### **Bioengineering and Cancer Stem Cell Concept.**

*By M. Pavlovic, B. Balint.*

2015, pp 144, Eur 53.49, ISBN: 978-3-319-25668-9.

Springer International Publishing, Cham, Switzerland.

This book explores the role of cancer stem cells in the diagnosis, treatment, and cure of cancers. This book also tackles novel methodology for cancer stem cell marker identification, cancer stem cell respiration and metabolism, genetic and epigenetic mechanisms including DNA methylation, and mi-RNA

assemble. It also emphasizes the role of Bioinformatics techniques, which provide a novel methodology for modeling cancer outcomes.

The authors investigate the difference between cancer stem cells and normal stem cells, along with the concept of targeted cancer stem cell therapy. Although the theoretical explanations of cancer stem cell involvement in leukemia and solid cancers are controversial, there is now little doubt that cancer stem cells exist within otherwise heterogeneous cancer cell population. The book examines the two leading theories, hierarchical and the stochastic/cancer stem cell model.

Researchers, professors and advanced-level students focused on bioengineering and computer science will find this book to be a valuable resource. It is a very good source of critical references for understanding of this problem, and a useful tool for professionals in related fields.

### **Glycosignals in Cancer: Mechanisms of Malignant Phenotypes.**

*Edited by K. Furukawa, M. Fukuda.*

2016, pp 219, Eur 128.39, ISBN: 978-4-431-55937-5.

Springer, Tokyo, Japan.

This book is a collection of cutting-edge studies on the functions and mechanisms of glycosylation in cancers. Along with progress in genomics and proteomics, new findings in the significance of these complex carbohydrates, through the regulation of cell signals, have been elucidated in a wide variety of biological events. This volume provides a comprehensive summary of glycosignals and their involvement in cancer, covering numerous topics such as glycosylation machineries, regulation of phenotypes, cell signaling, immune regulation, complex carbohydrate organization, and clinical applications. The contents have been organized to promote ready understanding, covering basic to clinical research and studies on micromolecules, to animal/human cells and tissues. This book is an essential read for students and young researchers interested in cancers and carbohydrates. Specialists in glycobiology will also benefit from the new results and approaches detailed here, which provide insights into future directions of functional studies of sugar chains in both basic and applied research.

### **Oncodynamics: Effects of Cancer Cells on the Body.**

*Edited by G. Singh.*

2016, pp 215, Eur 149.79, ISBN: 978-3-319-28556-6.

Springer International Publishing, Cham, Switzerland.

This volume will introduce new terminology to the field of oncology, subdividing it into oncoenergetics—the mechanics of the tumor cells as they arise and spread throughout the body—and oncodynamics—the impact of abnormal cues generated by tumors on the physiological functioning of the body. The volume will outline the importance of oncodynamics from both a cancer patient's and a caregiver's perspectives, stressing its significant impact on cancer patient functionality and the

opportunity that cancer researchers will have to develop cross-disciplinary interactions and predict potential consequences of tumors and/or treatment.

### **Lung Cancer and Personalized Medicine. Current Knowledge and Therapies.**

*Edited by A. Ahmad, S. Gadgeel.*

2016, pp 228, Eur 149.79, ISBN: 978-3-319-24221-7. Springer International Publishing, Cham, Switzerland.

This, the first of two volumes on personalized medicine in lung cancer, touches on the core issues related to the understanding of lung cancer—statistics and epidemiology of lung cancer—along with the incidence of lung cancer in non-smokers. A major focus of this volume is the state of current therapies against lung cancer—immune, targeted therapies against EGFR TKIs, KRAS, ALK, angiogenesis; the associated challenges, especially resistance mechanisms; and recent progress in targeted drug development based on metal chemistry. Chapters are written by some of the leading experts in the field, who provide a better understanding of lung cancer, the factors that make it lethal, and current research focused on developing personalized treatment plans. With a unique mix of topics, this volume summarizes the current state-of-knowledge on lung cancer and the available therapies.

