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Design of Experiments for Pharmaceutical Product Development - Sarwar Beg 2021-02-13

This book volume provides complete and updated information on the applications of Design of Experiments (DoE) and related multivariate techniques at various stages of pharmaceutical product development. It discusses the applications of experimental designs that shall include oral, topical, transdermal, injectables preparations, and beyond for nanopharmaceutical product development, leading to dedicated case studies on various pharmaceutical experiments through illustrations, art-works, tables and figures. This book is a valuable guide for all academic and industrial researchers, pharmaceutical and biomedical scientists, undergraduate and postgraduate research scholars, pharmacists, biostatisticians, biotechnologists, formulations and process engineers, regulatory affairs and quality assurance personnel.

Emerging Freshwater Pollutants - Tatenda Dalu 2022-02-01

Emerging Freshwater Pollutants: Analysis, Fate and Regulations comprises of 20 chapters, all written by leading experts. This book is written in the most practical terms and is easy to understand, with numerous helpful examples and case studies and can be used as a practical guide and important educational tool on issues concerning freshwater emerging pollutants. The organisation of the book exposes the reader in logical succession to the full range of complex scientific and management aspects of emerging freshwater pollutants in the developing world. The book recognises that water chemistry,

emerging freshwater pollutants and management are inter-dependent disciplines. The book covers (i) the different monitoring techniques, current analytical approaches and instrumental analyses, (ii) fate and occurrence of emerging pollutants in aquatic systems and (iii) management policies and legislations on emerging pollutants. Thus, subsequent chapters elucidate chemicals with pollution potential, multi-detection approaches to analysis of organic pollutants in water, microplastics effects and photochemical transformation of emerging pollutants in freshwater systems. Whereas, other chapters address oxidation of organic compounds in aquatic systems, biomonitoring systems for detection of toxic levels of water pollutants, and health aspects of water recycling practices. This book melds several different perspectives on the subject of freshwater emerging pollutants and shows the interrelationships between the various professions that deal with water quality issues. Further, within the presentation of each separate chapter is discussion of how the various scientific and management aspects of the subject interrelate. Includes case studies and practical examples in each chapter Presents a much-needed interdisciplinary approach, representing the overlap between water chemistry and emerging freshwater pollutants Provides a thorough introduction to emerging tropical and freshwater pollutants that typically occur in these systems

RSM Simplified - Mark J. Anderson 2016-08-05 Anderson and Whitcomb pick up where they left off in DOE Simplified with RSM Simplified -- a

practical tool for design of experiments that anyone with a minimum of technical training can understand and appreciate. Their approach is simple and fun for those who desire knowledge on response surface methods but are put off by the academic nature of other books on the topic. RSM Simplified keeps formulas to a minimum and makes liberal use of figures, charts, graphs, and checklists. It offers many relevant examples with amusing sidebars and do-it-yourself exercises that will lead readers to the peak potential for their product quality and process efficiency.

Biodiesel Technology and Applications -

Inamuddin 2021-06-16

BIODIESEL This outstanding new volume provides a comprehensive overview on biodiesel technologies, covering a broad range of topics and practical applications, edited by one of the most well-respected and prolific engineers in the world and his team. Energy technologies have attracted great attention due to the fast development of sustainable energy. Biodiesel technologies have been identified as the sustainable route through which overdependence on fossil fuels can be reduced. Biodiesel has played a key role in handling the growing challenge of a global climate change policy. Biodiesel is defined as the monoalkyl esters of vegetable oils or animal fats. Biodiesel is a cost-effective, renewable, and sustainable fuel that can be made from vegetable oils and animal fats. Compared to petroleum-based diesel, biodiesel would offer a non-toxicity, biodegradability, improved air quality and positive impact on the environment, energy security, safe-to-handle, store and transport and so on. Biodiesels have been used as a replacement of petroleum diesel in transport vehicles, heavy-duty trucks, locomotives, heat oils, hydrogen production, electricity generators, agriculture, mining, construction, and forestry equipment. This book describes a comprehensive overview, covering a broad range of topics on biodiesel technologies and allied applications. Chapters cover history, properties, resources, fabrication methods, parameters, formulations, reactors, catalysis, transformations, analysis, in situ spectroscopies, key issues and applications of biodiesel technology. It also includes biodiesel methods, extraction strategies, biowaste

utilization, oleochemical resources, non-edible feedstocks, heterogeneous catalysts, patents, and case-studies. Progress, challenges, future directions, and state-of-the-art biodiesel commercial technologies are discussed in detail. This book is an invaluable resource guide for professionals, faculty, students, chemical engineers, biotechnologists, and environmentalists in these research and development areas. This outstanding new volume: Summarizes the recent developments in this rapidly-developing, multi-disciplinary field Provides the reader with a practical understanding of biodiesel technology toward the real-world applications Formulates concepts, case-studies, patents, and applications helpful in decision making and problem-solving, in a single resource Delivers state-of-the-art information on biodiesel technology Audience: Chemical and process engineers and other professionals, faculty, students, scientists, biotechnologists, and environmental engineers

