

[Books] History Of Virology

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Viruses and Man: A History of Interactions-Milton W. Taylor 2014-07-21 Milton Taylor, Indiana University, offers an easy-to-read and fascinating text describing the impact of viruses on human society. The book starts with an analysis of the profound effect that viral epidemics had on world history resulting in demographic upheavals by destroying total populations. It also provides a brief history of virology and immunology. Furthermore, the use of viruses for the treatment of cancer (viral oncolysis or virotherapy) and bacterial diseases (phage therapy) and as vectors in gene therapy is discussed in detail. Several chapters focus on viral diseases such as smallpox, influenza, polio, hepatitis and their control, as well as on HIV and AIDS and on some emerging viruses with an interesting story attached to their discovery or vaccine development. The book closes with a chapter on biological weapons. It will serve as an invaluable source of information for beginners in the field of virology as well as for experienced virologists, other academics, students, and readers without prior knowledge of virology or molecular biology.

An Introduction to the History of Virology-A. P. Waterson 1978 Early terminology and underlying ideas. The methodological background. Discovery in the closing years of the nineteenth century. Filterability and the nature of filterable agents. Vaccination and vaccines. Development of cell and tissue cultures. Early theories concerning the nature of viruses. The bacterial viruses I. The bacterial viruses II. Plant and insect viruses. Work on the influenzas and other common virus diseases of animals and man. The eruptive fevers. Tumour virology. New light on long incubation periods.

The Foundations of Virology-Frederick A. Murphy 2012-06-22 A profusely illustrated history of one of the hottest medical/biological sciences of all: virology - personalized in crediting the people who began the science concerned with invisible mysterious disease agents, and continuing to cite those who are still unraveling the nature of many of the most important pathogens of today.

A History of Experimental Virology-Alfred Grafe 2012-12-06 By their powers of reason scientists will be able to extract from nature the answers to their questions. From: Critique of Pure Reason, 1781 Immanuel Kant (1724-1804), German Philosopher History is a composite of stories. The history of the biological disciplines has been written by all those who opened the gates of new knowledge by generating ideas and the experiments to support them. Previous authors have attempted various approaches to the history of virology, as is reflected in the numerous books and book-series issuing from the publishing houses. This volume is an attempt at a comprehensive yet compact survey of virology, which has meant penetrating the rigid limits of the separate disciplines of biology in which virologists have worked. Writing this history of experimental virology was really a search for the origins and for vital signposts to portray the wide scope of the knowledge attained thus far. This was done in complete awareness of the fact that every presentation depends heavily upon the perspective of the observer, and of necessity communicates only a part of the whole. The present scientific story hopes to recount the most important knowledge achieved during this past century - the first century of the exciting developments in virology.

Viruses, Plagues, and History-Michael B. A. Oldstone 2020 "Here, my previous edition of Viruses, Plagues, & History is updated to reflect both progress and disappointment since that publication. This edition describes newcomers to the range of human infections, specifically, plagues that play important roles in this 21st century. The first is Middle East Respiratory Syndrome (MERS), an infection related to Sudden Acute Respiratory Syndrome (SARS). SARS was the first new-found plague of this century. Zika virus, which is similar to yellow fever virus in being transmitted by mosquitos, is another of the recent scourges. Zika appearing for the first time in the Americas is associated with birth defects and a paralytic condition in adults. Lastly, illness due to hepatitis viruses were observed prominently during the second World War initially associated with blood transfusions and vaccine inoculations. Since then, hepatitis virus infections have afflicted millions of individuals, in some leading to an acute fulminating liver disease or more often to a life-long persistent infection. A subset of those infected has developed liver cancer. However, in a triumph of medical treatments for infectious diseases, pharmaceuticals have been developed whose use virtually eliminates such maladies. For example, Hepatitis C virus infection has been eliminated from almost all (>97%) of its victims. This incredible result was the by-product of basic research in virology as well as cell and molecular biology during which intelligent drugs were designed to block events in the hepatitis virus life-cycle"--