### **Lung Cancer and Personalized Medicine: Novel Therapies and Clinical Management.**

*Edited by A. Ahmad, S. Gadgeel.*

2016, pp 231, Eur 160.49, ISBN: 978-3-319-24931-5. Springer International Publishing, Cham, Switzerland.

This, the second of two volumes on personalized medicine in lung cancer, touches upon the recent progress in targeted drug development based on genomics; emerging biomarkers and therapeutic targets such as EMT, cancer stem cells, and the tumor microenvironment; current personalized clinical management and radiation therapy for lung cancers; and the promise of epigenetics and next-generation sequencing for the advancements towards personalized therapy of lung cancer patients. With chapters on state-of-the-art therapies and technologies written by leading experts working to develop novel companion diagnosis tools for the personalized treatment of lung cancer patients, this volume brings readers up-to-date by presenting the current knowledge on the efforts to make personalized management of lung cancer patients a reality.

### **Breast Cancer. Methods and Protocols.**

*Edited by J. Cao.*

2016, pp 332, Eur 117.69, ISBN: 978-1-4939-3442-3. Springer Science+Business Media, New York, NY, USA.

This volume provides resources, ideas, and bench manuals for the study of breast cancer. This book is divided into five sections: methods used in clinical laboratory for diagnosis

(Detection of Molecular Markers of Breast Cancer); methods used in both clinical and research laboratories for testing genetic alterations (Genetic Detection of Breast Cancer) and (Isolation of Breast Cancer Cells); methods used to study the behavior of breast cancer cells (In Vitro Experimental Assays for Breast Cancer); and methods used for mimicking human breast cancer in a living organism (In Vivo Experimental Models for Breast Cancer). *Breast Cancer: Methods and Protocols* also explores several recently developed techniques for the study of breast cancer progression. 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.

Practical and thorough, *Breast Cancer: Methods and Protocols*, is a valuable handbook for both graduate and advanced undergraduate students of biological sciences, as well as scientists, technicians, and physicians working in the academic, hospital, or pharmaceutical industry aimed at studying or diagnosing breast cancer.

### **Multimodal Treatment of Recurrent Pelvic Colorectal Cancer.**

*Edited by G. Romano.*

2016, pp 186, Eur 128.39, ISBN: 978-88-470-5766-1. Springer-Verlag, Italia.

This book analyzes all aspects of modern multimodal treatment of locally recurrent rectal cancer in the pelvis in order to offer a panoramic overview of the different therapeutic options and enable the reader to balance their benefits and drawbacks. Indications for surgery and the surgical techniques themselves, including reconstruction techniques after major exenterative surgery, are clearly described and evaluated. The role of new imaging tools, such as MRI and PET-CT, in staging recurrences and guiding therapy is assessed and detailed consideration is given to the use of neoadjuvant and iterative radiotherapy and the indications for systemic chemotherapy. Morbidity, mortality, oncologic outcomes, and quality of life issues are carefully analyzed and options for pain control and palliation are examined. Finally, a national survey is presented on the state of the art in the surgical treatment of locally recurrent rectal cancer in Italy. While there has been a dramatic fall in the incidence of local pelvic recurrences, their treatment remains a major clinical challenge which requires a multidisciplinary approach and careful selection of the most appropriate strategy in each case. This book will aid practitioners in making the correct decisions in individual patients.

### **Osteosarcoma.**

*Edited by T. Ueda, A. Kawai.*

2016, pp 270, Eur 128.39, ISBN: 978-4-431-55695-4. Springer, Tokyo, Japan.

