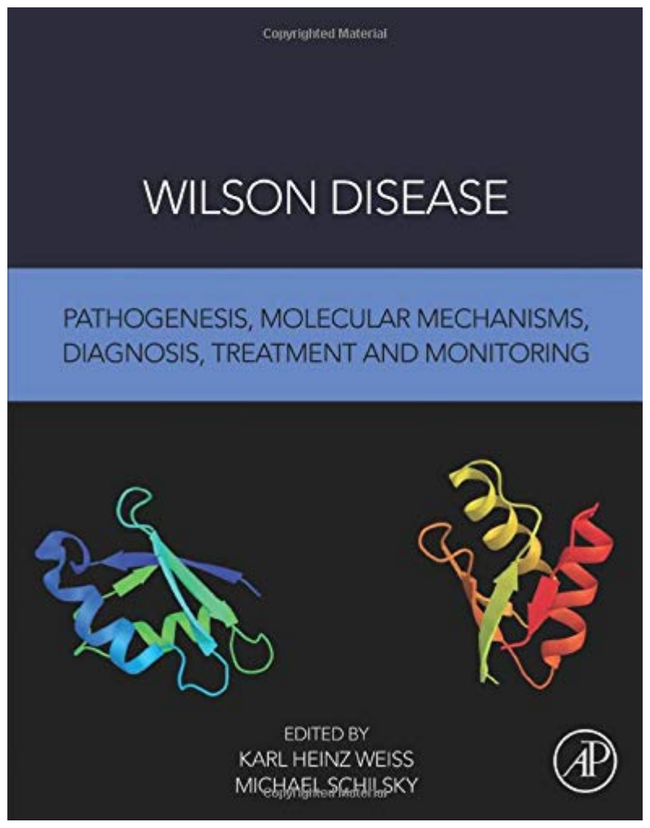

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Wilson Disease-Karl Heinz Weiss 2019-05-21 Wilson Disease: Pathogenesis, Molecular Mechanisms, Diagnosis, Treatment and Monitoring translates both clinical and experimental findings into a comprehensive approach for anyone involved in research and patient care. While the clinical variability of Wilson Disease poses a challenge from a diagnostic approach, the book uses the translational impact of new research findings to relate to new treatment concepts. Comprehensive chapters include common knowledge, guideline consensus statements, and discussions of clinical evidence. This is a must-have reference for researchers and clinicians in translational research. Delivers a substantial overview of evidence driven diagnostic pathways and treatment concepts for Wilson disease Provides an understanding of the translational impact of new research findings in Wilson Disease Reveals the current controversies in treatment decisions for Wilson disease, providing the best decisions for optimal patient care

Clinical and Translational Perspectives on WILSON DISEASE-Nanda Kerkar 2018-09-18 Clinical and Translational Perspectives on Wilson Disease brings together the genetics, cell and structural biology of Wilson Disease into one contemporary, easy to navigate handbook. Created to meet the diverse needs of the clinical and research communities surrounding Wilson Disease, this reference provides a worldwide approach that is concise and translational. Specifically, it provides a basis for clinicians to appreciate ‘basic science’ aspects of Wilson disease, presenting a guide for researchers to understand the clinical disorder on which their research is focused and fostering constructive dialogue and progress for this puzzling disorder. Delivers numerous, succinct, expert chapters with summaries designed for quick reference Includes a 'How-to appendix' for diagnosis and management tips Contains access to a companion website with a self-help teaching module, links to key resources, and an extended reference list

Wilson Disease-Anna Czlonkowska 2017-04-18 Wilson Disease provides a comprehensive guide on this inherited genetic disorder that has devastating consequences for both the liver and neurologic/psychiatric health. This disease is of increasing interest to neurologists, hepatologists, and geneticists, but when the disease is diagnosed early, it is treatable, with patients living normal lives. This volume describes the molecular pathophysiology of WD and the clinical and pathological effects of copper. Separate sections address both diagnosis and medical and surgical approaches to treatment. Both adult and pediatric perspectives on diagnosis and treatment are addressed, and a section on genetics highlights advances in molecular diagnostics. Patient support groups that can aid in coping with this disease are also discussed, as are animal models for those interested in basic research on cell biology, pathophysiology, and treatment. Addresses the molecular pathophysiology of WD and the clinical and pathological effects of copper Offers coverage of both diagnosis and medical and surgical approaches to treatment Includes perspectives on both adult and pediatric diagnosis and treatment Edited work with chapters authored by leaders in the field from around the globe—the broadest, most expert coverage available

