

M Karim Solution

Free energy constitutes the most important thermodynamic quantity to understand how chemical species recognize each other, associate or react. Examples of problems in which knowledge of the underlying free energy behaviour is required, include conformational equilibria and molecular association, partitioning between immiscible liquids, receptor-drug interaction, protein-protein and protein-DNA association, and protein stability. This volume sets out to present a coherent and comprehensive account of the concepts that underlie different approaches devised for the determination of free energies. The reader will gain the necessary insight into the theoretical and computational foundations of the subject and will be presented with relevant applications from molecular-level modelling and simulations of chemical and biological systems. Both formally accurate and approximate methods are covered using both classical and quantum mechanical descriptions. A central theme of the book is that the wide variety of free energy calculation techniques available today can be understood as different implementations of a few basic principles. The book is aimed at a broad readership of graduate students and researchers having a background in chemistry, physics, engineering and physical biology.

This book gathers the proceedings of the Sixth International Conference on Computational Science and Technology 2019 (ICCST2019), held in Kota Kinabalu, Malaysia, on 29 – 30 August 2019. The respective contributions offer practitioners and researchers a range of new computational techniques and solutions, identify emerging issues, and outline future research directions, while also showing them how to apply the latest large-scale, high-performance computational methods.

This book aims to disseminate recent findings in the fight against microbial pathogens which were presented at the second edition of the ICAR Conference Series (ICAR2012) on Antimicrobial Research, held in Lisbon, Portugal, November 2012, which attracted about 425 scientists from 55 countries. This forum was the natural continuation of this new series of conferences: the first edition, held in Valladolid, Spain in 2010, gathered more than 500 researchers from nearly 60 countries. ICAR aims at establishing itself as a key forum in Europe for the presentation, exchange, and dissemination of information and experiences on anti-microbe strategies. "Anti" is here taken in the broadest sense as "against cell cycle, adhesion, or communication," when harmful for the human health, industry or economy (e.g. infectious diseases, chemotherapy, food, biomedicine, agriculture, livestock, biotechnology, water systems). Topics on antimicrobial natural products, antimicrobial resistance, antimicrobial surfaces, as well as methods and techniques, are included. This volume is a compilation of chapters written by active researchers that will provide readers with an up-to-date information about the current knowledge on antimicrobials in a worldwide context marked by the threat posed by the increasing antimicrobial resistance of microbial pathogens.

Long-awaited on the importance of halogen bonding in solution, demonstrating the specific advantages in various fields - from synthesis and catalysis to biochemistry and electrochemistry! Halogen bonding (XB) describes the interaction between an electron donor and the electrophilic region of a halogen atom. Its applicability for molecular recognition processes long remained unappreciated and has mostly been studied in solid state until recently. As most physiological processes and chemical reactions take place in solution, investigations in solutions are of highest relevance for its use in organic synthesis and catalysis, pharmaceutical chemistry and drug design, electrochemistry, as well as material synthesis. Halogen Bonding in Solution gives a concise overview of halogen bond interactions in solution. It discusses the history and electronic origin of halogen bonding and summarizes all relevant examples of its application in organocatalysis. It describes the use of molecular iodine in catalysis and industrial applications, as well as recent developments in anion transport and binding. Hot topic: Halogen bonding is an important interaction between molecules or within a molecule. The field has developed considerably in recent years, with numerous different approaches and applications having been published. Unique: There are several books on halogen bonding in solid state available, but this will be the first one focused on halogen bonding in solution. Multi-disciplinary: Summarizes the history and nature of halogen bonding in solution as well as applications in catalysis, anion recognition, biochemistry, and electrochemistry. Aimed at facilitating exciting future developments in the field, Halogen Bonding in Solution is a valuable source of information for researchers and professionals working in the field of supramolecular chemistry, catalysis, biochemistry, drug design, and electrochemistry.

