

Impact Factor Journal Of Virology

Green plants and photosynthetic organisms are the Earth's natural photoconverters of solar energy. In future, biomass and bioenergy will become increasingly significant energy sources, making a contribution both to carbon dioxide abatement and to the security, diversity and sustainability of global energy supplies. In this book, experts provide a series of authoritative chapters on the intricate mechanisms of photosynthesis and the potential for using and improving photosynthetic organisms, plants and trees to sequester carbon dioxide and to provide fuel and useful chemicals for the benefit of man. Contents:Photosynthesis and Photoconversion (J Barber & M D Archer)Light Absorption and Harvesting (A Holzwarth)Electron Transfer in Photosynthesis (W Leibl & P Mathis)Photosynthetic Carbon Assimilation (G E Edwards & D A Walker)Regulation of Photosynthesis in Higher Plants (D Godde & J F Bornman)The Role of Aquatic Photosynthesis in Solar Energy Conversion: A Geoevolutionary Perspective (P G Falkowski, R Geider & J A Raven)Useful Products from Algal Photosynthesis (R Martinez & Z Dubinsky)Hydrogen Production by Photosynthetic Microorganisms (V A Boichenko, E Greenbaum & M Seibert)Photoconversion and Energy Crops (M J Bullard)The Production of Biofuels by Thermal Chemical Processing of Biomass (A V Bridgwater & K Maniatis)Photosynthesis and the Global Carbon Cycle (D Schimel)Management of Terrestrial Vegetation to Mitigate Climate Change (R Tipper & R Carr)Biotechnology: Its Impact and Future Prospects (D J Murphy) Readership: Biologists, biochemists, plant scientists, environmentalists and ecologists.

Immunoregulation is one of the areas which has witnessed the most explosive advances of immunology during the past decade. It is in this area that the current view of the immune system has arisen and developed. There is indeed little doubt that immune reactions are primarily determined by messages which are genera ted within the immune system and passed among different types of immunologie cells. This cell communication not only determines the type, intensity and duration of the response after perturbation of the immune system by exogenous antigens, but it is also essential for preventing autoimmune reactions and their clinical conse quences. In order to assure aperfect balance within the enormous com plexity of the immune system, it is not surprising that multiple self-regulatory mechanisms are organized at different levels, such as antibody feedback, idiotypic-anti-idiotypic responses, suppres sor and helper T cells, lymphokine signals and genetic require ments. A nu mb er of observations in recent years have, however, demonstrated that consistent contributions to the immunological homeostasis are given also by signals generated outside of the immune system, namely,in the central and autonomous nervous system as well as in the endocrine apparatus. Furthermore, the interactions between the immune system and the other body homestatic mechanisms seem to be bidirectional: if immunological cells may be targets of neuroendocrinological factors, immunological products seem in turn to contribute to the neuro endocrine homeostasis.

Viruses that are pathogenic to beneficial insects and other arthropods cause millions of dollars of damage every year to industries, such as sericulture, apiculture, and aquaculture (e.g. infecting honeybees and silk worms). On the other hand, viruses that are pathogenic to insect pests can be exploited as attractive biological control agents. Another fascinating feature of these viruses is that some, e.g. baculoviruses, have been commercially exploited for use as gene expression and delivery vectors in both insect and mammalian cells. All of these factors have led to an explosion in the amount of research into insect viruses in recent years, generating impressive quantities of information on the molecular and cellular biology of these viruses. This timely book reviews the exciting new developments in the field of insect virology. Written by internationally renowned insect virologists, the chapters review the current molecular biology of all the major groups of insect pathogenic viruses and suggest future directions for research. The book is divided into three parts: 1) DNA viruses, 2) RNA viruses, and 3) current hot-topics in insect virology. The virus groups covered include: Ascoviruses, Baculoviruses, Densoviruses, Entomopoxviruses, Hytrosaviruses, Iridoviruses, Nudiviruses, Polydnaviruses, Dicrostoviruses, Iflaviruses, Nodaviruses, Tetraviruses, and Cyoviruses. Special topic chapters review exciting recent developments in insect virology including RNAi, insect antiviral responses, structural comparison of insect RNA viruses, and viral ecology. The book is essential reading for every insect virologist in both the academic and private sectors. It is also strongly recommended for other virologists, particularly those interested in virus evolution, virus structure, viral vectors, biological control of insects, and insect immunity.