Management of Wilson Disease-Michael L. Schilsky 2018-08-24 This pocket guide provides a concise yet comprehensive overview of the pathogenesis, treatment, and management of Wilson disease. Drawing upon expertise from the Center of Excellence at Yale University in liver disease, neurology, and psychiatry for adult and pediatric patients, as well as dieticians, clinical trial coordinators, representatives from the Wilson Disease Association and outside experts from the US and UK as well, this guide provides a balanced and easy to digest approach to understanding treatment and care for Wilson disease patients. The text reviews different treatment options and other care needed to address clinical symptoms, as well as the testing needed for monitoring efficacy and adherence. Furthermore, the volume discusses these issues in the context of a best care model, which is an integrative care model where patients and their caregivers partner with Centers of Excellence with expertise in this rare disorder, to achieve best long-term outcomes. Written by experts in the field, Management of Wilson Disease: A Pocket Guide is a valuable resource for clinicians and primary care physicians who treat patients with Wilson disease.

Mechanisms of Vascular Disease-Robert Fitridge 2011-01-01 New updated edition first published with Cambridge University Press. This new edition includes 29 chapters on topics as diverse as pathophysiology of atherosclerosis, vascular haemodynamics, haemostasis, thrombophilia and post-amputation pain syndromes.

Liver Cirrhosis and Its Development-J.L. Boyer 2001-03-31 Liver cirrhosis is a major clinical problem worldwide and is associated with significant morbidity and mortality from its complications, such as liver cell insufficiency with coagulopathy and hepatic encephalopathy, portal hypertension with ascites and gastrointestinal bleeding, hepatorenal syndrome, HCC development and others. This volume, the proceedings of Falk Symposium 115 held in Basel, Switzerland, October 22-24, 1999 (Part II of the Basel Liver Week 1999; XI International Congress of Liver Diseases) covers our present knowledge of the aetiologies and early stages of liver cirrhosis development. Based on this information, strategies are discussed that are aimed at the prevention, early diagnosis and therapy of chronic liver diseases, thus preventing their progression to cirrhosis and its complications, including HCC development. The main topics mentioned above are complemented by three state-of-the-art chapters on modern aspects of medicine in general and hepatology in particular as well as their perspectives beyond the year 2000: `Molecular Medicine', `New Hepatitis Viruses' and `Genetic Liver Diseases: Diagnosis and Therapy'. Introductory chapters focusing on the more basic aspects of the biology of live cells as well as on the mechanisms underlying fibrogenesis, cholestasis and inflammation will be followed by a detailed discussion of the clinically most important causes of liver cirrhosis worldwide: hepatitis viruses B, C and D; toxins (alcohol, drugs and others) as well as metabolic liver diseases (haemochromatosis, Wilson disease, alpha-1-antitrypsin deficiency, porphyria cutanea tarda and protoporphyria). This book, therefore, will interest clinically oriented basic scientists as well as those in clinical practice, givng an update on many aspects of modern hepatology and its perspectives in the next millennium.

Bacterial Pathogenesis-Abigail A. Salyers 1994 Bacterial Pathogenesis: A Molecular Approach is the first text designed to provide a comprehensive introduction to this dynamic field for both students and researchers. The application of molecular techniques to the study of bacterium-host interaction has made possible great progress in fundamental understanding of the molecular basis of infectious diseases. In the text the authors integrate material from pathogenic microbiology, molecular biology, immunology, and human physiology to provide a complete but accessible overview of the field.

Handbook of Copper Pharmacology and Toxicology-Edward J. Massaro 2002-07-01 Edward J. Massaro and a panel of leading biomedical researchers and clinical practitioners review, in-depth, the status of our current knowledge concerning the biochemistry of copper in general and its role in health and disease in particular. Drawing on the wealth of new information emerging from the molecular biology revolution, these experts survey the most important research areas of copper pharmacology and toxicology, including copper proteins and transport, copper toxicity and therapeutics, and copper metabolism and homeostasis. They also discuss the molecular pathogenesis of copper in a variety of metabolic diseases, Menkes and Wilson's diseases and occipital horn syndrome, as well as the role of copper in Parkinson's disease, prion disease, familial amytrophic lateral sclerosis (ALS), and Alzheimer's disease.

Bacterial Disease Mechanisms-Michael Wilson 2002-04-18 Introductory textbook describing the ways in which bacteria cause disease at the molecular and cellular level.