Rubber-Clay Nanocomposites

Laser Beam Shaping

Designing, Deploying, and Evaluating Virtual and Augmented Reality in Education

Improving Communication in Mental Health Settings

Halogen Bonding in Solution

Use of Recycled Plastics in Eco-efficient Concrete

Bio-based Materials and Biotechnologies for Eco-efficient Construction fills a gap in the published literature, discussing bio-based materials and biotechnologies that are crucial for a more sustainable construction industry. With comprehensive coverage and contributions from leading experts in the field, the book includes sections on Bio-based materials and biotechnologies for infrastructure applications, Bio-based materials and biotechnologies for building energy efficiency, and other applications, such as using biotechnology to reduce indoor air pollution, for water treatment, and in soil decontamination. The book will be an essential reference resource for academic researchers, civil engineers, contractors working in construction works, postgraduate students and other professionals. Focuses on sustainability and green concepts in construction Discusses recent trends on bio-based materials and biotechnologies for eco-efficient construction Covers many important aspects, including infrastructure applications, energy efficiency for building

construction, and air, water and soil related problems

Transfer RNAs (tRNAs) are one of the classical non-coding RNAs whose lengths are approximately 70–100 bases. The secondary structure of tRNAs can be represented as the cloverleaf with 4 stems, and the three dimensional structure as an “L” shape. Historically, the basic function of tRNA as an essential component of translation was established in 1960s, i.e., each tRNA is charged with a target amino acid and these are delivered to the ribosome during protein synthesis. However, recent data suggests that the role of tRNA in cellular regulation goes beyond this paradigm. In most Archaea and Eukarya, precursor tRNAs are often interrupted by a short intron inserted strictly between the first and second nucleotide downstream of the anticodon, known as canonical nucleotide position (37/38). Recently, a number of reports describe novel aspects of tRNAs in terms of gene diversity, for example, several types of disrupted tRNA genes have been reported in the Archaea and primitive Eukarya, including multiple-intron-containing tRNA genes, split tRNA genes, and permuted tRNA genes. Our understanding of the enzymes involved in tRNA functions (e.g., aminoacyl-tRNA synthetase, tRNA splicing endonuclease, tRNA ligase) has deepened. Moreover, it is well known that tRNA possesses many types of base modifications whose enzymatic regulations remain to be fully elucidated. It was reported that impaired tRNA nuclear-cytoplasmic export links DNA damage and cell-cycle checkpoint. Furthermore, a variety of additional functions of tRNA, beyond its translation of the genetic code, have emerged rapidly. For instance, tRNA cleavage is a conserved part of the responses to a variety of stresses in eukaryotic cells. Age-associated or tissue-specific tRNA fragmentation has also been observed. Several papers suggested that some of these tRNA fragments might be involve in the cellular RNA interference (RNAi) system. These exciting data, have lead to this call for a Research Topic, that plans to revisit and summarize the molecular biology of tRNA. Beyond the topics outlined above, we have highlighted recent developments in bioinformatics tools and databases for tRNA analyses.

Annual Reports on NMR Spectroscopy provides a thorough and in-depth accounting of progress in nuclear magnetic resonance (NMR) spectroscopy and its many applications. Nuclear magnetic resonance (NMR) is an analytical tool used by chemists and physicists to study the structure and dynamics of molecules. In recent years, no other technique has gained as much significance as NMR spectroscopy. It is used in all branches of science in which precise structural determination is required and in which the nature of interactions and reactions in solution is being studied. Annual Reports on NMR Spectroscopy has established itself as a premier means for the specialist and non-specialist alike to become familiar with new techniques and applications of NMR spectroscopy. Serves as the premier resource for learning the new techniques and applications of NMR spectroscopy Provides a key reference for chemists and physicists using NMR spectroscopy to study the structure and dynamics of molecules

This volume in the series brings together reknowned experts in the field to present the reader with an account of the latest developments in quantum mechanics, molecular dynamics, and the teaching of computational chemistry. There are so many developments in the field of computational chemistry that it is difficult to keep track of them. The series was established to review the high volume of developments in the field. Rather than create a traditional article, each author approaches a topic to enable the reader to understand and solve problems and locate key references quickly. Each article has tutorial value. An updated compendium of software for molecular modeling appears as an appendix as in previous volumes. To the editors' knowledge, this is the most complete listing of sources of software for computational chemistry anywhere.

