

Onkar Pandey Rakesh Kumar Biomedical Engineering Free

Burgeoning world population, decreased water supply and land resources, coupled with climate change, result in severe stress conditions and a great threat to the global food supply. To meet these challenges, exploring Omics Technologies could lead to improved yields of cereals, tubers and grasses that may ensure food security.

Improvement of yields through crop improvement and biotechnological means are the need-of-the-hour, and the current book “ OMICS-Based Approaches in Plant Biotechnology ” , reviews the advanced concepts on breeding strategies, OMICS technologies (genomics, transcriptomics and metabolomics) and bioinformatics that help to glean the potential candidate genes/molecules to address unsolved problems related to plant and agricultural crops. The first six chapters of the book are focused on genomics and cover sequencing, functional genomics with examples on insecticide resistant genes, mutation breeding and miRNA technologies. Recent advances in metabolomics studies are elucidated in the next 3 chapters followed by 5 chapters on bioinformatics and advanced techniques in plant biotechnology and crop breeding. The information contained in the volume will help plant breeders, plant biotechnologists, plant biochemists, agriculture scientists and researchers in using this applied research to focus on better crop breeding and

stress adaptation strategies.

A thorough look at how societies can use cultural algorithms to understand human social evolution For those working in computational intelligence, developing an understanding of how cultural algorithms and social intelligence form the essential framework for the evolution of human social interaction is essential. This book, *Cultural Algorithms: Tools to Model Complex Dynamic Social Systems*, is the foundation of that study. It showcases how we can use cultural algorithms to organize social structures and develop socio-political systems that work. For such a vast topic, the text covers everything from the history of the development of cultural algorithms and the basic framework with which it was organized. Readers will also learn how other nature-inspired algorithms can be expressed and how to use social metrics to assess the performance of various algorithms. In addition to these topics, the book covers topics including: The CAT system including the Repast Symphony System and CAT Sample Runs How to problem solve using social networks in cultural algorithms with auctions Understanding Common Value Action to enhance Social Knowledge Distribution Systems Case studies on team formations An exploration of virtual worlds using cultural algorithms For industry professionals or new students, *Cultural Algorithms* provides an impactful and thorough look at both social intelligence and how human social evolution translates into the modern world.

The National Nanotechnology Initiative (NNI) is a

multiagency, multidisciplinary federal initiative comprising a collection of research programs and other activities funded by the participating agencies and linked by the vision of "a future in which the ability to understand and control matter at the nanoscale leads to a revolution in technology and industry that benefits society." As first stated in the 2004 NNI strategic plan, the participating agencies intend to make progress in realizing that vision by working toward four goals. Planning, coordination, and management of the NNI are carried out by the interagency Nanoscale Science, Engineering, and Technology (NSET) Subcommittee of the National Science and Technology Council (NSTC) Committee on Technology (CoT) with support from the National Nanotechnology Coordination Office (NNCO). Triennial Review of the National Nanotechnology Initiative is the latest National Research Council review of the NNI, an assessment called for by the 21st Century Nanotechnology Research and Development Act of 2003. The overall objective of the review is to make recommendations to the NSET Subcommittee and the NNCO that will improve the NNI's value for basic and applied research and for development of applications in nanotechnology that will provide economic, societal, and national security benefits to the United States. In its assessment, the committee found it important to understand in some detail-and to describe in its report-the NNI's structure and organization; how the NNI fits within the larger federal research enterprise, as well as how it can and should be

organized for management purposes; and the initiative's various stakeholders and their roles with respect to research. Because technology transfer, one of the four NNI goals, is dependent on management and coordination, the committee chose to address the topic of technology transfer last, following its discussion of definitions of success and metrics for assessing progress toward achieving the four goals and management and coordination. Addressing its tasks in this order would, the committee hoped, better reflect the logic of its approach to review of the NNI. Triennial Review of the National Nanotechnology Initiative also provides concluding remarks in the last chapter.

