Nccls Guidelines 2009

Featuring contributions by an international team of the world’s experts in urology and gynecology, this fourth edition reinforces its status as the classic comprehensive resource on female urology and urogynecology and an essential clinical reference in the field.
This book covers pot-pollen—the other product, besides honey, stored in cerumen pots by Meliponini. Critical assessment is given of stingless bee and pot-pollen biodiversity in the Americas, Africa, Asia and Oceania. Topics addressed include historical biogeography, cultural knowledge, bee foraging behavior, pollination, ecological interactions, health applications, microbiology, the natural history of bee nests, and chemical, bioactive and individual plant components in stored pollen. Pot-pollen maintains the livelihoods of stingless bees and provides many interesting biological products that are just now beginning to be understood. The Meliponini have developed particular nesting biologies, uses of building materials, and an architecture for pollen storage. Environmental windows provide optimal temperature and availability of pollen sources for success in plant pollination and pollen storage. Palynological composition and pollen taxonomy are used to assess stingless honey bee pollination services. Pollen processing with microorganisms in the nest modifies chemical composition and bioactivity, and confers nutraceutical benefits to the honey and pollen widely relished by native people. Humans have always used stingless bees. Yet, sustainable meliponiculture (stingless bee-keeping) projects have so far lacked a treatise on pot-pollen, which experts provide in this transdisciplinary, groundbreaking volume.
In recent years, owing to the fast development of a variety of sequencing technologies in the post human genome project era, sequencing analysis of a group of target genes, entire protein coding regions of the human genome, and the whole human genome has become a reality. Next Generation Sequencing (NGS) or Massively Parallel Sequencing (MPS) technologies offers a way to screen for mutations in many different genes in a cost and time efficient manner by deep coverage of the target sequences. This novel technology has now been applied to clinical diagnosis of Mendelian disorders of well characterized or undefined diseases, discovery of new disease genes, noninvasive prenatal diagnosis using maternal blood, and population based carrier testing of severe autosomal recessive disorders. This book covers topics of these applications, including potential limitations and expanded application in the future. ?
Chemometrics in Spectroscopy, Revised Second Edition provides the reader with the methodology crucial to apply chemometrics to real world data. The book allows scientists using spectroscopic instruments to find explanations and solutions to their problems when they are confronted with unexpected and unexplained results. Unlike other books on these topics, it explains the root causes of the phenomena that lead to these results. While books on NIR spectroscopy sometimes cover basic chemometrics, they do not mention many of the advanced topics this book discusses. This revised second edition has been expanded with 50% more content on advances in the field that have occurred in the last 10 years, including calibration transfer, units of measure in spectroscopy, principal components, clinical data reporting, classical least squares, regression models, spectral transfer, and more. Written in the column format of the authors’ online magazine Presents topical and important chapters for those involved in analysis work, both research and routine Focuses on practical issues in the implementation of chemometrics for NIR Spectroscopy Includes a companion website with 350 additional color figures that illustrate CLS concepts
An update to the popular guide to proteomics technology applications in biomedical research Building on the strength of the original edition, this book presents the state of the art in the field of proteomics and offers students and scientists new tools and techniques to advance their own research. Written by leading experts in the field, it provides readers with an understanding of new and emerging directions for proteomics research and applications. Proteomics for Biological Discovery begins by discussing the emergence of proteomics technologies and summarizing the potential insights to be gained from proteome-level research. The tools of proteomics, from conventional to novel techniques, are thoroughly