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.

Thyroid Cancer. A Comprehensive Guide to Clinical Management. Third Edition.

Edited by L. Wartofsky, D. Van Nostrand.
2016, pp 1049, Eur 203.29, ISBN: 978-1-4939-3312-9.
Springer Science+Business Media, New York, NY, USA.

Thoroughly revised and extensively expanded, this encyclopedic, highly acclaimed title addresses all aspects of the etiology, pathogenesis, diagnosis, initial treatment and long-term management of all varieties of thyroid cancer. Expertly edited by Drs. Leonard Wartofsky and Douglas Van Nostrand, this gold standard reference is divided into 11 Parts: General Considerations on Thyroid Cancer; General Considerations on Nuclear Medicine; the Thyroid Nodule; Well-Differentiated Thyroid Cancer; Variants of Thyroid Cancer, Undifferentiated Tumors: Medullary Thyroid Carcinoma; Undifferentiated Tumors: Thyroid Lymphoma; Undifferentiated Tumors: Anaplastic Thyroid Cancer; New Frontiers and Future Directions; and Additional Resources. With exceptional breadth and depth, the book includes chapters dedicated to isotopes, isotope uptake and scanning procedures such as SPECT/CT, radioiodine ablation (with or without recombinant human TSH), stunning, dosimetry (with or without recombinant human TSH), Octreotide and FDG-PET scanning and other alternative imaging modalities. There is a valuable reference atlas of scan images and illustrations, and a scholarly summary of the side effects of radioiodine and how to avoid or minimize adverse effects of treatment. In addition to an updated section on ultrasonography of the thyroid gland, new sections have been added, including ones on ultrasonography of cervical lymph nodes and imaging for thyroid cancer employing computerized tomography (CT), positron emission tomography (PET) and magnetic resonance imaging (MRI). An indispensable reference source with chapters written by the field's leading authoritative experts, *Thyroid Cancer: A Comprehensive Guide to Clinical Management, Third Edition,* will be of great interest to not only pathologists, endocrine surgeons, endocrinologists, nuclear medicine physicians, and oncologists but all clinicians with an interest in thyroid cancer.

Hepatocellular Carcinoma. Diagnosis and Treatment. Third Edition.

By B. Carr.
2016, pp 596, Eur 181.89, ISBN: 978-3-319-34212-2.
Springer International Publishing, Cham, Switzerland.

Hepatocellular carcinoma (HCC) used to be regarded as a rare disease. However, the increasing numbers of chronic HCC carriers in the U.S. and subsequent increased incidences of HCC seen in most large medical centers means that it is no longer an uncommon disease for gastroenterologists or oncologists to encounter and its incidence and epidemiology are changing. During this exciting time in the field of HCC basic science and clinical management, many changes are simultaneously occurring at multiple levels of our understanding and management of the disease. Suddenly, there are several new choices of therapy to offer patients. Hepatocellular Carcinoma, 3rd edition addresses this fast-changing disease and gives the reader a clearer understanding of the many mechanisms involved in carcinogenesis of the liver. This comprehensive and detailed review of how to diagnose and treat hepatocellular carcinoma is written by international leaders in the field, covering both clinical treatment choices and the basic science underlying HCC development. Updated and enhanced from the last edition in 2009, Hepatocellular Carcinoma, 3rd edition features 12 new chapters including discussion of molecular markers, molecular hepatocarcinogenesis, microenvironment, heterogeneity, the new and exciting contributions of immunotherapy, and updates on the major effective hepatitis therapies that will transform HCC incidence and perhaps also the therapy. This cutting-edge text is a vital resource and must-have for today's hepatologists and medical and surgical oncologists.

Tumors and Tumor-Like Lesions of the Hepatobiliary Tract. General and Surgical Pathology. Volumes 1, 2, 3, 4.

By A. Zimmerman.
2017, pp 3559, Eur 1337.50, ISBN: 978-3-319-26954-2.
Springer International Publishing, Cham, Switzerland.

This book covers all liver tumors and lesions that clinically and radiologically mimic liver tumors. It provides readers with a comprehensive overview of this complex and rapidly evolving field. All aspects of surgical pathology are addressed, supplemented by detailed presentations of the lesions' cell-biologic and molecular features. In addition, the methods employed for diagnosis and diagnostic algorithms are discussed. It appeals to pathologists and hepatologists and serves as an invaluable aid to diagnosis.The field of liver tumors and tumor-like lesions in adults and children has experienced tremendous advances in recent years. Specifically, the recognition of novel entities, deepened insights into known tumors, and refinement of classifications have necessitated continual updates and reappraisals. In addition, previous understanding of hepatic carcinogenesis and tumor progression has been transformed by the very rapid evolution of our understanding of cell biology, genomics, signaling pathways, cell interactions, and mechanisms of invasion and spread of hepatic tumor cells. These general pathology issues must be combined with surgical pathology if a comprehensive understanding of liver tumor pathology is to be achieved.

DNA Repair in Cancer Therapy, 2nd Edition. Molecular Targets and Clinical Applications.

Edited by M.R. Kelley, M.L. Fischel.
2016, pp 444, Eur 97.75, ISBN: 978-0-12-803582-5.
Academic Press, Elsevier, Cambridge, MA, USA.

DNA Repair and Cancer Therapy: Molecular Targets and Clinical Applications, Second Edition provides a comprehensive and timely reference that focuses on the translational and clinical use of DNA repair as a target area for the development of diagnostic biomarkers and the enhancement of cancer treatment.

Experts on DNA repair proteins from all areas of cancer biology research take readers from bench research to new therapeutic approaches. This book provides a detailed discussion of combination therapies, in other words, how the inhibition of repair pathways can be coupled with chemotherapy, radiation, or DNA damaging drugs.

Newer areas in this edition include the role of DNA repair in chemotherapy induced peripheral neuropathy, radiation DNA damage, Fanconi anemia cross-link repair, translesion DNA polymerases, BRCA1-BRCA2 pathway for HR and synthetic lethality, and mechanisms of resistance to clinical PARP inhibitors.

Key Features:

- Provides a comprehensive overview of the basic and translational research in DNA repair as a cancer therapeutic target
- Includes timely updates from the earlier edition, including Fanconi Anemia cross-link repair, translesion DNA polymerases, chemotherapy induced peripheral neuropathy, and many other new areas within DNA repair and cancer therapy
- Saves academic, medical, and pharma researchers time by allowing them to quickly access the very latest details on DNA repair and cancer therapy
- Assists researchers and research clinicians in understanding the importance of the breakthroughs that are contributing to advances in disease-specific research.

The Functional Nucleus.

Edited by D.J. Bazett-Jones, G. Dellaire.
2016, pp 513, Eur 228.98, ISBN: 978-3-319-38880-9.
Springer International Publishing, Cham, Switzerland.

This book gives an in-depth overview on nuclear structure and function. It clearly shows that the epigenome and the three-dimensional organization of the nucleus are not independent properties. The intimate relationship between the location and the epigenetic modifications of gene loci is highlighted. Finally, it shows that the complex three-dimensional organization of the nucleus is not just of academic interest: The structure, composition and function of virtually all of the sub-nuclear compartments identified so far can be implicated to a list of human genetic diseases. Hence, a detailed elucidation of how these domains are assembled and function will provide new opportunities for therapeutic intervention in clinical practice.

Enhancer RNAs. Methods and Protocols.

Edited by U.A. Ørom.
2017, pp 252, Eur 101.44, ISBN: 978-1-4939-4033-2.
Springer Science+Business Media, New York, NY, USA.

This volume provides a comprehensive overview of the experimental and computational methodologies used to study the function of long non-coding RNA (ncRNAs) expressed from enhancers. Chapter detail both wet-lab and dry-lab techniques and annotating long ncRNAs and exploring transcription by assessing where transcription starts and generally how it occurs.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, Enhancer RNAs: Methods and Protocols aims to ensure successful results in this rapidly developing field.