India Has One Of The Oldest, Richest And Most Diverse Cultural Traditions Called Folk Tradition Associated With The Use Of Medicinal Herbs. Traditional Folk Medicine Is The Application Of Indigenous Beliefs, Knowledge, Skills And Cultural Practices Concerned With Human Health. The Ethnic People Have Provided Several Miracle Plants Of Medicinal Value To Modern Civilisation. The Present Book, Ethnomedicinal Plants, Contains 15 Articles On Different Aspects Of The Subject. The Book Contains Articles On Medicinal Plants In India And Their Conservation; Protection Of Traditional Knowledge; Medicinal Plants Of Nepal; And Ethno-Medico Botany Of Orissa And Some Parts Of Rajasthan. Articles On The Uses Of Plants In The Treatment Of Urinary Tract Diseases; Ethno-Veterinary Medicinal Plants And Plants In Healthcare During

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Pregnancy Include Some General And A Few Specific Medicinal Plants Of Great Importance. In Addition To This, General Articles, Namely, Ethnobotany Green Gold Branch Of Botanical Sciences And Modulation Of Radiosensitivity By Certain Plant And Plant Products, Etc. Have Added To The Value Of The Book. This Book Provides Excellent Glimpses Of The Rich Ethnomedicinal Heritage Of India. The Present Book Will Serve Not Only As An Excellent Reference Material But Also As A Practical Guide For Folk Healers, Vaidyas, Research Workers And Students In The Field Of Ethnobotany. Photographs On Front Of Jacket From Left To Right: 1St Row: Adhatoda Vasica, Solanum Nigrum, Abutilon Indicum, Ceterach Officinarum. 2Nd Row: Nardostachys Jatamansi, Selinum Candollei, Oryza Sativa, Cyperus Scariosus 3Rd Row: Seeds Of Elaeocarpus Angustifolius, Abrus Precatorius, Celastrus Paniculatus, Vigna Unquiculata.

International Conference on Innovative Computing and Communications

Synthesis and Processing

Great Minds on India

India

Physics and Mechanics of New Materials and Their Applications

Universities Handbook

Annual Commencement

This book is a collection of research papers and articles presented at the 3rd International

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Conference on Communications and Cyber-Physical Engineering (ICCCE 2020), held on 1-2 February 2020 at CMR Engineering College, Hyderabad, Telangana, India. Discussing the latest developments in voice and data communication engineering, cyber-physical systems, network science, communication software, image and multimedia processing research and applications, as well as communication technologies and other related technologies, it includes contributions from both academia and industry. This book is a valuable resource for scientists, research scholars and PG students working to formulate their research ideas and find the future directions in these areas. Further, it may serve as a reference work to understand the latest engineering and technologies used by practicing engineers in the field of communication engineering.

One of the most comprehensive books in the field, this import from TATA McGraw-Hill rigorously covers the latest developments in medical imaging systems, gamma camera, PET camera, SPECT camera and lithotripsy technology. Written for working engineers, technicians, and graduate students, the book includes of hundreds of images as well as detailed working instructions for the newest and more popular instruments used by biomedical engineers today.

This book presents high-quality, peer-reviewed

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papers from the FICR International Conference on Rising Threats in Expert Applications and Solutions 2020, held at IIS University Jaipur, Rajasthan, India, on January 17–19, 2020.

Featuring innovative ideas from researchers, academics, industry professionals and students, the book covers a variety of topics, including expert applications and artificial intelligence/machine learning; advanced web technologies, like IoT, big data, and cloud computing in expert applications; information and cybersecurity threats and solutions; multimedia applications in forensics, security and intelligence; advances in app development; management practices for expert applications; and social and ethical aspects of expert applications in applied sciences.

This volume comprises the proceedings of the International Conference on Recent Cognizance in Wireless Communication & Image Processing. It brings together content from academicians, researchers, and industry experts in areas of Wireless Communication and Image Processing. The volume provides a snapshot of current progress in computational creativity and a glimpse of future possibilities. The proceedings include two kinds of paper submissions: (i) regular papers addressing foundation issues, describing original research on creative systems development and modeling; and (ii) position papers describing work-in-progress or research

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directions for computational creativity. This work will be useful to professionals and researchers working in the core areas of wireless communications and image processing.
Issues and Challenges in South Asia
Biomedical Signal and Image Processing