Molecular, Genetic, and Nutritional Aspects of Major and Trace Minerals-James F Collins 2016-09-14 Molecular, Genetic, and Nutritional Aspects of Major and Trace Minerals is a unique reference that provides a complete overview of the non-vitamin micronutrients, including calcium, copper, iodine, iron, magnesium, manganese, molybdenum, phosphorus, potassium, selenium, sodium, and zinc. In addition, the book covers the nutritional and toxicological properties of nonessential minerals chromium, fluoride and boron, and silicon and vanadium, as well as ultra-trace minerals and those with no established dietary requirement for humans. Users will find in-depth chapters on each essential mineral and mineral metabolism, along with discussions of dietary recommendations in the United States and around the world. Presents the only scientific reference to cover all of the nutritionally relevant essential major and trace minerals Provides a broad introductory chapter on each mineral to give readers valuable background and context Clarifies the cellular and molecular aspects of each mineral and its genetic and genomic aspects Includes coverage of all nutritionally relevant minerals—essential major trace minerals and ultra-trace minerals Underscores the important interactions between minerals so readers learn how metabolism of one mineral influences another

Sherlock's Diseases of the Liver and Biliary System-James S. Dooley 2018-08-06 A new, fully updated edition of the world’s most famous book on liver diseases—with updating of all areas and inclusion of new specific topics, by internationally renowned specialists This brand new edition of the classic book on hepatology provides a concise, clearly presented and well-structured review across the whole spectrum of hepatobiliary diseases by some of the world’s leading hepatologists and hepatobiliary specialists. Where many other hepatology textbooks provide detailed accounts of basic science and clinical management, Sherlock's Diseases of the Liver and Biliary System, 13th Edition takes a different approach. Concentrating on the clinical decisions to be taken and the relevant supporting data, it is written and edited to maintain Sheila Sherlock's unique approach, in particular the clarity and layout of the text, and the explanatory figures and tables. The book is thus concise, highly accessible, and generously illustrated with over 700 attractive color figures. There is a pithy approach to each disease based both on evidence and on the authors’ experience, the hallmark of this book. Based on these elements, the 12th edition was awarded first prize in the 2012 British Medical Association Book Awards in the Internal Medicine category. Sherlock's Diseases of the Liver and Biliary System begins by introducing the anatomy and function of the liver to readers, continuing then with in-depth coverage of liver biopsy techniques and interpretation, and fibrogenesis and its assessment. There are then chapters on all aspects of liver and biliary disease including acute liver failure, cirrhosis, portal hypertension, hepatic encephalopathy, ascites, hepatitis B and C, alcohol and the liver, non-alcoholic fatty liver disease, drug related liver reactions, cholestatic, autoimmune and genetic liver diseases, benign and malignant tumours and not least liver transplantation. There are also chapters on the liver in pregnancy, in the neonate, infancy and childhood, in systemic diseases and in infections. This new edition also features four new individual chapters focusing on coagulation, non-invasive assessment of fibrosis and cirrhosis; vascular diseases of the liver and portal vein thrombosis, and nutrition in liver disease. Digital downloads of the figures from this edition are offered on a companion website. Internationally recognized and loved, world-renowned hepatology book, first published in 1955 Takes a one-of-a-kind, clinical approach maintaining Sheila Sherlock’s clarity and legacy of presentation Full colour throughout with 700 illustrative figures Wide faculty of international contributors Sherlock's Diseases of the Liver and Biliary System, 13th Edition is an ideal primer in hepatology for students and trainees in hepatology and gastroenterology, and a valuable resource for all specialist gastroenterologists and hepatologists, paediatricians, pathologists, radiologists, general physicians and specialist nurses.

Encyclopedia of Molecular Mechanisms of Disease-Florian Lang 2009-03-19 This comprehensive encyclopedia supplies the reader with concise information on the molecular pathophysiology of disease. Entries include defined diseases (such as Parkinson's disease) as well as pathophysiological entities (such as tremor). The 1,200 essays are brilliantly structured to allow rapid retrieval of the desired information. For more detailed reading, each entry is followed by up to five references. Individual entries are written by leading experts in the respective area of research to ensure state-of-the-art descriptions of the mechanisms involved. It is an invaluable companion for clinicians and scientists in all medical disciplines.

Fetal Therapy-Mark D. Kilby 2013 Covers the latest insights any fetal specialist needs and provides essential knowledge for professionals caring for women with high-risk pregnancies.

The LEC Rat-Michio Mori 2012-12-06 The LEC strain of rats, which spontaneously develop acute hepatitis as sociated with jaundice, chronic hepatitis, and ultimately hepatocellular carcinomas, was established by scientists in Sapporo, Japan. Careful ob servation and breeding led to the initial discovery of this characteristic, inherited liver disease in rats. Subsequent collaboration between scientists in Sapporo and other centers has revealed an autosomal recessive nature of inheritance, along with a variety of histopathological and biochemical findings. The causative mechanism(s) underlying this abnormality remained a mystery for some time, providing a challenge for many scientists who were attracted to the quest for clues to this enigma. In particular, the mech anism of spontaneous development of hepatocellular carcinomas in rats overcoming the acute phase of hepatitis and surviving with chronic hepatitis proved extremely interesting, because the involvement of a causative virus had been excluded in the early stages of investigation. Professor Michio Mori of Sapporo Medical College played a key role in the study of LEC rats, especially in the elucidation of the pathogenesis of hepatitis and hepatocellular carcinoma. He is one of the editors of this monograph which is composed of original contributions by the many scientists who have carried out their own studies on LEC rats. Of the various histopathological and biochemical alterations which have been reported, some are clearly secondary or tertiary events sequential to the primary change caused by gene mutation.