INTERNATIONAL CONFERENCE on FRONTIERS of ENVIRONMENT, ENERGY and BIOSCIENCE - Dawei Zheng 2013-12-18

We cordially invite you to attend 2013 International Conference on Frontiers of Environment, Energy and Bioscience (ICFEEB 2013), which will be held in Beijing, China during October 24–25, 2013. The main objective of ICFEEB 2013 is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in Environment, Energy and Bioscience. This conference provides opportunities for the delegates to exchange new ideas and experiences face to face, to establish business or research relations and to find global partners for future collaboration. ICFEEB 2013 received over 400 submissions which were all reviewed by at least two reviewers. As a result of our highly selective review process four hundred papers have been retained for inclusion in the ICFEEB 2013 proceedings, less than 40% of the submitted papers. The program of ICFEEB 2013 consists of invited sessions, and technical workshops and discussions covering a wide range of topics. This rich program provides all attendees with the opportunities to meet and interact with one another. We hope your

experience is a fruitful and long lasting one. With your support and participation, the conference will continue its success for a long time. The conference is supported by many universities and research institutes. Many professors play an important role in the successful holding of the conference, so we would like to take this opportunity to express our sincere gratitude and highest respects to them. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra help in the review process, and to the authors for contributing their research result to the conference. Special thanks go to our publisher DEStech Publications. At the same time, we also express our sincere thanks for the understanding and support of every author. Owing to time constraints, imperfection is inevitable, and any constructive criticism is welcome. We hope you will have a technically rewarding experience, and use this occasion to meet old friends and make many new ones. Do not miss the opportunity to explore in Beijing, China. And do not forget to take a sample of the many and diverse attractions in the rest of the China. We wish all attendees an enjoyable scientific gathering in Beijing, China. We look forward to seeing all of you next year at the conference. The Conference Organizing Committees October 24-25, 2013 Beijing, China

Quality Control Applications in the Pharmaceutical and Medical Device Manufacturing Industry - Carrillo-Cedillo, Eugenia Gabriela 2022-03-18

Quality control in pharmaceutical products and medical devices is vital for users as failing to comply with national and international regulations can lead to accidents that could easily be avoided. For this reason, manufacturing a quality medical product will support patient safety. Microbiologists working in both the pharmaceutical and medical device industries face considerable challenges in keeping abreast of the myriad microbiological references available to them and the continuously evolving regulatory requirements. Quality Control Applications in the Pharmaceutical and Medical Device Manufacturing Industry presents the importance

of quality control in pharmaceutical products and medical devices, which must have very high-quality standards to not cause problems to the health of patients. It reinforces and updates the knowledge of analytical, instrumental, and biological methods to demonstrate the correct quality control and good manufacturing practice for pharmaceutical products and medical devices. Covering topics such as pharmaceutical nano systems, machine learning, and software validation, this book is an essential resource for managers, engineers, supervisors, pharmacists, chemists, academicians, and researchers.

CIGOS 2019, Innovation for Sustainable

Infrastructure - Cuong Ha-Minh 2020-10-25

This book presents selected articles from the 5th International Conference on Geotechnics, Civil Engineering Works and Structures, held in Ha Noi, focusing on the theme "Innovation for Sustainable Infrastructure", aiming to not only raise awareness of the vital importance of sustainability in infrastructure development but to also highlight the essential roles of innovation and technology in planning and building sustainable infrastructure. It provides an international platform for researchers, practitioners, policymakers and entrepreneurs to present their recent advances and to exchange knowledge and experience on various topics related to the theme of "Innovation for Sustainable Infrastructure".

Dipeptides: Advances in Research and Application: 2011 Edition - 2012-01-09

Dipeptides: Advances in Research and Application: 2011 Edition is a ScholarlyPaper™ that delivers timely, authoritative, and intensively focused information about Dipeptides in a compact format. The editors have built Dipeptides: Advances in Research and Application: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Dipeptides in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Dipeptides: Advances in Research and Application: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written,

assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

Response Surfaces, Mixtures, and Ridge Analyses - George E. P. Box 2007-01-22

The authority on building empirical models and the fitting of such surfaces to data—completely updated and revised Revising and updating a volume that represents the essential source on building empirical models, George Box and Norman Draper—renowned authorities in this field—continue to set the standard with the Second Edition of *Response Surfaces, Mixtures, and Ridge Analyses*, providing timely new techniques, new exercises, and expanded material. A comprehensive introduction to building empirical models, this book presents the general philosophy and computational details of a number of important topics, including factorial designs at two levels; fitting first and second-order models; adequacy of estimation and the use of transformation; and occurrence and elucidation of ridge systems. Substantially rewritten, the Second Edition reflects the emergence of ridge analysis of second-order response surfaces as a very practical tool that can be easily applied in a variety of circumstances. This unique, fully developed coverage of ridge analysis—a technique for exploring quadratic response surfaces including surfaces in the space of mixture ingredients and/or subject to linear restrictions—includes MINITAB® routines for performing the calculations for any number of dimensions. Many additional figures are included in the new edition, and new exercises (many based on data from published papers) offer insight into the methods used. The exercises and their solutions provide a variety of supplementary examples of response surface use, forming an extremely important component of the text. *Response Surfaces, Mixtures, and Ridge Analyses, Second Edition* presents material in a logical and understandable arrangement and includes six new chapters covering an up-to-date presentation of standard ridge analysis (without restrictions); design and analysis of mixtures experiments; ridge analysis

methods when there are linear restrictions in the experimental space including the mixtures experiments case, with or without further linear restrictions; and canonical reduction of second-order response surfaces in the foregoing general case. Additional features in the new edition include: New exercises with worked answers added throughout An extensive revision of Chapter 5: Blocking and Fractionating 2k Designs Additional discussion on the projection of two-level designs into lower dimensional spaces This is an ideal reference for researchers as well as a primary text for Response Surface Methodology graduate-level courses and a supplementary text for Design of Experiments courses at the upper-undergraduate and beginning-graduate levels.