This book reviews the brilliant progress made in the past three decades in clinical outcomes for osteosarcoma patients treated

with a multidisciplinary approach, including limb-salvage surgery combined with neoadjuvant multidrug chemotherapy and aggressive management of pulmonary metastasis. Osteosarcoma was a miserable disease for adolescents and young adults until the early 1970s, with a survival rate that was less than 10–15% even after amputation for affected limbs because of the progression of pulmonary metastasis. With the development of neoadjuvant chemotherapy for osteosarcoma, including high-dose methotrexate, doxorubicin, cisplatin, and ifosfamide during the late 1970s and the 1980s, however, the prognosis has dramatically improved. Limb-salvage surgery for patients with extremity osteosarcoma is now a gold-standard surgical procedure for more than 90% of patients with localized disease. Additionally, aggressive pulmonary metastasectomy for patients with lung metastasis from osteosarcoma has contributed to improvement of their survival. More recently, carbon-ion radiotherapy has also been introduced for patients with unresectable osteosarcoma of the trunk, as in the spine and pelvis. In this volume the author provides valuable descriptions of an important new treatment modality for a multidisciplinary approach for osteosarcoma patients.

### **Systems Biology of Tumor Physiology. Rethinking the Past, Defining the Future.**

*By D.H. Nguyen.*

2016, pp 56, Eur 53.49, ISBN: 978-3-319-25599-6.

Springer International Publishing, Cham, Switzerland.

This book presents evidence for new ideas that will challenge several theories of how cancer biology is understood. Cancer biology has undergone several intellectual revolutions in the past 50 years. A mutation-centric view of cancer has given way to the tumor microenvironment view. Reductionistic studies of one gene at a time have given way to systems biology approaches that analyze the whole genome (omics) at the same time. However, this text combines the complex levels studying cancer at the molecular biology level, endocrinology level, and transcriptomics level. What researchers are now realizing is that there is a need to combine omics with physiology concepts in order to better understand cancer and this book will give insight to the merging of these two fields in order to define how cancer is studied in the future.

### **Oncologic Emergencies.**

*Edited by E.F. Manzullo, C.E. Gonzalez, C.P. Escalante, S.-C.J. Yeung.*

2016, pp 406, Eur 85.59, ISBN: 978-1-4939-3187-3.

Springer Science+Business Media, New York, NY, USA.

This new resource on managing oncologic emergencies is directed at all health care professionals who care for patients with cancer or survivors. Edited and written by clinician-experts at The University of Texas MD Anderson Cancer Center, the book covers the full range of oncologic emergencies, from

cardiac and neurologic to orthopedic to hematologic, and addresses important palliative care, ethical, and Emergency Department considerations.

Chapters are structured with busy clinicians in emergent and urgent settings in mind, and each chapter concludes with a series of key practice points and a list of suggested readings for those who wish to delve deeper into a subject.

For any clinician facing the increasing number of patients who experience an oncologic emergency, this is an up-to-date, clinically focused, and authoritative resource.

### **Translational Research in Muscular Dystrophy.**

*Edited by S. Takeda, Y. Miyagoe-Suzuki, M. Mori-Yoshimura.*

2016, pp 199, Eur 128.39, ISBN: 978-4-431-55677-0.

Springer, Tokyo, Japan.

This book presents recent advances in translational research on muscular dystrophy (MD) to physicians and researchers, including cutting-edge research on the disease such as regenerative medicine, next-generation DNA sequencing, and nucleic acid therapies. It also describes the current systems for clinical trials and MD patient databases, resources, which will support the early realization of clinical application and improve patients' quality of life.

MD is the one of the most widely known inherited neuromuscular diseases and is classified into diverse types by symptoms, age of onset, mode of inheritance, and clinical progression. With the development of molecular biology, the occurrence mechanisms of each type of MD are gradually being elucidated. Although there is no known permanent cure yet, the stage of treatment research has now advanced to clinical trials.

### **Placebo Talks. Modern Perspectives on Placebos in Society.**

*Edited by A. Raz, C.S. Harris.*

2016, pp 304, GBP 34.99, ISBN: 9780199680702.

Oxford University Press, Oxford, UK.

Why do red placebos stimulate whereas blue placebos calm? Why do more placebos work better than few? And why do more expensive placebos work better than cheaper ones? These are some of the key questions that often come to mind when we consider the slippery and counterintuitive field of placebo science.