Principles of Molecular Virology (Standard Edition)-Alan J. Cann 2001-03-01 Principles of Molecular Virology, Third Edition provides an essential introduction to modern virology in a clear and concise manner. It is a highly enjoyable and readable text with numerous illustrations that enhance the reader's understanding of important principles. This edition has been updated and revised with new figures and text. New to the Third Edition: Viruses and Apoptosis (Chapter 6) Bacteriophages and Human Disease (Chapter 7) Learning objectives for each chapter Pronunciation section in Glossary and abbreviations section (Appendix 1) Key events in the history of virology (Appendix 3) Addition of colour in text and figures to enhance understanding of key points Also: Self assessment questions at the end of each chapter Classification of Subcellular Infectious agents Approx. 20% new material and completely revised throughout Over 120 figures

Fenner and White's Medical Virology-Christopher J. Burrell 2016-11-09 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

Applied Plant Virology-L. P. Awasthi 2020-05-14 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

Encyclopedia of Virology-Allan Granoff 1999-07-27 In recent years, progress in the field of virology has advanced at an unprecedented rate. Issues such as AIDS have brought the subject firmly into the public domain and its study is no longer confined solely to specialist groups. The Encyclopedia of Virology is the largest single reference source of current virological knowledge. It is also the first to bring together all aspects of the subject for a wide variety of readers.

Unique in its use of concise 'mini-review' articles, the material covers biological, molecular, and medical topics concerning viruses in animals, plants, bacteria, and insects. More general articles focus on the effects of viruses on the immune system, the role of viruses in disease, oncology, gene therapy, and evolution, plus a wide range of related topics. Drawing on the latest research, the editors have produced the definitive source for both specialist and general readers. Easy-to-use and meticulously organized, the Encyclopedia of Virology clarifies and illuminates one of the most complex areas of contemporary study. It will prove an invaluable addition to libraries, universities, medical and nursing schools, and research institutions around the world. The Second Edition has been thoroughly updated with approximately 40 new articles. This edition includes more illustrations and color plates in each volume. Updated thoroughly with approximately 40 new articles Presents more illustrations than the first edition, with color plates in each volume Contains a complete subject index in each volume Provides further reading lists at the end of each entry, allowing easy access to the primary literature Extensive cross-referencing system links all related articles Contains the most recent information of particular viruses described at the 7th International Committee on Taxonomy and Classification of Viruses Provides the ability to search for entries alphabetically or via the taxonomical listings to access articles of different viruses

An Introduction to General Virology-Thomas M. Bell 2014-05-12 An Introduction to General Virology provides information pertinent to all aspects of virology. This book discusses the viruses affecting plants and insects. Organized into 25 chapters, this book begins with an overview of prevention of disease that can be effected by the immunization of susceptible hosts to produce circulating antibodies that neutralize viral infectivity. This text then discusses the general properties of the viruses. Other chapters consider the methods of preparing tissue cultures and explain the methods used for titrations of serum antibodies and serological identification of viruses. This book discusses as well the spread of diseases, the various invasion routes of the body, and the multitude of viruses which cause respiratory symptoms and which cannot easily be conquered. The final chapter deals with the types of vaccine in use. This book is a valuable resource for undergraduates in Medicine and Science and for postgraduates in the class of Public Health.

Fenner's Veterinary Virology-N. James MacLachlan 2010-11-26 Fenner's Veterinary, Virology, Fourth Edition, is the long awaited new edition of Veterinary Virology, 3e, which was published in 1999. Fully revised and updated by the new author team, part I presents the fundamental principles of virology related to animal infection and disease, and part II addresses the clinical features, pathogenesis, diagnosis, epidemiology and prevention of individual diseases. New to this Edition New author team - one main author to ensure that the book reads like an authored book but with the benefit of using experts to contribute to specific topics Text has been refocused - part I has been condensed and where appropriate incorporated into part II to make it more user friendly The number of figures have been increased and are now in full color Fully revised and updated to include the latest information in the field of veterinary virology Beautifully illustrated color figures throughout Organized and current information provided by an expert team of authors