covered, from underlying concepts to limitations and future directions. Later chapters provide an overview of the current developments in post-translational modification studies, structural proteomics, biochemical proteomics, applied proteomics, and bioinformatics relevant to proteomics. Chapters cover: Quantitative Proteomics for Differential Protein Expression Profiling; Protein Microarrays; Protein Biomarker Discovery; Biomarker Discovery using Mass Spectrometry Imaging; Protein-Protein Interactions; Mass Spectrometry Of Intact Protein Complexes; Crosslinking Applications in Structural Proteomics; Functional Proteomics; High Resolution Interrogation of Biological Systems via Mass Cytometry; Characterization of Drug-Protein Interactions by Chemoproteomics; Phosphorylation; Large-Scale Phosphoproteomics; and Probing Glycoforms of Individual Proteins Using Antibody-Lectin Sandwich Arrays. Presents a comprehensive and coherent review of the major issues in proteomic technology development, bioinformatics, strategic approaches, and applications Chapters offer a rigorous overview with summary of limitations, emerging approaches, questions, and realistic future industry and basic science applications Features new coverage of mass spectrometry for high throughput proteomic measurements, and novel quantitation strategies such as spectral counting and stable isotope labeling Discusses higher level integrative aspects, including technical challenges and applications for drug discovery Offers new chapters on biomarker discovery, global phosphorylation analysis, proteomic profiling using antibodies, and single cell mass spectrometry Proteomics for Biological Discovery is an excellent advanced resource for graduate students, postdoctoral fellows, and scientists across all the major fields of biomedical science.
The variety of chemically diverse pharmacological agents administered to patients is large and continues to expand and with every new drug released, there is always potential for adverse reactions, some of them allergic. With its roots in immunology and pharmacology, the science of drug allergy is becoming better understood and applied as its importance is increasingly recognized throughout the many branches of medicine. Drug Allergy: Clinical Aspects, Diagnosis, Mechanisms, Structure-Activity Relationships sheds new light on this field. Comprehensive in design, this authoritative title identifies the most important culprit drugs implicated in immediate and delayed drug hypersensitivities and offers up-to-date information on classifications, diagnoses, underlying mechanisms and structure-activity relationships. Chapters dealing with the molecular and cellular mechanisms of drug hypersensitivities, non-immune-mediated sensitivities and diagnostic methods are presented as introductory material for in-depth treatises on the ?-lactam antibiotics, other antibiotics and antimicrobials, drugs used in anesthesia and surgery, opioid analgesics, corticosteroids, monoclonal antibodies and other biologics, drugs used in chemotherapy, proton pump inhibitors, iodinated and gadolinium-based contrast media and non-steroidal anti-inflammatory drugs. In addition to being of immense value to clinicians, other health care professionals and researchers, this title will prove invaluable for those taking undergraduate and graduate courses in science and will also serve as a useful text for students of medicine, pharmacy, nursing and dentistry.
Rivers, lakes and the ocean receive antibiotic resistance genes from human environments. The aquatic environments are a huge reservoir and exchange stage of antibiotic resistance genes.
This timely book covers the need to know clinical practices for all those involved in molecular laboratory science. The field of molecular medicine is evolving at an astounding speed. Propelled by the new insights and technologies, advances are being made at an unprecedented rate. With dual measure given to today’s breakthroughs, this book is a collection of the most current practices relevant to the clinical molecular laboratorian. It begins with an introductory section on techniques and procedure. It then presents four separate sections on infectious disease, oncology, pre/post-natal, and identity testing, with specific chapters clearly outlining clinical protocols used in daily practice. Modern Clinical Molecular Techniques cuts to the heart of what is essential for the practicing molecular laboratory scientist. It is an outstanding resource for those operating within or looking to set up a clinical