Biomedical Polymers

Gene and Cell Therapy: Biology and Applications

Bio-Medical Electronics & Instrumentation

Rising Threats in Expert Applications and Solutions

COVID-19 is the most significant global crisis of any of our lifetimes. The numbers have been stupefying, whether of infection and mortality, the scale of public health measures, or the economic consequences of shutdown. Coronavirus Politics identifies key threads in the global comparative discussion that continue to shed light on COVID-19 and shape debates about what it means for scholarship in health and comparative politics. Editors Scott L. Greer, Elizabeth J. King, Elize Massard da Fonseca, and André Peralta-Santos bring together over 30 authors versed in politics and the health issues in order to understand the health policy decisions, the public health interventions, the social policy decisions, their interactions, and the reasons. The book's coverage is global, with a wide range of key and exemplary countries, and contains a mixture of comparative, thematic, and templated country studies. All go beyond reporting and

monitoring to develop explanations that draw on the authors' expertise while engaging in structured conversations across the book.

The two-volume set LNCS 12615 + 12616 constitutes the refereed proceedings of the 12th International Conference on Intelligent Human Computer Interaction, IHCI 2020, which took place in Daegu, South Korea, during November 24-26, 2020. The 75 full and 18 short papers included in these proceedings were carefully reviewed and selected from a total of 185 submissions. The papers were organized in topical sections named: cognitive modeling and systems; biomedical signal processing and complex problem solving; natural language, speech, voice and study; algorithms and related applications; crowd sourcing and information analysis; intelligent usability and test system; assistive living; image processing and deep learning; and human-centered AI applications. Forensic Pharmacology explores the many links between drugs and forensic science, from drug-induced violence and crime to determining whether a person taking a certain medication is capable of standing trial for a crime, to the forgery of prescriptions. The reader is introduced to the daily work of the scientists, and the principles of pharmacology and toxicology, as well as the various classes and technical analysis of drugs of abuse. The Encyclopedia of Biomedical Polymers & Polymeric Biomaterials presents state-of-the-art research and development on the application of

novel polymers in a vital area. This groundbreaking work includes the insight of a large number of contributors from around the world who offer a broad-based perspective on a multitude of topics. Authoritative, dynamic, and comprehensive, this multi-volume reference covers the broad subject area of polymer applications in the medical field, providing readers with an enriching experience and targeted knowledge in this evolving arena. The materials presented convey important overviews to help stimulate further advancements in all areas of biomaterials and biomedical polymers. Additionally, they address and identify new breakthroughs and emerging technologies. Designed for novices to experienced researchers, the encyclopedia caters to engineers and scientists (polymer and materials scientists, biomedical engineers, biochemists, molecular biologists, macromolecular chemists), pharmacists, doctors, cardiovascular and plastic surgeons, and students, as well as general readers in academia, industry, research institutions, etc. It is envisioned that the encyclopedia will serve as the most respected reference work on the application of polymers in the medical field.

Artificial Neural Networks and Multi-Criteria Decision Making Approaches

Ethnomedicinal Plants

The Comparative Politics and Policy of COVID-19 Matrix Analysis

Proceedings of the 3rd International Conference on Communications and Cyber Physical Engineering

Encyclopedia of Biomedical Polymers and Polymeric Biomaterials, 11 Volume Set

Microbial Diversity and Ecology in Hotspots

The Hilbert-Huang Transform (HHT) represents a desperate attempt to break the suffocating hold on the field of data analysis by the twin assumptions of linearity and stationarity. Unlike spectrograms, wavelet analysis, or the Wigner-Ville Distribution, HHT is truly a time-frequency analysis, but it does not require an a priori functional basis and, therefore, the convolution computation of frequency. The method provides a magnifying glass to examine the data, and also offers a different view of data from nonlinear processes, with the results no longer shackled by spurious harmonics ? the artifacts of imposing a linearity property on a nonlinear system or of limiting by the uncertainty principle, and a consequence of Fourier transform pairs in data analysis. This is the first HHT book containing papers covering a wide variety of interests. The chapters are divided into mathematical aspects and applications, with the applications further grouped into geophysics, structural safety and visualization. This work has been selected by scholars as being culturally important and is part of