Virology E-Book-Stephen N J Korsman 2012-08-17 This is a concise, highly accessible introduction to medical virology, incorporating essential basic principles as well as a systematic review of viruses and viral diseases. It pays particular attention to developments in anti-viral therapy that are becoming increasingly effective in modern medicine. It is an ideal textbook for the information-overloaded student and an invaluable everyday companion for the busy professional who needs a good understanding of the current state of medical virology. In keeping with the highly successful format of other Illustrated Colour Texts, it presents the subject as a series of succinct 2 page 'learning units', using a superb collection of clear illustrations and clinical photographs, concise yet comprehensive text and key point boxes to aid quick access to information and examination preparation. So whether you are a medical student, junior doctor, medical scientist, trainee in infectious diseases or student on another allied medical course, this book is here to make your life easier! It will also provide a very solid foundation for any who plan to delve deeper into this fascinating field. Part of the popular Illustrated Colour Text series Information presented in double page spreads for easy learning Highly illustrated with both full colour graphics and clinical photographs Each spread includes a key point box for exam preparation

Plant Virology-Roger Hull 2013-10-31 The seminal text Plant Virology is now in its fifth edition. It has been 10 years since the publication of the fourth edition, during which there has been an explosion of conceptual and factual advances. The fifth edition of Plant Virology updates and revises many details of the previous edition while retaining the important earlier results that constitute the field's conceptual foundation. Revamped art, along with fully updated references and increased focus on molecular biology, transgenic resistance, aphid transmission, and new, cutting-edge topics, bring the volume up to date and maintain its value as an essential reference for researchers and students in the field. Thumbnail sketches of each genera and family groups Genome maps of all genera for which they are known Genetic engineered resistance strategies for virus disease control Latest understanding of virus interactions with plants, including gene silencing Interactions between viruses and insect, fungal, and nematode vectors Contains over 300 full-color illustrations

Leeuwenhoek's Legatees and Beijerinck's Beneficiaries-Gerard van Doornum 2020-02-05 This book offers a tour of the history of medical virology in the Netherlands from the nineteenth century to the new millennium. Beginning with the discovery of the first virus by Martinus Beijerinck in 1898, the authors investigate the reception and redefinition of his concept in medical circles and its implications for medical practice, particularly in the diagnosis and prevention of viral infections. The relatively slow progress of these areas in the first half of the twentieth century and their explosive growth in the wake of molecular techniques are examined. The surveillance and control of virus diseases in the field of public health is treated in depth, as are tumour virus research and the important Dutch contributions to technical developments instrumental in advancing virology worldwide. Particular attention is paid to oft forgotten virus research in the former Dutch colonies in the East and West Indies and Africa.

Textbook of Medical Virology-Erik Lycke 2014-06-28 Textbook of Medical Virology presents a critical review of general principles in the field of medical virology. It discusses the description and molecular structures of virus. It addresses the morphology and classifications of viruses. It also demonstrates the principal aspects of virus particle structure. Some of the topics covered in the book are the symmetrical arrangements of viruses; introduction to different families of animal viruses; biochemistry of virus particles; the immunological properties and biological activities of viral gene products; description of enzymatic activities of viruses; and haemagglutination, cell fusion, and haemolysis of viruses. The description and characteristics of viral antigens are covered. The identification and propagation of viruses in tissue and cell cultures are discussed. An in-depth analysis of the principles of virus replication is provided. A study of the morphogenesis of virions is also presented. A chapter is devoted to virus-induced changes of cell structures and functions. The book can provide useful information to virologists, microbiologists, students, and researchers.

