

Experimental Microbiology By Rakesh Patel

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An Integrated Textbook of Basic Science, Medicine, and Surgery Springer Nature

This book addresses basic and applied aspects of two nexus points of microorganisms in agro-ecosystems, namely their functional role as bio-fertilizers and bio-pesticides. Readers will find detailed information on all of the aspects that are required to make a microbe "agriculturally beneficial." A healthy, balanced soil ecosystem provides a habitat for crops to grow without the need for interventions such as agro-chemicals. No organism in an agro-ecosystem can flourish individually, which is why research on the interaction of microorganisms with higher forms of life has increasingly gained momentum in the last 10-15 years. In fact, most of plants' life processes only become possible through interactions with microorganisms. Using these "little helpers" as a biological alternative to agro-chemicals is a highly contemporary field of research. The information presented here is based on the authors' extensive experience in the subject area, gathered in the course of their careers in the field of agricultural microbiology. The book offers a valuable resource for all readers who are actively involved in research on agriculturally beneficial microorganisms. In addition, it will help prepare readers for the future challenges that climate change will pose for agriculture and will help to bridge the current gaps between different scientific communities.

Pathogenicity and Drug Resistance of Human Pathogens S. Chand Publishing

FOR LABORATORY STUDENTS OF ALL INDIAN UNIVERSITIES

Science of Ashwagandha: Preventive and Therapeutic Potentials Royal Society of Chemistry

Safe and effective management is a top priority for every physical therapy student or clinician involved with patients in the acute care setting. *Physical Therapy in Acute Care: A Clinician's Guide* is a user-friendly, pocket-sized, evidence-based text that guides and reinforces successful acute care patient management. *Physical Therapy in Acute Care* provides clinicians with an understanding of the basic physiological mechanisms underlying normal function of all major organ systems, contrasted with the pathophysiology of the disease and disorders that physical therapists will most often encounter in an acute care environment. Inside the pages of *Physical Therapy in Acute Care*, Daniel Malone and Kathy Lee Bishop-Lindsay provide a comprehensive review of acute physical therapy best practice. This text builds upon fundamental knowledge by addressing important components of patient examination, discussing relevant medical tests, and listing diseases and diagnoses alphabetically with brief medical management. Some Chapter Topics Include: ?

Cardiovascular, pulmonary, musculoskeletal, gastrointestinal, genitourinary, and neurological diseases and disorders ? The immune system and infectious disease ? Oncology rehabilitation ? Wound care ? Transplantation Each chapter highlights important physical therapy concerns, examination findings, and rehabilitation interventions. In addition, *Physical Therapy in Acute Care* includes numerous tables, figures, review questions, and case studies that highlight the physical therapy patient care model as outlined in the *Guide to Physical Therapist Practice*. Exciting Features: ? An in-depth description of laboratory tests and procedures incorporating the physiologic significance of abnormal findings ? Pharmacologic information for each organ system chapter including side effects of common medical interventions ? A chapter on deconditioning and bed rest effects in the acute care environment ? A discharge recommendation decision tree Whether you are a student of physical therapy, a physical therapist entering the acute care environment, or an experienced acute care physical therapist, *Physical Therapy in Acute Care* is the only resource for successful patient management you will need by your side.

Microbiological Activity for Soil and Plant Health Management Springer Nature

Incorporates the Experiences of World-Class Researchers *Microbial Biotechnology: Progress and Trends* offers a theoretical take on topics that relate to microbial biotechnology. The text uses the "novel experimental experiences" of various contributors from around the world—designed as case studies—to highlight relevant topics, issues, and recent developments surrounding this highly interdisciplinary field. It factors in metagenomics and microbial biofuels production, and incorporates major contributions from a wide range of disciplines that include microbiology, biochemistry, genetics, molecular biology, chemistry, biochemical engineering, and bioprocess engineering. In addition, it also provides a variety of photos, diagrams, and tables to help illustrate the material. The book consists of 15 chapters and contains subject matter that addresses: Microbial biotechnology from its historical roots to its different processes Some of the new developments in upstream processes Solid-state fermentation as an interesting field in modern fermentation processes Recent developments in the production of valuable microbial products such as biofuels, organic acids, amino acids, probiotics, healthcare products, and edible biomass Important microbial activities such as biofertilizer, biocontrol, biodegradation, and bioremediation Students, scientists, and researchers can benefit from *Microbial Biotechnology: Progress and Trends*, a resource that addresses biotechnology, applied microbiology, bioprocess/fermentation technology, healthcare/pharmaceutical products, food innovations/food processing, plant agriculture/crop improvement, energy and environment management, and all disciplines related to microbial

biotechnology.