Virology Division. International Union of Microbiological Societies.

Immunoregulation

Molecular Virology of Human Pathogenic Viruses

Advances, Detection, and Antiviral Strategies

Journal of Virology Impact Factor 2015

The Evolution and Emergence of RNA Viruses

Principles of Virology

Virus-Host Interactions: Methods and Protocols covers various aspects of virological research, such as biochemical approaches, including molecular interactions and regulatory mechanisms on the protein as well as the RNA level with a strong focus on the manifold possibilities to study protein-protein interactions, as well as cell biological and immunological methodologies. Viruses represent a reduced form of life that depends on host cells for propagation. To this end, viruses approach and penetrate cells and usurp cellular machineries for their own benefit. Recent technological improvements have enabled the systematic analysis of the virus-host interplay be it on the genomic, the transcriptomic, or proteomic level. In parallel, bioinformatic tools have emerged in support of the large datasets generated by these high-throughput approaches. Written in the successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible protocols, and notes on troubleshooting and avoiding known pitfalls. Authoritative and easily accessible, Virus-Host Interactions: Methods and Protocols will prove invaluable to professionals and novices with its well-honed methodologies and protocols.

Applied Plant Virology: Advances, Detection, and Antiviral Strategies provides an overview on recent developments and applications in the field of plant virology. The book begins with an introduction to important advances in plant virology, but then covers topics including techniques for assay detection and the diagnosis of plant viruses, the purification, isolation and characterization of plant viruses, the architecture of plant viruses, the replication of plant viruses, the physiology of virus-infected hosts, vectors of plant viruses, and the nomenclature and classification of plants. The book also discusses defense strategies by utilizing antiviral agents and management strategies of virus and viroid diseases. With contributions from an international collection of experts, this book presents a practical resource for plant virologists, plant pathologists, horticulturalists, agronomists, biotechnologists, academics and researchers interested in up-to-date technologies and information that advance the field of plant virology. Covers the detection, control and management of plant viruses Discusses antiviral strategies, along with mechanisms of systemic induced resistance to enhance the defense of plants against viruses Provides contributory chapters from expert plant virologists from different parts of the world

The field of oral microbiology has seen fundamental conceptual changes in recent years. Microbial communities are now seen as the fundamental etiological agent in oral diseases through their interface with host inflammatory responses. Study of structured microbial communities has increased our understanding of the roles of each member in the pathogenesis of oral diseases, principles that apply to both periodontitis and dental caries. Against this backdrop, the third edition of Oral Microbiology and Immunology has been substantially expanded and rewritten by an international team of authors and editors. Featured in the current edition are: links between oral infections and systemic disease revised and updated overview of the role of the immune system in oral infections thorough discussions of biofilm development and control more extensive illustrations and Key Points for student understanding Graduate students, researchers, and clinicians as well as students will find this new edition valuable in study and practice. The field of oral microbiology has seen fundamental conceptual changes in recent years. Microbial communities are now seen as the fundamental etiological agent in oral diseases through their interface with host inflammatory responses. Study of structured microbial communities has increased our understanding of the roles of each member in the pathogenesis of oral diseases, principles that apply to both periodontitis and dental caries. Against this backdrop, the third edition of Oral Microbiology and Immunology has been substantially expanded and rewritten by an international team of authors and editors. Featured in the current edition are: links between oral infections and systemic disease revised and updated overview of the role of the immune system in oral infections thorough discussions of biofilm development and control more extensive illustrations and Key Points for student understanding Graduate students, researchers, and clinicians as well as students will find this new edition valuable in study and practice.

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Introducing Online Resources and Terminology

Judging Research

A Guide to the Management of Common Illness

Clinical and Vaccine Immunology

The Metric Tide

Medicine and the Internet

Global Virology, Volume III: Virology in the 21st Century examines work that has been undertaken, or is planned, in several fields of virology, in an effort to promote current and future work, research, and health. Fields and methods addressed include virology, immunology, space research, astrovirology/astrobiology, plasmids, swarm intelligence, bioinformatics, data-mining, machine learning, neural networks, critical equations, and advances in biohazard biocontainment. Novel and forward-looking methods, techniques, and approaches in research and development are presented by experts in the field.