Environmental Virology and Virus Ecology- 2018-06-14 Environmental Virology, Volume 101, the latest in the Advances in Virus Research series, contains new, informative updates on the topic. First published in 1953, this series covers a diverse range of in-depth reviews, providing a valuable overview of the current field of virology. Updates to this release include sections on the host landscape and vector behavior, key determinants of plant virus evolution and emergence, plant virome analysis using spatial metagenomics, host range evolution in generalist viruses, the influence of environment, water-mediated spread and transmission of viruses, viruses transmitted by means other than insect vectors, and more. Contains contributions from leading authorities in the field of virology Informs and updates on all the latest developments in the field Features a diverse range of virology topics, including discussions of host landscape and vector behavior and viruses transmitted by means other than insect vectors

Essential Human Virology-Jennifer Louten 2016-03-29 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

Principles of Molecular Virology-Alan Cann 2005-08-09 The fourth edition of the hugely successful Principles of Molecular Virology takes on a molecular approach, presenting the principles of virology in a clear and concise manner. This work explores and explains the fundamental aspects of virology, including structure of virus particles and genome, replication, gene expression, infection, pathogenesis and subviral agents. The self-assessment questions, glossary and abbreviations section provide excellent revision aids and serve as handy references to students, tutors and researchers alike. NEW TO FOURTH EDITION: * New material on virus structure and virus evolution * Updated pathogenesis section covering Ebola, SARS and HIV * New section on Bioterrorism * Fully updated references * New material on virus structure, virus evolution, zoonoses, bushmeat, SARS and bioterrorism

In Loeffler's Footsteps - Viral Genomics in the Era of High-Throughput Sequencing- 2017-10-20 In Loeffler's Footsteps - Viral Genomics in the Era of High-Throughput Sequencing, Volume 99, the latest in the Advances in Virus

Research series, contains new information on the topic, with chapters covering Loeffler 4.0 - diagnostic metagenomics, Detection of a novel orthobunyavirus by metagenomic analysis - the situation after five years, New Squirrel and Rodent Viruses Detected by NGS, Astroviridae - A Growing Family, New Leaves in the Growing Pestivirus Tree, New BTV Serotypes and no End?, and The recently discovered Bokeloh Bat Lyssavirus - Evidence for its continued transmission in Europe. First published in 1953, this series covers a diverse range of in-depth reviews, providing a valuable overview of the current field of virology. The series is a valuable resource for information on all topics of virus research, from bacteriophages to human viruses, with this volume focusing on genomics. Contains contributions from leading authorities Informs and updates on all the latest developments in the field Features a diverse range of virology topics

Encyclopedia of Virology-Brian W. J. Mahy 2008 Covers biological, molecular, and medical topics concerning viruses in animals, plants, bacteria and insects ... this new ed. has been extensively revised and updated to reflect the 50 % increase in identified and accepted viruses since 2000. Includes information on avian flu, SARS and West Nile and the ability of some viruses to be used as agents of bioterrorism.

Veterinary Virology-Frederick A. Murphy 1999-10-27 Completely rewritten, this edition has expanded coverage of zoonotic viruses and the diseases they cause, and viruses and viral diseases of laboratory animals, poultry, fish, and wildlife. The concept of new emerging and reemerging viral diseases reflects the new perspective this concept has brought to veterinary and zoonotic virology and related fields. Part I presents fundamental principles of virology related to animal infection and disease. Part II details the properties and clinical features of the viruses that afflict animals and describes their treatment and control. Key Features * Comprehensive coverage of animal viruses, viral diseases, and viral zoonoses * Covers veterinary and zoonotic virology from the perspective of pathogenesis of viral infections, as well as from the perspective of disease prevention and control