RNA Structure Determination. Methods and Protocols.

Edited by D.H. Turner, D.H. Mathews.
2016, pp 283, Eur 101.64, ISBN: 978-1-4939-6431-4.
Springer Science+Business Media, New York, NY, USA.

This volume provides protocols and procedures for determining and modeling RNA structure. Chapters guide the reader through protocols for RNA secondary structure prediction, single sequence modeling, Crumple, RNAstructure to model conserved secondary structures with multiple homologs, the prediction of bimolecular secondary structures with RNAstructure, STarMir, protocols for structure mapping, mapping data to constrain or restrain RNA secondary structure prediction with RNAstructure, unassigned NMR resonances, modeling protocols for Rosetta FARFAR, RNAComposer, ModeRNA, and MC-Fold. 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, *RNA Structure Determination: Methods and Protocols* aims to ensure successful results in the further study of this vital field.

Pathology and Epidemiology of Cancer.

Edited by M. Loda, L. Mucci, M.L. Mittelstadt, M. Van Hemelrijck, M.B. Cotter.
2016, pp 670, Eur 181.89, ISBN: 978-3-319-35151-3.
Springer International Publishing, Cham, Switzerland.

This book integrates the disciplines of cancer pathology and epidemiology to provide a synergistic and complementary approach to understanding the molecular mechanisms of cancer. This book provides relevant information on the diagnostic, prognostic and predictive molecular pathology of cancer.

Epidemiological studies, including descriptive epidemiology, risk factors and molecular mechanisms of disease inform on the etiology and progression of cancer. The text concentrates on major cancers that are currently prevalent and those for which substantial molecular, pathological and epidemiological data is available. Each section is designed to provide an overview of that cancer type in terms of basic biology, review the current epidemiological data surrounding that cancer type and provide information on common practices and challenges related to the molecular pathology of that cancer type. Several relevant techniques in molecular pathology, which facilitate diagnosis and treatment are also explored.

Pathology and Epidemiology of Cancer provides a succinct and comprehensive overview of multiple cancer types to guide clinicians during patient care and to guide scientists for innovations in research. It represents an integral resource for pathologists, epidemiologists, medical students as well as translational, basic and clinical science researchers who are all working to progress the field of cancer in terms of diagnosis, treatment and prevention.

Cancer Stem Cells, 1st Edition. Targeting the Roots of Cancer, Seeds of Metastasis, and Sources of Therapy Resistance.

Edited by H. Liu, J.D. Lathia.
2016, pp 515, Eur 97.75, ISBN: 978-0-1280-3892-5.
Academic Press, Elsevier, Cambridge, MA, USA.

Cancer Stem Cells: Targeting the Roots of Cancer, Seeds of Metastasis, and Sources of Therapy Resistance introduces the basic concepts and advanced understanding of cancer stem cells, covering general overviews, organ-specific identifications, and their characteristic mechanisms. The book also explores innovative therapeutic strategies in preclinical and clinical trials to target cancer stem cells, remove the roots of cancer, eliminate the seeds of metastasis, overcome the resistance of therapies, and contribute to the eradication of cancer.

The book includes contributions from leading, worldwide experts in the field, helping readers embrace new hope in their quest to eradicate cancer with emerging clinical trials on treating cancer stem cells in combination with other therapies.

Stem Cell Heterogeneity. Methods and Protocols.

Edited by K. Turksen.
2016, pp 390, Eur 117.69, ISBN: 978-1-4939-6549-6.
Springer Science+Business Media, New York, NY, USA.

Given the variety of studies and data that have suggested the existence of heterogeneous populations or subpopulations of stem cells, this detailed volume examines different aspects of stem cell heterogeneity. This goes against the long-held tenet that stem cells, defined by their capacity for self-renewal and lineage development, comprised a homogenous population, thus providing the reader with a new avenue of exploration into the complex world of stem cell study. Written for the highly successful *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, *Stem Cell Heterogeneity: Methods and Protocols* serves as an ideal guide for investigators exploring this important area of research.

Stem Cell Processing.

Edited by P.V. Pham.
2016, pp 225, Eur 167.98, ISBN: 978-3-319-40071-6.
Springer International Publishing, Cham, Switzerland.

This volume delineates procedures for development and use of stem cells in the laboratory and explores the potential for clinical applications. The text discusses mesenchymal stem cell isolation, isolation of adipose derived stem cells, new trends of induced pluripotent stem cells in disease treatment, cord blood banking, future directions of the discussed therapies and much more. The chapters are contributed by preeminent scientists in the field and present a comprehensive picture of stem cell processes, from development in the laboratory to effects and side-effects of clinical application.

Stem Cell Processing and the other books in the Stem Cells in Clinical Applications series, edited by Dr. Phuc Van Pham, is essential reading for scientists, researchers, advanced students and clinicians working in stem cells, regenerative medicine or tissue engineering.

Working with Stem Cells.

By H. Ulrich, P. Davidson Negraes.
2016, pp 374, Eur 144.44, ISBN: 978-3-319-30580-6.
Springer International Publishing, Cham, Switzerland.

The content covered encompass not only the theoretic and methodological aspects for culturing human pluripotent stem cells, but also the establishment of induced pluripotent stem cells and their differentiation into specific cellular subtypes. This book has the most updated methods and technologies in an accessible and clear language, presenting protocols developed and optimized by researchers that use them every day. Stem cell research is a growing field that offers the potential to comprehend mechanisms of neural development and tissue regeneration and maintenance as well as the development-related human diseases and the establishment of novel therapies. Questions of basic biology can also be exploited by this cutting-edge approach.

Stem Cells, Pre-neoplasia, and Early Cancer of the Upper Gastrointestinal Tract.

Edited by M. Jansen, N. Wright.
2016, pp 486, Eur 213.99, ISBN: 978-3-319-41386-0.
Springer International Publishing, Cham, Switzerland.

This book is a comprehensive understanding of the evolution of pre-malignant disease, emphasizing common themes in the field, including stem cell biology and histologic modes of cancer progression between the distal esophagus and stomach. Its sixteen chapters discuss metaplastic tissue change in the upper GI, clonalexpansion of early neoplasia, stem cell dynamics in experimental models, pathology of early esophageal squamous cell carcinoma, therapeutic modalities for esophageal squamous cell carcinoma, pathology of Barrett's esophagus, screening, early detection and novel diagnostic tools for Barrett's esophagus, clonal evolution of Barrett's esophagus, endoscopic therapeutic modalities of early esophageal cancer, pathology of early gastric cancer, and experimental models for gastric cancer. *Stem Cells, Pre-neoplasia and Early Cancer of the Upper Gastrointestinal Tract* is an integrative text on both the current state of translational research on every cancer development of the upper gastrointestinal tract as well as on novel clinical diagnostic and therapeutic modalities. It highlights a rapidly growing field within cancer research and is essential reading for oncologists, biochemists and advanced graduate students alike. Springer's *Advances in Experimental Medicine and Biology* series presents multidisciplinary and dynamic findings in the broad fields of experimental medicine and biology. The wide variety in topics it presents offers readers multiple perspectives on a variety of disciplines including neuroscience, microbiology, immunology, biochemistry, biomedical engineering and cancer research.

The Nucleolus. Methods and Protocols.

Edited by A. Németh.
2016, pp 279, Eur 101.64, ISBN: 978-1-4939-3790-5.
Springer Science+Business Media, New York, NY, USA.

This volume provides an up-to-date compilation of current methodological approaches utilized for the exploration of nucleolar structure and function. Chapters cover a diversity of protocols that include imaging of the nucleolus, analysis of ribosomal RNA transcription and processing, and genomics and proteomics of the nucleolus. 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, *The Nucleolus: Methods and Protocols* provides scientists with a reliable practical handbook to facilitate the investigation of this nuclear compartment at the advanced level.