Optimization Methods in Engineering - Mohit Tyagi 2020-06-05

This book comprises peer-reviewed contributions from the International Conference on Production and Industrial Engineering (CPIE) 2019. This volume provides insights into the current scenario and advances in the domain of industrial and production engineering in the context of optimum value. Optimization and its applicability in various areas of production and industrial engineering like selection of designing parameters and machining parameters, decisions related to conditions of optimum process/operation parameters, behavior of response variables, facilities planning and management, transportation and supply chain management, quality engineering, reliability and maintenance, product design and development, human factors and ergonomics, service system and service management, waste management, sustainable manufacturing and operations, systems design, and performance measurement are discussed in the book. Given the range of topics covered, this book can be useful for students, researchers, and professionals interested in latest optimization techniques related to industrial and production engineering. *Advances and Avenues in the Development of Novel Carriers for Bioactives and Biological Agents* - Manju Rawat Singh 2020-04-21 *Advances and Avenues in the Development of Novel Carriers for Bioactives and Biological Agents* provides sound data on the utility of biological and plant-based drugs and describes

challenges faced in all aspects offering indispensable strategies to use in the development of bioactive medicines. Bioactive based medications are commonly used throughout the world and have been recognized by physicians and patients for their therapeutic efficacy. Bioactive formulations, including their subordinates and analogs, address 50% of all medicines in clinical practice. Novel bioactive medicine transporters can cure many disorders by both spatial and transitory approaches and have various justifications in medicinal potential. This book presents information on the utility of natural, plant, animal and bioengineered bioactive materials. It is a fundamental source of information and data for pharmacognosists, pharmaceutical analysts, drug transport scientists and pharmacologists working in bioactive medications. Advances information on various bioactive based medications, their sources, clinical consequences and transport strategies Illustrates diverse transport systems for bioactives and derivatives, novel techniques for formulations, targeting strategies and fundamental qualities of developed bioactive carriers, and their safety concerns and standardization Discusses distinctive transport systems, stability, upgraded dissolvability, and enhanced bioavailability of bioactives

Research Approaches to Sustainable Biomass Systems - Seishu Tojo 2013-09-02

Researchers, students and engineers working with biofuels and biomass are increasingly expected to comprehend a new holistic systems perspective that begins with wise crop breeding and cultivation techniques and informs the entire conversion to energy process. This volume provides diverse examples of successfully implemented sustainable biomass research in Asia, highlighting the challenges faced by designers of new biomass production facilities and tips on how to develop approaches to overcome them. In addition to providing an authoritative guide on the utilization of the authors' sample feedstocks, rice straw and sunflower, the authors provide lessons relevant to stakeholders involved with all manner of biomass production projects by drawing out important comparisons and contrasts that must be taken into account when deciding how to utilize biomass as an energy resource in a way

that is economically feasible and environmentally sustainable. Provides diverse examples of successfully implemented biomass research, highlighting insights on common bottlenecks and approaches developed to overcome them Features coverage of the full feedstock life cycle, from crop breeding to commercial application, focusing on 3 key areas: biomass production, biofuel conversion technologies, and sustainable practices Examines two regionally compatible feedstock, rice-straw and sunflower, performing a compare and contrast analysis of agricultural production methods, economics, conversion systems, and environmental impacts

Nanomedicine for the Treatment of Disease - Sarwar Beg 2019-09-25

This new volume, *Nanomedicine for the Treatment of Disease: From Concept to Application*, looks at the application of nanomedicines with a particular focus on their use in the treatment of diseases. The chapters in this volume, contributed by eminent scientists, researchers, and nanotechnologists from across the globe, highlight key advancements, challenges, and opportunities in the area of application of nanomedicines for disease treatment. They explore the design and development of therapeutic nanocarriers for targeting drugs for satiating the demands of disease treatment process. The volume explores the use nanomedicines for the diagnosis and treatment of a multitude various diseases and health conditions, including respiratory diseases, neurological disorders, genetic diseases, pulmonary fungal infections, neuroAIDS, cardiovascular disorders, gastric and colonic diseases, skin disorders, cancer, brain tumors, leishmaniasis and other visceral diseases, hypertension, and ocular diseases.

Proceedings of Asia International Conference on Tribology 2018 - Mohd Fadzli Bin Abdollah 2018-09-17

This ebook is a compilation of 234 papers presented at the 6th Asia International Conference on Tribology (ASIATRIB2018): Kuching, Sarawak - Malaysia from 17 to 20 September 2018.