Comparative Virology-Karl Maramorosch 2014-06-28 Comparative Virology provides an integrated comparison of viruses, based on their chemical and morphological characteristics. These descriptions will not only give the reader a background but also a detailed analysis of the various groups. In some instances the groups are still host related, as in the case of bacteriophages and polyhedral insect viruses. In others, for instance in pox viruses, the group comprises viruses of vertebrates and invertebrates. The hosts of the bacilliform Rhabdovirales range from man and other warm-blooded vertebrates through invertebrate animals to plants. A special chapter is devoted to viruses devoid of protein—a group that is of great interest and that has only recently been recognized. Since there is historical and practical interest in *écologie* groupings, such as arboviruses and oncogenic viruses, chapters on such groups have also been included. The book opens with a discussion on the classification of viruses. Chapters dealing with DNA viruses and RNA viruses follow, and the ecologically and disease-oriented groups complete the volume. It is hoped that ""Comparative Virology"" will help bring unity to the science of virology through the comparative approach that is not dependent on virus-host interactions. The combined efforts of eminent contributors to discuss and evaluate new information will hopefully benefit all who are interested in virology

Virology-Florence G. Bursleson 2014-05-19 Virology: A Laboratory Manual is designed for a one-semester virology laboratory course, although more than one semester of exercises are included. Choices of experiments allow for flexibility within a sequentially organized framework. The text features detailed experimental protocols with comprehensive sections on materials and preparations for all exercises, plus introductory material, discussion questions, and further reading. the use of few viruses and cell lines provides continuity and simplifies preparation of the laboratory exercises. An Instructor's Manual is available to give alternative and assistance in laboratory set-up. n Methods for studying viral properties and quantification n Assays for viral antibodies and interferons n Techniques in cell culture for viral research n Experiments to accommodate a bi-weekly laboratory schedule n Experiments designed to minimize need for extensive preparation or sophisticated instrumentation

Neurovirology-Alex C. Tselis 2014-07-08 This volume in the Handbook of Clinical Neurology series provides a complete review of the history, science and current state of neurovirology. It covers the science and clinical presentation, diagnosis, and treatment of viruses of the brain and central nervous system, and is a trusted resource for scholars, scientists, neuroscientists, neurologists, virologists, and pharmacologists working on neurovirology. Neurovirology has been significantly bolstered by modern technologies such as PCR and MRI with direct impact on isolating viruses and advancing therapeutics based on molecular medicine. These advances are particularly important today with the introduction of emerging and re-emerging diseases such as HIV/AIDS, Nipah encephalitis and the appearance of West Nile encephalitis in the western hemisphere. Detailed coverage of neurovirology from the basic science to clinical presentation Covers advances in neurovirology via polymerase chain reaction (PCR) and MRI technology Covers emerging and re-emerging diseases including HIV/AIDS, Nipah encephalitis, and the appearance of West Nile encephalitis in the western hemisphere

Viruses-Paula Tennant 2018-03-12 Viruses: Molecular Biology, Host Interactions, and Applications to Biotechnology provides an up-to-date introduction to human, animal and plant viruses within the context of recent advances in high-throughput sequencing that have demonstrated that viruses are vastly greater and more diverse than previously recognized. It covers discoveries such as the Mimivirus and its viroplasm which have stimulated new discussions on the definition of viruses, their place in the current view, and their inherent and derived 'interactomics' as defined by the molecules and the processes by which virus gene products interact with themselves and their host's cellular gene products. Further, the book includes perspectives on basic aspects of virology, including the structure of viruses, the organization of their genomes, and basic strategies in replication and expression, emphasizing the diversity and versatility of viruses, how they cause disease and how their hosts react to such disease, and exploring developments in the field of host-microbe interactions in recent years. The book is likely to appeal, and be useful, to a wide audience that includes students, academics and researchers studying the molecular biology and applications of viruses Provides key insights into recent technological advances, including high-throughput sequencing Presents viruses not only as formidable foes, but also as entities that can be beneficial to their hosts and humankind that are helping to shape the tree of life Features exposition on the diversity and versatility of viruses, how they cause disease, and an exploration of virus-host interactions