The Wilms' Tumor (WT1) Gene. Methods and Protocols.

Edited by N. Hastie.
2016, pp 235, Eur 101.64, ISBN: 978-1-4939-4021-9.
Springer Science+Business Media, New York, NY, USA.

This volume provides a thorough overview of the Wilms' Tumour Gene (WT1). The book begins with three review chapters that cover the involvement of WT1 in pediatric cancer, kidney disease, and tissue development and homeostasis. The next few chapters discuss cell marking and lineage tracing, epicardial cell methodology, colony forming assays for bone marrow stem cells, angiogenesis assays and zebrafish tools. The next group of chapters explores the latest tools in genomics, molecular biology, and biochemistry. They discuss dissecting transcription factor function in cell free systems, ChiP seq, proteomics, RNA interactome, and multiphoton imaging of lipids, measuring the binding constants of protein-nucleic acid interactions, and bioinformatics approaches for analyzing Next Generation Sequence data. The final chapter discusses protocols for clinical trials for immune therapy using anti-WT1 peptides. 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, *The Wilms' Tumour (WT1) Gene: Methods and Protocols* is a valuable resource for anyone who is interested in the diverse methodologies used in WT1 research.

Synthetic DNA. Methods and Protocols.

Edited by R.A. Hughes.
2017, pp 248, Eur 101.64, ISBN: 978-1-4939-6341-6.
Springer Science+Business Media, New York, NY, USA.

This volume presents state-of-the art methods for the synthesis, design, assembly, post synthesis processing, and application of synthetic DNA to modern biotechnology. Chapters are divided into three general sections focusing on protocols for the computational design of synthetic DNA sequences, the synthesis, assembly and cloning of synthetic DNA, and post-synthesis error reduction strategies. 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, *Synthetic DNA: Methods and Protocols* aims to help researchers further their research on manipulate DNA sequences.

The Tumor Microenvironment. Methods and Protocols.

Edited by J. Ursini-Siegel, N. Beauchemin.
2016, pp 356, Eur 117.69, ISBN: 978-1-4939-3799-8.
Springer Science+Business Media, New York, NY, USA.

This book covers core and emerging *in vitro* and *in vivo* protocols used to study how various components of the tumor microenvironment are established and subsequently interact with tumor cells to facilitate carcinogenesis. In addition, the book examines research topics including cellular and molecular biology approaches, *in vivo* genetic approaches, various

"omics"-based strategies, therapeutic strategies to target the microenvironment, and, finally, advanced techniques in the fields of tissue engineering and nanotechnology. Written and validated in the laboratories of a number of trusted collaborating authors for the highly successful *Methods in Molecular Biology* series, chapters contain 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 authoritative, *The Tumor Microenvironment: Methods and Protocols* constitutes a compendium of techniques now available to a broad audience, including basic and clinician scientists, systems biologists, and biological engineers.

Pathology of Transplantation. A Practical Diagnostic Approach.

Edited by R.P. Michel, G.J. Berry.
2016, pp 483, Eur 139.09, ISBN: 978-3-319-29681-4.
Springer International Publishing, Cham, Switzerland.

Many pathologists find the interpretation of biopsies and other surgical specimens from solid organ, stem cell and bone marrow transplants challenging. Pathology of Transplantation provides a practical structured and logical approach to the diagnostic interpretation of the range of specimens from patients with solid organ, stem cell and bone marrow transplants, including the assessment of native and donor organs, with emphasis on resolution of pathological and clinico-pathological differential diagnoses including the diverse forms of rejection, recurrent and de novo diseases, drug-induced alterations, infections and other pathologies relevant to the system or tissue. In addition, this provides information on some of the critical clinical consequences of pathological diagnoses and guidelines for interaction and effective communication with transplant clinicians thereby ensuring the best possible care to patients with transplants. Pathology of Transplantation provides a relatively simple but diagnostically comprehensive and practical book that the pathologist will keep on hand and pick up to rapidly find answers in daily practice of transplantation pathology.

The Pathobiology of Breast Cancer.

By J.Russo.
2016, pp 235, Eur 165.84, ISBN: 978-3-319-40813-2.
Springer International Publishing, Cham, Switzerland.

This monograph, written by well renowned breast cancer expect, Dr. Jose Russo, provides new insight on the pathobiology of breast cancer from the most current advances in the field, translational research, initiation and progression of the disease, the mechanism of invasion and metastasis and the concept of stem cells in treatment and drug resistance. The role of personalized medicine and genomic testing are also explored, which will provide a window to the future progress of cancer care.

Metabolism in Cancer.

Edited by T. Cramer, C. Schmitt.
2016, pp 266, Eur 117.69, ISBN: 978-3-319-42116-2.
Springer International Publishing, Cham, Switzerland.

This textbook presents concise chapters written by internationally respected experts on various important aspects of cancer-associated metabolism, offering a comprehensive overview of the central features of this exciting research field. The discovery that tumor cells display characteristic alterations of metabolic pathways has significantly changed our understanding of cancer: while the first description of tumor-specific changes in cellular energetics was published more than 90 years ago, the causal significance of this observation for the pathogenesis of cancer was only discovered in the post-genome era. The first 10 years of the twenty-first century were characterized by rapid advances in our grasp of the functional role of cancer-specific metabolism as well as the underlying molecular pathways. Various unanticipated interrelations between metabolic alterations and cancer-driving pathways were identified and currently await translation into diagnostic and therapeutic applications. Yet the speed, quantity, and complexity of these new discoveries make it difficult for researchers to keep up to date with the latest developments, an issue this book helps to remedy.

Protein Tyrosine Phosphatases in Cancer.

Edited by B.G. Neel, N.K. Tonks.
2016, pp 360, Eur 181.89, ISBN: 978-1-4939-3647-2.
Springer Science+Business Media, New York, NY, USA.

This book aims to bridge the gap in understanding how protein-tyrosine phosphatases (PTPs), which carry out the reverse reaction of tyrosine phosphorylation, feature in cancer cell biology. The expertly authored chapters will first review the general features of the PTP superfamily, including their overall structure and enzymological properties; use selected examples of individual PTP superfamily members, to illustrate emerging data on the role of PTPs in cancer; and will review the current status of PTP-based drug development efforts.

Protein Tyrosine Phosphatases in Cancer, from renowned researchers Benjamin Neel and Nicholas Tonks, is invaluable reading for researchers in oncology, stem cell signaling, and biochemistry.

Cancer Biomarkers in Body Fluids. Biomarkers in Circulation.

By G.D. Dakubo.
2016, pp 299, Eur 243.33, ISBN: 978-3-319-48359-7.
Springer International Publishing, Cham, Switzerland.

This book examines in depth the evidence, clinical applications and potential cancer signatures in the circulation and discusses alterations in circulating cell-free nucleic acids, and circulating tumor DNA, as well as the epigenome, genome, transcriptome

(coding and noncoding), proteome (both traditional serum proteins and proteomic profiles) and metabolome. Further, it highlights the clinical applications of circulating tumor cells for each cancer type and addresses the emerging importance of extracellular vesicular contents, including miRNA, oncogenes and drug resistant factors. As such, it offers a valuable reference guide for cancer researchers, oncologists, clinicians, surgeons, medical students, oncology nurses, diagnostic laboratories, and the pharmaceutical industry.

Neuroendocrine Tumors: Review of Pathology, Molecular and Therapeutic Advances.

Edited by A. Nasir, D. Coppola.
2016, pp 543, Eur 85.59, ISBN: 978-1-4939-3424-9.
Springer Science+Business Media, New York, NY, USA.

This comprehensive subspecialty reference book on NeuroEndocrine Tumor (NET) pathology brings together the diagnostic and clinical expertise of an outstanding team of practicing neuroendocrine pathologists and oncologists. In addition to in-depth coverage of clinico-pathologic aspects of NETs of the various organ systems, the recent histological grading and staging schemes proposed by the North American and European NeuroEndocrine Tumor Societies (NANETS, ENETS), the World Health Organization (WHO) and the American Joint Committee on Cancer (AJCC), this book also focuses on the recent molecular and therapeutic advances in the field of NET pathology and oncology.

