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This edited volume is based on the best papers accepted for presentation during the 1st Springer Conference of the Arabian Journal of Geosciences (CAJG-1), Tunisia 2018. The book is of interest to all researchers in the fields of Structural Geology, Stratigraphy, Ore Deposits, Regional Tectonics and Tectonic Modelling. This volume offers an overview of multidisciplinary studies on the broader Africa-Eurasia geology. Main topics include: 1. Basement Geology 2. Fluid-rock interaction, hydrothermalism and ore deposits 3. Reservoir geology, structure and stratigraphy 4. Mediterranean Tectonics 5. The Alpine-Himalayan convergence zone 6. Tectonic Modelling

This book systemically presents the latest research on renal fibrosis, covering all the major topics in the field, including the possible mechanisms, biomarkers, and strategies for prevention and treatment of chronic kidney disease (CKD). Due to its high prevalence, CKD represents a huge global economic and social burden. Irrespective of the initial causes, CKD progresses to end stage kidney disease (ESKD) due to renal fibrosis, which is characterized by glomerulosclerosis, tubule atrophy and atresia, and the excessive accumulation of extracellular matrix (ECM) in the kidney. Unfortunately, an estimated 1%-2% of the adult population living with CKD will need renal replacement therapy at some point as a result of ESKD. As such, strategies for preventing or slowing CKD progression to ESKD are of utmost importance, and studies aiming to understand the mechanisms of renal fibrosis have been the focus of intensive research. Recently, novel insights into the pathophysiological processes have furthered our understanding of the pathogenesis of renal fibrosis, and more importantly, promoted studies on the early diagnosis and treatment of CKD. This book draws lessons from the extensive, state-of-the-art research in this field, elaborating the new theories and new techniques to offer readers a detailed and comprehensive understanding of renal fibrosis and as well as inspiration for future research directions.

This volume addresses the structural and functional roles of the cytoskeleton and its dysfunctions which often lead to disease. It provides thorough discussion of microtubules, microfilaments, intermediate filaments, and cytoskeletal functions and dysfunctions in different organ systems. Comprehensive yet concise. The Cytoskeleton In Health And Disease presents cutting-edge discoveries balanced with background information and highlights the new aspects of the research and its impact on the design of new strategies or the identification of new targets for therapeutic intervention. There is a significant need for a book on this topic, as interest in the cytoskeleton continues to grow as causes and cures for cytoskeletal diseases are further explored in biomedical research. This book is essential reading for scientists, students, and teachers interested in expanding their knowledge related to the cytoskeleton. New researchers entering the field will find classic and well as contemporary information not easily found in the current literature or internet resources.

This book provides an overview of recent advances in the study of aging and aging related diseases, discussing the topics at individual, organ, tissue, cell, and molecular levels. It also presents studies on the biomarkers of aging and anti-aging interventions. Aging has been becoming a global health problem. However it was not possible to determine aging as we usually diagnose a disease because there are few biomarkers for age estimation. Since ancient times, people have been seeking anti-aging substances and methods for achieving immortality, while the scientific study of aging has only existed for 100 years. This book appeals to researchers both in institutes and in pharmaceutical companies interested in further studies in this field.

This up-to-date reference on the use of retinoids in dermatology presents how retinoids function in the skin, how they can best be used to treat and prevent various skin diseases, and how they can be monitored effectively. The text will provide an in-depth update on the pharmacology, clinical use, side effects, and follow-up of retinoid therapy in dermatology. This source also addresses topics related to retinoid use in special circumstances, such as vulnerable populations, concomitant surgery, and aesthetic procedures.

Magnetism and Structure in Functional Materials addresses three distinct but related topics: (i) magnetoelastic materials such as magnetic martensites and magnetic shape memory alloys, (ii) the magnetocaloric effect related to magnetostructural transitions, and (iii) colossal magnetoresistance (CMR) and related manganites. The goal is to identify common underlying principles in these classes of materials that are relevant for optimizing various functionalities. The emergence of apparently different magnetic/structural phenomena in disparate classes of materials clearly points to a need for common concepts in order to achieve a broader understanding of the interplay between magnetism and structure in this general class of new functional materials exhibiting ever more complex microstructure and function. The topic is interdisciplinary in nature and the contributors correspondingly include physicists, materials scientists and engineers. Likewise the book will appeal to scientists from all these areas.