Food Process Modelling - L M M Tijskens 2001-06-14

The measurement, prediction, and control of

food processes in the quest for greater consistency, quality, and safety in the final product has been a major trend in the food industry over the past decade. The shift to modelling food processes as a way of identifying and understanding the key variables at work is a major outgrowth of this trend. The editors and contributors explore the current trends in modelling, their strengths, and weaknesses, and their applications across the supply chain in this book.

Artificial Intelligence and Data Science in Environmental Sensing - Mohsen Asadnia
2022-02-24

Artificial Intelligence and Data Science in Environmental Sensing provides state-of-the-art information on the inexpensive mass-produced sensors that are used as inputs to artificial intelligence systems. The book discusses the advances of AI and Machine Learning technologies in material design for environmental areas. It is an excellent resource for researchers and professionals who work in the field of data processing, artificial intelligence sensors and environmental applications. Presents tools, connections and proactive solutions to take sustainability programs to the next level Offers a practical guide for making students proficient in modern electronic data analysis and graphics Provides knowledge and background to develop specific platforms related to environmental sensing, including control water, air and soil quality, water and wastewater treatment, desalination, pollution mitigation/control, and resource management and recovery

Design of Experiments and Advanced Statistical Techniques in Clinical Research - Basavarajaiah D. M. 2020-11-05

Recent Statistical techniques are one of the basal evidence for clinical research, a pivotal in handling new clinical research and in evaluating and applying prior research. This book explores various choices of statistical tools and mechanisms, analyses of the associations among different clinical attributes. It uses advanced statistical methods to describe real clinical data sets, when the clinical processes being examined are still in the process. This book also discusses distinct methods for building predictive and probability distribution models in clinical

situations and ways to assess the stability of these models and other quantitative conclusions drawn by realistic experimental data sets.

Design of experiments and recent posthoc tests have been used in comparing treatment effects and precision of the experimentation. This book also facilitates clinicians towards understanding statistics and enabling them to follow and evaluate the real empirical studies (formulation of randomized control trial) that pledge insight evidence base for clinical practices. This book will be a useful resource for clinicians, postgraduates scholars in medicines, clinical research beginners and academicians to nurture high-level statistical tools with extensive scope.

Microbial Enzymes: Roles and Applications in Industries - Naveen Kumar Arora 2020-04-28
"Microbial Enzymes: Roles and applications in industry" offers an essential update on the field of microbial biotechnology, and presents the latest information on a range of microbial enzymes such as fructosyltransferase, laccases, amylases, lipase, and cholesterol oxidase, as well as their potential applications in various industries. Production and optimisation technologies for several industrially relevant microbial enzymes are also addressed. In recent years, genetic engineering has opened up new possibilities for redesigning microbial enzymes that are useful in multiple industries, an aspect that the book explores. In addition, it demonstrates how some of the emerging issues in the fields of agriculture, environment and human health can be resolved with the aid of green technologies based on microbial enzymes. The topics covered here will not only provide a better understanding of the commercial applications of microbial enzymes, but also outline futuristic approaches to use microbial enzymes as driver of industrial sustainability. Lastly, the book is intended to provide readers with an overview of recent applications of microbial enzymes in various industrial sectors, and to pique researchers' interest in the development of novel microbial enzyme technologies to meet the changing needs of industry.

Drug Delivery Systems for Metabolic Disorders - Harish Dureja 2022-08-26

Drug Delivery Systems for Metabolic Disorders presents the most recent developments on the

targeted delivery of drugs to deal with metabolic disorders in a safe, compliant and continuous way. The book covers recent developments in advanced drug delivery systems in various metabolic disorders, including disturbances in protein, lipid, carbohydrate and hormone metabolism and lysosomal and mitochondrial disorders. It provides a brief introduction to metabolic disorders, along with a focus on the current landscape and trends in understanding disease pathology using different in vitro and in vivo models required for clinical applications and developments of new therapeutics. Each subsequent chapter covers drug delivery systems dedicated to metabolic diseases caused by disturbances in protein, lipid, carbohydrate and hormone metabolism. Then, it moves on to cover lysosomal storage disorders and applications of phytopharmaceuticals in this context. This is the perfect reference for researchers in pharmaceutical science who are interested in developing new treatments for metabolic diseases. Offers comprehensive coverage of drug delivery to treat metabolic diseases Provides insights into how advanced drug delivery systems can be effectively used for the management of various types of metabolic disorders Includes the most recent research on diagnostic methods and treatment strategies using controlled drug delivery systems

Statistical Optimization of Biological Systems - Tapobrata Panda 2015-11-18

A number of books written by statisticians address the mathematical optimization of biological systems, but do not directly address statistical optimization. *Statistical Optimization of Biological Systems* covers the optimization of bioprocess systems in its entirety, devoting much-needed attention to the experimental optimization of biological systems using statistical techniques. Employing real-life bioprocess optimization problems and their solutions as examples, this book: Describes experimental design from identifying process variables to selecting a screening design, applying response surface methodology, and conducting regression modeling Demonstrates the statistical analysis and optimization of different experimental designs, the results of which are used to establish important variables and optimum settings Details the optimization

techniques employed to determine optimum levels of the process variables for both single- and multiple-response systems Discusses important experimental designs, such as evolutionary operation programs and Taguchi's designs Delineates the concept of hybrid experimental design using the essence of a genetic algorithm *Statistical Optimization of Biological Systems* examines the complex nature of biological systems, the need for optimization, and the rationale of statistical and non-statistical optimization methods. More importantly, the book explains how to successfully apply mathematical and statistical techniques to the optimization of biological systems.