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the knowledge base of civilization as we know it. This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work. Scholars believe, and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. To ensure a quality reading experience, this work has been proofread and republished using a format that seamlessly blends the original graphical elements with text in an easy-to-read typeface. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

This proceedings volume gathers selected papers presented at the Chinese Materials Conference 2017 (CMC2017), held in Yinchuan City, Ningxia, China, on July 06-12, 2017. This book covers a wide range of material surface science, advanced preparation and processing technologies of materials, high purity materials, silicon purification technology, solidification science and technology, performance and structure safety of petroleum tubular goods and equipment materials, materials

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genomes, materials simulation, computation and design. The Chinese Materials Conference (CMC) is the most important serial conference of the Chinese Materials Research Society (C-MRS) and has been held each year since the early 1990s. The 2017 installment included 37 Symposia covering four fields: Advances in energy and environmental materials; High performance structural materials; Fundamental research on materials; and Advanced functional materials. More than 5500 participants attended the congress, and the organizers received more than 700 technical papers. Based on the recommendations of symposium organizers and after peer reviewing, 490 papers have been included in the present proceedings, which showcase the latest original research results in the field of materials, achieved by more than 300 research groups at various universities and research institutes.

This book reviews the current applications and future prospects of nanomaterials in cancer diagnostics and therapy.

Nanomaterials have recently emerged as a remarkable and promising tool for cancer therapy and diagnosis, due to their broad range of intrinsic molecular properties. To overcome the current limitations of nanoparticles in drug delivery systems,

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attempts have been made to synthesize nanoparticles from biological materials for targeted cancer therapy. This book provides concise evaluations of various potential bio-inspired platforms that mimic natural components of the body and offer effective and versatile drug delivery systems for cancer therapy. It also assesses the potential of nanoparticles to enhance the outcomes of cancer immunotherapy via immune cell activation and tumor microenvironment modulation. The book also summarizes in the applications of nanomaterials for the detection, prevention, and treatment of solid tumors and in the treatment of leukemia and lymphomas. In closing, it discusses ethical issues in nanomedicine, including risk assessment, risk management, and risk communication during clinical trials. The book offers offers a valuable source of information for students, academics, researchers, scientists, clinicians, and healthcare professionals working in nanotechnology and cancer research.

Hilbert-Huang Transform and Its
Applications

Recent Advances in Computational and
Experimental Mechanics, Vol-I
Challenges and Opportunities

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Select Proceedings of ICRACTEM 2020
ICCCE 2020

Nanomedicine for Cancer Diagnosis and
Therapy

Friction Stir Welding

The Wrestler's Body tells the story of a way of life organized in terms of physical self-development. While Indian wrestlers are competitive athletes, they are also moral reformers whose conception of self and society is fundamentally somatic. Using the insights of anthropology, Joseph Alter writes an ethnography of the wrestler's physique that elucidates the somatic structure of the wrestler's identity and ideology. Young men in North India may choose to join an akhara, or gymnasium, where they subject themselves to a complex program of physical and moral fitness. Alter's first-hand description of each detail of the wrestler's regimen offers a unique perspective on South Asian culture and society. Wrestlers feel that moral reform of Indian national character is essential and advocate their way of life as an ideology of national health. Everyone is called on to become a wrestler and build collective strength through self-discipline.

Bio-Medical Electronics &

Instrumentation Seagull Books Pvt

Ltd Multimedia Tools and Applications Springer

This book provides an innovative, realistic and reliable solution to the common problem of Indian water and energy sector due to the

onset of the Impact of Climate Change and Large-Scale Urbanization. Twelve Case Studies and One Review Paper that were included in this book depict the way soft computation techniques, simulation and decision-making framework can optimize the best solution from multiple solutions to the problems of water and energy management which corresponds to a novel symbiotic and synchronous nexus between water and the energy sector. All the studies included in this book are collected from all parts of India. The selected studies utilized the latest technologies like Multi-Criteria Decision Frame Work, Neural Networks and Nature-Based Optimization techniques to achieve diverse objectives from the prediction of climatic parameters to yield from ungauged watershed to performance optimization of Water Treatment Plant, Hydropower as well as futuristic alternative energy systems like Wave to Power Plants.