Neuroacanthocytosis Syndromes-Adrian Danek 2006-07-09 Neuroacanthocytosis Syndromes is the first comprehensive review of a field that has not yet received the attention it deserves. Affecting the brain as well as the circulating red cells, these multi-system disorders in the past had often been mistaken for Huntington's disease. Recent breakthroughs have now identified the molecular basis of several of these. This volume grew out of the first international scientific meeting ever devoted to neuroacanthocytosis and provides in-depth information about the state of the art. Its thirty chapters were written by the leading authorities in the field to cover the clinical as well as the basic science perspective, including not only molecular genetics but also experimental pharmacology and cell membrane biology, among others. The book vehemently poses the question of how the membrane deformation of circulating red blood cells relates to degeneration of nerve cells in the brain, the basal ganglia, in particular. It provides a wealth of data that will help to solve an intriguing puzzle and ease the suffering of those affected by one of the neuroacanthocytosis syndromes.

Alzheimer's Disease-Inga Zerr 2015-07-01 There is a wide scope of clinical phenomenology in Alzheimers disease, regarding the age of onset, presenting features, rate of progression and appearance of other clinical manifestation. Although clinical appearance and neuropathological hallmarks have been defining AD since its first description, major factors which trigger pathology are still unknown. The role of comorbidity is discussed controversially. Important environmental risk factors in AD development are continuous stress, low education and cardiovascular risk factors such as alcohol intake, smoking, hypertension. The role of lipids and cholesterol has been recognized, but the relevant pathogenetic steps are still to be identified. There is an urgent need to understand molecular disease pathogenesis in order to develop early therapeutic targets for the disease.

The Parathyroids-John P. Bilezikian, MD 2001-06-27 Written by world experts, this books follows upon the monumental success of the first edition of The Parathyroids, which was universally acclaimed as the best text on the subject. An authoritative reference that spans the basic science of parathyroid hormone treatment to major clinical disorders in a superb, single compendium, The Parathyroids offers an objective and authoritative view on controversial clinical issues in this rapidly changing field. Every medical school library and virtually every major hospital library will need this book as a reference for students and clinicians. Key Features * Offers objective and authoritative reviews on controversial clinical issues * Written by world experts on parathyroid hormone and its disorders * Superb, state-of-the-art compendium in one convenient volume * Bridges basic science of parathyroid hormone to major clinical disorders * Practical information on clinical management of parathyroid hormone disorders

Translational Research in Traumatic Brain Injury-Daniel Laskowitz 2015-12-01 Traumatic brain injury (TBI) remains a significant source of death and permanent disability, contributing to nearly one-third of all injury related deaths in the United States and exacting a profound personal and economic toll. Despite the increased resources that have recently been brought to bear to improve our understanding of TBI, the development of new diagnostic and therapeutic approaches has been disappointingly slow. Translational Research in Traumatic Brain Injury attempts to integrate expertise from across specialties to address knowledge gaps in the field of TBI. Its chapters cover a wide scope of TBI research in five broad areas: Epidemiology Pathophysiology Diagnosis Current treatment strategies and sequelae Future therapies Specific topics discussed include the societal impact of TBI in both the civilian and military populations, neurobiology and molecular mechanisms of axonal and neuronal injury, biomarkers of traumatic brain injury and their relationship to pathology, neuroplasticity after TBI, neuroprotective and neurorestorative therapy, advanced neuroimaging of mild TBI, neurocognitive and psychiatric symptoms following mild TBI, sports-related TBI, epilepsy and PTSD following TBI, and more. The book integrates the perspectives of experts across disciplines to assist in the translation of new ideas to clinical practice and ultimately to improve the care of the brain injured patient.

Virulence Mechanisms of Bacterial Pathogens-Indira T. Kudva 2020-07-10 Ground-breaking overview of an enduring topic Despite the use of antibiotics, bacterial diseases continue to be a critical issue in public health, and bacterial pathogenesis remains a tantalizing problem for research microbiologists. This new edition of Virulence Mechanisms of Bacterial Pathogens broadly covers the knowledge base surrounding this topic and presents recently unraveled bacterial virulence strategies and cutting-edge therapies. A team of editors, led by USDA scientist Indira Kudva, compiled perspectives from experts to explain the wide variety of mechanisms through which bacterial pathogens cause disease: the host interface, host cell enslavement, and bacterial communication, secretion, defenses, and persistence. A collection of reviews on targeted therapies rounds out the seven sections of this unique book. The new edition provides insights into some of the most recent advances in the area of bacterial pathogenesis, including how metabolism shapes the host-pathogen interface interactions across species and genera mechanisms of the secretion systems evasion, survival, and persistence mechanisms new therapies targeting various adaptive and virulence mechanisms of bacterial pathogens Written to promote discussion, extrapolation, exploration, and multidimensional thinking, Virulence Mechanisms of Bacterial Pathogens serves as a textbook for graduate courses on bacterial pathogenesis and a resource for specialists in bacterial pathogenicity, such as molecular biologists, physician scientists, infectious disease clinicians, dental scientists, veterinarians, molecular biologists, industry researchers, and technicians.