Bangladesh Horticulture

Worldwide Research Efforts in the Fighting Against Microbial Pathogensfrom Basic Research to Technological Developments

Electrofluidodynamic Technologies (EFDTs) for Biomaterials and Medical Devices

Cumulated Index Medicus

Computational Science and Technology

Bio-based Materials and Biotechnologies for Eco-efficient Construction

The one-stop resource for rubber-clay nanocompositeinformation The first comprehensive, single-volume book to compile all themost important data on rubber-clay nanocomposites in one place,Rubber-Clay Nanocomposites: Science, Technology, andApplications reviews rubber-clay nanocomposites in aneasy-to-reference format designed for R&D professionals. Including contributions from experts from North America, Europe,and Asia, the book explores the properties of compounds withrubber-clay nanocomposites, including their rheology, curingkinetics, mechanical properties, and many others. Rubber-clay nanocomposites are of growing interest to thescientific and technological community, and have been shown toimprove rubber compound reinforcement and impermeability. Thesenatural mineral fillers are of potential interest for large-scaleapplications and are already making an impact in several majorfields. Packed with valuable information about the synthesis,processing, and mechanics of these reinforced rubbers, the bookcovers assorted rubber-clay nanocomposites applications, such as inautomotive tires and as polymer fillers. Promoting common knowledge and interpretation of the mostimportant aspects of rubber-clay nanocomposites, and clarifying themain results achieved in the field of rubbers and crosslinkedrubbers—something not covered in other books in thefield—Rubber-Clay Nanocomposites helps scientistsunderstand morphology, vulcanization, permeability, processingmethods, and characterization factors quickly and easily.

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 usedthroughout 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 Obtaining and interpreting images of the heart is critical to the successful management of any cardiac disorders. Several imaging modalities are used to help cardiologists correctly diagnose these disorders and initiate the most appropriate form of treatment. Since the first publication of this book, the use of cardiovascular CT imaging has increased exponentially. Revised and updated, *Cardiac CT Made Easy: An Introduction to Cardiovascular Multidetector Computed Tomography, Second Edition** captures these advances in CT scanner technology and clinical experience. For the first time, this new edition includes online access to imaging video clips. Combining the expertise of leading cardiovascular imaging groups in North America, Europe, and Asia, this second edition continues to serve as a comprehensive introduction to the field. It focuses on the principles of multidetector computed tomography (MDCT) for cardiovascular applications, practical aspects of scan acquisition and interpretation, clinical indications and imaging protocols, and clinical findings of common cardiovascular disease conditions. The book is an essential resource for those new to the field and a trustworthy reference for those needing answers to specific questions or looking to update their knowledge. *Now includes an identical eBook version from VitalSource with access to video material

This book presents innovative solutions utilising informatics to deal with various issues related to the COVID-19 outbreak. The book offers a collection of contemporary research and development on the management of Covid-19 using health data analytics, information exchange, knowledge sharing, the Internet of Things (IoT), and the Internet of Everything (IoE)-based solutions. The book also analyses the implementation, assessment, adoption, and management of these healthcare informatics solutions to manage the pandemic and future epidemics. The book is relevant to researchers, professors, students, and professionals in informatics and related topics.

Environmental Functional Nanomaterials

Engineered Biochar

Advances and Avenues in the Development of Novel Carriers for Bioactives and Biological Agents

Photobiogeochemistry of Organic Matter

Smart Cities as a Solution for Reducing Urban Waste and Pollution

Separations of Water Pollutants with Nanotechnology

Spectroscopic Properties of Inorganic and Organometallic Compounds provides a unique source of information on an important area of chemistry. Divided into sections mainly according to the particular spectroscopic technique used, coverage in each volume includes: NMR (with reference to stereochemistry, dynamic systems, paramagnetic complexes, solid state NMR and Groups 13-18); nuclear quadrupole resonance spectroscopy; vibrational spectroscopy of main group and transition element compounds and coordinated ligands; and electron diffraction. Reflecting the growing volume of published work in this field, researchers will find this Specialist Periodical Report an invaluable source of information on current methods and applications. Specialist Periodical Reports provide systematic and detailed review coverage in major areas of chemical research. Compiled by teams of leading experts in their specialist fields, this series is designed to help the chemistry community keep current with the latest developments in their field. Each volume in the series is published either annually or biennially and is a superb reference point for researchers. www.rsc.org/spr

Contains extended research papers, which have their roots in the series of the HET-NETs International Working Conferences focusing on the 'Performance Modelling and Evaluation of Heterogeneous Networks' under the auspices of the EU Networks of Excellence Euro-NGI and Euro-FGI.