Food-borne viruses are recognized as a major health concern, but their distribution, definition, and impact are poorly understood. The volume Food-Borne Viruses goes a long way in correcting that problem. Written by leading scientists in the field, it brings together the latest knowledge on these viral strains, their detection and control, and associated challenges.

This book is a collection of chapters dealing with examples of RNA and DNA viruses, and issues such as how these gene packages have learnt to take advantage of their hosts, molecular recognition events that hosts may use to counterattack the viruses, and how researchers have developed strategies to use viruses or their parts as tools for different purposes.

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Classification and Nomenclature of Viruses

Food-borne Viruses

Insect Virology

Global Health Impacts of Vector-Borne Diseases

Journal of General Virology Impact Factor

Independent Review of the Role of Metrics in Research Assessment and Management

Essential Human Virology is written for the undergraduate level with case studies integrated into each chapter. The structure and classification of viruses will be covered, as well as virus transmission and virus replication strategies based upon type of viral nucleic acid. Several chapters will focus on notable and recognizable viruses and the diseases caused by them, including influenza, HIV, hepatitis viruses, poliovirus, herpesviruses, and emerging and dangerous viruses. Additionally, how viruses cause disease, or pathogenesis, will be highlighted during the discussion of each virus family, and a chapter on the immune response to viruses will be included. Further, research laboratory assays and viral diagnosis assays will be discussed, as will vaccines, anti-viral drugs, gene therapy, and the beneficial uses of viruses. By focusing on general virology principles, current and future technologies, familiar human viruses, and the effects of these viruses on humans, this textbook will provide a solid foundation in virology while keeping the interest of undergraduate students. Focuses on the human diseases and cellular pathology that viruses cause Highlights current and cutting-edge technology and associated issues Presents real case studies and current news highlights in each chapter Features dynamic illustrations, chapter assessment questions, key terms, and summary of concepts, as well as an instructor website with lecture slides, test bank, and recommended activities

Viral respiratory tract infections are important and common causes of morbidity and mortality worldwide. In the past two decades, several novel viral respiratory infections have emerged with epidemic potential that threaten global health security. This Monograph aims to provide an up-to-date and comprehensive overview of severe acute respiratory syndrome, Middle East respiratory syndrome and other viral respiratory infections, including seasonal influenza, avian influenza, respiratory syncytial virus and human rhinovirus, through six chapters written by authoritative experts from around the globe.

Completely revised and updated to reflect important advances in the field, Principles of Virology, Second Edition continues to fill the gap between simple introductory texts and very advanced reviews of major virus families, introducing upper–level undergraduates, graduate students, and medical students to all aspects of virology. The second edition retains all of the defining and much–praised features of the first edition, focusing on concepts and principles and presenting a comprehensive treatment from molecular biology to pathogenesis and infection control. Written in an engagingly readable style and generously illustrated with over 400 full–color illustrations, this approachable volume offers detailed examples that illustrate common principles, specific strategies adopted by different viruses to ensure their reproduction, and the current state of virology research. The book is divided into chapters that focus on specific topics rather than individual viruses, and allows the student to visualize common themes that cut across virus families, emphasizing the shared features of different viruses. Drawing on the extensive teaching experience of each of its distinguished authors, Principles of Virology illustrates why and how animal viruses are studied and demonstrates, using well–studied systems, how the knowledge gained from such model viruses can be used to study viral systems about which our knowledge is still quite limited. A thorough introduction to principles of viral pathogenesis, a broad view of viral evolution, a discussion of how viruses were discovered, and how the discipline of virology came to be are also provided. A variety of special boxes highlight key experiments, background material, caveats, and much more. The text focuses on concepts and principles and covers not only aspects of molecular biology, but also pathogenesis, evolution, emergence, and control, and will also be a valuable resource for practicing physicians and scientists. New in the Second Edition Completely revised pathogenesis chapters Pathogenicity Snapshots: an appendix highlighting teaching points for major viral diseases Expanded appendix on viral life cycles New chapter on viral genomes and coding strategies Detailed glossary Expanded references after each chapter new textboxes

Published since 1953, Advances in Virus Research covers a diverse range of in-depth reviews providing a valuable overview of the current field of virology. In 2004, the Institute for Scientific Information released figures showing that the series has an Impact Factor of 2.576, with a half-life of 7.1 years, placing it 11th in the highly competitive category of Virology.