Pharmaceutical Drug Product Development and Process Optimization - Sarwar Beg 2020-05-01

Pharmaceutical manufacturers are constantly facing quality crises of drug products, leading to an escalating number of product recalls and rejects. Due to the involvement of multiple factors, the goal of achieving consistent product quality is always a great challenge for pharmaceutical scientists. This volume addresses this challenge by using the Quality by Design (QbD) concept, which was instituted to focus on the systematic development of drug products with predefined objectives to provide enhanced product and process understanding. This volume presents and discusses the vital precepts underlying the efficient, effective, and cost effective development of pharmaceutical drug products. It focuses on the adoption of systematic quality principles of pharmaceutical development, which is imperative in achieving continuous improvement in end-product quality and also leads to reducing cost, time, and effort, while meeting regulatory requirements. The volume covers the important new advances in the development of solid oral dosage forms, modified release oral dosage forms, parenteral dosage forms, semisolid dosage forms, transdermal drug, delivery systems, inhalational dosage forms, ocular drug delivery systems, nanopharmaceutical products, and nanoparticles for oral delivery.

Direct Nose-to-Brain Drug Delivery - Chandrakantsing Pardeshi 2021-06-16

Direct Nose-to-Brain Drug Delivery provides the reader with precise knowledge about the

strategies and approaches for enhanced nose-to-brain drug delivery. It highlights the development of novel nanocarrier-based drug delivery systems for targeted drug delivery to the brain microenvironments with a focus on the technological advances in the development of the novel drug delivery devices for intranasal administration, including special emphasis on brain targeting through nose. This book explores the various quantification parameters to assess the brain targeting efficiency following intranasal administration and includes an overview on the toxicity aspects of the various materials used to develop the direct nose-to-brain drug delivery vehicles and of the regulatory aspects including patents and current clinical status of the potential neurotherapeutics for the effective management of neuro-ailments. Technological advances in new drug delivery systems with diverse applications in pharmaceutical, biomedical, biomaterials, and biotechnological fields are also explained. This book is a crucial source that will assist the veteran scientists, industrial technologists, and clinical research professionals to develop new drug delivery systems and novel drug administration devices for the treatment of neuro-ailments. Explains the targeting approaches for enhanced brain targeting following intranasal drug administration

Explores the various nanocarriers developed to date for neurotherapeutic delivery via nose-to-brain Discusses pharmaceutical and biomedical applications after nose-to-brain delivery of therapeutic pharmaceuticals and biologicals
Statistical Approaches With Emphasis on Design of Experiments Applied to Chemical Processes - Valter Silva 2018-03-07

Optimized operating conditions for complex systems can be attained by using advanced combinations of numerical and statistical methodologies. One of the most efficient and straightforward solutions relies on the application of statistical methods with an emphasis on the design of experiments (DoEs). Throughout the book, the design and analysis of experiments are conducted involving several approaches, namely, Taguchi, response surface methods, statistical correlations, or even fractional factorial and model-based evolutionary operation designs. This book not only presents a

theoretical overview about the different approaches but also contains material that covers the use of the experimental analysis applied to several chemical processes. Some chapters highlight the use of software products to assist experimenters in both the design and analysis stages. It helps graduate students, teachers, researchers, and other professionals who are interested in chemical process optimization and also provides a good basis of theoretical knowledge and valuable insights into the technical details of these tools as well as explains common pitfalls to avoid. The world's leading pharmaceutical companies and local governments are trying to achieve their eradication.

Proceedings of the 2012 International Conference on Applied Biotechnology (ICAB 2012) - Tong-Cun Zhang 2013-11-29

The 2012 International Conference on Applied Biotechnology (ICAB 2012) was held in Tianjin, China on October 18-19, 2012. It provides not only a platform for domestic and foreign researchers to exchange their ideas and experiences with the application-oriented research of biotechnology, but also an opportunity to promote the development and prosperity of the biotechnology industry. The proceedings of ICAB 2012 mainly focus on the world's latest scientific research and techniques in applied biotechnology, including Industrial Microbial Technology, Food Biotechnology, Pharmaceutical Biotechnology, Environmental Biotechnology, Marine Biotechnology, Agricultural Biotechnology, Biological Materials and Bio-energy Technology, Advances in Biotechnology, and Future Trends in Biotechnology. These proceedings are intended for scientists and researchers engaging in applied biotechnology. Professor Pingkai Ouyang is the President of the Nanjing University of Technology, China. Professor Tongcun Zhang is the Director of the Key Laboratory of Industrial Fermentation Microbiology of the Ministry of Education at the College of Bioengineering, Tianjin University of Science and Technology, China. Dr. Samuel Kaplan is a Professor at the Department of Microbiology & Molecular Genetics at the University of Texas at Houston Medical School, Houston, Texas, USA. Dr. Bill Skarnes is a Professor at Wellcome Trust Sanger

Institute, United Kingdom.

