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Pyrogens Endotoxins, LAL Testing, and Depyrogenation *Marcel Dekker Incorporated Analytical Method Development and Validation CRC Press* Describes analytical methods development, optimization and validation, and provides examples of successful methods development and validation in high-performance liquid chromatography (HPLC) areas. The text presents an overview of Food and Drug Administration (FDA)/International Conference on Harmonization (ICH) regulatory guidelines, compliance with validation requirements for regulatory agencies, and methods validation criteria stipulated by the US Pharmacopoeia, FDA and ICH. **Endotoxin Detection and Control in Pharma, Limulus, and Mammalian Systems** *Springer* Endotoxin detection and control is a dynamic area of applied science that touches a vast number of complex subjects. The intersection of test activities includes the use of an ancient blood system from an odd "living fossil" (Limulus). It is used to detect remnants of the most primitive and destructive forms of life (prokaryotes) as contaminants of complex modern systems (mammalian and Pharma). Recent challenges in the field include those associated with the application of traditional methods to new types of molecules and manufacturing processes. The advent of "at will" production of biologics in lieu of harvesting animal proteins has revolutionized the treatment of disease. While the fruits of the biotechnology revolution are widely acknowledged, the realization of the differences in the means of production and changes in the manner of control of potential impurities and contaminants in regard to the new versus the old are less widely appreciated. Endotoxin as an ancient, dynamic interface between lifeforms, provides a singular perspective from which to view the parallel development of ancient and modern organisms as well as the progress of man in deciphering the complexity of their interactions in his efforts to overcome disease. **Guidelines on Hepatitis B and C Testing** Testing and diagnosis of hepatitis B (HBV) and C (HCV) infection is the gateway for access to both prevention and treatment services, and is a crucial component of an effective response to the hepatitis epidemic. Early identification of persons with chronic HBV or HCV infection enables them to receive the necessary care and treatment to prevent or delay progression of liver disease. Testing also provides an opportunity to link people to interventions to reduce transmission, through counselling on risk behaviors and provision of prevention commodities (such as sterile needles and syringes) and hepatitis B vaccination. These are the first WHO guidelines on testing for chronic HBV and HCV infection and complement published guidance by WHO on the prevention, care and treatment of chronic hepatitis C and hepatitis B infection. These guidelines outline the public health approach to strengthening and expanding current testing practices for HBV and HCV, and are intended for use across age groups and populations. **How Tobacco Smoke Causes Disease The Biology and Behavioral Basis for Smoking-attributable Disease : a Report of the Surgeon General** *U.S. Government Printing Office* This report considers the biological and behavioral mechanisms that may underlie the pathogenicity of tobacco smoke. Many Surgeon General's reports have considered research findings on mechanisms in assessing the biological plausibility of associations observed in epidemiologic studies. Mechanisms of disease are important because they may provide plausibility, which is one of the guideline criteria for assessing evidence on causation. This report specifically reviews the evidence on the potential mechanisms by which smoking causes diseases and considers whether a mechanism is likely to be operative in the production of human disease by tobacco smoke. This evidence is relevant to understanding how smoking causes disease, to identifying those who may be particularly susceptible, and to assessing the potential risks of tobacco products. **Proceedings of International Conference on Recent Trends in Machine Learning, IoT, Smart Cities and Applications ICMISC 2020** *Springer Nature* This book gathers selected research papers presented at the International Conference on Recent Trends in Machine Learning, IOT, Smart Cities & Applications (ICMISC 2020), held on 29-30 March 2020 at CMR Institute of Technology, Hyderabad, Telangana, India. Discussing current trends in machine learning, Internet of things, and smart cities applications, with a focus on multi-disciplinary research in the area of artificial intelligence and cyber-physical systems, this book is a valuable resource for scientists, research scholars and PG students wanting formulate their research ideas and find the future directions in these areas. Further, it serves as a reference work anyone wishing to understand the latest technologies used by practicing engineers around the globe. **Advances in Communication and Computational Technology Select Proceedings of ICACCT 2019** *Springer Nature* This book presents high-quality peer-reviewed papers from the International Conference on Advanced Communication and Computational Technology (ICACCT) 2019 held at the National Institute of Technology, Kurukshetra, India. The contents are broadly divided into four parts: (i) Advanced Computing, (ii) Communication and Networking, (iii) VLSI and Embedded Systems, and (iv) Optimization Techniques. The major focus is on emerging computing technologies and their applications in the domain of communication and networking. The book will prove useful for engineers and