Progress and Challenges

CVI

Viral Genetics and Biotechnological Applications

Molecular to Global Photosynthesis

Advances in Virus Research

Virus Structure and Assembly

Virus Structure covers the full spectrum of modern structural virology. Its goal is to describe the means for defining moderate to high resolution structures and the basic principles that have emerged from these studies. Among the topics covered are Hybrid Vigor, Structural Folds of Viral Proteins, Virus Particle Dynamics, Viral Gemone Organization, Enveloped Viruses and Large Viruses.

Covers viral assembly using heterologous expression systems and cell extracts Discusses molecular mechanisms in bacteriophage T7 procapsid assembly, maturation and DNA containment Includes information on structural studies on antibody/virus complexes

While the study of viral evolution has developed rapidly in the last 30 years, little attention has been directed toward linking the mechanisms of viral evolution to the epidemiological outcomes of these processes. This book intends to fill this gap by considering the patterns and processes of viral evolution at all its spatial and temporal scales.

Encyclopedia of Virology, Fourth Edition, builds on the solid foundation laid by the previous editions, expanding its reach with new and timely topics. In five volumes, the work provides comprehensive coverage of the whole virosphere, making this a unique resource. Content explores viruses present in the environment and the pathogenic viruses of humans, animals, plants and microorganisms. Key areas and concepts concerning virus classification, structure, epidemiology, pathogenesis, diagnosis, treatment and prevention are discussed, guiding the reader through chapters that are presented at an accessible level, and include further readings for those needing more specific information. More than ever now, with the Covid19 pandemic, we are seeing the huge impact viruses have on our life and society. This encyclopedia is a must-have resource for scientists and practitioners, and a great source of information for the wider public. Offers students and researchers a one-stop shop for information on virology not easily available elsewhere Fills a critical gap of information in a field that has seen significant progress in recent years Authored and edited by recognized experts in the field, with a range of different expertise, thus ensuring a high-quality standard

Written by experts in their field, Virus Structure and Assembly summarizes our current state of knowledge in the field of virus structure and assembly, comparing and contrasting the mechanisms adopted by viruses with a wide diversity of genome and host. It will serve as an invaluable reference for researchers in virology, microbiology, epidemiology, molecular biology, and public health. * Witness to the remarkable advancement in the field of virus structure and assembly * A unique opportunity to compare and contrast mechanisms adopted by a diverse range of viruses from bacteriophages and RNA viruses to Bluetongue, Influenza and Hepatitis B * Numerous illustrations including color * Discussion on the VIPER database, a repository for all high-resolution structures of simple icosahedral viruses, and on application of mass spectrometry to the analysis of structures present in biological specimens, such as HIV-1

Virus Taxonomy

Journal of Virology Impact Factor

SARS, MERS and other Viral Lung Infections

Symptoms in the Pharmacy

Virus-Host Interactions

Virus Structure

Molecular Virology of Human Pathogenic Viruses presents robust coverage of the key principles of molecular virology while emphasizing virus family structure and providing key context points for topical advances in the field. The book is organized in a logical manner to aid in student discoverability and comprehension and is based on the author’s more than 20 years of teaching experience. Each chapter will describe the viral life cycle covering the order of classification, virion and genome structure, viral proteins, life cycle, and the effect on host and an emphasis on virus-host interaction is conveyed throughout the text. Molecular Virology of Human Pathogenic Viruses provides essential information for students and professionals in virology, molecular biology, microbiology, infectious disease, and immunology and contains outstanding features such as study questions and recommended journal articles with perspectives at the end of each chapter to assist students with scientific inquiries and in reading primary literature. Presents viruses within their family structure Contains recommended journal articles with perspectives to put primary literature in context Includes integrated recommended reading references within each chapter Provides access to online ancillary package inclusive of annotated PowerPoint images, instructor’s manual, study guide, and test bank

The 2019 MPDI Writing Prize invited early stage researchers who are not native English speakers to write on the subject of "how research should be evaluated and how researchers should be rewarded". Six prizes were awarded, however there were many more entries. This book collates many of those entries and contains inspiring, thought-provoking and original viewpoints of open science through the eyes of those conducting research on a daily basis.