Neuroendocrine Tumors: Review of Pathology, Molecular and Therapeutic Advances will be an essential reference book for anatomic pathology (histopathology) residents, fellows, surgical pathologists, researchers, oncologists, surgeons and other medical professionals practicing advanced NET Pathology and Oncology in academia, community, private practice and research settings.

Hepatitis C Virus I. Cellular and Molecular Virology.

Edited by T. Miyamura, S.M. Lemon, C.M. Walker, T. Wakita.
2016, pp 362, Eur 181.89, ISBN: 978-4-431-56096-8.
Springer Japan.

This volume is composed of chapters that review important fundamental aspects of HCV biology and disease pathogenesis including, for example, the discovery and identification of the HCV genome, early virus-cell interactions including identification of various cellular receptors, HCV gene expression studied using the HCV replicon system, identification and characterization of HCV structural- and non-structural HCV proteins, HCV replication in cultured cells, and host factors involved in viral replication. This volume also contains chapters dealing with immunity to HCV infection and pathogenesis. This is particularly important in understanding hepatitis C because HCV infection alone is not cell lytic. Mechanisms underlying the persistent nature of HCV infection are also discussed in these chapters. Many of the authors published articles that were listed among the "top 10 papers" published in the 24 years since HCV was discovered in 1989. Their citations are above 1,000 (Web of Science). The authors describe the background and significance of their contributions to the field in the context of findings from other research groups.

Epigenetics, Energy Balance, and Cancer.

Edited by N.A. Berger.
2016, pp 271, Eur 181.89, ISBN: 978-3-319-41608-3.
Springer International Publishing, Cham, Switzerland.

This volume of *Energy Balance and Cancer* provides state-of-the-art descriptions of the rapidly evolving science of epigenetics and how it may explain mechanisms by which alterations in energy balance such as obesity and physical activity may impact cancer. In addition to chapters explaining the processes mediating epigenetic regulation, the volume contains a series of chapters explaining how environmental influences including early life events, nutrition, exercise and microbiota may induce epigenetic changes that can affect carcinogenesis. The following chapters describe epigenetic relations of energy balance to cancer in distinct organ systems including esophagus, colon, prostate and breast. *Epigenetics, Energy Balance and Cancer* provides a valuable resource for students, research investigators and clinicians seeking to better understand these processes as well as a basis for novel translational and transdisciplinary approaches to further elucidate these processes and develop preventive and therapeutic strategies.

Autophagy: Cancer, Other Pathologies, Inflammation, Immunity, Infection, and Aging, 1st Edition. Volume 10.

Edited by M.A. Hayat.
2016, pp 294, Eur 121.95, ISBN: 978-0-1280-5421-5.
Academic Press, Elsevier, Cambridge, MA, USA.

Autophagy: Cancer, Other Pathologies, Inflammation, Immunity, Infection, and Aging, Volume 10 offer a valuable guide to both cellular processes, while encouraging researchers to explore their potentially important connections. Autophagy serves to maintain healthy cells, tissues, and organs, but also promotes cancer survival and growth of established tumors. Impaired or deregulated autophagy can also contribute to disease pathogenesis.

This is the tenth volume of the multivolume series that discusses, in detail, almost all aspects of the autophagy machinery in the context of health, cancer, and other pathologies. Autophagy maintains homeostasis during starvation or stress conditions by balancing the synthesis of cellular components and their deregulation by autophagy. Volume 10 of the Autophagy series discusses the role of a novel binuclear palladacycle complex that inhibits melanoma growth through apoptosis and autophagy.

Key Features:

- Presents the most advanced information regarding the role of the autophagic system in life and death;

- Contains a direct focus on the role of a novel binuclear palladacycle complex that inhibits melanoma growth;
- Introduces new, more effective therapeutic strategies in the development of targeted drugs and programmed cell death, providing information that will aid in preventing detrimental inflammation;
- States recent advancements in the molecular mechanisms underlying a large number of genetic and epigenetic diseases and abnormalities;
- Edited work with chapters authored by leaders in the field from around the globe—the broadest, most expert coverage available.

Nanotechnology in Cancer, 1st Edition.
Edited by A.B. Mathur.
2017, pp 195, Eur 102.85, ISBN: 978-0-3233-9080-4.
Elsevier, Amsterdam, Netherlands.

Nanotechnology in Cancer covers current nanotechnology-based nanotherapeutics involving gold nanoparticles, colloids, gels, magnetic nanoparticles, radiofrequency, gene therapy, biological particles, and the intermolecular interactions associated with nanoparticle based cancer therapy in vivo.

Different cancer types and locations are considered alongside the corresponding treatment types, and the use of imaging technologies and animal models are also explored. Both scientific and clinical aspects are considered by authors coming from both fields, with the authors using their backgrounds from different disciplines to make the connection between cancer and effective drug delivery and therapeutic strategies.

Molecular and Cellular Basis of Metastasis: Road to Therapy, Volume 132. 1st Edition.
Edited by D.R. Welch, P. Fisher.
2016, pp 376, Eur 122.00, ISBN: 978-0-1280-4140-6.
Academic Press, Elsevier, Cambridge, MA, USA.

Molecular and Cellular Basis of Metastasis: Road to Therapy, the latest in the Advances in Cancer Research series, provides invaluable information on the exciting and fast-moving field of cancer research. Here, once again, outstanding and original reviews are presented on a variety of topics, with this volume covering the molecular and cellular basis of metastasis.

Systems Biology of Tumor Microenvironment. Quantitative Modeling and Simulations.
Edited by K.A. Rejniak.
2016, pp 249, Eur 165.84, ISBN: 978-3-319-42021-9.
Springer International Publishing, Cham, Switzerland.

This edited volume discusses the complexity of tumor microenvironments during cancer development, progression and treatment. Each chapter presents a different mathematical model designed to investigate the interactions between tumor cells and the surrounding stroma and stromal cells. The topics covered in this book include the quantitative image analysis of a tumor microenvironment, the microenvironmental barriers in oxygen and drug delivery to tumors, the development of tumor microenvironmental niches and sanctuaries, intravenous transport of the circulating tumor cells, the role of the tumor microenvironment in chemotherapeutic interventions, the interactions between tumor cells, the extracellular matrix, the interstitial fluid, and the immune and stromal cells. Mathematical models discussed here embrace both continuous and agent-based approaches, as well as mathematical frameworks of solid mechanics, fluid dynamics and optimal control theory. The topics in each chapter will be of interest to a biological community wishing to apply the mathematical methods to interpret their experimental data, and to a biomathematical audience interested in exploring how mathematical models can be used to address complex questions in cancer biology.

Perspectives on Fluorescence. A Tribute to Gregorio Weber.
Edited by D.M. Jameson.
2016, pp 346, Eur 309.23, ISBN: 978-3-319-41326-6.
Springer International Publishing, Cham, Switzerland.

Gregorio Weber is widely acknowledged as the person responsible for the advent of modern fluorescence spectroscopy. Since 2016 is the 100th anniversary of Gregorio Weber's birth, this special volume has been prepared to honor his life and achievements. It offers contributions from outstanding researchers in the fluorescence field, describing their perspectives on modern fluorescence and its highly diverse applications, ranging from the photophysics of tryptophan and proteins, membrane studies, fluorescence microscopy on live cells, novel software approaches and instrumentation. Many of the authors knew Gregorio Weber personally and have shared their impressions of the man and his contributions. This volume appeals not only to aficionados of fluorescence spectroscopy and its applications in biology, chemistry and physics, but also to those with a general interest in the historical development of an important scientific field.