Congestive Heart Failure and Cardiac Transplantation-Daniel J. Garry 2017-06-01 This book is a comprehensive overview of heart failure and cardiac transplantation and integrates scientific and clinical information about the physiology, pathophysiology, diagnosis, and treatment of this disorder. Organized into five parts, it reviews the history and basic mechanisms of heart failure; etiology of heart failure; heart failure disease progression; advanced therapies for heart failure; and cardiac transplantation. The book presents basic concepts in the physiology, molecular biology, pathology, and epidemiology of the normal and failing heart; known causes of heart failure, such as right heart failure, valvular cardiomyopathy, molecular mechanisms of sarcomeric cardiomyopathies, and neuromuscular cardiomyopathy; cardiorenal syndrome; neurohormonal activation; cardiac resynchronization, ventricular assist devices; regenerative mechanisms; orthotopic heart transplantation; early and late management of the post-transplant patient; heart transplantation and antibody-mediated rejections; heart-lung transplantation; and cardiac xenotransplantation. Featuring contributions from leaders in the fields of heart failure, cardiac transplantation, cardiac pathology, and cardiovascular molecular research, Congestive Heart Failure and Cardiac Transplantation is a valuable compendium for cardiologists, cardiothoracic surgeons, researchers, trainees, and students.

Nutrition and Liver Disease-Pietro Vajro 2018-06-22 This book is a printed edition of the Special Issue "Nutrition and Liver Disease" that was published in Nutrients

Scientific Engineering of Distributed Java Applications.-Nicoals Guelfi 2004-02-18 This book constitutes the thoroughly refereed post-proceedings of the Third International Workshop on Scientific Engineering of Distributed Java Applications, FIDJI 2003, held in Luxembourg-Kirchberg, Luxembourg in November 2003. The 213 revised full papers presented together with abstracts of two invited contributions were carefully selected during two round of reviewing and revision from 29 submissions. Among the topics addressed are Java-enabled service gateways, mobility in distributed settings, XML, embedded Java software, interception services, mobile agents, error management, software model engineering, distributed composite objects, cooperative applications, distributed mobile applications, service-based software architectures, and distributed Java programs.

Molecular Mechanisms of Notch Signaling-Tilman Borggrefe 2018-07-20 This book describes the Notch signaling pathway with a focus on molecular mechanisms. The Notch signaling pathway is a seemingly simple pathway that does not involve any second messenger. Upon ligand binding two consecutive proteolytic cleavages of the NOTCH receptor release the Notch intracellular domain from the membrane. The Notch intracellular domain migrates into the nucleus and activates gene expression. Recently, new technologies allowed us to better understand this pivotal signaling cascade and revealed new regulatory mechanisms. The different chapters cover many aspects of the Notch signaling focusing on the mechanisms governing the receptor/ligand interaction as well as on the downstream intracellular signaling events. Aspects of both canonical and non-canonical signaling are discussed and the function of Notch signaling in physiological and pathological contexts are elucidated. This book is not only intended for experts but it should also be a useful resource for young, sprouting scientists or interested scientists from other research areas, who may use this book as a stimulating starting point for further discoveries and developments.

Copper in Drinking Water-National Research Council 2000-04-12 The safety of the nation's drinking water must be maintained to ensure the health of the public. The U.S. Environmental Protection Agency (EPA) is responsible for regulating the levels of substances in the drinking water supply. Copper can leach into drinking water from the pipes in the distribution system, and the allowable levels are regulated by the EPA. The regulation of copper, however, is complicated by the fact that it is both necessary to the normal functioning of the body and toxic to the body at too high a level. The National Research Council was requested to form a committee to review the scientific validity of the EPA's maximum contaminant level goal for copper in drinking water. Copper in Drinking Water outlines the findings of the committee's review. The book provides a review of the toxicity of copper as well as a discussion of the essential nature of this metal. The risks posed by both short-term and long-term exposure to copper are characterized, and the implications for public health are discussed. This book is a valuable reference for individuals involved in the regulation of water supplies and individuals interested in issues surrounding this metal.