Rather than consider placebos through the narrow narrative of "sugar pills" in clinical trials, this book provides various perspectives on how psychosocial parameters - such as interpersonal rapport, historical and contemporary context, corporate memory, expectation, empathy, hope, conditioning, symbolic thinking, and suggestion - play a role in forming placebo responses and placebo effects. The book provides modern perspectives on placebos in society, including in education, government, industry, media, and current culture. The editors use three different themes to elucidate and elaborate current conceptualizations of placebos and their accoutrements: the Practitioner lens, the Cultural lens, and the lens of placebo

science, itself. These accounts by some of the best scholars in the field, make for a cogent triangulation of the qualities and virtues of placebos across a wide range of disciplines relevant to human behavior.

*Placebo Talks* invites readers to discover how placebos may speak to their own experiences across health, society, sustenance, and related aspects of contemporary life.

### **Laparoscopic Surgery. Key Points, Operating Room Setup and Equipment.**

*Edited by G. Pignata, U. Bracale, F. Lazzara.*

2016, pp 97, Eur 51.99, ISBN: 978-3-319-24425-9.

Springer International Publishing, Cham, Switzerland.

This book is distinctive in that it is a truly practical guide to use of the laparoscopic approach for the treatment of many abdominal diseases. Rather than simply offering a general description of surgical laparoscopic techniques, it provides the knowledge required in order to introduce basic laparoscopic procedures into daily practice or to commence advanced laparoscopic surgery. For each surgical procedure, key points are highlighted, the necessary equipment is described, and the operating room setup essential to avoid errors or loss of time is explained. Many flow charts, tables, and figures are included to assist fast and intuitive comprehension. The book will be of interest to all of the "actors" in the operating room, including especially surgeons in training, established surgeons, nurses, and anesthetists.

### **Current Controversies in Cancer Care for the Surgeon.**

*Edited by K.A. Morgan.*

2016, pp 213, Eur 83.19, ISBN: 978-3-319-16204-1.

Springer International Publishing, Cham, Switzerland.

Over the past decade, major advances have occurred in the management of the many fields of cancer treatment encountered

by the general surgeon. These developments have evolved from improved understanding of disease biology, high level clinical outcomes studies, as well as translational research with new available therapies. These advances have brought major changes to cancer care and have surfaced new dilemmas in clinical decision-making. Modern cancer management requires an understanding of the current status of a diverse array of oncologic diseases.

This book provides a comprehensive update on the management of various cancers as interpreted by recognized experts in the field. In addition, each chapter will focus on current controversies and areas of advance. The text is designed to assist the practicing surgeon in achieving optimal management of encountered oncologic problems. Such an inclusive text will be invaluable resource for clinical surgeons, surgeons in training, students and researchers.

### **Vitamin D. A Clinical Casebook.**

*Edited by V. Tangpricha.*

2016, pp 102, Eur 62.39, ISBN: 978-3-319-26174-4.

Springer International Publishing, Cham, Switzerland.

Comprised exclusively of clinical cases covering disorders of vitamin D and its clinical management, this concise, practical casebook will provide clinicians in endocrinology with the best real-world strategies to properly diagnose and treat the various forms of the condition they may encounter. Each chapter is a case that opens with a unique clinical presentation, followed by a description of the diagnosis, assessment and management techniques used to treat it, as well as the case outcome and clinical pearls and pitfalls. Cases included illustrate different causes of deficiency as well as management strategies, including deficiency in healthy patients and infants, in eating disorders and gastric bypass, surgical and chronic hypoparathyroidism, and chronic kidney disease, among others. Pragmatic and reader-friendly, *Vitamin D: A Clinical Casebook* will be an excellent resource for clinical endocrinologists, nutritionists, and family and emergency medicine physicians alike.

Anatomical pathology (Commonwealth) or Anatomic pathology (U.S.) is a medical specialty that is concerned with the diagnosis of disease based on the macroscopic, microscopic, biochemical, immunologic and molecular examination of organs and tissues. Over the last century, surgical pathology has evolved tremendously: from historical examination of whole bodies (autopsy) to a more modernized practice, centered on the diagnosis and prognosis of cancer to guide treatment decision-making in oncology. Its