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KEY=LINKS - CORDOVA JOSIAH

Propagation Engineering in Wireless Communications Springer This book covers the basic principles for understanding radio wave propagation for common frequency bands used in radio-communications. This includes achievements and developments in propagation models for wireless communication. This book is intended to bridge the gap between the theoretical calculations and approaches to the applied procedures needed for radio links design in a proper manner. The authors emphasize propagation engineering by giving fundamental information and explain the use of basic principles together with technical achievements. This new edition includes additional information on radio wave propagation in guided media and technical issues for fiber optics cable networks with several examples and problems. This book also includes a solution manual - with 90 solved examples distributed throughout the chapters - and 158 problems including practical values and assumptions. **Propagation Engineering in Radio Links Design** Springer Science & Business Media This book addresses propagation phenomena in satellite, radar, broadcasting, short range, trans-horizon and several recent modes of communications in radio links. Also, it includes some topics on antennas, radio noises and improvement techniques. The book provides the necessary basic matters, as well as experimental results and calculation procedures for radio link design. **Book of Abstracts of the 70th Annual Meeting of the European Federation of Animal Science Ghent, Belgium, 26-30 August 2019** Wageningen Academic Publishers This Book of Abstracts is the main publication of the 70th Annual Meeting of the European Federation of Animal Science (EAAP). It contains abstracts of the invited papers and contributed presentations of the sessions of EAAP's eleven Commissions: Animal Genetics, Animal Nutrition, Animal Management and Health, Animal Physiology, Cattle Production, Sheep and Goat Production, Pig Production, Horse Production and Livestock Farming Systems, Insects and Precision Livestock Farming. **Cognitive Radio-Oriented Wireless Networks 14th EAI International Conference, CrownCom 2019, Poznan, Poland, June 11-12, 2019, Proceedings** Springer This book constitutes the refereed proceedings of the 14th International Conference on Cognitive Radio-Oriented Wireless Networks, CROWCOM 2019, held in Poznan, Poland, in June 2019. The 30 revised full papers were selected from 48 submissions and present a large scope of research topic also covering IoT in 5G and how cognitive mechanisms shall help leveraging access for numerous devices; mmWave and how specific propagation and operation in these bands bring new sharing mechanisms; how resource allocation amongst bands (including offload mechanisms) shall be solved. The key focus will be on how rich data analysis can improve the delivery of above defined services. **Proceedings of the 2nd International Conference on Electronic Engineering and Renewable Energy Systems ICEERE 2020, 13-15 April 2020, Saidia, Morocco** Springer Nature This book includes papers presented at the Second International Conference on Electronic Engineering and Renewable Energy (ICEERE 2020), which focus on the application of artificial intelligence techniques, emerging technology and the Internet of things in electrical and renewable energy systems, including hybrid systems, micro-grids, networking, smart health applications, smart grid, mechatronics and electric vehicles. It particularly focuses on new renewable energy technologies for agricultural and rural areas to promote the development of the Euro-Mediterranean region. Given its scope, the book is of interest to graduate students, researchers and practicing engineers working in the fields of electronic engineering and renewable energy. **Intelligent and Fuzzy Techniques for Emerging Conditions and Digital Transformation Proceedings of the INFUS 2021 Conference, held August 24-26, 2021. Volume 1** Springer Nature This book presents recent research in intelligent and fuzzy techniques. Emerging conditions such as pandemic, wars, natural disasters and various high technologies force people for significant changes in business and social life. The adoption of digital technologies to transform services or businesses, through replacing non-digital or manual processes with digital processes or replacing older digital technology with newer digital technologies through intelligent systems is the main scope of this book. It focuses on revealing the reflection of digital transformation in our business and social life under emerging conditions through intelligent and fuzzy systems. The latest intelligent and fuzzy methods and techniques on digital transformation are introduced by theory and