Molecular Mechanisms in Legionella Pathogenesis-Hubert Hilbi 2014-07-08 Legionnaires' disease, a potentially fatal type of pneumonia primarily affecting elderly and immuno-compromised persons, is caused by the ubiquitous environmental bacterium Legionella pneumophila. This book offers authoritative reviews of different facets of its virulence, focusing on comparative phagocyte infection, virulence gene regulation, biochemical functions of effector proteins and cellular pathogen-host interactions, as well as host responses and immunity to L. pneumophila. Taken together, the contributions in this compilation provide a state-of-the-art overview of current insights into the molecular pathogenesis of the opportunistic and potentially fatal pathogen L. pneumophila.

Prion-Yusuf Tutar 2017-03-08 Protein aggregation causes malfunction in several biochemical processes. Genetic and spontaneous formations of these transmissible spongiform encephalopathies are fatal to humans and animals. Conformational change of normal form of the protein to misfolded form causes its accumulation. The misfolded infectious protein agent forms the pathogenesis of the disease. This book presents pathology of the disease along with current knowledge of the structure-activity mechanism in the first two sections. Dyshomeostasis of metals is implicated in the pathogenesis of prions, and this influence is discussed further to understand the prion mechanism. Genetic resistance and immunobiology of the disease are elaborated in the following section. Finally, a computational study on the dynamics of the prion propagation provides a structural basis of the mechanism.

Copper Transport and Its Disorders-Arturo Leone 2012-12-06 This book is a compilation of presentations at the first meeting devoted to the mo lecular and cellular biology of copper transport. When we first considered the possible program for the meeting, we felt that a forum to integrate the recent advances in molecular understanding of copper transport with the older knowledge of copper metabolism was needed. In addition we wished to have a strong emphasis on the diseases of copper includ ing the genetic diseases, Menkes and Wilson, and other possible health aspects of this met al seen from a molecular perspective. Overall we were very happy with the success of the meeting, and most participants were very enthusiastic. Unfortunately we were not able to obtain manuscripts from every contributor, but the selection in this book covers most of the topics discussed. The history of biological research into copper dates from the latter half of the last century when the presence of copper as a component of living systems was first noted, but it was not until the 1920s that the essential role of copper was first recognized. l. S. McHargue found that plants and animals needed copper for optimal growth and health and proposed that copper was needed for life (McHargue, 1925). Other groups soon confirmed these observations in plants. In animals the requirement of copper for hematopoiesis was discovered in 1928 (Hart et aI.

Rosenberg's Molecular and Genetic Basis of Neurological and Psychiatric Disease-Roger N. Rosenberg 2014-10-28 Rosenberg's Molecular and Genetic Basis of Neurologic and Psychiatric Disease, Fifth Edition provides a comprehensive introduction and reference to the foundations and key practical aspects relevant to the majority of neurologic and psychiatric disease. A favorite of over three generations of students, clinicians and scholars, this new edition retains and expands the informative, concise and critical tone of the first edition. This is an essential reference for general medical practitioners, neurologists, psychiatrists, geneticists, and related professionals, and for the neuroscience and neurology research community. The content covers all aspects essential to the practice of neurogenetics to inform clinical diagnosis, treatment and genetic counseling. Every chapter has been thoroughly revised or newly commissioned to reflect the latest scientific and medical advances by an international team of leading scientists and clinicians. The contents have been expanded to include disorders for which a genetic basis has been recently identified, together with abundant original illustrations that convey and clarify the key points of the text in an attractive, didactic format. Previous editions have established this book as the leading tutorial reference on neurogenetics. Researchers will find great value in the coverage of genomics, animal models and diagnostic methods along with a better understanding of the clinical implications. Clinicians will rely on the coverage of the basic science of neurogenetics and the methods for evaluating patients with biochemical abnormalities or gene mutations, including links to genetic testing for specific diseases. Comprehensive coverage of the neurogenetic foundation of neurological and psychiatric disease Detailed introduction to both clinical and basic research implications of molecular and genetic understanding of the brain Detailed coverage of genomics, animal models and diagnostic methods with new coverage of evaluating patients with biochemical abnormalities or gene mutations

Biology of Disease-Nessar Ahmed 2007-01-24 Biology of Disease describes the biology of many of the human disorders and disease that are encountered in a clinical setting. It is designed for first and second year students in biomedical science programs and will also be a highly effective reference for health science professionals as well as being valuable to students beginning medical school. Real cases are used to illustrate the importance of biology in understanding the causes of diseases, as well as in diagnosis and therapy.