Biomedical and Food Applications Springer Nature

Intelligent Information Processing supports the most advanced productive tools that are said to be able to change human life and the world itself. This book presents the proceedings of the 4th IFIP International Conference on Intelligent Information Processing. This conference provides a forum for engineers and scientists in academia, university and industry to present their latest research findings in all aspects of Intelligent Information Processing.

Sepsis Management in Resource-limited Settings Elsevier

Endurance: A Droll Saga Originally Published In Gujarati In 1947 As Manavini Bhavai Is A Modern Classic. Set Against The Rural Backdrop Of Gujarat, It's A Fictionalized Account Of The Great Famine Of 1990, Which Had Ravaged This Part Of The World. Written In A Simple, Direct Style, Free Of Conventional Artifice And Sophistication It Is Not Crude Or Raw. It Is The Story Of Love Between Kalu And Raju As Well As The Story Of Hard And Tragic Life Of The Farmers In Indian Villages. The Translation Seeks To Retain The Essential Simplicity, The Rustic Flavour And Spirit Of The Original As Closely As Possible.

A Biography of Cancer John Wiley & Sons

The new edition of this comprehensive guide provides students with the latest information and advances in medical microbiology. Divided into seven sections, the book begins with discussion on general microbiology, followed by immunology, systematic bacteriology, virology and mycology. The second edition has been fully revised and features two new sections covering hospital acquired infections and clinical microbiology. The extensive text is further enhanced by more than 600 clinical photographs, diagrams and tables. The book concludes with annexures on emerging and re-emerging infections, bioterrorism, laboratory acquired infections, and zoonosis (the transmission of disease between humans and animals). Key points Comprehensive guide to medical microbiology for students Fully revised, second edition featuring many new topics Highly illustrated with clinical photographs, diagrams and tables Previous edition (9789351529873) published in 2015

Essential Guide to Acute Care Academic Press

Ginger is well known as a spice and flavor. It has been a traditional medical plant in many cultures for thousands of years. To uncover the miraculous plant, this book not only gives you the plant's origins, where the plant is grown now, but also provides current studies on its utilization, cultivation, breeding, and therapeutic benefits.

Radicals for Life Springer Nature

Removal of Toxic Pollutants through Microbiological and Tertiary Treatment: New Perspectives offers a current account of existing advanced oxidation strategies - including their limitations, challenges, and potential applications - in removing environmental pollutants through microbiological and tertiary treatment methods. The book introduces new trends and advances in environmental bioremediation technology, with thorough discussion of recent developments in the field. Updated information as well as future research directions in the field of bioremediation of industrial wastes is included. This book is an indispensable guide to students, researchers, scientists, and professionals working in fields such as microbiology, biotechnology, environmental sciences, eco-toxicology, and environmental remediation. The book also serves as a helpful guide for waste management

professionals and those working on the biodegradation and bioremediation of industrial wastes and environmental pollutants for environmental sustainability. Introduces various treatment schemes, including microbiological and tertiary technologies for bioremediation of environmental pollutants and industrial wastes Includes pharmaceutical wastewater, oil refinery wastewater, distillery wastewater, tannery wastewater, textile wastewater, mine tailing wastes, plastic wastes, and more Describes the role of relatively new treatment technologies and their approaches in bioremediation, including molecular and protein engineering technologies, microbial enzymes, bio surfactants, plant-microbe interactions, and genetically engineered organisms Provides many advanced technologies in the field of bioremediation and phytoremediation, including electro-bioremediation technology, microbial fuel cell technology, nano-bioremediation technology, and phytotechnologies

Science and Technology of Fruit Wine Production WCB/McGraw-Hill

The book comprehensively discusses the mechanisms of pathogenesis and drug resistance; current diagnostics landscape of four key human pathogens; bacterial, fungal, protozoans and viral which are the causes of major infectious diseases. It also assesses the emerging technologies for the detection and quantification of these pathogens. Further, it discusses the novel opportunities to fight against these infectious diseases and to identify pertinent drug targets with novel methodologies. It also reviews the current and future insights into the control, elimination, and eradication of these infectious diseases. Importantly, the book discusses the epidemiological characteristics and various challenges in combating Ebola and Influenza diseases. Finally, the book highlights the growing role of nanotechnology and bioinformatics resources for combating the infectious diseases. In summary, the book provides the mechanistic insight of the pathogenicity, drug-resistance, therapeutic strategies and identification of the novel drug targets of Mycobacterium tuberculosis, Plasmodium, Candida, Hepatitis C and emerging viral infections.