molecular laboratory.
Principles of Translational Science in Medicine: From Bench to Bedside, Third Edition, provides an update on major achievements in the translation of research into medically relevant results and therapeutics. The book presents a thorough discussion of biomarkers, early human trials, and networking models, and includes institutional and industrial support systems. It also covers algorithms that have influenced all major areas of biomedical research in recent years, resulting in an increasing number of new chemical/biological entities (NCEs or NBEs) as shown in FDA statistics. New chapters include: Translation in Oncology, Biologicals, and Orphan Drugs. The book is ideal for use as a guide for biomedical scientists to establish a systematic approach to translational medicine and is written by worldwide experts in their respective fields. Includes state-of-the-art principles, tools such as biomarkers and early clinical trials, algorithms of translational science in medicine Provides in-depth description of special translational aspects in the currently most successful areas of clinical translation, namely oncology and immunology Covers status of institutionalization of translational medicine, networking structures and outcomes at the level of marketing authorization
There has been emergence of multidrug resistance problem all over the world due to overuse or underuse of antibiotics. Most microbes including bacteria, fungi, protozoans and others have developed resistance to antibiotics, and therefore, this problem is now recognized to be of global concern. Ubiquitous occurrence of multidrug-resistant bacteria decreases effectiveness of current treatment, which results in thousands of deaths all over the world. Hence, investigations for new alternatives and novel strategies are urgently needed to address the problem of multidrug resistance. The antimicrobial potential of essential oils and metallic nanoparticles represent an effective solution for microbial resistance. Moreover, the use of essential oils in combination with metallic nanoparticles may exert synergistic antimicrobial effects and would be a novel approach. Essential oils (EOs) are volatile, natural, aromatic oily liquids that can be obtained from several parts of plants especially the aerial ones such as leaves and flowers. They are derived from complex metabolic pathways in order to protect plants from diverse pathogenic microorganisms. In fact, the bioactivity of EOs have been confirmed by several studies which have demonstrated their antibacterial, antiviral, anti-inflammatory, antifungal, antimutagenic, anticarcinogenic, and antioxidant properties. Nanotechnology is one of the most important and emerging technologies, which has brought about a technological revolution in the world. It has enormous applications in the field of medicine. Nanoparticles are very important tools in curing different diseases in general and microbial diseases in particular due to their significantly novel and improved chemical, physical and biological properties and high surface area-to-volume ratio. Among these, metal nanoparticles are known to play pivotal role in various biomedical applications. In this context, nanoparticles such as silver have shown their potential and could emerge as the new generation of antimicrobials. Silver nanoparticles have broad-spectrum biological activities and hence are used in many biomedical applications. The various biomedical applications of silver nanoparticles include treatment of wounds, burns, in water-disinfecting systems, in nanobased bone implantations, in dentistry for the development of dental materials and as antibacterial, antivirals, anti-protozoals, anti-arthropods and anticancerous agents. Apart from silver, noble metal nanoparticles like gold and platinum and other nanoparticles copper, oxides of different metals, etc. have been also the materials of choice for many scientists for their biological applications. The book will be of interest to chemists, microbiologists, biotechnologist, food technologists, nanotechnologists, pharmacologists, clinicians and those interested in nature cure. Students will find this book useful and reader friendly.
The underlying technology and the range of test parameters available are evolving rapidly. The primary advantage of POCT is the convenience of performing the test close to the patient and the speed at which test results can be obtained, compared to sending a sample to a laboratory and waiting for results to be returned. Thus, a series of clinical applications are possible that can shorten the time for clinical decision-making about additional testing or therapy, as delays are no longer caused by preparation of clinical samples, transport, and central laboratory analysis. Tests in a POC format can now be found for many medical disciplines including endocrinology/diabetes, cardiology, nephrology, critical care, fertility, hematology/coagulation, infectious disease and microbiology, and general health screening. Point-of-care testing (POCT) enables health care personnel to perform clinical laboratory testing near the patient. The idea of conven tional and POCT laboratory services presiding within a hospital seems contradictory; yet, they are, in fact, complementary: together POCT and central laboratory are important for the optimal functioning of diagnostic processes. They complement each other, provided that a dedicated POCT coordination integrates the quality assurance of POCT into the overall quality management system of the central laboratory. The motivation of the third edition of the POCT book from Luppa/Junker, which is now also available in English, is to explore and describe clinically relevant analytical techniques, organizational concepts for application and future perspectives of POCT. From descriptions of the opportunities that POCT can provide to the limitations that clinician’s must be cautioned about, this book provides an overview of the many aspects that challenge those who choose to implement POCT. Technologies, clinical applications, networking issues and quality regulations are described as well as a survey of future technologies that are on the future horizon. The editors have spent considerable efforts to update the book in general and to highlight the latest developments, e.g., novel POCT applications of nucleic acid testing for the rapid identification of infectious agents. Of particular note is also that a cross-country comparison of POCT quality rules is being described by a team of international experts in this field.
In response to the ever-changing needs and responsibilities of the clinical microbiology field, Clinical Microbiology Procedures Handbook, Fourth Edition has been extensively reviewed and updated to present the most prominent procedures in use today. The Clinical Microbiology Procedures Handbook provides step-by-step protocols and descriptions that allow clinical microbiologists and laboratory staff personnel to confidently and accurately perform all analyses, including appropriate quality control recommendations, from the receipt of the specimen through processing, testing, interpretation, presentation of the final report, and subsequent consultation.
Cytogenetic Laboratory Management: Chromosomal, FISH and Microarray-Based Best Practices and Procedures is a practical guide that describes how to develop and implement best practice processes and procedures in the genetic laboratory setting. The text first describes good laboratory practices, including quality management, design control of tests and FDA guidelines for laboratory developed tests, and pre-clinical validation study designs. The second focus of the book describes best practices for staffing and training, including cost of testing, staffing requirements, process improvement using Six Sigma techniques, training and competency guidelines and complete training programs for cytogenetic and molecular genetic technologists. The third part of the text provides step-wise standard operating procedures for chromosomal, FISH and microarray-based tests, including pre-analytic, analytic and post-analytic steps in testing, and divided into categories by specimen type, and test-type. All three sections of the book include example worksheets, procedures, and other illustrative examples that can be downloaded from the Wiley