Learn about the analytical tools used to characterize particulate drug delivery systems with this comprehensive overview Edited by a leading expert in the field, Characterization of Pharmaceutical Nano- and Microsystems provides a complete description of the analytical techniques used to characterize particulate drug systems on the micro- and nanoscale. The book offers readers a full understanding of the basic physicochemical characteristics, material properties and differences between micro- and nanosystems. It explains how and why greater experience and more reliable measurement techniques are required as particle size shrinks, and the measured phenomena grow weaker.

Characterization of Pharmaceutical Nano- and Microsystems deals with a wide variety of topics relevant to chemical and solid-state analysis of drug delivery systems, including drug release, permeation, cell interaction, and safety. It is a complete resource for those interested in the development and manufacture of new medicines, the drug development process, and the translation of those drugs into life-enriching and lifesaving medicines. Characterization of Pharmaceutical Nano- and Microsystems covers all of the following

topics: An introduction to the analytical tools applied to determine particle size, morphology, and shape Common chemical approaches to drug system characterization A description of solid-state characterization of drug systems Drug release and permeation studies Toxicity and safety issues The interaction of drug particles with cells Perfect for pharmaceutical chemists and engineers, as well as all other industry professionals and researchers who deal with drug delivery systems on a regular basis, Characterization of Pharmaceutical Nano- and Microsystems also belongs on bookshelves of interested students and faculty who interact with this topic.

An Innovative Approach to Studying and Treating Cancer: Targeting pH describes one of the few characteristics of cancer that is not shared by normal tissues: the reversal or inversion of the pH gradient when intracellular pH becomes alkaline and extracellular pH becomes acid. This is now recognized as one of the most selective and differential hallmarks of all cancer cells and tissues, being the opposite of the condition found in normal tissues and a potential target in order to achieve either a stable disease or even regression with no toxicity. The book discusses topics such as lactic acid and its transport system in the pH paradigm, mechanisms to decrease extra cellular pH and increase intracellular pH, NHE-1 activity in cancer, carbonic anhydrases, vacuolar ATPase proton pump, and the sodium-bicarbonate cotransporter system. Additionally, it discusses complementary pharmacological interventions, cellular acidification and extracellular alkalization as a new and integral approach to cancer treatment. Analyzes the mechanisms that lead to the inversion of pH gradient in cancer tissues Summarizes almost 100 years of research on pH inversion in cancer in one single source, discussing the most relevant and updated researches in the field Proposes new efficient treatments against cancer using pH inversion mechanisms, either with new drugs like proton transport inhibitors and proton pump inhibitors (PTIs and PPIs) or with repurposed drugs

This Festschrift volume, published to honor Esko Ukkonen on his 60th birthday, includes papers that present research on computational pattern matching and string algorithms, two areas that have benefited significantly from the work of Ukonen.

This volume comprehensively reviews oncology in the precision medicine era of personalized care, latest developments in the field, and indications and clinical trials for the treatment of cancer with targeted therapies, immunotherapy, and epigenetic modulators. It thoroughly addresses concerns of various types of cancers including cancers of the head and neck, lung, colon, esophagus, bladder, pancreas, and breast; melanoma; multiple myeloma; hepatocellular carcinoma; renal cell carcinoma; and sarcomas. It is organized and written in a format that is easy to follow for both clinicians and non-clinical scientists interested in personalized medicine. Chapters cover the identification of the clinical problem and summary of recent findings, tumor biology and heterogeneity, genomics, examples of simple and complex cases, biological pathways, future clinical trials, and financial considerations. Oncology in the Precision Medicine Era: Value-Based Medicine will serve as a useful resource for medical oncologists and healthcare providers tailoring medicine to the needs of the individual patient, from prevention and diagnosis to treatment and follow up.

Thin Film Metal-Oxides provides a representative account of the fundamental structure-property relations in oxide thin films. Functional properties of thin film oxides are discussed in the context of applications in emerging electronics and renewable energy technologies. Readers will find a detailed description of deposition and characterization of metal oxide thin films, theoretical treatment of select properties and their functional performance in solid state devices, from leading researchers. Scientists and engineers involved with oxide semiconductors, electronic materials and alternative energy will find Thin Film Metal-Oxides a useful reference.