researchers working on physical, data link and transport layers of communication protocols. Also, this will be useful for industry professionals interested in manufacturing of communication devices, modems, routers etc. with enhanced computational and data handling capacities. **Passive Nondestructive Assay of Nuclear Materials Nanoscale Materials** *Springer Science & Business Media* Organized nanoassemblies of inorganic nanoparticles and organic molecules are building blocks of nanodevices, whether they are designed to perform molecular level computing, sense the environment or improve the catalytic properties of a material. The key to creation of these hybrid nanostructures lies in understanding the chemistry at a fundamental level. This book serves as a reference book for researchers by providing fundamental understanding of many nanoscopic materials. **Antifungal Therapy** *CRC Press* A concise one-stop-practical reference for the various physicians dealing with fungal infections, **Antifungal Therapy** appeals to infectious disease physicians, transplant surgeons, dermatologists, and intensivists, as well as basic scientists and pharmaceutical company researchers interested in the state of antifungal therapy. This book provides a comprehensive, up-to-date overview of the pertinent issues pertaining to antifungal treatment. Divided into four interrelated sections for a cohesive discussion covers: history of antifungals from the discovery of the polyenes to the echinocandins antifungal susceptibility methods patient management animal models in drug development therapeutic strategies pharmacokinetic and pharmacogenomics trends in resistance PCR **Methods in Foods** *Springer Science & Business Media* This book will introduce non-molecular biologists to diagnostic PCR-based technologies for the detection of pathogens in foods. By the conclusion of this book, the reader should be able to: 1) understand the principles behind PCR including real-time; 2) know the basics involved in the design, optimization, and implementation of PCR in food microbiology lab setting; 3) interpret results; 4) know limitations and strengths of PCR; and 5) understand the basic principles behind a new fledgling technology, microarrays and its potential applications in food microbiology. This book will provide readers with the latest information on PCR and microarray based tests and their application towards the detection of bacterial, protozoal and viral pathogens in foods. Figures, charts, and tables will be used, where appropriate, to help illustrate concepts or provide the reader with useful information or resources as an important starting point in bringing molecular diagnostics into the food microbiology lab. This book is not designed to be a "cookbook" PCR manual with recipes and step-by-step instructions but rather serve as a primer or resource book for students, faculty, and other professionals interested in molecular biology and its integration into food safety. v Table of Contents Preface v Chapter 1. PCR Basics Amanda Fairchild, M. S. , Margie D. Lee DVM, Ph. D. , and John J. Maurer, Ph. D. 1 Chapter 2. The Mythology of PCR: A Warning to the Wise John J. Maurer, Ph. D. 27 Chapter 3. Modelling, Simulation and Data Analysis in Acoustical Problems *MDPI* Modelling and simulation in acoustics is currently gaining importance. In fact, with the development and improvement of innovative computational techniques and with the growing need for predictive models, an impressive boost has been observed in several research and application areas, such as noise control, indoor acoustics, and industrial applications. This led us to the proposal of a special issue about "Modelling, Simulation and Data Analysis in Acoustical Problems", as we believe in the importance of these topics in modern acoustics' studies. In total, 81 papers were submitted and 33 of them were published, with an acceptance rate of 37.5%. According to the number of papers submitted, it can be affirmed that this is a trending topic in the scientific and academic community and this special issue will try to provide a future reference for the research that will be developed in coming years. **Advances in Manufacturing and Industrial Engineering Select Proceedings of ICAPIE 2019** *Springer Nature* This book presents selected peer reviewed papers from the International Conference on Advanced Production and Industrial Engineering (ICAPIE 2019). It covers a wide range of topics and latest research in mechanical systems engineering, materials engineering, micro-machining, renewable energy, industrial and production engineering, and additive manufacturing. Given the range of topics discussed, this book will be useful for students and researchers primarily working in mechanical and industrial engineering, and energy technologies. **Cumulated Index Medicus Biopharmaceutical Manufacturing Volume** *IOP Publishing Limited* This two-volume set provides a comprehensive guide to the essential aspects of commercial biopharmaceutical manufacturing. Covering the planning, layout and operation of successful commercial manufacturing, the aim of the books is to enable innovations, new drug development, and make affordable biological drugs available to patients worldwide. This volume covers the regulatory processes involved in producing a GMP (Good Manufacturing Practice) biopharmaceutical product for commercial distribution, including areas of current GMP, registration, and legal and ethical considerations. Emerging trends in the technology and regulatory compliance are also discussed, with advice on establishing efficient manufacturing facilities. Intended for practitioners in the commercial biopharmaceutical manufacturing industry, the text is an ideal resource for practitioners looking to develop their ability to manufacture biopharmaceutical products at a large scale. **Key Features:** Covers the essential aspects of commercial biopharmaceutical manufacturing for industry practitioners, including the planning, layout and operation Provides sufficient information for industry practitioners to establish and operate GMP (Good Manufacturing Practice) compliant manufacturing operations Includes case studies and step-by-step procedures for manufacturing specific biopharmaceutical products Focused exclusively on products intended for human use Includes coverage of regulatory requirements, intellectual property challenges, training of manufacturing teams and issues around cost optimisation **Scientific and Technical Aerospace Reports** Lists citations with abstracts for aerospace related reports obtained from world wide sources and announces documents that have recently been entered into the NASA Scientific and Technical Information Database. **Toxic Chemical and Biological Agents Detection, Diagnosis and Health Concerns** *Springer Nature* This book critically assesses the current state of knowledge on new and important detection technologies, e.g. mass spectrometry, tandem mass spectrometry, biosensor detection and tissue imaging, in connection with toxic chemical and biological agents. In general, the main topics discussed concern the risks and consequences of chemical and biological agents for human health in general, with special emphasis on all biochemical and metabolic pathways including the reproductive system. The exposome,