website to be used directly without having to develop prototypes in your laboratory. Providing both a wealth of information on laboratory management and molecular and cytogenetic testing, Cytogenetic Laboratory Management will be an essential tool for laboratorians world-wide in the field of laboratory testing and genetics testing in particular. This book gives the essentials of: Developing and implementing good quality management programs in laboratories Understanding design control of tests and pre-clinical validations studies and reports FDA guidelines for laboratory developed tests Use of reagents, instruments and equipment Cost of testing assessment and process improvement using Six Sigma methodology Staffing training and competency objectives Complete training programs for molecular and cytogenetic technologists Standard operating procedures for all components of chromosomal analysis, FISH and microarray testing of different specimen types This volume is a companion to Cytogenetic Abnormalities: Chromosomal, FISH and Microarray-Based Clinical Reporting. The combined volumes give an expansive approach to performing, reporting and interpreting cytogenetic laboratory testing and the necessary management practices, staff and testing requirements.

A collaborative effort of 150+ clinical microbiologists, medical laboratory technologists, and laboratory supervisors. • Provides step-by-step protocols and descriptions to enable clinical microbiologists and laboratory staff personnel to perform all analyses, including appropriate quality control recommendations, from the receipt of the specimen through processing, testing, interpretation, presentation of the final report, and subsequent consultation. • Emphasizes areas such as molecular approaches, bioterrorism, safety, and epidemiology/infection control in medical facilities. • Includes procedures that are formatted to adhere to the GP02-5A (2006) document of the National Committee for Clinical Laboratory Standards/Clinical and Laboratory Standards Institute (NCCLS/CLSI).

As the definitive reference for clinical chemistry, Tietz Textbook of Clinical Chemistry and Molecular Diagnostics, 5th Edition offers the most current and authoritative guidance on selecting, performing, and evaluating results of new and established laboratory tests. Up-to-date encyclopedic coverage details everything you need to know, including: analytical criteria for the medical usefulness of laboratory procedures; new approaches for establishing reference ranges; variables that affect tests and results; the impact of modern analytical tools on lab management and costs; and applications of statistical methods. In addition to updated content throughout, this two-color edition also features a new chapter on hemostasis and the latest advances in molecular diagnostics. Section on Molecular Diagnostics and Genetics contains nine expanded chapters that focus on emerging issues and techniques, written by experts in field, including Y.M. Dennis Lo, Rossa W.K. Chiu, Carl Wittwer, Noriko Kusukawa, Cindy Vnencak-Jones, Thomas Williams, Victor Weedn, Malek Kamoun, Howard Baum, Angela Caliendo, Aaron Bossler, Gwendolyn McMillin, and Kojo S.J. Elenitoba-Johnson. Highly-respected author team includes three editors who are well known in the clinical chemistry world. Reference values in the appendix give you one location for comparing and evaluating test results. NEW! Two-color design throughout highlights important features, illustrations, and content for a quick reference. NEW! Chapter on hemostasis provides you with all the information you need to accurately conduct this type of clinical testing. NEW! Six associate editors, Ann Gronowski, W. Greg Miller, Michael Oellerich, Francois Rousseau, Mitchell Scott, and Karl Voelkerding, lend even more expertise and insight to the reference. NEW! Reorganized chapters ensure that only the most current information is included.

The rich palette of topics set out in this book provides a sufficiently broad overview of the developments in the field of quality control. By providing detailed information on various aspects of quality control, this book can serve as a basis for starting interdisciplinary cooperation, which has increasingly become an integral part of scientific and applied research.

This document addresses procedures for testing urine, including materials and equipment; macroscopic/physical evaluation; chemical analysis; and microscopic analysis.