This book creates the emergence of disruptive technologies that have led to a significant change in the role of mathematics and statistics for problem solving, with the use of sophisticated software and hardware in solving complex systems and process. In the era of digital technology, mathematics and statistics need to be highly relevant to be able to cater for the needs of IR4.0 such as big data analytics, simulation, autonomous system, and cloud computing. Motivated by this development, a total of 26 chapters are contributed by respectable experts for this book. The main scope of the book is to conduct a new system of modeling and simulations on solving differential equations, nonlinear equations, energy, epidemiology, and risk assessment. This book is of interest for postgraduate students, researchers as well as other scientists who are working in numerical modeling and simulations based on efficient mathematical and statistical techniques.

Water-rock interactions play an important role in nearly all physical and chemical processes operating on the Earth's surface and subsurface. This work contains the proceedings of the Eighth International Symposium on Water-Rock Interaction (WRI-8), held in Russia in 1995.

Healthcare Informatics for Fighting COVID-19 and Future Epidemics

Theory and Applications in Chemistry and Biology

Coronary Radiology

Principles and Practices in Water Environments

Proceedings of the 8th international symposium, WRI-8, Vladivostok, Russia, 15-19 August 1995

This volume is devoted to the most recent discoveries in mathematics and statistics. It also serves as a platform for knowledge and information exchange between experts from industrial and academic sectors. The book covers a wide range of topics, including mathematical analyses, probability, statistics, algebra, geometry, mathematical physics, wave propagation, stochastic processes, ordinary and partial differential equations, boundary value problems, linear operators, cybernetics and number and functional theory. It is a valuable resource for pure and applied mathematicians, statisticians, engineers and scientists.

Halogen Bonding in Solution John Wiley & Sons

This is the second edition of the first available monograph on coronary radiology. In line with recent advances, this edition places special emphasis on the role of non-invasive techniques, detailed information being provided on CT angiography with multidetector and dual-source tomography, 2D and 3D visualization techniques, and MR coronary angiography. Sections on invasive imaging techniques and coronary calcification are included. High-quality color images compliment the text.

Policies promoting pro-poor agricultural growth are the key to helping countries achieve the Millennium Development Goals especially the goal of halving poverty and hunger by 2015. The public sector, private sector, and civil society organizations are working to enhance productivity and competitiveness of the agricultural sector to reduce rural poverty and sustain the natural resource base. The pathways involve participation by rural communities, science and technology, knowledge generation and further learning, capacity enhancement, and institution building. Sustainable land management (SLM) an essential component of such policies will help to ensure the productivity of agriculture, forestry, fisheries, and hydrology. SLM will also support a range of ecosystem services on which agriculture depends. The 'Sustainable Land Management Sourcebook' provides a knowledge repository of tested practices and innovative resource management approaches that are currently being tested. The diverse menu of options represents the current state of the art of good land management practices. Section one identifies the need and scope for SLM and food production in relation to cross-sector issues such as freshwater and forest resources, regional climate and air quality, and interactions with biodiversity conservation and increasingly valuable ecosystem services. Section two categorizes the diversity of land management systems globally and the strategies for improving household livelihoods in each system type. Section three presents a range of investment notes that summarize good practice, as well as innovative activity profiles that highlight design of successful or innovative investments. Section four identifies easy-to-access, Web-based resources relevant for land and natural resource managers. The 'Sourcebook' is a living document that will be periodically updated and expanded as new material and findings become available on good land management practices. This book will be of interest to project managers and practitioners working to enhance land and natural resource management in developing countries.