Transforming growth factor-beta (TGF- β) was identified about 27 years ago for its ability to induce phenotypic transformation of fibroblasts in diverse cell types. Following its cDNA cloning and the identification and characterization of various factors involved in hormonal control, tissue differentiation, and development, the existence of a large family of TGF- β -related factors in all metazoa became apparent. TGF- β is now considered as the prototype of this TGF- β family, which in humans contains at least 35 family members, including activins, inhibins, bone morphogenetic proteins, growth/differentiation factors, and Müllerian inhibiting substance. This monograph comprehensively covers all aspects of the biology of TGF- β and serves as a reference work for both specialists and researchers less familiar with the field.

Many creatures use adhesive polymers and structures to attach to inert substrates, to each other, or to other organisms. This is the first major review that brings together research on many of the well-known biological adhesives dealing with bacteria, fungi, algae, and marine and terrestrial animals. As we learn more about their molecular and mechanical properties we begin to understand why they adhere so well and with this comes broad applications in areas such as medicine, dentistry, and biotechnology.

Designed for introductory courses in aerodynamics, aeronautics and flight mechanics, this text examines the aerodynamics, propulsion, performance, stability and control of an aircraft. Major topics include lift, drag, compressible flow, design information, propellers, piston engines, turbojets, statics, dynamics, automatic stability and control. Two new chapters have been added to this edition on helicopters, V/STOL aircraft, and automatic control.

This book provides an updated and expanded overview of basic concepts of energy economics and explains how simple economic tools can be used to analyse contemporary energy issues in the light of recent developments, such as the Paris Agreement, the UN Sustainable Development Goals and new technological developments in the production and use of energy. The new edition is divided into four parts covering concepts, issues, markets, and governance. Although the content has been thoroughly revised and rationalised to reflect the current state of knowledge, it retains the main features of the first edition, namely accessibility, research-informed presentation, and extensive use of charts, tables and worked examples. This easily accessible reference book allows readers to gain the skills required to understand and analyse complex energy issues from an economic perspective. It is a valuable resource for students and researchers in the field of energy economics, as well as interested readers with an interdisciplinary background.

Cancer is one of the leading killers in the world and the incidence is increasing, but most cancer patients and cancer survivors suffer much from the disease and its conventional treatments' side effects. In the past, clinical data showed that some complementary and alternative medicine (CAM) possessed anticancer abilities, but some clinicians and scientists have queried about

the scientific validity of CAM due to the lack of scientific evidence. There is great demand in the knowledge gap to explore the scientific and evidence-based knowledge of CAM in the anticancer field. With this aim, a book series is needed to structurally deliver the knowledge to readers. Recently there have been encouraging results from both laboratory experiments and clinical trials demonstrating the anticancer effects of herbal medicine. There is considerable interest among oncologists and cancer researchers to find anticancer agents in herbal medicine. This volume is a specialised book presenting the up-to-date scientific evidence for anticancer herbal medicine. This unique book provides an overview of the anticancer herbal medicines and remedies, as well as a detailed evidence-based evaluation of 18 common anticancer herbal medicines covering their biological and pharmacological properties, efficacies, herb-drug interactions, adverse effects, pre-clinical studies, and clinical applications. Gathering international opinion leaders' views, this volume will contribute great to the cancer, academic, and clinical community by providing evidence-based information on the anticancer efficacy of herbal medicine. Readership Oncologists, cancer researchers, pharmacologists, pharmaceutical specialists, Chinese medicine practitioners, medical educators, postgraduates and advanced undergraduates in biomedical disciplines, cancer caregivers, cancer patients.