Defects in T Cell Trafficking and Resistance to Cancer Immunotherapy.
Edited by E. Donnadieu.
2016, pp 199, Eur 165.84, ISBN: 978-3-319-42221-3.
Springer International Publishing, Cham, Switzerland.

This volume focuses on recent advances in understanding T cells as key players in antitumor immune responses, and as a result T cell-based immunotherapy is starting to transform the treatment of advanced cancers. However, despite recent successes, many patients with cancer fail to respond to these treatments. Defective migration of T cells into and within

tumors is considered as an important resistance mechanism to cancer immunotherapy.The volume includes three sections. The first section covers general knowledge about T cell trafficking during a normal immune response but also during tumor development. The second section provides an in-depth description of the different obstacles that prevent T cells from migrating and contacting tumor cells. The third section explores therapeutic strategies to improve trafficking of T cells into tumors and, thus, to enhance the effectiveness of cancer immunotherapy.

Colon, Rectum and Anus: Anatomic, Physiologic and Diagnostic Bases for Disease Management.

Edited by C. Ratto, A. Parello, L. Donisi, F. Litta.
2017, pp 369, Eur 212.93, ISBN: 978-3-319-09806-7.
Springer International Publishing, Cham, Switzerland.

This is the first volume in the new Springer Major Reference Work series entitled Coloproctology. The book covers key topics in the anatomy and physiology of the colon, rectum and anus and the diagnosis of colorectal/anal diseases and disorders. It thus forms a sound basis for further volumes in the series that will focus on the treatment of more specific clinical conditions. The subjects addressed in the volume are crucial to effective patient management and the book highlights the fact that adequate diagnostic assessment of a given disease is significantly related to the pathophysiologic interpretation of the pathologic process. The purpose of the volume is to provide readers with up-to-date knowledge on colorectal and anal anatomy and physiology, particularly from a treatment perspective and to describe the methodology to be employed in choosing the best diagnostic work-up in coloproctology.

T-Cell Differentiation. Methods and Protocols.

Edited by E. Lugli.
2017, pp 271, Eur 117.69, ISBN: 978-1-4939-6546-5.
Springer Science+Business Media, New York, NY, USA.

This volume provides protocols to successfully apply cutting-edge technologies to characterize the biology of T cells at an unprecedented level of complexity. Chapters guide readers through flow cytometry and fluorescence-activated cell sorting, the behaviour of single T cells after adoptive cell transfer (ACT), single cell gene expression by multiplex PCR, lentiviral transduction approaches, protocols to derive large numbers of early-differentiated memory T cells by using dedicated cytokines cocktails, approaches to measure telomerase activity in terminally differentiated T cells, and approaches to define Treg cells at the phenotypic and functional level. The final part of the book is dedicated to the analysis of the differentiation and effector functions of innate T cells, namely the well-known γ/δ T cells, and the recently identified CD8+ mucosal associated invariant T (MAIT) cells. 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, *T-Cell Differentiation: Methods and Protocols* aims to provide protocols that are fundamental to monitor the T cell compartment at the level of single cells in pathological and immunotherapy conditions.

Germline Stem Cells.

Edited by M. Buszczak.
2017, pp 229, Eur 101.64, ISBN: 978-1-4939-4015-8.
Springer Science+Business Media, New York, NY, USA.

This second edition provides updated and new chapters on selected genetic, molecular, biochemical, and cell biological techniques. Chapter's guide readers through methods and principles on primordial germ cells and germline stem cells, however many of these principles can be applied to different types of adult stem cells. 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.

Germline Stem Cells: Second Edition aims to present the new findings and techniques that have developed since the first edition.

Chronic Myeloid Leukemia. Methods and Protocols.

Edited by S. Li, H. Zhang.
2016, pp 257, Eur 101.64, ISBN: 978-1-4939-4009-7.
Springer Science+Business Media, New York, NY, USA.

This volume highlights the molecular and cellular methods used in studying Chronic Myeloid Leukimia (CML) pathogenesis and stem cell 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.

This book aims to ensure successful results in the further study of this vital field.

Chronic Myeloid Leukemia.

Edited by R. Hehlmann.
2016, pp 255, Eur 96.29, ISBN: 978-3-319-33197-3.
Springer International Publishing, Cham, Switzerland.

This book provides state-of-the-art reviews of key issues and recent developments relating to chronic myeloid leukemia (CML), acquainting the reader with advances in research, treatment, and promotion of public health. Among the management topics addressed are the choices, advantages, and

pitfalls of first-, second-, and third-line treatments; the European LeukemiaNet recommendations; management of adverse effects of tyrosine kinase inhibitors (TKI); management of CML blast crisis; management of pregnancy in the context of CML; the role of hematopoietic cell transplantation; the current experience with TKI discontinuation; and the value of interferon α in improving the outcome of TKI treatment. Various aspects of relevance to treatment outcome are discussed, including prognostic scores, molecular monitoring (principles and interlaboratory standardization), and response-related predictors of survival. Furthermore, updates are provided on the increasing prevalence of CML and its implications and on the changing cost of care for CML, taking into account the forthcoming impact of availability of generic imatinib.

Non-coding RNAs in Colorectal Cancer.
Edited by O. Slaby, G.A. Calin.
2016, pp 252, Eur 165.84, ISBN: 978-3-319-42057-8.
Springer International Publishing, Cham, Switzerland.

This is the first book to provide a broad framework for obtaining an in depth understanding of the state-of-the-art knowledge on abnormalities of non-coding RNAs found to be associated with colorectal cancer pathogenesis. Readers will discover possible mechanisms underlying the substantial roles played by non-coding RNAs in molecular hallmarks of colorectal cancer.

This work further provides the comprehensive overview and novel insights into using of non-coding RNAs as colorectal cancer biomarkers enabling early detection of the disease, prognostic stratification of the patients and prediction of therapeutic response.

The reader is introduced to the overview of modern non-coding RNAs-based therapeutic strategies, and summary of their preclinical testing performed in colorectal cancer. The work is written for researchers who want to explore current state of the knowledge in this interesting field of molecular oncology.

Skin Care in Radiation Oncology. A Practical Guide.
Edited by B. Fowbie, S.S. Yom, F. Yuen, S. Arron.
2016, pp 238, Eur 96.29, ISBN: 978-3-319-31458-7.
Springer International Publishing, Cham, Switzerland.

This book serves as a practical guide for the prevention and treatment of radiation dermatitis. Skin toxicity caused by radiation treatment is common among cancer patients and minimizing the frequency and severity of these reactions improves quality of life and prevents interruptions that can compromise local-regional control. Each chapter is devoted to a specific disease site, such as the head and neck, breast, gastrointestinal, genitourinary, gynecologic, and central nervous system. Pediatric malignancies and wound care for locally advanced cancers are also discussed. For each topic, the range and frequency of the observed skin reactions, factors influencing these reactions, the typical course of each reaction and its resolution, and the interventions used are presented. This book provides evidence where it exists for the specific interventions and an extensive illustration program depicts the various reactions and their response to treatment protocols. *Skin Care in Radiation Oncology: A Practical Guide* presents a framework for patient care in an era of advancing technology and systemic and targeted therapies and is a valuable resource for radiation oncologists, dermatologists, and residents.

Radiation Therapy in Hematologic Malignancies. An Illustrated Practical Guide.
Edited by B. Dabaja, A.K. Ng.
2017, pp 203, Eur 144.44, ISBN: 978-3-319-42613-6.
Springer International Publishing, Cham, Switzerland.

This book is designed to assist practitioners in managing patients who present with difficult cases of the most common hematological malignancies. The scenarios covered are those that are likely to be encountered in patients with the various forms of Hodgkin's lymphoma, non-Hodgkin's lymphoma, and leukemia. In each of the three sections devoted to these malignancies, multiple cases are presented. The case discussions follow a standard format. A clinical description is followed by a pathological description documenting information relevant to diagnosis and by details of staging work-up, including images. The treatment options are then discussed at length, highlighting relevant literature for each option. Finally, the treatment delivered is identified and images of the planning technique/modality used are provided. This book will be an invaluable aid to decision making for radiation oncologists and will also be of interest for hematologists.