Anesthesia Equipment: Principles and Applications, 2nd Edition, by Dr. Jan Ehrenwerth and Dr. James B. Eisenkraft, offers expert, highly visual, practical guidance on the full range of delivery systems and technology used in practice today. It equips you with the objective, informed answers you need to ensure optimal patient safety. Consult this title on your favorite e-reader with intuitive search tools and adjustable font sizes. Elsevier eBooks provide instant portable access to your entire library, no matter what device you're using or where you're located. Make informed decisions by expanding your understanding of the physical principles of equipment, the rationale for its use, delivery systems for inhalational anesthesia, systems monitoring, hazards and safety features, maintenance and quality assurance, special situations/equipment for non-routine adult anesthesia, and future directions for the field. Ensure patient safety with detailed advice on risk management and medicolegal implications of equipment use. Apply the most complete and up-to-date information available on machines, vaporizers, ventilators, breathing systems, vigilance, ergonomics, and simulation. Visualize the safe and effective use of equipment thanks to hundreds of full-color line drawings and photographs.

After thirty five years, Mandell, Douglas, and Bennett’s Principles and Practice of Infectious Diseases, 8th Edition is still the reference of choice for comprehensive, global guidance on diagnosing and treating the most challenging infectious diseases. Drs. John E. Bennett and Raphael Dolin along with new editorial team member Dr. Martin Blaser have meticulously updated this latest edition to save you time and to ensure you have the latest clinical and scientific knowledge at your fingertips. With new chapters, expanded and updated coverage, increased worldwide perspectives, and many new contributors, Mandell, Douglas, and Bennett’s Principles and Practice of Infectious Diseases, 8th Edition helps you identify and treat whatever infectious disease you see. Get the answers to any questions you have with more in-depth coverage of epidemiology, etiology, pathology, microbiology, immunology, and treatment of infectious agents than you’ll find in any other ID resource. Apply the latest knowledge with updated diagnoses and treatments for currently recognized and newly emerging infectious diseases, such as those caused by avian and swine influenza viruses. Put the latest knowledge to work in your practice with new or completely revised chapters on Influenza (new pandemic strains); New Middle East Respiratory Syndrome (MERS) Virus; Probiotics; Antibiotics for resistant bacteria; Antifungal drugs; New Antivirals for hepatitis B and C; Clostridium difficile treatment; Sepsis; Advances in HIV prevention and treatment;

Viral gastroenteritis; Lyme Disease; Helicobacter pylori; Malaria; Infections in immunocompromised hosts; Immunization (new vaccines and new recommendations); and Microbiome. Benefit from fresh perspectives and expanded global insights from an expanded team of American and International contributors. Martin Blaser, MD, a leading expert and Muriel G. and George W. Singer Professional of Translational Medicine at New York University School of Medicine, joins veteran PPID editors John E. Bennett, MD, and Raphael Dolin, MD to continue a legacy of excellence. Find and grasp the information you need easily and rapidly with newly added chapter summaries.

BioWatch is an air monitoring system deployed in jurisdictions around the country with the goal of detecting the presence of certain high risk pathogenic microorganisms. It relies on a network of federal and nonfederal collaborative relationships to be successful, and is one part of a larger array of disease surveillance, intelligence-gathering, and biomonitoring activities in support of public safety and health. The assays used in the BioWatch system to detect the presence of pathogens in collected samples rely on the technique of polymerase chain reaction (PCR) to sensitively and specifically amplify target nucleic acid sequences. BioWatch PCR Assays evaluates and provides guidance on appropriate standards for the validation and verification of PCR tests and assays in order to ensure that adequate performance data are available to public health and other key decision makers with a sufficient confidence level to facilitate the public health response to a BioWatch Actionable Response. This report discusses principles of performance standards, reviews information from several existing guidance documents and standards that might be applicable to BioWatch, and discusses assay testing efforts that have occurred or are ongoing. BioWatch PCR Assays provides recommendations on general principles and approaches for a performance standard and validation framework to meet BioWatch's mission. The report also considers how developments in technology, particularly in multiplex PCR and next-generation sequencing, can contribute to the ability of the BioWatch program to meet current and future challenges. This report has been determined to contain information exempt from disclosure under 5 U.S.C. 552(b). Section 15 of the Federal Advisory Committee Act provides that the National Academies shall make its final report available to the public unless the National Academies determines that the report would disclose matters described in one or more of the exemption provisions under the Freedom of Information Act (FOIA). In such case, the National Academies "shall make public an abbreviated version of the report that does not disclose those matters." This unrestricted, abbreviated version of the report represents, in so far as possible, the committee's findings, recommendations, and other substantive material without disclosing materials described in 5 U.S.C. 552(b).