genetic risks and the environment, various health hazard agents, risk assessment, environmental assessment and preparedness, and analysis of sub-lethal effects at the molecular level are also discussed. In closing, the book provides comprehensive information on the diagnosis of exposure, and on health concerns related to toxic chemical and biological agents.

AI and Learning Systems Industrial Applications and Future Directions *BoD - Books on Demand* Over the last few years, interest in the industrial applications of AI and learning systems has surged. This book covers the recent developments and provides a broad perspective of the key challenges that characterize the field of Industry 4.0 with a focus on applications of AI. The target audience for this book includes engineers involved in automation system design, operational planning, and decision support. Computer science practitioners and industrial automation platform developers will also benefit from the timely and accurate information provided in this work. The book is organized into two main sections comprising 12 chapters overall: •Digital Platforms and Learning Systems •Industrial Applications of AI

Food Authentication and Traceability *Academic Press* Food Authenticity and Traceability covers the most recent trends and important topics in food authentication, with an emphasis on the components of a food traceability systems. The book discusses techniques such as omics-based technologies, chromatographic methods, mass spectrometry, hyperspectral and chemical imaging, molecular and DNA-based techniques, chemometrics and data mining algorithms, high-throughput sequencing, and non-targeted fingerprinting approaches and proteomics. Includes information on blockchain for food traceability analysis Discusses consumer preferences and perceptions regarding food traceability drivers and food fraud Presents approaches of authentication for food of animal origin and omics-based technologies

Surface-Enhanced Vibrational Spectroscopy *John Wiley & Sons* Surface Enhanced Vibrational Spectroscopy (SEVS) has reached maturity as an analytical technique, but until now there has been no single work that describes the theory and experiments of SEVS. This book combines the two important techniques of surface-enhanced Raman scattering (SERS) and surface-enhanced infrared (SEIR) into one text that serves as the definitive resource on SEVS. Discusses both the theory and the applications of SEVS and provides an up-to-date study of the state of the art Offers interpretations of SEVS spectra for practicing analysts Discusses interpretation of SEVS spectra, which can often be very different to the non-enhanced spectrum - aids the practicing analyst