This commemorative volume of invited papers in vegetation science covers a full range of topics, objectives, methods and applications, including conservation and management tasks. These require study at different temporal and spatial scales, often simultaneously. Methodology is important in science, since it responds to particular questions and raises others. It is also closely related to the scale of investigation. Chapters in this book illustrate this interdependence, even in basic tasks such as vegetation sampling and description, measurements and mapping. Individual chapters present globally applicable systems, regional syntheses and local analyses and applications, plus conceptual methodologies, including currently debated hot topics. Vegetation types treated include tropical rainforests, temperate forests, dry steppes and scrub and local turf, sedge and moss communities. There are also chapters on re-vegetation, woodlot management, ecology of an invasive species, and trajectory planning in conservation. This book will be useful to both students and practitioners, for its reviews and examples and as a potential textbook suitable for graduate-level courses and seminars.

Vols. for 1964- have guides and journal lists.

The first of its kind, this reference gives a comprehensive but concise introduction to epigenetics before covering the many interactions between hormone regulation and epigenetics at all levels. The contents are very well structured with no overlaps between chapters, and each one features supplementary material for use in presentations. Throughout, major emphasis is placed on pathological conditions, aiming at the many physiologists and developmental biologists who are familiar with the importance and mechanisms of hormone regulation but have a limited background in epigenetics.

This book constitutes the refereed proceedings of the 40th European Conference on IR Research, ECIR 2018, held in Grenoble, France, in March 2018. The 39 full papers and 39 short papers presented together with 6 demos, 5 workshops and 3 tutorials, were carefully reviewed and selected from 303 submissions. Accepted papers cover the state of the art in information retrieval including topics such as: topic modeling, deep learning, evaluation, user behavior, document representation, recommendation systems, retrieval methods, learning and classification, and micro-blogs.

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This volume is a reference handbook focusing on diseases like Marfan syndrome, Ehlers-Danlos syndrome, Loeys-Dietz syndrome and other heritable soft connective tissue diseases. The book presents detailed information for both basic scientists and for clinicians seeing patients. It is also a stepping stone for new investigations and studies that goes beyond the facts about the composition and biochemistry of the connective tissue and extracellular matrix, as the authors connect individual components to specific aspects of various soft tissue disorders and to the actual or potential treatment of them. Progress in Heritable Soft Connective Tissue Diseases features very prominent physicians and scientists as contributors who bring their most recent discoveries to the benefit of readers. Their expertise will help clinicians with proper diagnosis of sometimes elusive and uncommon heritable diseases of soft connective tissues. This book also offers an update on the pathophysiology of these diseases, including an emphasis on unifying aspects such as connections between embryonic development of the different types of connective tissues and systems, and the role of TGF-beta in development and physiology of soft tissues. This new set of data explains, at least in part, why many of these disorders are interconnected, though the primary pathophysiological events, such as gene mutations, may be different for each disorder.

Fresh insights into the pathogenic mechanisms by which hyperglycemia induces tissue and organ injury are the basis for rapidly evolving promising therapies in diabetes. Especially promising as targets for intervention are products of oxidative stress, including kinins and growth factors. Improving results of renal replacement regimes now incorporating pancreatic islet transplants are able to delay and prevent end-organ damage in diabetic individuals. The evolving story of the taming of diabetes is of direct concern to nephrologists, endocrinologists, ophthalmologists, primary care physicians and medical students.

Thanks to their unique properties, chitosan and chitosan-based materials have numerous applications in the field of biomedicine, especially in drug delivery. This book examines biomedical applications of functional chitosan, exploring the various functions and applications in the development of chitosan-based biomaterials. It also describes the chemical structure of chitosan and discusses the relationship between their structure and functions, providing a theoretical basis for the design of biomaterials. Lastly, it reviews chemically modified and composite materials of chitin and chitosan derivatives for biomedical applications, such as tissue engineering, nanomedicine, drug delivery, and gene delivery.

Research and new tools in biomaterials development by using peptides are currently growing, as more functional and versatile building blocks are used to design a host of functional biomaterials via chemical modifications for health care applications. It is a field that is attracting researchers from across soft matter science, molecular engineering and biomaterials science. Covering the fundamental concepts of self-assembly, design and synthesis of peptides, this book will provide a solid introduction to the field for those interested in developing functional biomaterials by using peptide derivatives. The bioactive nature of the peptides and their physical properties are discussed in various applications in biomedicine. This book will help researchers and students working in biomaterials and biomedicine fields and help their understanding of modulating biological

processes for disease diagnosis and treatments.