Strategies to Enhance the Therapeutic Ratio of Radiation as a Cancer Treatment.
Edited by M.S. Anscher, K. Valerie.
2016, pp 305, Eur 181.89, ISBN: 978-3-319-45592-1.
Springer International Publishing, Cham, Switzerland.

This volume will describe recent progress and future directions in radiation oncology and biology research, focusing on strategies designed to improve disease control and reduce the risk of long-term adverse effects on patients. As more and more patients are becoming long-term survivors, this strategy will become increasingly important--in radiation oncology and throughout the field of oncology.

Radiation Therapy Techniques and Treatment Planning for Breast Cancer.
Edited by J.R. Bellon, J.S. Wong, S.M. MacDonald, A.Y. Ho.
2016, pp 158, Eur 96.29, ISBN: 978-3-319-40390-8.
Springer International Publishing, Cham, Switzerland.

This book addresses the day-to-day treatment planning issues that radiation oncologists are likely to encounter during the treatment of breast cancer patients and provides numerous

practical "tips" that will assist in navigation of the treatment planning process, from delineation of the tumor boundaries to discrimination of adjacent normal tissues and critical structures at risk of radiation injury. Differences in target delineation and treatment planning according to technique are emphasized, with coverage of conventional radiation therapy and advanced techniques including cardiac-sparing approaches, e.g., using active breathing control, intensity-modulated radiation therapy, proton beam therapy, and electron beam therapy post mastectomy. Individual chapters also focus on radiation setup and verification techniques and radiation treatment planning systems. The book, which is part of the Springer series *Practical Guides in Radiation Oncology,* is designed for hands-on use by radiation oncology residents/fellows in training and practicing radiation oncologists.

Conquering RAS, 1st Edition. From Biology to Cancer Therapy.

Edited by A. Azmi.
2016, pp 294, Eur 97.75, ISBN: 978-0-1280-3505-4.
Academic Press, Elsevier, Cambridge, MA, USA.

Conquering RAS: From Biology to Cancer Therapy provides introductory knowledge on how modern RAS biology is taking shape in light of newer technological development. Each chapter is written in a manner that emphasizes simplicity and readability for both new investigators and established researchers. While RAS biology has been intensively studied for more than three decades, we are yet to see any effective therapeutics that could interfere in the signaling cascade regulated by this master oncogene.

The book covers topics ranging from basic RAS biology, to translational biology and drug discovery applications. These topics will be appealing to basic researchers working in labs who seek deeper understanding of the modern concepts in RAS research. On the other side, the oncologist at the patient's bedside will find the book useful as they routinely face the daunting task of treating patients that predominantly have a disease driven by oncogenic KRAS.

Modified Nucleic Acids in Biology and Medicine.

Edited by S. Jurga, V.A. Erdmann, J. Barciszewski.
2016, pp 453, Eur 181.89, ISBN: 978-3-319-34173-6.
Springer International Publishing, Cham, Switzerland.

This volume is comprised of 18 chapters, covering various aspects of DNA modification and RNA modified bases. It also discusses in detail circular RNA, therapeutic oligonucleotides and their different properties.

The chemical nature of DNA, RNA, protein and lipids makes these macromolecules easily modifiable, but they are also susceptible to damage from both endogenous and exogenous agents. Alkylation and oxidation show a potential to disrupt the cellular redox equilibrium and cause cellular damage leading to inflammation and even chronic disease. Furthermore, DNA damage can drive mutagenesis and the resulting DNA sequence changes can induce carcinogenesis and cancer progression.

Modified nucleosides can occur as a result of oxidative DNA damage and RNA turnover, and are used as markers for various diseases. To function properly some RNA needs to be chemically modified post-transcriptionally. Dysregulation of the RNA-modification pattern or of the levels of the enzymes that catalyze these modifications alters RNA functionality and can result in complex phenotypes, likely due to defects in protein translation. While modifications are best characterized in noncoding ribonucleic acids like tRNA and rRNA, coding mRNAs have also been found to contain modified nucleosides. This book is a valuable resource, not only for graduate students but also researchers in the fields of molecular medicine and molecular biology.

Targeting Autophagy in Cancer Therapy.

Edited by J.-M. Yang.
2016, pp 141, Eur 165.84, ISBN: 978-3-319-42738-6.
Springer International Publishing, Cham, Switzerland.

This volume will detail the current state and perspectives of autophagy-based cancer therapy. Covering a wide range of topics, it will include an overview of autophagy as a therapeutic target in cancer, autophagy modulators as cancer therapeutic agents, implications of micro-RNA-regulated autophagy in cancer therapy, modulation of autophagy through targeting PI3 kinase in cancer therapy, targeting autophagy in cancer stem cells, and roles of autophagy in cancer immunotherapy. In addition, the volume will review applications of system biology and bioinformatics approaches to discovering cancer therapeutic targets in the autophagy regulatory network.

The volume will be beneficial for a variety of basic and clinical scientists, including cancer biologists, autophagy researchers, pharmacologists, and clinical oncologists who wish to delve more deeply into this field of cancer research.

This volume will be the first book to focus solely on autophagy as a target in cancer therapy. As well, it will comprehensively discuss the roles of autophagy in most currently available cancer treatments.

STAT Inhibitors in Cancer.

Edited by A.C. Ward.
2016, pp 195, Eur 165.84, ISBN: 978-3-319-42947-2.
Springer International Publishing, Cham, Switzerland.

This volume, which includes contributions from leading scientists and clinicians in the field, provides definitive, state-of-the-art information on STAT inhibitors in a biological and clinical context. It gives an overview of the biology of the STAT family of transcription factors and their role in cancer etiology. Additionally, it describes the raft of therapeutic approaches being used to inhibit STATs in the context of various cancers, covering the full spectrum of therapeutic approaches to inhibiting STATs, and presenting emerging data from clinical trials.

Microtechnology for Cell Manipulation and Sorting.
Edited by W. Lee, P. Tseng, D. Di Carlo.
2017, pp 281, Eur 138.03, ISBN: 978-3-319-44137-5.
Springer International Publishing, Cham, Switzerland.

This book delves into the recent developments in the microscale and microfluidic technologies that allow manipulation at the single and cell aggregate level. Expert authors review the dominant mechanisms that manipulate and sort biological structures, making this a state-of-the-art overview of conventional cell sorting techniques, the principles of microfluidics, and of microfluidic devices. All chapters highlight the benefits and drawbacks of each technique they discuss, which include magnetic, electrical, optical, acoustic, gravity/sedimentation, inertial, deformability, and aqueous two-phase systems as the dominant mechanisms utilized by microfluidic devices to handle biological samples. Each chapter explains the physics of the mechanism at work, and reviews common geometries and devices to help readers decide the type of style of device required for various applications. This book is appropriate for graduate-level biomedical engineering and analytical chemistry students, as well as engineers and scientists working in the biotechnology industry.

Circulating Nucleic Acids in Serum and Plasma – CNAPS IX.
Edited by P. Gahan, M. Fleischhacker, B. Schmidt.
2016, pp 220, Eur 165.84, ISBN: 978-3-319-42042-4.
Springer International Publishing, Cham, Switzerland.

The book will present the progress made since the last meeting in fall 2013 concerning the analysis of circulating extra-cellular nucleic acids. There are a modest number of laboratories involved in this field, nevertheless the number of papers published by researchers is extensive. The articles which will be published in this meeting report will be a valuable contribution for researchers and research students alike and will help them to stay on top of the developments in different research areas and to „cross borders“ between them.