Drug-Drug Interactions *Mdpi AG* Drug-drug interactions (DDIs) cause a drug to affect other drugs, leading to reduced drug efficacy or increased toxicity of the affected drug. Some well-known interactions are known to be the cause of adverse drug reactions (ADRs) that are life threatening to the patient. Traditionally, DDI have been evaluated around the selective action of drugs on specific CYP enzymes. The interaction of drugs with CYP remains very important in drug interactions but, recently, other important mechanisms have also been studied as contributing to drug interaction including transport- or UDP-glucuronyltransferase as a Phase II reaction-mediated DDI. In addition, novel mechanisms of regulating DDIs can also be suggested. In the case of the substance targeted for interaction, not only the DDIs but also the herb-drug or food-drug interactions have been reported to be clinically relevant in terms of adverse side effects. Reporting examples of drug interactions on a marketed drug or studies on new mechanisms will be very helpful for preventing the side effects of the patient taking these drugs. This Special Issue aims to highlight current progress in understanding both the clinical and nonclinical interactions of commercial drugs and the elucidation of the mechanisms of drug interactions.

Oxide Surfaces *Elsevier* The book is a multi-author survey (in 15 chapters) of the current state of knowledge and recent developments in our understanding of oxide surfaces. The author list includes most of the acknowledged world experts in this field. The material covered includes fundamental theory and experimental studies of the geometrical, vibrational and electronic structure of such surfaces, but with a special emphasis on the chemical properties and associated reactivity. The main focus is on metal oxides but coverage extends from 'simple' rocksalt materials such as MgO through to complex transition metal oxides with different valencies.

Evidence Based Validation of Traditional Medicines A comprehensive Approach *Springer Nature* The demand for traditional medicines, herbal health products, herbal pharmaceuticals, nutraceuticals, food supplements and herbal cosmetics etc. is increasing globally due to the growing recognition of these products as mainly non-toxic, having lesser side effects, better compatibility with physiological flora, and availability at affordable prices. In the last century, medical science has made incredible advances all over the globe. In spite of global reorganization and a very sound history of traditional uses, the promotion of traditional medicine faces a number of challenges around the globe, primarily in developed nations. Regulation and safety is the high concern for the promotion of traditional medicine. Quality issues and quality control, pharmacovigilance, scientific investigation and validation, intellectual property rights, and biopiracy are some key issues that restrain the advancement of traditional medicine around the globe. This book contains diverse and unique chapters, explaining in detail various subsections like phytomolecule, drug discovery and modern techniques, standardization and validation of traditional medicine, and medicinal plants, safety and regulatory issue of traditional medicine, pharmaceutical excipients from nature, plants for future. The contents of the book will be useful for the academicians, researchers and people working in the area of traditional medicine.

5th International Conference on Biomedical Engineering in Vietnam *Springer* This volume presents the proceedings of the Fifth International Conference on the Development of Biomedical Engineering in Vietnam which was held from June 16-18, 2014 in Ho Chi Minh City. The volume reflects the progress of Biomedical Engineering and discusses problems and solutions. I aims identifying new challenges, and shaping future directions for research in biomedical engineering fields including medical instrumentation, bioinformatics, biomechanics, medical imaging, drug delivery therapy, regenerative medicine and entrepreneurship in medical devices.

Physics in Food Manufacturing Case Studies in Fundamental and Applied Research This book is the first authoritative text on the role that physicists play in solving the inherently multidisciplinary science and technology challenges in food manufacturing. Topics range from designing safe, nutritious and great-tasting foods to the process technology and manufacturing know-how needed to deliver compelling product innovation. The book provides a foundational resource for the transformation of engineering and materials characterisation in the food and pharmaceuticals industries. It is an essential reference for interdisciplinary

physical scientists, food/nutrition scientists and engineers working in academic research, government labs and industry, and it is also a valuable resource for R&D staff and product engineers working for suppliers of specialist instrumentation and equipment to the food processing industry. The book is augmented by complementary presentations from the Fourth IOP Physics in Food Manufacturing Conference 2020, held in Leeds, UK. Key Features

The first authoritative account of the diverse role that physics and physicists play in the food processing industry. A go-to reference source for anyone wishing to become involved in food processing - science, technology, engineering. Expert accounts by leading academics and industrial scientists.