Clinical Virology-Douglas D. Richman 2020-07-10 The essential reference of clinical virology Virology is one of the most dynamic and rapidly changing fields of clinical medicine. For example, sequencing techniques from human specimens have identified numerous new members of several virus families, including new polyomaviruses, orthomyxoviruses, and bunyaviruses. Clinical Virology, Fourth Edition, has been extensively revised and updated to incorporate the latest developments and relevant research. Chapters written by internationally recognized experts cover novel viruses, pathogenesis, epidemiology, diagnosis, treatment, and prevention, organized into two major sections: Section 1 provides information regarding broad topics in virology, including immune responses, vaccinology, laboratory diagnosis, principles of antiviral therapy, and detailed considerations of important organ system manifestations and syndromes caused by viral infections. Section 2 provides overviews of specific etiologic agents and discusses their biology, epidemiology, pathogenesis of disease causation, clinical manifestations, laboratory diagnosis, and management. Clinical Virology provides the critical information scientists and health care professionals require about all aspects of this rapidly evolving field.

Applied Plant Virology-Calum Rae Wilson 2014-08-01 Written for advanced undergraduate students, this book is a practical, in-depth guide to plant virology. Beginning with an introduction to viruses and their classification, the text describes virus pathology, including how viruses enter and move through plant cells and induce disease. Subsequent chapters discuss how viruses spread in the field and how to measure this. Throughout, the book remains reader-friendly, using focus boxes for clear, easy to obtain information, enabling students to quickly access relevant information but supply sufficient detail for advanced studies. In addition to basic information on virus biology there is an additional focus on applied virology, ideal for students undertaking agricultural studies for whom study of disease and its control is essential.

Virus as Populations-Esteban Domingo 2015-09-25 Virus as Populations: Composition, Complexity, Dynamics, and Biological Implications explains fundamental concepts that arise from regarding viruses as complex populations when replicating in infected hosts. Fundamental phenomena in virus behavior, such as adaptation to changing environments, capacity to produce disease, probability to be transmitted or response to treatment, depend on virus population numbers and in the variations of such population numbers. Concepts such as quasispecies dynamics, mutations rates, viral fitness, the effect of bottleneck events, population numbers in virus transmission and disease emergence, new antiviral strategies such as lethal mutagenesis, and extensions of population heterogeneity to nonviral systems are included. These main concepts of the book are framed in recent observations on general virus diversity derived from metagenomic studies, and current views on the origin of viruses and the role of viruses in the evolution of the biosphere. Features current views on the key steps in the origin of life and origins of viruses Includes examples relating ancestral features of viruses with their current adaptive capacity Explains complex phenomena in an organized and coherent fashion that is easy to comprehend and enjoyable to read Considers quasispecies as a framework to understand virus adaptability and disease processes

A Century of Plant Virology in India-Bikash Mandal 2017-11-28 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 Alexivirus, 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.

Viruses and Human Disease- Ellen G. Strauss 2007-09-21 Completely revised and updated, the new edition of this groundbreaking text integrates basic virology with pathophysiological conditions to examine the connection between virology and human disease. Most virology textbooks focus on the molecular biology involved without adequate reference to physiology. This text focuses on viruses that infect humans, domestic animals and vertebrates and is based on extensive course notes from James Strauss' virology class at the California Institute of Technology taught for over 30 years. Expertly depicting in color the molecular structure and replication of each virus, it provides an excellent overview for students and professionals interested in viruses as agents of human disease. Includes over 30% new material - virtually all of the figures and tables have been redrawn to include the latest information and the text has been extensively rewritten to include the most up-to-date information. Includes a new chapter on emerging and reemerging viral diseases such as avian flu, SARS, the spread of West Nile virus across America, and the continuing spread of Nipah virus in Southeast Asia. Further reading sections at the end of each chapter make it easy to find key references. World maps depicting the current distribution of existing and newly emerging viruses are also incorporated into the text.