Polymeric Biomaterials for Tissue Regeneration.
Edited by C. Gao.
2016, pp 386, Eur 181.89, ISBN: 978-981-10-2292-0.
Springer Science+Business Media, Singapore.

This book reviews state-of-the-art of polymeric biomaterials for regenerative medicine, and highlights advances in both basic science and clinical practice. It summarizes the latest techniques in polymeric scaffold fabrication, delivery carriers, physicochemical property modulation, as well as their influence on adhesion and the performance of biomolecules, cells and tissues. It also describes methods for creating biofunctional surfaces/interfaces and subsequently modulating the host response to implantable materials. Lastly, it discusses the applications of biomaterials and constructs in soft-tissue regenerative medicine. It is a valuable resource for materials scientists and engineers wishing to identify research priorities to fulfill clinical needs and provides physicians with insights into emerging novel biomaterials. This integrated approach also offers engineering students a sense of the relevance of materials science in the development of novel therapeutic strategies.

Translating Molecular Biomarkers into Clinical Assays. Techniques and Applications.
Edited by R. Weiner, M. Kelley.
2016, pp 212, Eur 165.84, ISBN: 978-3-319-40792-0.
Springer International Publishing, Cham, Switzerland.

This handbook covers established and advanced techniques for biomarker analysis, such as guidelines and strategies for assay validation methods; different mathematical models that are necessary in contemporary drug discovery and development; and evaluation of new cytometry methods. Expertly curated by two practicing professionals in drug development and biotherapeutics, individual chapters are selected for novel and sound research; information is chosen based on its relevance to lab applications and clinical trials, such as the topic of selecting animal models for their relevancy to humans. The book is multifaceted, discussing the ethics and issues with biospecimens and providing an in-depth analysis to the differences between pre-clinical and clinical assay development. The book is an essential read for general readers who need an introduction to the history and background of biomarkers, and it also provides critical analyses of various new validation methods for practitioners and researchers.

Apoptosis in Cancer Pathogenesis and Anti-cancer Therapy.
New Perspectives and Opportunities.
Edited by C.D. Gregory.
2016, pp 247, Eur 181.89, ISBN: 978-3-319-39404-6.
Springer International Publishing, Cham, Switzerland.

This book discusses properties of apoptosis and other cell death modalities in cancer pathogenesis and treatment. Its nine chapters discuss modulation of anti-tumor inflammatory and immune responses, effects on the tumor microenvironment, to strategies for improving pro-apoptotic therapies, mechanisms and implications for disease pathogenesis, axl and mer receptor tyrosine kinases, immunogenic apoptotic cell death and anti-cancer immunity and cancer cell death-inducing radiotherapy. This book places the onco-biology of apoptosis in clear and objective perspective through an expertly synthesized series of reviews.

Apoptosis in Cancer Pathogenesis and Anti-cancer Therapy is a deft and thorough exploration of cutting-edge research in apoptosis and anti-cancer mechanisms from basic biology to oncology. It highlights a rapidly growing field within cancer research and is essential reading for oncologists, biochemists and advanced graduate students alike.

Cancer of the Oral Cavity, Pharynx and Larynx. Evidence-Based Decision Making.
Edited by J. Medina, N.R. Vasan.
2016, pp 116, Eur 71.68, ISBN: 978-3-319-18629-0.
Springer International Publishing, Cham, Switzerland.

Written for residents and practitioners of otolaryngology, medical oncology, radiation oncology, and maxiollofacial surgery, this book provides the reader with a comprehensive, concise discussion of the best evidence available on which to base clinical decisions needed when managing patients with squamous cell carcinomas of the oral cavity, pharynx and larynx. Because of its accessible and practical format, this book is considerably different than other related titles on the market. Formatted with questions at the beginning of each chapter that are then answered with evidence and best practices available for each case, each chapter addresses situations the clinician is likely to face in the diagnostic evaluation and treatment of a patient with cancer of the head and neck.

Most clinical decisions in the management of cancers of the head and neck region are based on the results of a few controlled, randomized clinical trial trials (Evidence Level I). However, most decision-making is based on the results of case-control studies (Evidence Level II), descriptive studies, reports of expert committees, or opinions of respected authorities (Evidence Level III). This information is scattered throughout the literature and often comingled with information about other topics. Therefore, there is a need for a publication in which the evidence pertinent to making decisions regarding a particular clinical problem is distilled from the literature and presented in a single concise, clinical, situation-driven source. *Cancer of the Oral Cavity, Pharynx and Larynx: Evidence-Based Decision Making* is just such a resource.

Material Parameter Identification and Inverse Problems in Soft Tissue Biomechanics.
Edited by S. Avril, S. Evans.
2017, pp 144, Eur 96.29, ISBN: 978-3-319-45070-4.
Springer International Publishing, Cham, Switzerland.

The articles in this book review hybrid experimental-computational methods applied to soft tissues which have been developed by worldwide specialists in the field. People developing computational models of soft tissues and organs will find solutions for calibrating the material parameters of their models; people performing tests on soft tissues will learn what to extract from the data and how to use these data for their models and people worried about the complexity of the biomechanical behavior of soft tissues will find relevant approaches to address this complexity.

Biomarker Discovery in the Developing World: Dissecting the Pipeline for Meeting the Challenges.
Edited by S. Srivastava.
2016, pp 118, Eur 117.69, ISBN: 978-81-322-2835-6.
Springer, India.

This book is oriented towards post-graduates and researchers with interest in proteomics and its applications in clinical biomarker discovery pipeline. Biomarker discovery has long been the research focus of many life scientists globally. However, the pipeline starting from discovery to validation to regulation as a diagnostic or therapeutic molecule follows a complex trajectory. This book aims to provide an in-depth synopsis on each of these developmental phases attendant to biomarker "life cycle" with emphasis on the emerging and significant role of proteomics. The book begins with a perspective on the role of biorepositories and need for biobanking practices in the developing world. The next chapter focuses on disease heterogeneity in context to geographical bias towards susceptibility to the disease and the role of multi-omics techniques to devise disruptive innovations towards biomarker discovery. Chapter 3 focuses on various omics-based platforms that are currently being used for biomarker discovery, their principles and workflow. Mass spectrometry is emerging as a powerful technology for discovery based studies and targeted validation. Chapter 4 aims at providing a glimpse of the basic workflow and considerations in mass spectrometry based studies. Rapid and aptly targeted research funding has often been deemed as one of the decisive factors enabling excellent science and path breaking innovations. With the need for sophistication required in multi-omics research, Chapter 5 focuses on innovative funding strategies such as crowdfunding and Angel philanthropy. Chapter 6 provides the latest advances in education innovation, the premise and reality of bioeconomy especially in a specific context of the developing world, not to mention the new concept of "social innovation" to link biomarkers with socially responsible and sustainable applications. Chapter 7, in ways similar to biomarkers, discusses the biosimilars as a field that has received much focus and prominence recently due to their immense potential in clinical and pharmaceutical innovation literatures. The broader goal post-biomarker discovery is to translate their use in clinics. However, the road from bench-to-bed side is arduous and complex that is subject to oversight from various national and international regulatory bodies. Chapter 8 underscores these regulatory science considerations and provides a concise overview on intellectual property rights in biomarker discovery. Thus, this book contributed by eminent biomarker scientists, clinicians, translational researchers and social scientists holistically covers the various facets of the biomarker discovery journey from "cell to society" in developing world. The lessons learned and highlighted here are of interest to the life sciences community in a global and interdependent world.

Early Nutrition and Lifestyle Factors. Effects on First Trimester Placenta.
Edited by A.K. Duttaroy, S. Basak.
2016, pp 159, Eur 165.84, ISBN: 978-3-319-38802-1.
Springer International Publishing, Cham, Switzerland.