Chemical Engineering Design Principles, Practice and Economics of Plant and Process Design *Elsevier* **Chemical Engineering Design, Second Edition**, deals with the application of chemical engineering principles to the design of chemical processes and equipment. Revised throughout, this edition has been specifically developed for the U.S. market. It provides the latest US codes and standards, including API, ASME and ISA design codes and ANSI standards. It contains new discussions of conceptual plant design, flowsheet development, and revamp design; extended coverage of capital cost estimation, process costing, and economics; and new chapters on equipment selection, reactor design, and solids handling processes. A rigorous pedagogy assists learning, with detailed worked examples, end of chapter exercises, plus supporting data, and Excel spreadsheet calculations, plus over 150 Patent References for downloading from the companion website. Extensive instructor resources, including 1170 lecture slides and a fully worked solutions manual are available to adopting instructors. This text is designed for chemical and biochemical engineering students (senior undergraduate year, plus appropriate for capstone design courses where taken, plus graduates) and lecturers/tutors, and professionals in industry (chemical process, biochemical, pharmaceutical, petrochemical sectors). New to this edition: Revised organization into Part I: Process Design, and Part II: Plant Design. The broad themes of Part I are flowsheet development, economic analysis, safety and environmental impact and optimization. Part II contains chapters on equipment design and selection that can be used as supplements to a lecture course or as essential references for students or practicing engineers working on design projects. New discussion of conceptual plant design, flowsheet development and revamp design Significantly increased coverage of capital cost estimation, process costing and economics New chapters on equipment selection, reactor design and solids handling processes New sections on fermentation, adsorption, membrane separations, ion exchange and chromatography Increased coverage of batch processing, food, pharmaceutical and biological processes All equipment chapters in Part II revised and updated with current information Updated throughout for latest US codes and standards, including API, ASME and ISA design codes and ANSI standards Additional worked examples and homework problems The most complete and up to date coverage of equipment selection 108 realistic commercial design projects from diverse industries A rigorous pedagogy assists learning, with detailed worked examples, end of chapter exercises, plus supporting data and Excel spreadsheet calculations plus over 150 Patent References, for downloading from the companion website Extensive instructor resources: 1170 lecture slides plus fully worked solutions manual available to adopting instructors

Pursuing Sustainability OR/MS Applications in Sustainable Design, Manufacturing, Logistics, and Resource Management *Springer Nature* This handbook includes three parts, corresponding to the following three domains of OR/MS research related to sustainability: (i) Systems Design, Innovation, and Technology, (ii) Manufacturing, Logistics, and Transportation, and (iii) Sustainable Natural Resource Management. The first part of the handbook (Chapters 2-6) will focus on the creation and development of sustainable products, services, value chains, and organizations from a systems perspective. Key areas to be covered include Green Design & Innovation, Technology and Engineering Management, Sustainable Value Chain Systems, Sustainability Standards and Performance Evaluation, and Circular Economy and New Research Directions in Sustainability. The second part of the handbook (Chapters 7-11) will concentrate on the major operational and logistic issues faced by today's industries in pursuing sustainability. Key areas to be covered include Remanufacturing, Reverse Logistics, Closed-Loop Supply Chains, Sustainable Transportation, and New Research Directions in Green Supply Chain Management. The third part of the proposed handbook (Chapters 12-16) will center on major sustainability issues in managing engineering infrastructure and natural resources. Key areas to be covered include Renewable Energy, Sustainable Water Resource, Biofuel Infrastructure, Natural Gas, and New Research Direction in Sustainable Resource Management. The handbook aims to bridge the three main OR/MS research domains in sustainability: "Systems Design, Innovation, and Technology," "Manufacturing, Logistics, and Transportation," and "Sustainable Natural Resource Management." Traditionally, these domains are treated separately in the OR/MS literature. By combining the three domains, the handbook will provide a more holistic treatment of MS/OR methodologies to address critical sustainability issues faced by today's society. Unlike most existing handbooks which only focus on current OR/MS research in sustainability within a domain, this handbook will include a concluding chapter in each of the three parts to discuss and identify potential future research directions in each of the three main domains.