Reviews in Computational Chemistry

Chemical Synergies

Free Energy Calculations

Spectroscopic Properties of Inorganic and Organometallic Compounds

Theory and Techniques

Proceedings of the 8th International Conference on Computational Science and Technology

As the various disciplines of science advance, they proliferate and tend to become more esoteric. Barriers of specialized terminologies form, which cause scientists to lose contact with their colleagues, and differences in points-of-view emerge which hinder the unification of knowledge among the various disciplines, and even within a given discipline. As a result, the scientist, and especially the student, is in many instances offered fragmented glimpses of subjects that are fundamentally synthetic and that should be treated in their own right. Such seems to be the case of the liquid state. Unlike the other states of matter -- gases, solids, and plasmas -- the liquid state has not yet received unified treatment, probably because it has been the least explored and remains the least understood state of matter. Occasionally, events occur which help remove some of the barriers that separate scientists and disciplines alike. Such an event was the ASI on The Liquid State held this past July at the lovely Hotel Tivoli Sintra, in the picturesque town of Sintra, Portugal, approximately 30 km northwest of Lisbon. Since this broad a subject could not be covered in one Institute, the focus of the ASI was on a theme that provided a common thread of understanding for all in attendance -- the Electrical Properties of the Liquid State.

This text provides all the basic information needed to research, develop, and design beam shaping systems. It includes sections on: diffraction theory, geometrical optics, shaping element design, beam profile measurement technology with applications and techniques for lossless beam shaping.

This book constitutes the refereed proceedings of the 13th Ibero-American Conference on Artificial Intelligence, IBERAMIA 2012, held in Cartagena de Indias, Colombia, in November 2012. The 75 papers presented were carefully reviewed and selected from 170 submissions. The papers are organized in topical sections on knowledge representation and reasoning, information and knowledge processing, knowledge discovery and data mining, machine learning, bio-inspired computing, fuzzy systems, modelling and simulation, ambient intelligence, multi-agent systems, human-computer interaction, natural language processing, computer vision and robotics, planning and scheduling, AI in education, and knowledge engineering and applications.

Are you looking to find happiness and joy in your life? Do you want to explore tested methods of treating depression that go beyond the traditional fix whats wrong approach and propel you into a state of flourishing? In this empowering book, Dr. Harpreet S. Duggal presents practical, no-nonsense positive psychology techniques that are proven to either prevent or treat depression. Besides discussing the underlying research for these techniques, the book, unlike other one size fits all self-help books, also delves into caveats about these strategies to help the readers make informed choices that are in line with their values and goals.

Science, Technology, and Applications

International Conference on Mathematical Sciences and Statistics 2013

The Routledge Handbook of Social Work Theory

6th ICCST 2019, Kota Kinabalu, Malaysia, 29-30 August 2019

Performance Modelling and Analysis of Heterogeneous Networks

Selected Papers

Separations of Water Pollutants with Nanotechnology, the latest volume in the Separation Science and Technology series, offers new solutions for remediating water pollution utilizing nanomaterials with separation methods. Current water purification methods are unsuitable, inconvenient or expensive, so there is a need for new and better processes and techniques. Nanomaterials can purify water by removing pollutants such as heavy metals, pathogens, organic compounds, inorganic compounds, pharmaceuticals, and chemicals of emerging concern. These can effectively replace membrane-based methods if the right expertise is developed—this book helps separation scientists do just that. Existing water treatment problems can be solved by applying a nanotechnology-based processes: antimicrobial nanotechnology, zero-valent iron nanoparticles, nanoadsorbents, nano-enhanced membranes, nanometal oxides, and nano photocatalysts. The current literature places emphasis on materials chemistry rather than the separation methods used for water purification. This new volume presents a collection of chapters that deal with remediation based on separation chemistry. Written by leaders in their respective fields from around the world and edited by Satinder Ahuja, a leading expert on water quality improvement Covers the environmental impact of anthropogenic nanoparticles and plant derived bionanomaterials, which are not contained in other books related to nanomaterials for water purification Illustrates key information visually wherever possible throughout the book, e.g. process diagrams in the nanomaterial synthesis and nanomembrane fabrication chapters, electron microscope images, and more

Environmental Functional Nanomaterials covers the molecular structure and properties of nanomaterials used to remove refractory pollutants from industrial wastewaters and the environment with high efficiency. Insights into the innovations in the production of these new nanomaterials are provided. This book is ideal for career starters and students of materials science, environmental science, and chemistry.