Aquaculture Virology- Frederick S. B. Kibenge 2016-07-11 To date textbooks on viruses infecting fish, crustaceans and molluscs, the three main aquatic animal farmed groups, have been on the whole "diseases-centric and individual viral diseases selected based on "epizoo-centric approaches with little to no coverage of the basic biology of the viruses, in contrast to textbooks on viruses infecting terrestrial - farmed, pet, and free-range (wild) - animals and humans. Despite considerable advances in animal virology in recent years coupled with an economically important global aquaculture industry, knowledge of viruses of animal aquaculture is still sparse and in some cases outdated although these viruses are closely related to well-known virus families. The last book in fish virology (Fish viruses and fish viral diseases 1988, Wolf, K.) was published in the 1980s. A lot of work has been done on fish viruses and many new aquatic animal viruses continue to be discovered. Aquaculture Virology provides the current state of knowledge of aquatic animal viruses within the current virus classification and taxonomic context thereby allowing the reader to draw on the principles of general virology. This book is a systematic and concise resource useful to anyone involved with or looking to move into aquaculture and fisheries. Clinical veterinarians, aquaculture disease practitioners, biologists, farmers, and all those in industry, government or academia who are interested in aquatic animal virology will find this book extremely useful. Provides unique comprehensive information on animal viruses for aquaculture and fisheries. Presents high quality illustrations of viral structure, diagrams of viral disease processes, gross pathology and histopathology lesions, and summary tables to aid in understanding. Describes aquatic animal viruses of the three major aquatic animals, fish, crustaceans, and molluscs, within the current virus classification and taxonomic context thereby allowing the reader to draw on the principles of general virology.

To Catch a Virus- John Booss 2013-03-01 Expert storytellers weave together the science, technological advances, medical urgencies, and human stories that chronicle the development of the field of diagnostic virology. Follows a historical discoveries that defined viruses and their roles in infectious diseases over a century of developments, epidemics, and molecular advances, and continuing into the 21st century with AIDS, HIV, and a future that in no way resembles the past. Features the great names and personalities of diagnostic virology, their contributions, their associations, and their challenges to prove findings that some considered fantasy. Describes how scientists applied revolutionary technologies, studying viruses, first in animal models and tissue culture and progressing to molecular and genetic techniques. Appeals to the pioneer and adventure-seeker who is interested in how a scientific field evolves.

Viral Immunology and Immunopathology- Abner Louis Notkins 2014-06-28 Viral Immunology and Immunopathology covers topics concerning the role of cellular and humoral immunity in viral infections, factors responsible for the persistence and recurrence of viral infections in the presence of immunity, mechanisms of viral immunopathology, and concepts in the development of vaccines. The book describes the history of viral immunology; the synthesis and properties of viral antigens; and the humoral immune response to viruses. The text also discusses the mechanisms of viral neutralization; cellular immunity; the role of inflammatory cells and effector molecules in combating viral infections; and the genetic control of resistance. The book concludes with chapters on herd immunity; viral immunopathology; and viral immunology and immunopathology. Immunologists, pathologists, virologists, and microbiologists will find the book useful.

Virology- Leonard C. Norkin 2010 "Based on the author's experiences teaching virology for more than 35 years, Virology: Molecular Biology and Pathogenesis enables readers to develop a deep understanding of fundamental virology by emphasizing principles and discussing viruses in the context of virus families. Moreover, individual virus families are examined within the context of the Baltimore classification system, a key unifying theme that allows readers to assume basic facts about the replication strategy of a virus based on the nature of its genome."--BOOK JACKET.

Desk Encyclopedia of Human and Medical Virology- Brian W.J. Mahy 2010-05-21 This volume contains 82 chapters that provide detail and understanding to the fields of human and medical virology. The first section describes general features of common human viruses with specialized chapters related to HIV/AIDS. The volume goes on to describe exotic virus infections, including one now eradicated virus (smallpox) and some now controlled by vaccination such as yellow fever. Concepts of medical virology are further developed with entries on viruses associated with oncogenesis and selections of interest to medical virology. The most comprehensive single-volume source providing an overview of virology issues related to human and medical applications. Bridges the gap between basic undergraduate texts and specialized reviews. Concise and general overviews of important topics within the field will help in preparation of lectures, writing reports, or drafting grant applications.