Protein Purification Principles, High-Resolution Methods, and Applications *John Wiley & Sons* This is a state-of-the-art sourcebook on modern high-resolution biochemical separation techniques for proteins. It contains all the basic theory and principles used in protein chromatography and electrophoresis.

Pharmaceutical Process Validation *Marcel Dekker Incorporated* **Nanofiltration Membranes Synthesis, Characterization, and Applications** *CRC Press* Covering fabrication, characterization, and applications nanofiltration (NF) membranes, this book provides a comprehensive overview of the development of NF membrane technology over the past decade. It uniquely covers a variety of fabrication techniques, comparing the procedures of each technique to produce polymeric membranes of different morphologies. The book also discusses advances in the materials used in thin film composite (TFC) polyamide membrane fabrication and their influences on properties with respect to structural and separation characteristics. A comprehensive review on NF characterization methods and techniques is provided, assessing physical and chemical properties and separation characteristics and stability. Technical challenges in fabricating a new generation of NF membranes are also reviewed and the possible approaches to overcome the challenges are provided. The book concludes with relevant case studies on the use of NF membranes in industrial

implementation of both aqueous and nonaqueous media. Details the latest progress on the fabrication techniques of asymmetric and composite NF membranes. Discusses characterization methods used in assessing membrane physical/chemical properties, separation characteristics, and performance stability. Describes the potential of advanced materials in improving properties of polyamide selective layer as well as microporous substrate. Reviews the technical challenges in fabricating a new generation of composite membrane—thin film nanocomposite (TFN) membrane—possible approaches to overcome challenges. Offers case studies on the applications of NF membranes for both aqueous and nonaqueous media. **Mass Spectrometry in Medicinal Chemistry Applications in Drug Discovery** *John Wiley & Sons* This first overview of mass spectrometry-based pharmaceutical analysis is the key to improved high-throughput drug screening, rational drug design and analysis of multiple ligand-target interactions. The ready reference opens with a general introduction to the use of mass spectrometry in pharmaceutical screening, followed by a detailed description of recently developed analytical systems for use in the pharmaceutical laboratory. Applications range from simple binding assays to complex screens of biological activity and systems containing multiple targets or ligands -- all highly relevant techniques in the early stages in drug discovery, from target characterization to hit and lead finding. **Food Processing Technology Principles and Practice, Third Edition** *CRC Press* Widely regarded as a standard work in its field, this book introduces the range of processing techniques that are used in food manufacturing. It explains the principles of each process, the processing equipment used, operating conditions and the effects of processing on micro-organisms that contaminate foods, the biochemical properties of foods and their sensory and nutritional qualities. The book begins with an overview of important basic concepts. It describes unit operations that take place at ambient temperature or involve minimum heating of foods. Subsequent chapters examine operations that heat foods to preserve them or alter their eating quality, and explore operations that remove heat from foods to extend their shelf life with minimal changes in nutritional quality or sensory characteristics. Finally, the book reviews post-processing operations, including packaging and distribution logistics. The third edition has been substantially rewritten, updated and extended to include the many developments in food technology that have taken place since the second edition was published in 2000. Nearly all unit operations have undergone significant developments, and these are reflected in the large amount of additional material in each chapter. In particular, advances in microprocessor control of equipment, 'minimal' processing technologies, genetic modification of foods, functional foods, developments in 'active' or 'intelligent' packaging, and storage and distribution logistics are described. Developments in technologies that relate to cost savings, environmental improvement or enhanced product quality are highlighted. Additionally, sections in each chapter on the impact of processing on food-borne micro-organisms are included for the first time. **Washback in Language Testing Research Contexts and Methods** *Routledge* Washback refers to the influence of language testing on teaching and learning. This volume, at the important intersection of language testing and teaching practices, presents theoretical, methodological, and practical guidance for current and future washback studies. In the field of language testing, researchers' major interest has traditionally been focused on issues and solving problems inherent in tests in order to increase their reliability and validity. However, the washback effect goes well beyond the test itself to include factors, such as curriculum, teacher and learner behaviors inside and outside the classroom, their perceptions of the test, and how test scores are used. Only recently have researchers started to empirically investigate the phenomenon of washback. This volume of such research serves two essential purposes by: *providing an overview of the complexity of washback and the various contextual factors entangled within testing, teaching, and learning; and *presenting empirical studies from around the world that offer insights into the effects of washback in specific educational contexts and models of research on which future studies can be based. The extensive use of test scores for various educational and social purposes in society nowadays makes the washback effect a high-interest phenomenon in the day-to-day educational activities of teachers, researchers, program coordinators/directors, policymakers, and others in the field of education. **Washback in Language Testing: Research Contexts and Methods** is a valuable resource for those who are interested in the application of findings to actual teaching and learning situations or conduct washback research in their own contexts, including educational and psychological testing experts, as well as alternative assessment people in all fields, and for policy- and decision-makers in educational and testing organizations. **Extreme Solar Particle Storms The Hostile Sun** *Programme: Aas-lop Astronomy* Extreme Solar Particle Storms: The hostile Sun provides a consolidated review of our current understanding of extreme solar events, or black swans, that leave our technological society vulnerable. Written by experts at the forefront of the growing field of solar storms, this book will be of interest to students and researchers, as well as those curious about the threat that our Sun poses to the modern world. **The Buffalo (Bubalus bubalis) - Production and Research** *Bentham Science Publishers* This handbook aims at focusing on the husbandry of the common water buffalo, (*Bubalis bubalis*). The book covers a broad range of topics such as the buffalo's genetic evolution, cytogenetics, subspecies, breed diversification, feeding and metabolic specificity, adaptable response to environmental stress factors, welfare, dairy requirements and production, reproduction and embryo technologies, cryopreservation, sperm cell sexing, somatic cell cloning and transgenesis. Chapters presented and reviewed in this book have been by contributed by renowned scientists that have devoted years of research to the understanding of this species, and highlight the most recent advances in basic and applied science to unveil the understanding of physiological facets intrinsic to this animal species. The depth of the selected topics makes this book especially suited for readers of all academic levels of study. Researchers, students and professionals will find this book a useful guide to breeding and farming the water buffalo. **Design and Engineering of Microreactor and Smart-Scaled Flow Processes** *MDPI* This book is a printed edition of the Special Issue "Design and Engineering of Microreactor and Smart-Scaled Flow Processes" that was published in *Processes* **Carbon-Based Material for Environmental Protection and Remediation** *BoD - Books on Demand* Carbon-Based Material for Environmental Protection and Remediation presents an overview of carbon-based technologies and processes, and examines their usefulness and efficiency for environmental preservation and remediation. Chapters cover topics ranging from