Herbal Bioactive-Based Drug Delivery Systems: Challenges and Opportunities provides a wide-ranging, in-depth resource for herbal bioactives, including detailed discussion of standardization and regulations. The book first explores specific drug delivery systems such as gastrointestinal, ocular, pulmonary, transdermal, and vaginal and rectal. It then discusses novel applications for nano, cosmetics, nutraceuticals, wound healing and cancer treatment. Finally, there is a section focusing on standardization and regulation which includes an enhancement of properties.

This book is an essential resource for pharmacologists, pharmaceutical scientists, material scientists, botanists, and all those interested in natural products and drug delivery systems developments. Explores standardization, regulation and enhancement issues in herbal bioactives Discusses novel developments, herbal cosmetics and toxicity/interaction issues Provides a comprehensive reference on all aspects of herbal bioactives

Cultural Algorithms

ICRCWIP-2014

The Wrestler's Body

The Challenge of Cardiovascular Disease in Developing Economies

Proceedings of Chinese Materials Conference 2017

Biomedical Instrumentation: Technology and Applications

Coronavirus Politics

This book (Vol. - I) presents select proceedings of the first Online International Conference on Recent Advances in Computational and Experimental Mechanics (ICRACEM 2020) and focuses on theoretical, computational and experimental aspects of solid and fluid mechanics. Various topics covered are computational modelling of extreme events; mechanical modelling of robots; mechanics and design of cellular materials; mechanics of soft materials; mechanics of

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thin-film and multi-layer structures; meshfree and particle based formulations in continuum mechanics; multi-scale computations in solid mechanics, and materials; multiscale mechanics of brittle and ductile materials; topology and shape optimization techniques; acoustics including aero-acoustics and wave propagation; aerodynamics; dynamics and control in micro/nano engineering; dynamic instability and buckling; flow-induced noise and vibration; inverse problems in mechanics and system identification; measurement and analysis techniques in nonlinear dynamic systems; multibody dynamical systems and applications; nonlinear dynamics and control; stochastic mechanics; structural dynamics and earthquake engineering; structural health monitoring and damage assessment; turbomachinery noise; vibrations of continuous systems, characterization of advanced materials; damage identification and non-destructive evaluation; experimental fire mechanics and damage; experimental fluid mechanics; experimental solid mechanics; measurement in extreme environments; modal testing and dynamics; experimental hydraulics; mechanism of scour under steady and unsteady flows; vibration measurement and control; bio-

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inspired materials; constitutive modelling of materials; fracture mechanics; mechanics of adhesion, tribology and wear; mechanics of composite materials; mechanics of multifunctional materials; multiscale modelling of materials; phase transformations in materials; plasticity and creep in materials; fluid mechanics, computational fluid dynamics; fluid-structure interaction; free surface, moving boundary and pipe flow; hydrodynamics; multiphase flows; propulsion; internal flow physics; turbulence modelling; wave mechanics; flow through porous media; shock-boundary layer interactions; sediment transport; wave-structure interaction; reduced-order models; turbo-machinery; experimental hydraulics; mechanism of scour under steady and unsteady flows; applications of machine learning and artificial intelligence in mechanics; transport phenomena and soft computing tools in fluid mechanics. The contents of these two volumes (Volumes I and II) discusses various attributes of modern-age mechanics in various disciplines, such as aerospace, civil, mechanical, ocean engineering and naval architecture. The book will be a valuable reference for beginners, researchers, and professionals interested

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in solid and fluid mechanics and allied fields.

Microbial Diversity in Hotspots provides an introduction to microbial diversity and microbes in different hotspots and threatened areas. The book gives insights on extremophiles, phyllosphere and rhizosphere, covers fungal diversity, conservation and microbial association, focuses on biodiversity acts and policies, and includes cases studies. Microbes explored are from the coldest to the hottest areas of the world. Although hotspots are zones with extremely high microbiology activities, the knowledge of microbial diversity from these areas is very limited, hence this is a welcome addition to existing resources. Provides an introduction to microbial biotechnology Addresses novel approaches to the study of microbial diversity in hotspots Provides the basics, along with advanced information on microbial diversity Discusses the techniques used to examine microbial diversity with their applications and respective pros and cons for sustainability Explores the importance of microbial genomes studies in commercial applications

This book presents a comprehensive review on the various processing and post-

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processing methodologies for biodegradable polymers. Written by professionals with hands-on experience on polymer processing, this book provides first-hand knowledge of all contemporary processing techniques. The current status and future challenges in the field are described, as well as a framework for designing novel devices for desired applications.