The practical need to partition the world of viruses into distinguishable, universally agreed upon entities is the ultimate justification for developing a virus classification system. Since 1971, the International Committee on Taxonomy of Viruses (ICTV) operating on behalf of the world community of virologists has taken on the task of developing a single, universal taxonomic scheme for all viruses infecting animals (vertebrate, invertebrates, and protozoa), plants (higher plants and algae), fungi, bacteria, and archaea. The current report builds on the accumulated taxonomic construction of the eight previous reports dating back to 1971 and records the proceedings of the Committee since publication of the last report in 2005. Representing the work of more than 500 virologists worldwide, this report is the authoritative reference for virus organization, distinction, and structure.

Over 50% of known flaviviruses have been associated with human disease. The Flavivirus genus constitutes some of the most serious human pathogens including Japanese encephalitis, dengue and yellow fever. Flaviviruses are known for their complex life cycles and epidemic spread, and are considered a globally-emergent viral threat. Pathogenesis and Immunity, the second volume of The Flaviviruses, examines the processes by which the flaviviruses cause disease, the different cytopathic effects and the associated immunopathological responses produced in their hosts. * Comprehensive approach to the scientific disciplines needed to unravle the complexities of virus-host interactions. * New, detailed information on the pathogenesis and immunology of the Flavivirus family. * Describes the technologies that have contributed to our current knowledge about the Flaviviruses. * Identifies the major problems faced in attempting to further understand the virus-host interactions that result in disease. * An exhaustive compendium of current and past knowledge on the Flavivirus family

An Evolving Problem

Global Virology III: Virology in the 21st Century

Current Issues in Molecular Virology

Molecular Biology, Pathogenesis, and Control of Animal Viruses

Methods and Protocols

Poxviruses

This is a new and updated version of the highly successful book Medicine and the Internet (OUP 1995). Specially designed for anyone in the medical professions who would like to get started on the internet, or to use it more effectively, this edition contains new chapters on the internet's role in telemedicine and on how to become an internet provider yourself.

New viral diseases are emerging continuously. Viruses adapt to new environments at astounding rates. Genetic variability of viruses jeopardizes vaccine efficacy. For many viruses mutants resistant to antiviral agents or host immune responses arise readily, for example, with HIV and influenza. These variations are all of utmost importance for human and animal health as they have prevented us from controlling these epidemic pathogens. This book focuses on the mechanisms that viruses use to evolve, survive and cause disease in their hosts. Covering human, animal, plant and bacterial viruses, it provides both the basic foundations for the evolutionary dynamics of viruses and specific examples of emerging diseases. * NEW - methods to establish relationships among viruses and the mechanisms that affect virus evolution * UNIQUE - combines theoretical concepts in evolution with detailed analyses of the evolution of important virus groups * SPECIFIC - Bacterial, plant, animal and human viruses are compared regarding their interaction with their hosts

A practical and evidence-based guide for student, pre-registration and qualified pharmacists Symptoms in the Pharmacy is an indispensable guide to the management of common symptoms seen in the pharmacy. With advice from an author team that includes both pharmacists and GPs, the book covers ailments which will be encountered in the pharmacy on a daily basis. Now in its sixth edition Symptoms in the Pharmacy has been fully revised to reflect the latest evidence and availability of new medicines. There are new sections and case studies for 'POM' to 'P' switches including chloramphenicol, sumatriptan, diclofenac, naproxen and amorolfine. This edition features colour photographs of skin conditions for the first time enabling the differentiation and diagnosis of common complaints. The public health and illness prevention content have been expanded to support this increasingly important aspect of the pharmacist's work. The book is designed for quick and easy reference with separate chapters for each ailment. Each chapter incorporates a decision-making framework in which the information necessary for treatment and suggestions on 'when to refer' is distilled into helpful summary boxes. At the end of each chapter there are example case studies providing the view of pharmacists, doctors and patients for most conditions covered. These easy-to-follow chapters can be read cover to cover or turned to for quick reference. This useful guide should be kept close at hand for frequent consultation.