pollutants removal to new processes in materials science. Written for interested readers with strong scientific and technological backgrounds, this book will appeal to scientific advisors at private companies, academics, and graduate students. **Handbook of Pharmaceutical Excipients** *Amer Pharmacists Assn* An internationally acclaimed reference work recognized as one of the most authoritative and comprehensive sources of information on excipients used in pharmaceutical formulation with this new edition providing 340 excipient monographs. Incorporates information on the uses, and chemical and physical properties of excipients systematically collated from a variety of international sources including: pharmacopeias, patents, primary and secondary literature, websites, and manufacturers' data; extensive data provided on the applications, licensing, and safety of excipients; comprehensively cross-referenced and indexed, with many additional excipients described as related substances and an international supplier's directory and detailed information on trade names and specific grades or types of excipients commercially available. **Applied Fluid Mechanics Lab Manual** Basic knowledge about fluid mechanics is required in various areas of water resources engineering such as designing hydraulic structures and turbomachinery. The applied fluid mechanics laboratory course is designed to enhance civil engineering students' understanding and knowledge of experimental methods and the basic principle of fluid mechanics and apply those concepts in practice. The lab manual provides students with an overview of ten different fluid mechanics laboratory experiments and their practical applications. The objective, practical applications, methods, theory, and the equipment required to perform each experiment are presented. The experimental procedure, data collection, and presenting the results are explained in detail. **LAB Science Citation Index Vols. for 1964-** have guides and journal lists.