Years of using, misusing, and overusing antibiotics and other antimicrobial drugs has led to the emergence of multidrug-resistant 'superbugs.' The IOM's Forum on Microbial Threats held a public workshop April 6-7 to discuss the nature and sources of drug-resistant pathogens, the implications for global health, and the strategies to lessen the current and future impact of these superbugs.

This totally revised second edition is a comprehensive volume presenting authoritative information on the management challenges facing today's clinical laboratories. Provides thorough coverage of management topics such as managerial leadership, personnel, business planning, information management, regulatory management, reimbursement, generation of revenue, and more. Includes valuable administrative resources, including checklists, worksheets, forms, and online resources. Serves as an essential resource for all clinical laboratories, from the physician's office to hospital clinical labs to the largest commercial reference laboratories, providing practical information in the fields of medicine and healthcare, clinical pathology, and clinical laboratory management, for practitioners, managers, and individuals training to enter these fields.

Werner & Ingbar’s The Thyroid: A Fundamental and Clinical Text, 10th Edition has been extensively revised and streamlined to deliver the most comprehensive coverage of the thyroid including anatomy, development, biochemistry, physiology, pathophysiology, and treatment of all thyroid disorders. Entirely new chapters on the surgical management of thyroid cancer, thyroid disruptors, and thyroid hormone analogs are in this edition. New authors and an international group of contributors elevate this classic text that includes extensive clinical coverage of thyroid dysfunction’s effects on other organ systems. Also addressed are clinical controversies regarding the ageing thyroid, subclinical hypothyroidism and hyperthyroidism and thyroid disease in pregnancy. New to this edition: · Twenty-three chapters authored by new contributors and international experts · A companion website with fully searchable text for quick reference · Three new chapters discuss surgical management of thyroid cancer, thyroid disruptors, and thyroid hormone analogs to keep you up-to-date on the latest advances in the field

"This document provides updated tables for the Clinical and Laboratory Standards Institute antimicrobial susceptibility testing standards M02-A12, M07-A10, and M11-A8"--Cover.

This authoritative textbook offers in-depth coverage of all aspects of molecular pathology practice and embodies the current standard in molecular testing. Since the successful first edition, new sections have been added on pharmacogenetics and genomics, while other sections have been revised and updated to reflect the rapid advances in the field. The result is a superb reference that encompasses molecular biology basics, genetics, inherited cancers, solid tumors, neoplastic hematopathology, infectious diseases, identity testing, HLA typing, laboratory management, genomics and proteomics. Throughout the text, emphasis is placed on the molecular variations being detected, the clinical usefulness of the tests and important clinical and laboratory issues. The second edition of Molecular Pathology in Clinical Practice will be an invaluable source of information for all practicing molecular pathologists and will also be of utility for other pathologists, clinical colleagues and trainees.

The incidence of fungal infections increases with the increase in antibiotic usage and increasing immunosuppressed populations. There is no longer only one antifungal agent and the response of fungi to various agents is not always predictable. The need for standardized antifungal susceptibility testing, and standardized interpretation of results in conjunction with studies that describe clinical outcomes based on those tools is ever important. Interactions of Yeasts, Moulds, and Antifungal Agents: How to Detect Resistance covers the available antifungal agents, how to perform in vitro testing and how those results should be interpreted for the most common fungal pathogens.