Molecular Mechanisms of Neurodegenerative Diseases-Marie-Francoise Chesselet 2000-10-19 With the unprecedented identification of new mutation mechanisms in neurodegenerative diseases and the emergence of common mechanisms among diseases that were once considered unrelated, neurobiologists are poised for the development of new therapies based on high throughput screenings and a better understanding of the molecular and cellular mechanisms leading to neurodegeneration. In Molecular Mechanisms of Neurodegenerative Diseases, Marie-Francoise Chesselet, MD, PhD, and a panel of leading researchers and neurologists from industry and academia critically review the most recent advances from different yet complementary points of view. Focusing on Alzheimer's, Parkinson's, and CAG triplet repeat diseases, the authors show how studies of cellular and genetically engineered animal models have enhanced our understanding of the molecular mechanisms of neurodegenerative diseases and may lead to the development of new therapeutics. Topics include the role of Ab toxicity, glial cells, and inflammation in Alzheimer's disease; the formation of abnormal protein fragments across several diseases, the impact of dopamine and mitochondrial dysfunction on neurodegeneration; and the potential of genetics to identify the molecular mechanisms of neurodegenerative diseases. Authoritative and insightful, Molecular Mechanisms of Neurodegenerative Diseases synthesizes the novel ideas and concepts now emerging to create a fresh understanding of neurodegenerative disorders, one that promises to lead to powerful new therapies that prevent, delay the onset, slow the progression, or even cure these cruel diseases.

Melatonin-Cristina Manuela Drăgoi 2018-11-21 Melatonin, the pineal neurohormone, is a pleiotropic molecule acting in the center of the integrative molecular mechanisms of the organism, based on interconnections of the regulatory systems: neural, endocrine, immune, and genetic, conveying into the uniqueness of human architecture. This book provides a systematic and updated overview of melatonin biochemical mechanisms of action, pharmacological features, and clinical uses, clutching the subject with complete details of pharmaceutical formulations designed for different routes of administration and different health issues, aiming at optimal melatonin bioavailability when therapeutically delivered. The book addresses a broad range of audiences, from healthcare professionals, medically and pharmaceutically based, to highly profiled medical specialists and biomedical researchers, helping them to expand their knowledge of the physiological and pathological implications of melatonin and its metabolites.

Transition Metal Toxicity-G. W. Richter 2013-10-22 International Review of Experimental Pathology, Volume 31: Transition Metal Toxicity merges discussions of normal and deranged metabolism of transition metals; redox cycling of metal ions in biological systems; oxidative stress during the metabolic interactions of metal ions; and the actions of oxygen-derived free radicals in the pathogenesis of metal ion toxicity. The book also describes the roles played by chromium and other metals in carcinogenesis; the morphologic pathology of metal toxicosis; and metal ion overload due to inborn metabolic defects, as well as to excessive environmental exposure. Research findings at the molecular, cellular, and organ levels are reviewed. Physiologists, biochemists, pathologists, and biophysicists will find the book invaluable.

Updates and Advances in Nephrolithiasis-Layron Long 2017-08-23 In recent decades, we have enhanced our understanding of the pathophysiology and genetics of rare and common causes of kidney stones. With our evolving understanding of the epidemiology, biology, and genetics of nephrolithiasis and the advances in therapeutic technologies, we have made significant progress in patient care. Furthermore, advances in the medical management and surgical technologies have allowed us to embellish the optimal outcomes in the management of complex kidney stone disease.

Mechanisms of Insulin Action-Alan R. Saltiel 2007-10-05 More than 18 million people in the United States have diabetes mellitus, and about 90% of these have the type 2 form of the disease. This book attempts to dissect the complexity of the molecular mechanisms of insulin action with a special emphasis on those features of the system that are subject to alteration in type 2 diabetes and other insulin resistant states. It explores insulin action at the most basic levels, through complex systems.

Oxidative Stress and Redox Signalling in Parkinson's Disease-Rodrigo Franco 2017-07-25 Parkinson's Disease is the second most common neurodegenerative disorder affecting millions of people worldwide. In order to find neuroprotective strategies, a clear understanding of the mechanisms involved in the dopaminergic death of cells that progresses the disease is needed. Oxidative stress can be defined as an imbalance between the production of reactive species and the ability to detoxify them and their intermediates or by-products. Oxidative damage to lipids, proteins, and DNA has been detected in autopsies from individuals with Parkinson's Disease and so links can be made between oxidative stress and Parkinson's Disease pathogenesis. This book provides a thorough review of the mechanisms by which oxidative stress and redox signalling mediate Parkinson's Disease. Opening chapters bring readers up to speed on basic knowledge regarding oxidative stress and redox signalling, Parkinson's Disease, and neurodegeneration before the latest advances in this field are explored in detail. Topics covered in the following chapters include the role of mitochondria, dopamine metabolism, metal homeostasis, inflammation, DNA-damage and thiol-signalling. The role of genetics and gene-environment interactions are also explored before final chapters discuss the identification of potential biomarkers for diagnosis and disease progression and the future of redox/antioxidant based therapeutics. Written by recognized experts in the field, this book will be a valuable source of information for postgraduate students and academics, clinicians, toxicologists and risk assessment groups. Importantly, it presents the current research that might later lead to redox or antioxidant – based therapeutics for Parkinson's disease.