Use of Recycled Plastics in Eco-efficient Concrete looks at the processing of plastic waste, including techniques for separation, the production of plastic aggregates, the production of concrete with recycled plastic as an aggregate or binder, the fresh properties of concrete with plastic aggregates, the shrinkage of concrete with plastic aggregates, the mechanical properties of concrete with plastic aggregates, toughness of concrete with plastic aggregates, modulus of elasticity of concrete with plastic aggregates, durability of concrete with plastic aggregates, concrete plastic waste powder with enhanced neutron radiation shielding, and more, thus making it a valuable reference for academics and industrial researchers. Describes the main types of recycled plastics that can be applied in concrete manufacturing Presents, for the first time, state-of-the art knowledge on the properties of conventional concrete with recycled plastics Discusses the technological challenges for concrete manufactures for mass production of recycled concrete from plastic waste

Augmented reality (AR) and virtual reality (VR) provide flexibility in education and have become widely used for the promotion of multimedia learning. This use coincides with mobile devices becoming prevalent, VR devices becoming more affordable, and the creation of user-friendly software that allows the development of AR/VR applications by non-experts. However, because the integration of AR and VR into education is a fairly new practice that is only in its initial stage, these processes and outcomes need to be improved. **Designing, Deploying, and Evaluating Virtual and Augmented Reality in Education** is an essential research book that presents current practices and procedures from different technology-implementation stages (design, deployment, and evaluation) to help educators use AR/VR applications in their own teaching practices. The book provides comprehensive information on AR and VR applications in different educational settings from various perspectives including but not limited to mobile learning, formal/informal learning, and integration strategies with practical and/or theoretical implications. Barriers and challenges to their implementation that are currently faced by educators are also addressed. This book is ideal for academicians, instructors, curriculum designers, policymakers, instructional designers, researchers, education professionals, practitioners, and students.

Report on the Progress of Education in the North Western Provinces

An Introduction to Cardiovascular Multidetector Computed Tomography, Second Edition

Water-Rock Interaction

Molecular Biology of the Transfer RNA Revisited

13th Ibero-American Conference on AI, Cartagena de Indias, Colombia, November 13-16, 2012, Proceedings

The Happiness Guide to Self-Management of Depression

Photoinduced processes, caused by natural sunlight, are key functions for sustaining all living organisms through production and transformation of organic matter (OM) in the biosphere. Production of hydrogen peroxide (H₂O₂) from OM is a primary step of photoinduced processes, because H₂O₂ acts as strong reductant and oxidant. It is potentially important in many aquatic reactions, also in association with photosynthesis. Allochthonous and autochthonous dissolved organic matter (DOM) can be involved into several photoinduced or biological processes. DOM subsequently undergoes several physical, chemical, photoinduced and biological processes, which can be affected by global warming. This book is uniquely structured to overview some vital issues, such as: DOM; H₂O₂ and ROOH; HO•; Degradation of DOM; CDOM, FDOM; Photosynthesis; Chlorophyll; Metal complexation, and Global warming, as well as their mutual interrelationships, based on updated scientific results.

This book gathers the proceedings of the Seventh International Conference on Computational Science and Technology (ICCST 2021), held in Labuan, Malaysia, on 28–29 August 2021. The respective contributions offer practitioners and researchers a range of new computational techniques and solutions, identify emerging issues, and outline future research directions, while also showing them how to apply the latest large-scale, high-performance computational methods.

This book systematically covers the fundamentals and applications of modified biochar. The 19 chapters are divided into 3 sections that provide a holistic overview for researchers from all related fields. Section 1 and 2 present the pyrolysis process, including the advantages and limitations of the physical, chemical, and biological modification methods and characterization of modified biochar. Section 3 highlights the wide spectrum of applications of modified biochar in fuel cells and batteries, remediation of organic and inorganic contaminants from soil and water and soil fertilization. Given its scope, the book appeals to a broad readership in various fields of chemical engineering, materials science, and environmental science.