Brief History Of Bacteria, A: The Everlasting Game Between Humans And Bacteria- Daijie Chen 2017-12-08 This book explains how pathogenic bacteria cause diseases, how the human immune system launches timely and effective defense mechanisms against bacterial infection, why the discovery and application of penicillin and streptomycin are so important, how scientists have created medicines to defeat bacteria, and why these bacteria might outsmart modern medicine. On the other hand, bacteria can be beneficial to humans: some bacteria live in harmony with the human body, and they are indispensable to our health. They also help in refining biological energy in the post-fossil fuel era, and in producing fermented food. With accessible language, illustrations and comics, this book tells the story of our tumultuous relationship with bacteria and how it has shaped history.

Virology- John Carter 2007-08-15 Virology is a clear and accessible introduction to this fast moving field, providing a comprehensive resource enabling students to understand the key concepts surrounding this exciting subject. The authors have produced a text that stimulates and encourages the student through the extensive use of clear, colour-coded diagrams. Taking a modern approach to the subject, the relevance of virology to everyday life is clearly emphasised and discussion on emerging viruses, cancer, vaccines, anti-viral drugs, gene vectors and pesticides is included. This title: Provides an introduction to the theories behind the origins of viruses and how they are evolving with discussion on emerging viruses. Includes numerous diagrams with standard colour coding for different types of molecule such as DNA, messenger RNA, other virus RNA's proteins - all diagrams are carefully developed and clearly labelled to enhance student understanding. Features self-contained descriptions of the complete replication cycles of a selection of viruses. Introduces the relevance of virology to the modern world including the latest developments in the field - HIV, Foot and Mouth disease, Ebola, SARS and MMR. Presents summary boxes, further reading and an associated website to include the latest developments. Virology is an essential textbook for all undergraduate students of biology, microbiology and biomedical sciences taking courses in virology. It is also an invaluable resource for MSc level students who have previously done little or no virology and are looking for an accessible introduction to the subject. A Planet of Viruses- Carl Zimmer 2012-04-30 Explores the hidden world of viruses, explaining how they profoundly affect human lives and updating the reader in current virus-related issues, such as the frenetic evolution of the HIV virus, which could pose greater dangers in the future. By the author of Parasite Rex.

Introduction to Modern Virology- N. J. Dimmock 2001-01-01 Introduction to Modern Virology, an established student text for over 25 years, has been fully revised and updated in this fifth edition. Providing an integrated account of animal, plant and bacterial viruses, this book covers the field of virology from molecular biology to disease processes. Topics include the molecular aspects of virion structure, virus entry, replication and gene expression of RNA and DNA viruses and the classic paradigm of lysogeny, whilst on the biomedical side, chapters deal with virus cultivation, immunology and carcinogenesis. Uniquely, human and animal virus diseases are dealt with generically within the text, bringing all infections within a highly manageable seven-section framework. Prevention and therapy, evolution and emerging viruses receive particular attention and specific chapters address the major infectious challenges posed by

HIV, pandemic influenza and BSE. This highly accessible new edition provides ideal reading for all undergraduate and postgraduate students of biology and medicine wishing to study virology. Fields Virology-David M. Knipe 2013-06-17 Fields Virology is the authoritative reference book for virology, providing definitive coverage of all aspects of virology, through coverage of virus biology as well as replication and medical aspects of specific virus families. With the regular outbreaks of influenza, noroviruses as well as emerging and re-emerging viruses it is essential to have the most up-to-date information available. With this Sixth Edition, all chapters have been completely updated, an important new emphasis has been placed on virus discovery and emerging viruses. Viruses associated with cancer, including the new human polyomaviruses, are highlighted in this Sixth Edition and new chapters have been added on circoviruses and mimiviruses. While the main focus of this edition continues to be on viruses, information on prions and the infectious spongiform encephalopathies are also included.

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