This book presents a comprehensive review of the latest advances in developing alginate-based biomaterials and derivatives as well as their biomedical and pharmaceutical applications. It covers the physiochemical properties of alginates, production and formulation methods, derivatizations and characterization methods, the fundamental work on optimizing alginate polymers for defined biomedical purposes as well as the scope and effectiveness of their applications in medicine and therapeutic approaches. The book brings together new concepts and advances in harnessing alginate-based biomaterials in combination with applied technological advances to tailor their applications to medical needs. The contributions by leading academics, clinicians and researchers not only cover the fundamentals, but also open new avenues for meeting future challenges in research and clinical applications.

Vols. for 1970-71 includes manufacturers catalogs.

This volume provides an update on the multitude of technical and experimental approaches in understanding the development and plasticity of the mammalian sensory thalamus and neocortex. The focus is on visual and somatosensory thalamus and neocortex in rodents and carnivores, and functional imaging studies in developing and aging human neocortex. It further provides a synthetic theoretical framework for future studies.

The book is a collection of high-quality peer-reviewed research papers presented in International Conference on Soft Computing Systems (ICSCS 2015) held at Noorul Islam Centre for Higher Education, Chennai, India. These research papers provide the latest developments in the emerging areas of Soft Computing in Engineering and Technology. The book is organized in two volumes and discusses a wide variety of industrial, engineering and scientific applications of the emerging techniques. It presents invited papers from the inventors/originators of new applications and advanced technologies.

Satya P. Gupta's Hydroxamic Acids is the first book to compile invited articles written by international experts on the class of compounds hydroxamic acids. Found to possess a wide spectrum of biological activities, the hydroxamic acids are of interest to theoretical and experimental chemists who can study and make use of them in drug design and development. Chapters in this book provide a diverse and comprehensive coverage of this compound class and consequently this publication is a valuable resource for researchers in chemical, pharmaceutical and biological sciences.

ADP-ribosylating toxins have been the focus of intensive research for more than 30 years. Researchers from diverse fields of science have taken an interest in these bacterial toxins; they are studied, for example, by microbiologists, biochemists, cell biologists, and pharmacologists. There are two principal reasons for the broad and still growing interest in ADP ribosylating toxins. First, insights into the structure and functions of the toxins might be the key to prevention and treatment of diseases caused by the toxin-producing infectious micro organisms. Second, the ADP-ribosylating toxins provide potent and often unique pharmacological tools for the study of the physiological functions of their target proteins. The latter is especially the case with cholera and pertussis toxins, which both modify the IX-subunits of heterotrimeric G-proteins involved in signal transduction pathways. These toxins have proved invaluable in extending our basic understanding of the regulation of hormone-controlled signal transduction. This volume provides a review and an update of recent studies on the basic properties of bacterial ADP-ribosylating toxins and/or exoenzymes. Our current knowledge of the cellular entry mechanisms of ADP-ribosylating toxins is reviewed by MADSHUS and STENMARK. WILSON and COLLIER then deal with recent insights into the enzyme mechanism and active site structure of diphtheria toxin and Pseudomonas aeruginosa exotoxin A, which modify elongation factor 2. Toxins which ADP-ribosylate heterotrimeric G-proteins involved in trans membrane signal transduction are the subject of the next two chapters.

Not another textbook, but a valuable tool for doctors and microbiologists wanting to know how to set up a PCR diagnostic microbiology laboratory according to current regulatory standards and perform assays supplied with patient clinical diagnostic criteria and easy to follow protocols. Whether laboratories are using commercial kits or in-house methods developed in their own laboratories or adopted from published methods, all clinical microbiology laboratories need to be able to understand, critically evaluate, perform and interpret these tests according to rigorous and clinically appropriate standards and international guidelines. The cost and effort of development and evaluation of in-house tests is considerable and many laboratories do not have the resources to do so. This compendium is a vehicle to improve and maintain the clinical relevance and high quality of diagnostic PCR. It is a unique collection of; guidelines for PCR laboratory set up and quality control, test selection criteria, methods and detailed step by step protocols for a diagnostic assays in the field of molecular microbiology. The structure of the book provides the PCR fundamentals and describes the clinical aspects and diagnosis of infectious disease. This is followed by protocols divided into; bacteria, virus, fungi and parasites, and susceptibility screens. The inclusion of medical criteria and interpretation adds value to the compendium and benefits clinicians, scientists, researchers and students of clinical diagnostic microbiology