Nanotechnology-Based Approaches for Targeting and Delivery of Drugs and Genes -

Vijay Mishra 2017-05-23

Nanotechnology-Based Approaches for Targeting and Delivery of Drugs and Genes provides an overview of the important aspects of nanomedicine in order to illustrate how to design and develop novel and effective drug delivery systems using nanotechnology. The book is organized into three sections, beginning with an introduction to nanomedicine and its associated issues. Section two discusses the latest technologies in nanomedicine, while the third section covers future developments and challenges in the field. By focusing on the design, synthesis, and application of a variety of nanocarriers in drug and gene delivery, this book provides pharmaceutical and materials science students, professors, clinical researchers, and industry scientists with a valuable resource aimed at tackling the challenges of delivering drugs and genes in a more targeted manner. Explores a wide range of promising approaches for the diagnosis and treatment of diseases using the latest advances in cutting-edge nanomedical technologies. Contains contributions from world-renowned experts and researchers working in the area of nanomedicine and drug delivery. Covers the associated challenges and potential solutions to working with nanotechnology in drug delivery. Highlights crucial topics, such as biopharmaceutical and toxicity issues, quality by design, drug targeting, and more.

AETA 2017 - Recent Advances in Electrical Engineering and Related Sciences: Theory and Application - Vo Hoang Duy 2017-11-10

This proceedings book gathers papers presented at the 4th International Conference on Advanced Engineering Theory and Applications 2017 (AETA 2017), held on 7-9 December 2017 at Ton Duc Thang University, Ho Chi Minh City, Vietnam. It presents selected papers on 13 topical areas, including robotics, control systems, telecommunications, computer science and more. All selected papers represent interesting ideas and collectively provide a state-of-the-art overview. Readers will find intriguing papers on the design and implementation of control algorithms for aerial and underwater

robots, for mechanical systems, efficient protocols for vehicular ad hoc networks, motor control, image and signal processing, energy saving, optimization methods in various fields of electrical engineering, and others. The book also offers a valuable resource for practitioners who want to apply the content discussed to solve real-life problems in their challenging applications. It also addresses common and related subjects in modern electric, electronic and related technologies. As such, it will benefit all scientists and engineers working in the above-mentioned fields of application.

Nanotechnology Applications in Dairy Science -

Lohith Kumar Dasarahally-Huligowda

2019-06-26

This new volume, Nanotechnology Applications in Dairy Science, is designed to provide new insight into the utilization of nanotechnology in dairy science and food science. It focuses on applications of nanotechnology in packaging and drying of dairy and meat products, nanofiltration use in the dairy industry, and whey processing and dairy encapsulation. In addition, this book will facilitate the necessary understanding of the different aspects and concerns with regard to the new technological advances that nanotechnologies are contributing to the dairy industry. It also addresses several of the challenges that are overcome by the continuing development of nanotechnology applications in the food and dairy industries. Nanotechnology has the potential to provide healthier, safer, and better tasting foods as well as improved food packaging. It will also play a major role in food safety and agricultural sustainability.

Nanotechnology application in the food industry has also contributed to the exponential progress in research and new material formulations due to its unique physicochemical properties useful to a number of other fields.

Micro- and Nanotechnologies-Based Product Development - Neelesh Kumar Mehra

2021-09-06

This book provides comprehensive information of the nanotechnology-based pharmaceutical product development including a diverse range of arenas such as liposomes, nanoparticles, fullerenes, hydrogels, thermally responsive externally activated theranostics (TREAT), hydrogels, microspheres, micro- and

nanoemulsions and carbon nanomaterials. It covers the micro- and nanotechnological aspects for pharmaceutical product development with the product development point of view and also covers the industrial aspects, novel technologies, stability studies, validation, safety and toxicity profiles, regulatory perspectives, scale-up technologies and fundamental concept in the development of products. Salient Features: Covers micro- and nanotechnology approaches with current trends with safety and efficacy in product development. Presents an overview of the recent progress of stability testing, reverse engineering, validation and regulatory perspectives as per regulatory requirements. Provides a comprehensive overview of the latest research related to micro- and nanotechnologies including designing, optimisation, validation and scale-up of micro- and nanotechnologies. Is edited by two well-known researchers by contribution of vivid chapters from renowned scientists across the globe in the field of pharmaceutical sciences. Dr. Neelesh Kumar Mehra is working as an Assistant Professor of Pharmaceutics & Biopharmaceutics at the Department of Pharmaceutics, National Institute of Pharmaceutical Education & Research (NIPER), Hyderabad, India. He received 'TEAM AWARD' for successful commercialisation of an ophthalmic suspension product. He has authored more than 60 peer-reviewed publications in highly reputed international journals and more than 10 book chapter contributions. He has filed patents on manufacturing process and composition to improved therapeutic efficacy for topical delivery. He guided PhD and MS students for their dissertations/research projects. He has received numerous outstanding awards including Young Scientist Award and Team Award for his research output. He recently published one edited book, 'Dendrimers in Nanomedicine: Concept, Theory and Regulatory Perspectives', in CRC Press. Currently, he is editing books on nano drug delivery-based products with Elsevier Pvt Ltd. He has rich research and teaching experience in the formulation and development of complex, innovative ophthalmic and injectable biopharmaceutical products including micro- and nanotechnologies for regulated market. Dr. Arvind Gulbake is working as an Assistant

Professor at the Faculty of Pharmacy, School of Pharmaceutical & Population Health Informatics, at DIT University, Dehradun, India. He has authored more than 40 peer-reviewed publications in highly reputed international journals, four book chapters and a patent contribution. He has received outstanding awards including Young Scientist Award and BRG Travel Award for his research. He is an assistant editor for IJAP. He guided PhD and MS students for their dissertations/research projects. He has successfully completed extramural project funded by SERB, New Delhi, Government of India. He has more than 12 years of research and teaching experience in the formulation and development of nanopharmaceuticals.