A Clinician's Guide John Wiley & Sons

The book is a compilation of research work carried out on plant viruses during past 100 years in India. Plant viruses are important constraints in Indian agriculture. Tropical and sub-tropical environments and intensive crop cultivation practices ideally favours perpetuation of numerous plant viruses and their vectors in India, which often cause wide spread crop losses. Of all the plant pathogens, studies of plant viruses have received a special attention as they are difficult to manage. A large body of literature has been published on the plant virus research from India during past 100 years; however the information is so far not available in one place. This book provides comprehensive information on the biology, molecular biology, epidemics, crop losses, diagnosis and management of viruses and viroids occurring in India. Description of properties of the viruses are provided in the chapters comprising of different genera such as Allexivirus, Begomovirus, Babuvirus, Badnavirus, Carlavirus, Carmovirus, Cucumovirus, Closterovirus, Ilavirus, Mandrivirus, Potyvirus, Tospovirus, Tungrovirus and Sobemovirus. Virus-vector research related to aphid, thrips and whitefly is discussed. The work on the management aspects of plant viral diseases has been described with reference to the conventional, antiviral and transgenic approaches. Further, the quarantine mechanism developed in India for the exclusion of viruses and vectors has also been included. The book also provides useful information about the capacity building on the research and education on Plant Virology in India. Overall, the book covers a wide range of accounts of research findings and

innovations in Plant Virology in India during past 100 years. The book will be a resourceful reference to the students, scientists, agricultural professionals and policy makers.

Manavini Bhavai BoD – Books on Demand

The dependence of present farming on artificial input of “chemical fertilizers” has caused numerous ecological tribulations associated with global warming and soil contamination. Moreover, there is an essential requirement for realistic agricultural practices on a comprehensive level. Accordingly, biofertilizers including microbes have been recommended as feasible environmentally sound solutions for agricultural practices which not only are natural, and cost-effective but also preserve soil environs and important biota of agricultural land. In addition, it enhances the nutrient quantity of soils organically. Microbial biofertilizers promote plant growth by escalating proficient absorption of nutrients for the plants and by providing an excellent disease-fighting mechanism. Agriculture, the backbone of human sustenance, has been put under tremendous pressure by the ever-increasing human population. Although various modern agro-techniques boosted agricultural production, the excessive use of synthetic fertilizers, pesticides and herbicides have proven extremely detrimental to agriculture as well as to the environment in which it is carried out. Besides this some faulty agricultural practices like monoculture and defective irrigation, further complicate the scenario by eliminating biodiversity, increasing the efflux of nutrients into the water bodies, the formation of algal blooms, eutrophication, damaging the water quality and lowering fish stocks. Biofertilizers are the organic compounds applied to crops for their sustainable growth and the sustainability of the environment as the microbiota associated with biofertilizers interact with the soil, roots and seeds to enhance soil fertility. Application of biofertilizers results in the increased mineral and water uptake, root development, vegetative growth and nitrogen fixation besides liberating growth-promoting substances and minerals that help the maintenance of soil fertility. They further act as antagonists and play a pivotal role in neutralising soil-borne plant pathogens and thus, help in the bio-control of diseases. Application of biofertilizers instead of synthetic fertilizers could be a promising technique to raise agricultural productivity without degrading environmental quality. The present book focuses on the latest research approaches and updates from the microbiota and their applications in the agriculture industry. We believe this book addresses various challenges and shed lights on the possible future of the sustainable agricultural system.

Ginger Cultivation and Its Antimicrobial and Pharmacological Potentials Springer Nature

Plants and the soil they grow in, are confronted with severe biotic and abiotic stresses viz. nutrient starvation, salt stress, drought, flooding, xenobiotic contamination, in order to sustain in an ecosystem. They also shape the microbial composition in their vicinity by modulating their secretions. This book discusses the pressing demand for novel and potential microorganisms to support an environment-friendly and cost-effective way of stress management in the plants. The book summarizes the processes and mechanisms involved in microbe-assisted plant and soil stress management. It discusses the challenges and opportunities in the application of microbial interactions in plant health. It describes in detail the nutrient dynamics of different soil systems. It includes important topics like agriculturally important genes and enzymes, rhizosphere modeling & engineering, genetically engineered bio-inoculants etc. It also talks about the application of next-generation technologies, omics and nano-based technologies. In the recent years, more than 50% of

agricultural production relies on chemical fertilizers, leading to serious health issues and environmental concerns. This book provides natural solutions to these environmental concerns. This book is useful for researchers and students in the field of microbiology, agriculture, soil biology and plant sciences.