The evolution of mechanical properties and its characterization is important to the weld quality whose further analysis requires mechanical property and microstructure correlation. Present book addresses the basic understanding of the Friction Stir Welding (FSW) process that includes effect of various process parameters on the quality of welded joints. It discusses about various problems related to the welding of dissimilar aluminium alloys including influence of FSW process parameters on the microstructure and mechanical properties of such alloys. As a case study, effect of important process parameters on joint quality of dissimilar aluminium alloys is included.

Preparation, Characterisation, Properties and Applications

Multimedia Tools and Applications

Principles of Microbial Ecology

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A Race Against Time

Groundwater Development and Management

Proceedings of FICR-TEAS 2020

12th International Conference, IHCI 2020,

Daegu, South Korea, November 24-26, 2020,

Proceedings, Part II

This book presents a substantial part of matrix analysis that is functional analytic in spirit. Topics covered include the theory of majorization, variational principles for eigenvalues, operator monotone and convex functions, and perturbation of matrix functions and matrix inequalities. The book offers several powerful methods and techniques of wide applicability, and it discusses connections with other areas of mathematics.

This book presents select peer-reviewed proceedings of the International Conference on Advances in Mechanical Engineering (ICAME 2020). The contents cover latest research in several areas such as advanced energy sources, automation, mechatronics and robotics, automobiles, biomedical engineering, CAD/CAM, CFD, advanced engineering materials, mechanical design, heat and mass transfer, manufacturing and production processes, tribology and wear, surface engineering, ergonomics and human factors, artificial intelligence, and supply chain management. The book brings together advancements happening in the different domains of mechanical engineering, and hence,

this will be useful for students and researchers working in mechanical engineering.

This book will deal with different sections associated with bending, buckling and vibration of nanobeams and nanoplates along with systematic description of handling the complexities when nanoscales are considered. The introduction includes basic ideas concerned with nanostructures, the algorithms and iterations followed in numerical methods and introduction to beam and plate theories in conjunction with nonlocal elasticity theory applied in nanostructures. Next, the investigation of nanobeams and nanoplates subjected to different sets of boundary conditions based on various nonlocal theories will be included. The varieties of physical and geometrical parameters that influence the bending, buckling and vibration mechanisms will be summarized. Finally, effect of environments such as thermal environment, Winkler–Pasternak elastic foundations and non-uniformity etc. on the buckling and vibration mechanisms will be illustrated.

Contents: Introduction Analytical Methods Numerical Methods Bending of Nanobeams Buckling of Nanobeams Vibration of Nanobeams Vibration of Nanobeams with Complicating Effects Bending and Buckling of Nanoplates Vibration of Nanoplates Vibration of Nanoplates with Complicating Effects
Readership: Advanced undergraduate, professionals and researchers in materials

science, nanomaterials, applied mathematics, low-dimensional systems and nanostructures, vibration, computational physics, basic physics, civil engineering, mechanical engineering and aerospace engineering etc. This book presents selected peer-reviewed contributions from the 2020 International Conference on “Physics and Mechanics of New Materials and Their Applications”, PHENMA 2020 (26–29 March 2021, Kitakyushu, Japan), focusing on processing techniques, physics, mechanics, and applications of advanced materials. The book describes a broad spectrum of promising nanostructures, crystal structures, materials, and composites with unique properties. It presents nanotechnological design approaches, environmental-friendly processing techniques, and physicochemical as well as mechanical studies of advanced materials. The selected contributions describe recent progress in computational materials science methods and algorithms (in particular, finite-element and finite-difference modelling) applied to various technological, mechanical, and physical problems. The presented results are important for ongoing efforts concerning the theory, modelling, and testing of advanced materials. Other results are devoted to promising devices with higher accuracy, increased longevity, and greater potential to work effectively under critical temperatures, high pressure, and in aggressive environments.