CIGOS 2019, Innovation for Sustainable Infrastructure - Cuong Ha-Minh 2019-10-10

This book presents selected articles from the 5th International Conference on Geotechnics, Civil Engineering Works and Structures, held in Ha Noi, focusing on the theme "Innovation for Sustainable Infrastructure", aiming to not only raise awareness of the vital importance of sustainability in infrastructure development but to also highlight the essential roles of innovation and technology in planning and building sustainable infrastructure. It provides an international platform for researchers, practitioners, policymakers and entrepreneurs to present their recent advances and to exchange knowledge and experience on various topics related to the theme of "Innovation for Sustainable Infrastructure".

Herbal Medicine in India - Saikat Sen 2019-09-10

This book highlights the medical importance of and increasing global interest in herbal medicines, herbal health products, herbal pharmaceuticals, nutraceuticals, food supplements, herbal cosmetics, etc. It also addresses various issues that are hampering the advancement of Indian herbal medicine around the globe; these include quality concerns and quality control, pharmacovigilance, scientific investigation and validation, IPR and biopiracy, and the challenge that various indigenous systems of medicine are at risk of being lost. The book also explores the role of traditional medicine in providing new functional leads and

modern approaches that can offer elegant strategies for facilitating the drug discovery process. The book also provides in-depth information on various traditional medicinal systems in India and discusses their medical importance. India has a very long history of safely using many herbal drugs. Folk medicine is also a key source of medical knowledge and plays a vital role in maintaining health in rural and remote areas. Despite its importance, this form of medicine largely remains under-investigated. Out of all the traditional medicinal systems used worldwide, Indian traditional medicine holds a unique position, as it has continued to deliver healthcare throughout the Asian subcontinent since ancient times. In addition, traditional medicine has been used to derive advanced techniques and investigate many modern drugs. Given the scope of its coverage, the book offers a valuable resource for scientists and researchers exploring traditional and herbal medicine, as well as graduate students in courses on traditional medicine, herbal medicine and pharmacy.

Metals—Advances in Research and

Application: 2013 Edition - 2013-06-21

Metals—Advances in Research and Application: 2013 Edition is a ScholarlyEditions™ book that delivers timely, authoritative, and comprehensive information about Alkali Metals. The editors have built Metals—Advances in Research and Application: 2013 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Alkali Metals in this book to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Metals—Advances in Research and Application: 2013 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.
Natural Polymers and Biopolymers II - Sylvain Caillol 2021-05-05

BioPolymers could be either natural polymers - polymer naturally occurring in Nature, such as cellulose or starch..., or biobased polymers that are artificially synthesized from natural resources. Since the late 1990s, the polymer industry has faced two serious problems: global warming and anticipation of limitation to the access to fossil resources. One solution consists in the use of sustainable resources instead of fossil-based resources. Hence, biomass feedstocks are a promising resource and biopolymers are one of the most dynamic polymer area. Additionally, biodegradability is a special functionality conferred to a material, biobased or not. Very recently, facing the awareness of the volumes of plastic wastes, biodegradable polymers are gaining increasing attention from the market and industrial community. This special issue of Molecules deals with the current scientific and industrial challenges of Natural and Biobased Polymers, through the access of new biobased monomers, improved thermo-mechanical properties, and by substitution of harmful substances. This themed issue can be considered as collection of highlights within the field of Natural Polymers and Biobased Polymers which clearly demonstrate the increased interest in this field. We hope that this will inspire researchers to further develop this area and thus contribute to futures more sustainable society."

Canola - James K. Daun 2015-08-13

This book gives a complete picture of the canola crop including its history, botany, genetics, distribution, breeding and biotechnology, production, processing, composition, nutritional properties and utilization of the seed, oil and meal, as well as an economic profile. While the main focus in this book is on canola of Canadian origin, its cousin crop oilseed rape will also be discussed to a lesser extent. The work provides up-to-date information on the crop and highlights areas where research and development is either needed or is in process. Provides extensive information on the canola plant, including breeding, genetic engineering for trait development, and seed morphology and composition Editors and contributors are global leaders in canola research and application Offers a comprehensive overview of canola oil and meal composition, nutrition, and utilization

Embedded Mechatronic Systems 2 - Abdelkhalak El Hami 2020-03-17

Embedded Mechatronic Systems 2: Analysis of Failures, Modeling, Simulation and Optimization presents advances in research within the field of mechatronic systems, which integrates reliability into the design process. Providing many detailed examples, this book develops a characterization methodology for faults in mechatronic systems. It analyzes the multi-physical modeling of faults, revealing weaknesses in design and failure mechanisms. This development of meta-models enables us to simulate effects on the reliability of conditions of use and manufacture. Provides many detailed examples Develops a characterization methodology for faults in mechatronic systems Analyzes the multi-physical modeling of faults, revealing weaknesses in design and failure mechanisms