Recent advances in immunology and biology have opened new horizons in cancer therapy, included in the expanding array of cancer treatment options, which are immunotherapies, or cancer vaccines, for both solid and blood borne cancers. Cancer

Vaccines: From Research to Clinical Practice is the first text in the field to bring immunotherapy treatments from the laboratory trial to the bedside for the practicing oncologist. Cancer Vaccines: From Research to Clinical Practice: Analyzes the most promising classes of investigational immunotherapies, integrating their scientific rationale and clinical potential Discusses "theranostics" as pertaining to immunotherapy, i.e., using molecular diagnostics to identify patients that would most likely benefit from a therapy Presents the new paradigm of biomarker guided R&D and clinical development in immunotherapy of cancer Reviews bottlenecks in translational process of immunotherapies and offers strategies to resolve them

Presenting the latest molecular diagnostic techniques in one comprehensive volume The molecular diagnostics landscape has changed dramatically since the last edition of Molecular Microbiology: Diagnostic Principles and Practice in 2011. With the spread of molecular testing and the development of new technologies and their opportunities, laboratory professionals and physicians more than ever need a resource to help them navigate this rapidly evolving field. Editors David Persing and Fred Tenover have brought together a team of experienced researchers and diagnosticians to update this third edition comprehensively, to present the latest developments in molecular diagnostics in the support of clinical care and of basic and clinical research, including next-generation sequencing and whole-genome analysis. These updates are provided in an easy-to-read format and supported by a broad range of practical advice, such as determining the appropriate type and quantity of a specimen, releasing and concentrating the targets, and eliminating inhibitors. Molecular Microbiology: Diagnostic Principles and Practice Presents the latest basic scientific theory underlying molecular diagnostics Offers tested and proven applications of molecular diagnostics for the diagnosis of infectious diseases, including point-of-care testing Illustrates and summarizes key concepts and techniques with detailed figures and tables Discusses emerging technologies, including the use of molecular typing methods for real-time tracking of infectious outbreaks and antibiotic resistance Advises on the latest quality control and quality assurance measures Explores the increasing opportunities and capabilities of information technology Molecular Microbiology: Diagnostic Principles and Practice is a textbook for molecular diagnostics courses that can also be used by anyone involved with diagnostic test selection and interpretation. It is also a useful reference for laboratories and as a continuing education resource for physicians.

Point-of-care testing (POCT) refers to pathology testing performed in a clinical setting at the time of patient consultation, generating a rapid test result that enables informed and timely clinical action to be taken on patient care. It offers patients greater convenience and access to health services and helps to improve clinical outcomes. POCT also provides innovative solutions for the detection and management of chronic, acute and infectious diseases, in settings including family practices, Indigenous medical services, community health facilities, rural and remote areas and in developing countries, where health-care services are often geographically isolated from the nearest pathology laboratory. A Practical Guide to Global Point-of-Care Testing shows health professionals how to set up and manage POCT services under a quality-assured, sustainable, clinically and culturally effective framework, as well as understand the wide global scope and clinical applications of POCT. The book is divided into three major themes: the management of POCT services, a global perspective on the clinical use of POCT, and POCT for specific clinical settings. Chapters within each theme are written by experts and explore wide-ranging topics such as selecting and evaluating devices, POCT for diabetes, coagulation disorders, HIV, malaria and Ebola, and the use of POCT for disaster management and in extreme environments. Figures are included throughout to illustrate the concepts, principles and practice of POCT. Written for a broad range of practicing health professionals from the fields of medical science, health science, nursing, medicine, paramedic science, Indigenous health, public health, pharmacy, aged care and sports medicine, A Practical Guide to Global Point-of-Care Testing will also benefit university students studying these health-related disciplines.

Rev. ed. of: Manual of pulmonary function testing / Gregg L. Ruppel. 9th ed. c2009.

The concept of improving the use of electromagnetic energy to achieve a variety of qualitative and quantitative spectroscopic measurements on solid and liquid materials has been proliferating at a rapid rate. The use of such technologies to measure chemical composition, appearance, for classification, and to achieve detailed understanding of material interactions has prompted a dramatic expansion in the use and development of spectroscopic techniques over a variety of academic and commercial fields.The Concise Handbook of Analytical Spectroscopy is integrated into 5 volumes, each covering the theory, instrumentation, sampling methods, experimental design, and data analysis techniques, as well as essential reference tables, figures, and spectra for each spectroscopic region. The detailed practical aspects of applying spectroscopic tools for many of the most exciting and current applications are covered. Featured applications include: medical, biomedical, optical, physics, common commercial analysis methods, spectroscopic quantitative and qualitative techniques, and advanced methods.This multi-volume handbook is designed specifically as a reference tool for students, commercial development and quality scientists, and researchers or technologists in a variety of measurement endeavours.Number of Illustrations and Tables: 393 b/w illus., 304 colour illus, 413 tables.Related Link(s)