Drug Discovery for Leishmaniasis Springer

This book is open access under a CC BY 4.0 license. It constitutes a unique source of knowledge and guidance for all healthcare workers who care for patients with sepsis and septic shock in resource-limited settings. More than eighty percent of the worldwide deaths related to sepsis occur in resource-limited settings in low and middle-income countries. Current international sepsis guidelines cannot be implemented without adaptations towards these settings, mainly because of the difference in local resources and a different spectrum of infectious diseases causing sepsis. This prompted members of the Global Intensive Care working group of the European Society of Intensive Care Medicine (ESICM) and the Mahidol-Oxford Tropical Medicine Research Unit (MORU, Bangkok, Thailand) - among which the Editors - to develop with an international group of experts a comprehensive set of recommendations for the management of sepsis in resource-limited settings. Recommendations are based on both current scientific evidence and clinical experience of clinicians working in resource-limited settings. The book includes an overview chapter outlining the current challenges and future directions of sepsis management as well as general recommendations on the structure and organization of intensive care services in resource-limited settings. Specific recommendations on the recognition and management of patients with sepsis and septic shock in these settings are grouped into seven chapters. The book provides evidence-based practical guidance for doctors in low and middle income countries treating patients with sepsis, and highlights areas for further research and discussion.

Springer

This seventh edition of *Medical Immunology*, now in a full-color presentation, continues to provide a succinct clinical review of the human response to infection while being firmly grounded in science. The authors, distinguished and experienced educators, have been able to anticipate readers' conceptual challenges and use illustrations, diagrams, and algorithms throughout to simplify complex concepts. With an emphasis on clinical applications, methodological advances, immunological diseases, and innovative interventions, this tried and true guide navigates readers through state-of-the-sciences technologies and demonstrates their implementation in the day-to-day clinical practice of immunology. Key Features Stresses both the basic scientific concepts and clinical correlations to medical practice. Progresses logically from normal immune function to abnormalities and clinical diseases. Reviews the diagnosis, pathogenesis, and management of autoimmune diseases in a concise, manageable and visual manner Continues to be the only current medically-focused immunology text available Provides a succinct review of human response to infection with a focus on diagnostic and clinical immunology

CRC Press

This brand new updated edition of the most comprehensive reference book on pancreatic disease details the very latest knowledge on genetics and molecular biological background in terms of anatomy, physiology, pathology, and pathophysiology for all known disorders. Included for the first

time, are two brand new sections on the key areas of Autoimmune Pancreatitis and Benign Cystic Neoplasms. In addition, this edition is filled with over 500 high-quality illustrations, line drawings, and radiographs that provide a step-by-step approach to all endoscopic techniques and surgical procedures. Each of these images can be downloaded via an online image bank for use in scientific presentations. Every existing chapter in *The Pancreas: An Integrated Textbook of Basic Science, Medicine and Surgery, 3rd Edition* has been thoroughly revised and updated to include the many changes in clinical practice since publication of the current edition. The book includes new guidelines for non-surgical and surgical treatment; new molecular biologic pathways to support clinical decision making in targeted treatment of pancreatic cancer; new minimally invasive surgical approaches for pancreatic diseases; and the latest knowledge of neuroendocrine tumors and periampullary tumors. The most encyclopedic book on the pancreas—providing outstanding and clear guidance for the practicing clinician Covers every known pancreatic disorder in detail including its anatomy, physiology, pathology, pathophysiology, diagnosis, and management Completely updated with brand new chapters Over 500 downloadable illustrations An editor and author team of high international repute who present global best-practice *The Pancreas: An Integrated Textbook of Basic Science, Medicine and Surgery, 3rd Edition* is an important book for gastroenterologists and gastrointestinal surgeons worldwide.