Tools to Model Complex Dynamic Social Systems
OMICS-Based Approaches in Plant Biotechnology
Dissimilar Aluminium Alloys
Intelligent Human Computer Interaction
Proceedings of the International Conference
on Recent Cognizance in Wireless
Communication & Image Processing
Water and Energy Management in India
Select Proceedings of ICAME 2020

This book examines the principles and applications of biomedical imaging and signals processing as well as the advances of multimodal imaging and multi-feature quantification for disease diagnosis and treatments in ophthalmology, stroke, chemotherapy, and neurology. Chapters cover such topics as image segmentation and registration, feature selection for classification, micro-texture characterization, simulation of tissue deformation, and high-level statistical analyses. The chapters also discuss different imaging modalities including MRI and EEG, confocal microscopy, and molecular imaging for improving the accuracy of disease detection via higher spatiotemporal resolution and better illustration. Overall, the book provides a comprehensive review of biomedical imaging and signal processing, informing readers with current and insightful knowledge in these fields.

This book is the first book in English on nanotechnology and nanomaterials integrating with enzymatic systems, with a focus on nanoparticles and biological applications. It covers comprehensively the relevant topics to understand the development of enzyme nanoparticles as it

relates to the complicated structures of enzyme nanoparticles and their functionalization and immobilization on to various supports. The preparation of enzyme nanoparticles, their kinetic properties and applications after immobilization of the immobilized enzyme nanoparticles is described. The use of colour images in all formats of the book will improve the understanding of the topics covered. The book offers an integration of Enzymology and Nanotechnology and provides the latest information on preparation of enzyme nanoparticles, their characterization, their functionalization and immobilization on to various supports and thereafter their kinetic properties and applications in various industries with special reference to Biosensor Technology. Focus on enzyme nanotechnology, given the wide appeal of enzymes for diagnostics, therapy and biocatalysis Provision of a general background to the topic, but also a detailed description of synthesis, preparation and applications

Dosage Form Design Parameters, Volume I, examines the history and current state of the field within the pharmaceutical sciences, presenting key developments. Content includes drug development issues, the scale up of formulations, regulatory issues, intellectual property, solid state properties and polymorphism. Written by experts in the field, this volume in the Advances in Pharmaceutical Product Development and Research series deepens our understanding of dosage form design parameters.

Chapters delve into a particular aspect of this fundamental

field, covering principles, methodologies and the technologies employed by pharmaceutical scientists. In addition, the book contains a comprehensive examination suitable for researchers and advanced students working in pharmaceuticals, cosmetics, biotechnology and related industries. Examines the history and recent developments in drug dosage forms for pharmaceutical sciences Focuses on physicochemical aspects, preformulation solid state properties and polymorphism Contains extensive references for further discovery and learning that are appropriate for advanced undergraduates, graduate students and those interested in drug dosage design Multimedia computing has emerged in the last few years as a major area of research. Multimedia computer systems have opened a wide range of applications by combining a variety of information sources, such as voice, graphics, animation, images, audio, and full-motion video. Looking at the big picture, multimedia can be viewed as the merging of three industries: the computer, communications, and broadcasting industries. Research and development efforts in multimedia computing can be divided into two areas. As the first area of research, much effort has been centered on the stand-alone multimedia workstation and associated software systems and tools, such as music composition, computer-aided education and training, and interactive video. However, the combination of multimedia computing with distributed systems offers even greater potential. New applications based on distributed multimedia systems include multimedia

information systems, collaborative and videoconferencing systems, on-demand multimedia services, and distance learning. *Multimedia Tools and Applications* is one of two volumes published by Kluwer, both of which provide a broad introduction to this fast moving area. This book covers selected tools applied in multimedia systems and key multimedia applications. Topics presented include multimedia application development techniques, techniques for content-based manipulation of image databases, techniques for selection and dissemination of digital video, and tools for digital video segmentation. Selected key applications described in the book include multimedia news services, multimedia courseware and training, interactive television systems, digital video libraries, multimedia messaging systems, and interactive multimedia publishing systems. The second book, *Multimedia Systems and Techniques*, covers fundamental concepts and techniques used in multimedia systems. The topics include multimedia objects and related models, multimedia compression techniques and standards, multimedia interfaces, multimedia storage techniques, multimedia communication and networking, multimedia synchronization techniques, multimedia information systems, scheduling in multimedia systems, and video indexing and retrieval techniques. *Multimedia Tools and Applications*, along with its companion volume, is intended for anyone involved in multimedia system design and applications and can be used as a textbook for advanced courses on multimedia.