This book presents a concise synthesis of the current knowledge and recent advances in the structure, organization and functional role of the cytoskeleton in endothelial cells. Particular attention has been given to the different features of the regulation of vascular function mediated by the endothelium. Since cytoskeleton is a scaffolding element that regulates the architecture of the cell and additionally controls several fundamental aspects of intracellular signaling, this book will serve as a comprehensive resource for those interested in these fascinating biological processes associated with vascular biology. The book has been divided into two major sections: general aspects of the endothelial cytoskeleton and the role of the endothelial cytoskeleton in different functions of the vascular wall.

Approximately 60% of all hospital-associated infections, over one million cases per year, are due to biofilms that have formed on indwelling medical devices. Device-related biofilm infections increase hospital stays and add over one billion dollars/year to U.S. hospitalization costs. Since the use and the types of indwelling medical devices commonly used in modern healthcare are continuously expanding, especially with an aging population, the incidence of biofilm infections will also continue to rise. The central problem with microbial biofilm infections of foreign bodies is their propensity to resist clearance by the host immune system and all antimicrobial agents tested to date. In fact, compared to their free floating, planktonic counterparts, microbes within a biofilm are 50 – 500 times more resistant to antimicrobial agents. Therefore, achieving therapeutic and non-lethal dosing regimens within the human host is impossible. The end result is a conversion from an acute infection to one that is persistent, chronic, and recurrent, most often requiring device removal in order to eliminate the infection. This text will describe the major types of device-related infections, and will explain the host, pathogen, and the unique properties of their interactions in order to gain a better understanding of these recalcitrant infections.

Translational Regenerative Medicine is a reference book that outlines the life cycle for effective implementation of discoveries in the dynamic field of regenerative medicine. By addressing science, technology, development, regulatory, manufacturing, intellectual property, investment, financial, and clinical aspects of the field, this work takes a holistic look at the translation of science and disseminates knowledge for practical use of regenerative medicine tools, therapeutics, and diagnostics. Incorporating contributions from leaders in the fields of translational science across academia, industry, and government, this book establishes a more fluid transition for rapid translation of research to enhance human health and well-being. Provides formulaic coverage of the landscape, process development, manufacturing, challenges, evaluation, and regulatory aspects of the most promising regenerative medicine clinical applications Covers clinical aspects of regenerative medicine related to skin, cartilage, tendons, ligaments, joints, bone, fat, muscle, vascular system, hematopoietic /immune system, peripheral nerve, central nervous system, endocrine system, ophthalmic system, auditory system, oral system, respiratory system, cardiac system, renal system, hepatic system, gastrointestinal system, genitourinary system Identifies effective, proven tools and metrics to identify and pursue clinical and commercial regenerative medicine

In today's world, we are witnessing simultaneous breakthroughs in reproductive technologies, genomics, and molecular biology. Advances in molecular genetic technology and understanding of the bovine genome have led to the development of tools that can be used to enhance profitability on cow-calf enterprises. Factors Affecting Calf Crop:

Biotechnology of Reproduction provides a detailed compilation of current and forthcoming technology for managing reproduction in cattle. The book discusses topics such as: approved techniques for controlling the estrous cycle in cattle; managing follicular growth with progesterone, estrogens, and prostaglandins; freezing, thawing, and transfer of cattle embryos; application of embryo transfer to the beef cattle industry; embryo transfer in topically adapted cattle; new factors affecting bull fertility; embryo collection and utilization technology, in vitro fertilization, somatic cell cloning, and genetic technologies; uses of real-time ultrasound; and sexed semen. Over 25 leading animal scientists have combined their expertise to produce the first single-source reference that covers successful reproductive techniques that will, most likely, be the wave of the future. Expansive in scope, the book addresses current biotechnologies as they impact the production of beef cattle. Written at a level to appeal to the researcher, commercial producer, or student, Factors Affecting Calf Crop: Biotechnology of Reproduction presents you with a wealth of technologies applicable to animal agriculture.

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