Advances in Soil Microbiology: Recent Trends and Future Prospects BoD – Books on Demand
Science and Technology of Fruit Wine Production includes introductory chapters on the production of wine from fruits other than grapes, including their composition, chemistry, role, quality of raw material, medicinal values, quality factors, bioreactor technology, production, optimization, standardization, preservation, and evaluation of different wines, specialty wines, and brandies. Wine and its related products have been consumed since ancient times, not only for stimulatory and healthful properties, but also as an important adjunct to the human diet by increasing satisfaction and contributing to the relaxation necessary for proper digestion and absorption of food. Most wines are produced from grapes throughout the world, however, fruits other than grapes, including apple, plum, peach, pear, berries, cherries, currants, apricot, and many others can also be profitably utilized in the production of wines. The major problems in wine production, however, arise from the difficulty in extracting the sugar from the pulp of some of the fruits, or finding that the juices obtained lack in the requisite sugar contents, have higher acidity, more anthocyanins, or have poor fermentability. The book demonstrates that the application of enzymes in juice extraction, bioreactor technology, and biological de-acidification (MLF bacteria, or de-acidifying yeast like *Schizosaccharomyces pombe*, and others) in wine production from non-grape fruits needs serious consideration. Focuses on producing non-grape wines, highlighting their flavor, taste, and other quality attributes, including their antioxidant properties Provides a single-volume resource that consolidates the research findings and developed technology employed to make wines from non-grape fruits Explores options for reducing post-harvest losses, which are especially high in developing countries Stimulates research and development efforts in non-grape wines
Molecular Nanostructures - Proceedings Of The International Winterschool On Electronic Properties Of Novel Materials Springer

Radicals for Life: the Various Forms of Nitric Oxide provides an up-to-date overview of the role of

nitrosocompounds and nitrosyl-iron complexes in physiology. Nitrosocompounds can be considered as stabilised forms of nitric oxide, one of the most important regulatory molecules in physiology today. Many nitrosocompounds share some of the physiological functions of nitric oxide, and may be formed inside living organisms. This is the first book to be published that is dedicated to the role of such nitrosocompounds in physiology, with particular emphasis on the nitrosocompounds that are endogenously formed in higher organisms and humans. Points of discussion include: physical and chemical properties of the compounds, the main chemical pathways in vivo, as well as the physiological effects that have been recognised to date. Each of the nineteen chapters is written by distinguished specialists in the field, well known for their original and important contributions to the subject. Also included are results from a wide range of studies in vitro, in cell cultures, animal models and human volunteers. Examples of alternative forms of nitric oxide, with special emphasis on their protective role against widespread human diseases like atherosclerosis, Alzheimer's disease, diabetes, sexual dysfunction, and renal insufficiency to stroke and ischemia are also included. First monograph to consider and provide an overview of endogenous nitrosocompounds and nitrosyl-iron complexes Extensive bibliographic references, written by specialists of human physiology Providing high scientific quality with a focus on implications for human diseases
Modern Tools and Techniques to Understand Microbes Benjamin-Cummings Publishing Company

Biopolymer-Based Formulations: Biomedical and Food Applications presents the latest advances in the synthesis and characterization of advanced biopolymeric formulations and their state-of-the-art applications across biomedicine and food science. Sections cover the fundamentals, applications, future trends, environmental, ethical and medical considerations, and biopolymeric architectures that are organized in nano, micro and macro scales. The final section of the book focuses on novel applications and recent developments. This book is an essential resource for researchers, scientists and advanced students in biopolymer science, polymer science, polymer chemistry, polymer composites, plastics engineering, biomaterials, materials science, biomedical engineering, and more. It will also be of interest to R&D professionals, scientists and engineers across the plastics, food, biomedical and pharmaceutical industries. Provides in-depth coverage of methods for the characterization of the physical properties of biopolymeric architectures Supports a range of novel applications, including scaffolds, implant coatings, drug delivery, and nutraceutical encapsulation systems Includes the use of experimental data and mathematical modeling, thus enabling the reader to analyze and compare the properties of different polymeric gels

Pharmacognosy Rastogi Publications

What you really need to know, but no-one told you. The best-selling *Essential Guide to Acute Care* contains everything you need to know about acute care that you can't find in a standard textbook. The third edition has been extensively revised and updated, presenting new oxygen guidelines, updated evidence and practice around sepsis, fluid balance and volume resuscitation, acute kidney injury, perioperative care, and much more. The third edition retains the accessible style and comprehensive coverage that has made *Essential Guide to Acute Care* essential reading for those who look after acutely ill adults. Throughout the book, 'mini-tutorials' expand on the latest thinking or controversies, and there are practical case histories to reinforce learning at the end of each

chapter. The chapters are designed to be read by individuals or used for teaching material in tutorials. This new edition of Essential Guide to Acute Care: Provides up-to-date and practical guidance on the principles of acute care, written by experienced teachers and clinicians Offers a unique approach to the subject that focuses on understanding rather than lists and 'recipes' Explains the altered physiology that accompanies acute illness in adults Includes learning objectives,

self-assessment questions, and illustrative examples related to clinical practice Essential Guide to Acute Care is an indispensable volume for medical students and newly graduated doctors; doctors training in medicine, surgery, anaesthesia and emergency medicine; advanced clinical practitioners; nurses and allied health professionals working in acute and critical care; and teachers.