This book highlights the impact of nutrients on early placentation processes and their relevance for fetal growth and

pregnancy outcome. The role of maternal nutrition on fetal growth and development has been evidenced in many epidemiological studies that included infamous Dutch famine, Helsinki Birth cohort and others. Fetal programming hypothesis states that the nutritional and other environmental conditions under which an individual develops from pre-conception to birth has a major impact on the future health of the newborn child. The developmental environment of the fetus is primarily dependent on two major factors that are maternal nutritional state (excess/low/imbalance) and placental function. Placentation is characterized by the extensive remodeling of the maternal uterine vasculature producing low-resistance blood vessels that facilitate the exchange of nutrients and wastes between the mother and the fetus. Cellular and molecular mechanisms involved in human placental blood vessel formation, which are now well established, are discussed.

Chemistry of the Mediterranean Diet.

By A.M. Delgado, M.D. Vaz Almeida, S. Parisi.
2017, pp 259, Eur 37.44, ISBN: 978-3-319-29368-4.
Springer International Publishing, Cham, Switzerland.

Have you ever wondered what makes the Mediterranean diet so healthy? Do you enjoy olives, tomatoes, Chouriço and Mozzarella, basil, rosemary and oregano, grapes, figs, and dates; and would you like to learn more about the substances they contain? Then this book is for you!

The Mediterranean diet, designated as an 'Intangible Cultural Heritage of Humanity', has a reputation of being particularly beneficial to your health and for reducing the risk of diseases like cardiovascular disorders. Read this book to find out which chemical compounds contribute to these health benefits. Typical ingredients of the Mediterranean diet include olive oils, fresh and dried vegetables and fruits, cereals, moderate amounts of fish, dairy and meat, and various condiments and spices, typically accompanied by wine and infusions. The book will introduce you to the most typical ingredients, providing information about their use in Mediterranean cuisine and explaining more about the healthy substances they contain – from their chemistry to their occurrence in the foods and the resulting intake. Summarizing important facts and data from available scientific literature, this book even gives recommendations for guidelines to a healthy diet – guidelines that are becoming more and more important. In recent years, it has been observed that nutritional habits in the geographical area have started to deviate further and further away from the typical Mediterranean nutritional pattern, representing an alarming trend that this book also critically addresses, since the WHO has reported increases in obesity and malnutrition in the Mediterranean area.

Illustrations of important chemical compound structures, as well as appetizing photos of select ingredients for Mediterranean dishes, accompany the text.

Philosophy of Cancer. A Dynamic and Relational View.

By M. Bertolaso.
2016, pp 190, Eur 96.29, ISBN: 978-94-024-0863-8.
Springer, Netherlands.

Since the 1970s, the origin of cancer is being explored from the point of view of the Somatic Mutation Theory (SMT), focusing on genetic mutations and clonal expansion of somatic cells. As cancer research expanded in several directions, the dominant focus on cells remained steady, but the classes of genes and the kinds of extra-genetic factors that were shown to have causal relevance in the onset of cancer multiplied. The wild heterogeneity of cancer-related mutations and phenotypes, along with the increasing complication of models, led to an oscillation between the hectic search of 'the' few key factors that cause cancer and the discouragement in face of a seeming 'endless complexity'. To tame this complexity, cancer research started to avail itself of the tools that were being developed by Systems Biology. At the same time, anti-reductionist voices began claiming that cancer research was stuck in a sterile research paradigm. This alternative discourse even gave birth to an alternative theory: the Tissue Organization Field Theory (TOFT). A deeper philosophical analysis shows limits and possibilities of reductionist and anti-reductionist positions and of their polarization. This book demonstrates that a radical philosophical reflection is necessary to drive cancer research out of its impasses. At the very least, this will be a reflection on the assumptions of different kinds of cancer research, on the implications of what cancer research has been discovering over 40 years and more, on a view of scientific practice that is most able to make sense of the cognitive and social conflicts that are seen in the scientific community (and in its results), and, finally, on the nature of living entities with which we entertain this fascinating epistemological dance that we call scientific research. The proposed Dynamic and Relational View of carcinogenesis is a starting point in all these directions.

Interleukin 12: Antitumor Activity and Immunotherapeutic Potential in Oncology.

By W. Lasek, R. Zagozdzon.
2016, pp 75, Eur 53.49, ISBN: 978-3-319-46905-8.
Springer International Publishing, Cham, Switzerland.

This book discusses the immunotherapeutic potential of Interleukin 12 in the context of clinical oncology, as well as antitumor effects confirmed in preclinical studies and clinical trials in cancer immunotherapy. Due to its ability to activate both innate (NK cells) and adaptive (cytotoxic T lymphocytes) immunities, Interleukin 12 (IL-12) has been regarded as a promising candidate for tumor immunotherapy. However, despite the encouraging results in animal models, only very modest antitumor effects have been confirmed in early clinical trials. Recently, several clinical studies have been initiated in which IL-12 was applied as an adjuvant in cancer vaccines, in gene therapy including locoregional injections of IL-12 plasmid, and in the form of tumor-targeting immunocytokines (IL-12 fused to monoclonal antibodies).

Handbook of Lymphoma.

Edited by A. Younes.

2016, pp 112, Eur 42.79, ISBN: 978-3-319-08466-4.
Springer International Publishing, Cham, Switzerland.

The *Handbook of Lymphoma* is an in-depth and comprehensive guide to the diagnosis, staging, treatment, and management of patients with the disease. The Handbook aims to provide healthcare professionals with an informative and up-to-date guide to the latest developments in the treatment of patients with both Hodgkin and non-Hodgkin lymphoma. Lymphoma is a cancer of the lymphatic system and, as with other cancers, is a disease of the body's cells. Usually, cells divide in the body in an orderly and controlled manner, however when this process gets out of control and the cells carry on dividing in an abnormal manner a tumor can form known as lymphoma in one or more groups of lymph nodes. This field has seen increasing development in the available options for treating patients with lymphoma particularly in the recent emergence and approval of targeted therapies. In this clinically focused Handbook, the authors address these advances by looking at treatment recommendations for both Hodgkin and non-Hodgkin lymphoma, and also making suggestions on the future outlook for patients with this disease. This Handbook is an invaluable and educational source of topical information for all medical and healthcare professionals with an interest in lymphoma.

Drug Therapy and Interactions in Pediatric Oncology. A Pocket Guide.

By C.W. Penteado Schmidt, F.G. de Menezes.

2017, pp 212, Eur 96.29, ISBN: 978-3-319-38871-7.
Springer International Publishing, Cham, Switzerland.

There are few publications about drug interactions in chemotherapy and even less about pediatric oncology treatment. For this reason, the present book is intended to offer guidelines about drug interactions for physicians, pharmacists and the other healthcare professionals involved in the chemotherapy of pediatric patients. In this book the reader will have access to a primary introduction for the major diseases in pediatric oncology, followed by the major therapeutic protocols. Following that, the most important drug interactions in pediatric oncology treatment are presented and discussed in detail. Finally, important topics such as *Drug-Food Interactions are addressed*. *Drug Therapy and Interactions in Pediatric Oncology* focuses in great detail on the drug interactions in Pediatric Oncohematology and will be an indispensable resource in daily practice for a wide range of health providers.

Molecular Cytopathology.

Edited by B. Yang, J. Rao.

2016, pp 293, Eur 64.19, ISBN: 978-3-319-30739-8.
Springer International Publishing, Cham, Switzerland.

This book reviews the current applications of molecular tools in cytopathology and provides a concise handbook for those who provide care in this era of personalized medicine. Specifically, the text provides a comprehensive and concise review of the emerging molecular tests available clinically in different subspecialities of diagnostic pathology. It reviews the current data of molecular testing already applied in cytopathology, discusses some of the biomarkers with potential utility in cytopathology in the near future and reviews the technical challenges in applying and validating molecular tools in liquid-based cytologic materials. *Molecular Cytopathology* will serve as a valuable resource for cytopathologists, cytotechnologists, pathology trainees, and clinicians with an interest in molecular applications in cytopathology.