Proceedings of ICICC 2021, Volume 1

Forensic Pharmacology

Identity and Ideology in North India

Advances in Materials Processing

Enzyme Nanoparticles

Advances in Mechanical Engineering

Proceedings of the International Conference PHENMA
2020

Indian culture and spiritualism have exerted a strong hold over the world's greatest intellectuals—from psychologists like Carl Jung to poets like T.S. Eliot, from orators like Swami Vivekananda to philosophers like Sri Aurobindo, from statesmen like Dr A.P.J. Abdul Kalam to writers like H.G. Wells. Compiled by Salil Gewali, Great Minds on India is a remarkable collection of the thoughts and views of these world-renowned opinion-makers on India's cultural inheritance and glorious legacy.

This book includes high-quality research papers presented at the Fourth International Conference on Innovative Computing and Communication (ICICC 2021), which is held at the Shaheed Sukhdev College of Business Studies, University of Delhi, Delhi, India, on February 20–21, 2021. Introducing the innovative works of scientists, professors, research scholars, students and industrial experts in the field of computing and communication, the book promotes the transformation of fundamental research into institutional and industrialized research and the

conversion of applied exploration into real-time applications.

This book deals with the challenges for efficient groundwater management, with a focus on South Asia and India, providing a balanced presentation of theory and field practice using a multidisciplinary approach. Groundwater of South Asia is increasingly confronted with overuse and deteriorating quality and therefore requires urgent attention. Management of the stressed groundwater systems is an extremely complex proposition because of the intricate hydrogeological set-up of the region. Strategies for sustainable management must involve a combination of supply-side and demand-side measures depending on the regional setting and socio-economic situations. As a consequence, the challenges of efficient groundwater management require not only a clear understanding of the aquifer configuration, but also demand for the development of a comprehensive database of the groundwater occurrences and flow systems in each hydrogeological setting. In addition, drilling and well construction methods that are appropriate to different hydrogeological formations need to be implemented as well as real-time monitoring of the status of the groundwater use. Also corrective measures for groundwater that is threatened with depletion and quality deterioration need to be installed. Finally, the legal framework of groundwater needs to be

rearticulated according to the common property aspect of groundwater. These challenges should revolve around effective groundwater governance by creating an atmosphere to support and empower community-based systems of decision-making and revisit the existing legal framework and groundwater management institutions by fostering community initiatives. This book is relevant for academics, professionals, administrators, policy makers, and economists concerned with various aspects of groundwater science and management.

Recent advances in stem cell biology, nanotechnology and gene therapy have opened new avenues for therapeutics. The availability of molecular therapeutics that rely on the delivery of DNA, RNA or proteins, harnessing enhanced delivery with nanoparticles, and the regenerative potential of stem cells (adult, embryonic or induced pluripotent stem cells) has had a tremendous impact on translational medicine. The chapters in this book cover a range of strategies for molecular and cellular therapies for human disease, their advantages, and central challenges to their widespread application. Potential solutions to these issues are also discussed in detail. Further, the book addresses numerous advances in the field of molecular therapeutics that will be of interest to the general scientific community. Lastly, the book provides specific examples of disease conditions for which these strategies have

been transferred to the clinic. As such, it will be extremely useful for all students, researchers and clinicians working in the field of translational medicine and molecular therapeutics.

Proceedings of ICICC 2021, Volume 2

Triennial Review of the National Nanotechnology Initiative

Static and Dynamic Problems of Nanobeams and Nanoplates

Herbal Bioactive-Based Drug Delivery Systems

Dosage Form Design Considerations