Movement Disorders-Mark S. LeDoux 2014-10-24 The use of animal models is a key aspect of scientific research in numerous fields of medicine. Movement Disorders, Second Edition vigorously examines the important contributions and application of animal models to the understanding of human movement disorders, and serves as an essential resource for basic neuroscientists engaged in movement disorders research. Academic clinicians, translational researchers and basic scientists are brought together to connect experimental findings made in different animal models to the clinical features, pathophysiology and treatment of human movement disorders.

The book is divided into sections on Parkinson's disease, Huntington's disease, dystonia, tremor, paroxysmal movement disorders, ataxia, myoclonus, restless legs syndrome, drug-induced movement disorders, multiple system atrophy, progressive supranuclear palsy/corticobasal degeneration, and spasticity. This book serves as an essential resource for both clinicians interested in the science being generated with animal models and basic scientists studying the pathogenesis of particular movement disorders. Introduces the scientific foundations for modern movement disorders research Contributing authors are internationally known experts Completely revised with 20% new material Provides a comprehensive discussion of genetics for each type of movement disorder Covers Parkinson's disease, Huntington's disease, dystonia, tremors, and tics

Updates in Gallbladder Diseases-Hesham Abdeldayem 2017-04-26 The basic researches and clinical studies on gallbladder diseases continue to advance at a rapid pace. The chapters in this book were written by recognized medical experts and researchers from North America, Europe, Asia, and Africa and aim to provide the state-of-the-art reviews on the current knowledge and advances in research and management of gallbladder diseases. This book includes the most recent advances in that field, particularly, the immunogenetic basis of cholecystitis, noncoding RNAs in gallbladder cancer, the diagnostic pitfalls and timing of management of acute cholecystitis, the incidental gallbladder cancer, the surgical management of gallbladder cancer, laparoscopic cholecystectomy in special conditions, and robot-assisted cholecystectomy.

Fundamentals of Molecular Virology, 2nd Edition-Nicholas H. Acheson 2011-08-01 Designed for students learning about viruses for the first time at the undergraduate or graduate level, Fundamentals of Molecular Virology is presented in a style which relates to today's students and professors. This book is also a valuable, up-to-date source of information for graduate students, postdoctoral fellows and research scientists working with viruses. Chapters contributed by prominent virologists were edited to conform to a clear and accessible style. The text provides a thorough presentation of basic and contemporary concepts in virology for a student's first exposure to the field.

Brain Disorders in Critical Illness-Robert D. Stevens 2013-09-19 Brain dysfunction is a major clinical problem in intensive care, with potentially debilitating long-term consequences for post-ICU patients of any age. The resulting extended length of stay in the ICU and post-discharge cognitive dysfunction are now recognized as major healthcare burdens. This comprehensive clinical text provides intensivists and neurologists with a practical review of the pathophysiology of brain dysfunction and a thorough account of the diagnostic and therapeutic options available. Initial sections review the epidemiology, outcomes, relevant behavioral neurology and biological mechanisms of brain dysfunction. Subsequent sections evaluate the available diagnostic options and preventative and therapeutic interventions, with a final section on clinical encephalopathy syndromes encountered in the ICU. Each chapter is rich in illustrations, with an executive summary and a helpful glossary of terms. Brain Disorders in Critical Illness is a seminal reference for all physicians and neuroscientists interested in the care and outcome of severely ill patients.

The Comprehensive Sourcebook of Bacterial Protein Toxins-Joseph E. Alouf 2005-12-20 This book describes the major achievements and discoveries relevant to bacterial protein toxins since the turn of the new century illustrated by the discovery of more than fifty novel toxins (many of them identified through genome screening). The establishment of the three-dimensional crystal structure of more than 20 toxins during the same period offers deeper knowledge of structure-activity relationships and provides a framework to understand how toxins recognize receptors, penetrate membranes and interact with and modify intracellular substrates. Edited by two of the most highly regarded experts in the field from the Institut Pasteur, France 14 brand new chapters dedicated to coverage of historical and general aspects of toxinology Includes the major toxins of both basic and clinical interest are described in depth Details applied aspects of toxins such as therapy, vaccinology, and toolkits in cell biology Evolutionary and functional aspects of bacterial toxins evaluated and summarized Toxin applications in cell biology presented Therapy (cancer therapy, dystonias) discussed Vaccines (native and genetically engineered vaccines) featured Toxins discussed as biological weapons, comprising chapters on anthrax, diphtheria, ricin etc.