This book gives an overview of recent integrated and inter-disciplinary approaches between chemical experiment and theory in a variety of fields, from polymer science to materials chemistry and ranging from the design of tailored properties to catalysis and reactivity, building on the well-established success of Density Functional Theory as the foremost quantum chemical method to provide qualitative and quantitative interpretation of results from the chemical laboratory. The combination of several characterization techniques with an understanding at the molecular level of chemical and physical phenomena are the main focal point of the subject matter.

From the Lab to In Silico Modelling

ICCST 2021, Labuan, Malaysia, 28–29 August

Practical and Proven Positive Psychology Methods for Overcoming Depression

Transnasal Systemic Medications

Principles and Advances

Fundamentals, Developmental Concepts, and Biomedical Assessments

Electrofluidodynamic Technologies (EFDTs) for Biomaterials and Medical Devices: Principles and Advances focuses on the fundamentals of EFDTs - namely electrospinning, electro spraying and electrodynamic atomization - to develop active platforms made of synthetic or natural polymers for use in tissue engineering, restoration and therapeutic treatments. The first part of this book deals with main technological aspects of EFDTs, such as basic technologies and the role of process parameters. The second part addresses applications of EFDTs in biomedical fields, with chapters on their application in tissue engineering, molecular delivery and implantable devices. This book is a valuable resource for materials scientists, biomedical engineers and clinicians alike. Presents a complete picture of Electrofluidodynamic technologies and their use in biomedicine Provides a comprehensive, professional reference on the subject, covering materials processing, fabrication and the use of novel devices for tissue engineering and therapeutics Focuses on technological advances, with an emphasis on studies and clinical trials

Improving Communication in Mental Health Settings draws on empirical studies of real-world settings to demonstrate contemporary practice-based evidence, providing effective strategies for communicating with patients/clients in mental health settings. The book integrates clinical experience and language-based evidence drawn from qualitative research. Drawing on studies that utilize scientific language-based approaches such as discourse and conversation analysis, it focuses on social interaction between professionals and patients/clients to demonstrate effective communication practices. Chapters are led by clinical professionals and feature a range of mental health settings, different mental health conditions and types of patient/client, and evidence-based recommendations. This book is an essential guide for professionals working in mental health and/or social work, and those training or working in clinical areas of mental health practice.

The Routledge Handbook of Social Work Theory provides an interdisciplinary and international introduction to social work theory. It presents an analytical review of the wide array of theoretical ideas that influence social work on a global scale. It sets the agenda for future trends within social work theory. Separated into four parts, this handbook examines important themes within the discourses on social work theory, as well as offering a critical evaluation of how theoretical ideas influence social work as a profession and in practice. It includes a diverse range of interdisciplinary topics, covering the aims and nature of social work, social work values and ethics, social work practice theories and the use of theory in different fields of practice. The contributors show how and why theory is so important to social work and analyze the impact these concepts have made on social intervention. Bringing together an international team of leading academics within the social work field and newer contributors close to practice, this handbook is essential reading for all those studying social work, as well as practitioners, policymakers and those involved in the associated fields of health and social care.

The exponential growth of urban settings has led to an increase in pollutants and waste management issues around the world. As the environment continues to falter under the weight of these pressing issues, it has become increasingly imperative to develop new technologies and methodologies that have the potential to improve the overall sustainability and cleanliness of these cities. **Smart Cities as a Solution for Reducing Urban Waste and Pollution** examines emergent research on smart innovations within built urban environments. Featuring best practices and theoretical frameworks, as well as potential issues in the implementation of smart and green technology in urban settings, this publication is a vital reference source for graduate students, researchers, academics, engineers, architects, facility managers, and government officials.

Advances in Artificial Intelligence -- IBERAMIA 2012

Towards Intelligent Systems Modeling and Simulation

Annual Reports on NMR Spectroscopy

With Applications to Energy, Epidemiology and Risk Assessment

Cardiac CT Made Easy

Evidence-Based Recommendations from Practitioner-led Research