Pathogens transmitted among humans, animals, or plants by insects and arthropod vectors have been responsible for significant morbidity and mortality throughout recorded history. Such vector-borne diseases – including malaria, dengue, yellow fever, and plague – together accounted for more human disease and death in the 17th through early 20th centuries than all other causes combined. Over the past three decades, previously controlled vector-borne diseases have resurged or reemerged in new geographic locations, and several newly identified pathogens and vectors have triggered disease outbreaks in plants and animals, including humans. Domestic and international capabilities to detect, identify, and effectively respond to vector-borne diseases are limited. Few vaccines have been developed against vector-borne pathogens. At the same time, drug resistance has developed in vector-borne pathogens while their vectors are increasingly resistant to insecticide controls. Furthermore, the ranks of scientists trained to conduct research in key fields including medical entomology, vector ecology, and tropical medicine have dwindled, threatening prospects for addressing vector-borne diseases now and in the future. In June 2007, as these circumstances became alarmingly apparent, the Forum on Microbial Threats hosted a workshop to explore the dynamic relationships among host, pathogen(s), vector(s), and ecosystems that characterize vector-borne diseases. Revisiting this topic in September 2014, the Forum organized a workshop to examine trends and patterns in the incidence and prevalence of vector-borne diseases in an increasingly interconnected and ecologically disturbed world, as well as recent developments to meet these dynamic threats. Participants examined the emergence and global movement of vector-borne diseases, research priorities for understanding their biology and ecology, and global preparedness for and progress toward their prevention, control, and mitigation. This report summarizes the presentations and discussions from the workshop.

The 2019 MDPI Writing Prize

Workshop Summary

Current Protocols in Molecular Biology

Fenner and White's Medical Virology

Journal of Virology

Journal of Virology Impact Factor

Marek's disease is a form of cancer of poultry caused by an important herpesvirus (MDV). It continues to be a threat to poultry health and welfare and worldwide losses are estimated to be US\$ 1 billion annually. Marek's Disease provides a timely review of the problems of Marek's disease with descriptions of the complex viral life cycle, how MDV targets different types of white blood cells, and details of the virus structure, its genes and proteins. The multiplicity of factors contributing to susceptibility is explored in detail Vaccination - the problems arising from current vaccination strategies and how these can be improved and made sustainable in future The lessons learned in the control of MD over the past 30 years, and how we can use MD as a model for other animal and human diseases is discussed

Emerging and Reemerging Viral Pathogens: Applied Virology Approaches Related to Human, Animal and Environmental Pathogens, Volume Two presents new research information on viruses and their impact on the scientific community. It provides a reference book on certain viruses in humans, animals and vegetal, along with a comprehensive discussion on interspecies interactions. The book then looks at the drug, vaccine and bioinformatical strategies that can be used against these viruses, giving the reader a clear understanding of transmission. The book's end goal is to create awareness that the appearance of newly transmissible pathogens is a global risk that requires shared/adoptable policies for prevention and control. Covers most emerging viral disease in humans, animals and plants Provides the most advanced tools and techniques in molecular virology and the modeling of viruses Creates awareness that the appearance of new transmissible pathogens is a global risk Highlights the need to adopt shared policies for the prevention and control of infectious diseases

The purpose of this volume is to highlight some current areas of poxvirus research which are likely to be particularly fruitful in the upcoming few years. The first chapter, by Drs. Condit and Niles, discusses poxvirus genetics. Work in this area has provided mutants, produced practical procedures to simplify the manipulation of viral genes, and generated information about the molecular architecture and organization of genes characteristic of pox viruses. One of the most intensively studied regions of the viral genome is the HindIII D region of vaccinia, in which a combination of classical and molecular genetic analysis of the region has been particularly revealing. Within this region are open reading frames, some of which are expressed early and others late, organized in a fashion which is now known to be typical of these viruses. Other studies, related to temperature sensitive, drug resistant, and drug dependent mutants, are also discussed. Each of the other reviews included in this volume summarizes areas of research which have depended heavily on the genetics of the system. The intracellular site of a poxvirus infection is mostly, if not exclusively, limited to the cytoplasm which dictates several interesting biological ramifications. For example, poxvirus transcription must occur in the cytoplasm, rather than in the nucleus. The virus copes with this situation by incorporating into the virion the enzymatic machinery necessary to initiate transcription from input virus.

Oral Microbiology and Immunology

Emerging and Reemerging Viral Pathogens

Quasispecies: Concept and Implications for Virology

Origin and Evolution of Viruses

African Swine Fever

ERS Monograph 72

Continuous genetic variation and selection of virus subpopulations in the course of RNA virus replications are intimately related to viral disease mechanisms. The central topics of this volume are the origins of the quasispecies concept, and the implications of quasispecies dynamics for viral populations.