Advanced Engineering Optimization Through Intelligent Techniques - R. Venkata Rao 2019-07-09

This book comprises select peer-reviewed papers presented at the International Conference on Advanced Engineering Optimization Through Intelligent Techniques (AEOTIT) 2018. The book combines contributions from academics and industry professionals, and covers advanced optimization techniques across all major engineering disciplines like mechanical, manufacturing, civil, automobile, electrical, chemical, computer and electronics engineering. Different optimization techniques and algorithms such as genetic algorithm (GA), differential evolution (DE), simulated annealing (SA), particle swarm optimization (PSO), artificial bee colony (ABC) algorithm, artificial immune algorithm (AIA), teaching-learning-based optimization (TLBO) algorithm and many other latest meta-heuristic techniques and their applications are discussed. This book will serve as a valuable reference for students, researchers and practitioners and help them in solving a wide range of optimization problems.

Design of Experiments for Pharmaceutical Product Development - Sarwar Beg 2021-01-22

This book volume provides complete and updated information on the applications of Design of Experiments (DoE) and related multivariate techniques at various stages of

pharmaceutical product development. It discusses the applications of experimental designs that shall include oral, topical, transdermal, injectables preparations, and beyond for nanopharmaceutical product development, leading to dedicated case studies on various pharmaceutical experiments through illustrations, art-works, tables and figures. This book is a valuable guide for all academic and industrial researchers, pharmaceutical and biomedical scientists, undergraduate and postgraduate research scholars, pharmacists, biostatisticians, biotechnologists, formulations and process engineers, regulatory affairs and quality assurance personnel.

Handbook of Research on Smart Technology Models for Business and Industry - Thomas, J. Joshua 2020-06-19

Advances in machine learning techniques and ever-increasing computing power has helped create a new generation of hardware and software technologies with practical applications for nearly every industry. As the progress has, in turn, excited the interest of venture investors, technology firms, and a growing number of clients, implementing intelligent automation in both physical and information systems has become a must in business. Handbook of Research on Smart Technology Models for Business and Industry is an essential reference source that discusses relevant abstract frameworks and the latest experimental research findings in theory, mathematical models, software applications, and prototypes in the area of smart technologies. Featuring research on topics such as digital security, renewable energy, and intelligence management, this book is ideally designed for machine learning specialists, industrial experts, data scientists, researchers, academicians, students, and business professionals seeking coverage on current smart technology models.

Design and Analysis of Sensory Optimization - Maximo C. Gacula, Jr. 2008-06-02

This book discusses experimental designs which are very useful in sensory and consumer testing. As an added feature this coverage is fully illustrated with real-life examples. In addition, the importance of fractional factorial designs are explained more fully than in books now available. The heart of this book is product

optimization which covers in great detail designs and analysis of optimization studies with consumers. A rundown of this chapter includes: preliminaries, test for adequacy of statistical model and least squares estimation of regression parameters; why use optimization technique; types of optimization experiments; Plackett and Burman design; Box and Behnken design, mixture designs; search for optimum areas in response surfaces; use of contour maps in product reformulation augmentation of fractional factorial design; optimization with discrete variables, dangers of fractional factorial designs, and optimization for robustness. This book will be valuable for a wide audience of professionals in the areas of sensory, marketing, advertising, statistics, quality assurance, food, beverage, personal care, pharmaceutical, household products, and cosmetic industries. The book could also serve as a text in applied statistics

Pharmaceutical Quality by Design - Sarwar Beg
2019-03-27

Pharmaceutical Quality by Design: Principles and Applications discusses the Quality by Design (QbD) concept implemented by regulatory agencies to ensure the development of a consistent and high-quality pharmaceutical product that safely provides the maximum therapeutic benefit to patients. The book walks readers through the QbD framework by covering the fundamental principles of QbD, the current

regulatory requirements, and the applications of QbD at various stages of pharmaceutical product development, including drug substance and excipient development, analytical development, formulation development, dissolution testing, manufacturing, stability studies, bioequivalence testing, risk and assessment, and clinical trials. Contributions from global leaders in QbD provide specific insight in its application in a diversity of pharmaceutical products, including nanopharmaceuticals, biopharmaceuticals, and vaccines. The inclusion of illustrations, practical examples, and case studies makes this book a useful reference guide to pharmaceutical scientists and researchers who are engaged in the formulation of various delivery systems and the analysis of pharmaceutical product development and drug manufacturing process. Discusses vital QbD precepts and fundamental aspects of QbD implementation in the pharma, biopharma and biotechnology industries Provides helpful illustrations, practical examples and research case studies to explain QbD concepts to readers Includes contributions from global leaders and experts from academia, industry and regulatory agencies
[Current Materials Research Using X-Rays and Related Techniques III](#) - Muhamad Faiz Md Din
2022-01-28
Selected peer-reviewed full text papers from the 10th International Conference on X-Rays and Related Techniques in Research and Industry (ICXRI 2021)