'Represents the culmination of an 18-month-long project that aims to be the definitive review of this important topic. Accompanied by a scholarly literature review, some new analysis, and a wealth of evidence and insight... the report is a tour de force; a once-in-a-generation opportunity to take stock.' – Dr Steven Hill, Head of Policy, HEFCE, LSE Impact of Social Sciences Blog 'A must-read if you are interested in having a deeper understanding of research culture, management issues and the range of information we have on this field. It should be disseminated and discussed within institutions, disciplines and other sites of research collaboration.' – Dr Meera Sabaratnam, Lecturer in International Relations at the School of Oriental and African Studies, University of London, LSE Impact of Social Sciences Blog Metrics evoke a mixed reaction from the research community. A commitment to using data and evidence to inform decisions makes many of us sympathetic, even enthusiastic, about the prospect of granular, real-time analysis of our own activities. Yet we only have to look around us at the blunt use of metrics to be reminded of the pitfalls. Metrics hold real power: they are constitutive of values, identities and livelihoods. How to exercise that power to positive ends is the focus of this book. Using extensive evidence-gathering, analysis and consultation, the authors take a thorough look at potential uses and limitations of research metrics and indicators. They explore the use of metrics across different disciplines, assess their potential contribution to the development of research excellence and impact and consider the changing ways in which universities are using quantitative indicators in their management systems. Finally, they consider the negative or unintended effects of metrics on various aspects of research culture. Including an updated introduction from James Wilsdon, the book proposes a framework for responsible metrics and makes a series of targeted recommendations to show how responsible metrics can be applied in research management, by funders, and in the next cycle of the Research Excellence Framework. The metric tide is certainly rising. Unlike King Canute, we have the agency and opportunity – and in this book, a serious body of evidence – to influence how it washes through higher education and research. In the quest to understand and model the healthy or sick human body, researchers and medical doctors are utilizing more and more quantitative tools and techniques. This trend is pushing the envelope of a new field we call Biomedical Computing, as an exciting frontier among signal processing, pattern recognition, optimization, nonlinear dynamics, computer science and biology, chemistry and medicine. A conference on Biocomputing was held during February 25-27, 2001 at the University of Florida. The conference was sponsored by the Center for Applied Optimization, the Computational Neuroengineering Center, the Biomedical Engineering Program (through a Whitaker Foundation grant), the Brain Institute, the School of Engineering, and the University of Florida Research & Graduate Programs. The conference provided a forum for researchers to discuss and present new directions in Biocomputing. The well-attended three days event was highlighted by the presence of top researchers in the field who presented their work in Biocomputing. This volume contains a selective collection of refereed papers based on talks presented at this conference. You will find seminal contributions in genomics, global optimization, computational neuroscience, fMRI, brain dynamics, epileptic seizure prediction and cancer diagnostics. We would like to take the opportunity to thank the sponsors, the authors of the papers, the anonymous referees, and Kluwer Academic Publishers for making the conference successful and the publication of this volume possible. Panos M. Pardalos and Jose C.

Fenner and White's Medical Virology, Fifth Edition provides an integrated view of related sciences, from cell biology, to medical epidemiology and human social behavior. The perspective represented by this book, that of medical virology as an infectious disease science, is meant to provide a starting point, an anchor, for those who must relate the subject to clinical practice, public health practice, scholarly research, and other endeavors. The book presents detailed exposition on the properties of viruses, how viruses replicate, and how viruses cause disease. These chapters are then followed by an overview of the principles of diagnosis, epidemiology, and how virus infections can be controlled. The first section concludes with a discussion on emergence and attempts to predict the next major public health challenges. These form a guide for delving into the specific diseases of interest to the reader as described in Part II. This lucid and concise, yet comprehensive, text is admirably suited to the needs of not only advanced students of science and medicine, but also postgraduate students, teachers, and research workers in all areas of virology. Features updated and expanded coverage of pathogenesis and immunity Contains the latest laboratory diagnostic methods Provides insights into clinical features of human viral disease, vaccines, chemotherapy, epidemiology, and control

Marek's Disease

The Flaviviruses: Pathogenesis and Immunity

Biocomputing

Applied Plant Virology

Volume 2: Applied Virology Approaches Related to Human, Animal and Environmental Pathogens

Essential Human Virology