applications. The intended readers are intelligent and fuzzy systems researchers, lecturers, M.Sc. and Ph.D. students studying digital transformation. Usage of ordinary fuzzy sets and their extensions, heuristics and metaheuristics from optimization to machine learning, from quality management to risk management makes the book an excellent source for researchers. **Classical and Quantum Dynamics in Condensed Phase Simulations** World Scientific The school held at Villa Marigola, Lerici, Italy, in July 1997 was very much an educational experiment aimed not just at teaching a new generation of students the latest developments in computer simulation methods and theory, but also at bringing together researchers from the condensed matter computer simulation community, the biophysical chemistry community and the quantum dynamics community to confront the shared problem: the development of methods to treat the dynamics of quantum condensed phase systems. This volume collects the lectures delivered there. Due to the focus of the school, the contributions divide along natural lines into two broad groups: (1) the most sophisticated forms of the art of computer simulation, including biased phase space sampling schemes, methods which address the multiplicity of time scales in condensed phase problems, and static equilibrium methods for treating quantum systems; (2) the contributions on quantum dynamics, including methods for mixing quantum and classical dynamics in condensed phase simulations and methods capable of treating all degrees of freedom quantum-mechanically. Contents: Barrier Crossing: Classical Theory of Rare but Important Events (D Chandler) Monte Carlo Simulations (D Frenkel) Molecular Dynamics Methods for the Enhanced Sampling of Phase Space (B J Berne) Constrained and Nonequilibrium Molecular Dynamics (G Ciccotti & M Ferrario) From Eyring to Kramers: Computation of Diffusive Barrier Crossing Rates (M J Ruiz-Montero) Monte Carlo Methods for Sampling of Rare Event States (W Janke) Proton Transfer in Ice (D Marx) Nudged Elastic Band Method for Finding Minimum Energy Paths of Transitions (H Jónsson et al.) RAW Quantum Transition State Theory (G Mills et al.) Dynamics of Peptide Folding (R Elber et al.) Theoretical Studies of Activated Processes in Biological Ion Channels (B Roux & S Crouzy) The Semiclassical Initial Value Representation for Including Quantum Effects in Molecular Dynamics Simulations (W H Miller) Tunneling in the Condensed Phase: Barrier Crossing and Dynamical Control (N Makri) Feynman Path Centroid Methods for Condensed Phase Quantum Dynamics (G A Voth) Quantum Molecular Dynamics Using Wigner Representation (V S Filinov et al.) Nonadiabatic Molecular Dynamics Methods for Diffusion (D Laria et al.) and other papers Readership: Computational and statistical physicists. Keywords: Quantum; Molecular Dynamics; Dynamics Reviews: "... this volume is a useful introduction to currently popular, and widely-used techniques in chemical and statistical physics. The authors are well-respected researchers in the field and the level is appropriate to graduate students and researchers." Journal of Statistical Physics **Cognitive Radio Networks** John Wiley & Sons Giving a basic overview of the technologies supporting cognitive radio this introductory-level text follows a logical approach, starting with the physical layer and concluding with applications and general issues. It provides a background to advances in the field of cognitive radios and a new exploration of how these radios can work together as a network. Cognitive Radio Networks starts with an introduction to the fundamentals of wireless communications, introducing technologies such as OFDM & MIMO. It moves onto cover software defined radio and explores and contrasts wireless, cooperative and cognitive networks and communications. Spectrum sensing, medium access control and network layer design are examined before the book concludes by covering the topics of trusted cognitive radio networks and spectrum management. Unique in providing a brief but clear tutorial and reference to cognitive radio networks this book is a single reference, written at the appropriate level for newcomers as well as providing an encompassing text for those with more knowledge of the subject. One of the first books to provide a systematic description of cognitive radio networks Provides pervasive background knowledge including both wireless communications and wireless networks Written by leading experts in the field Full network stack investigation **Iran Sanctions** DIANE Publishing Contents: (1) Background of the Iran Sanctions Act (ISA): Key Provisions: Triggers and Available Sanctions; Waiver and Termination Authority; Iran Freedom Support Act Amendments; Effectiveness and Ongoing Challenges: Energy Routes and Refinery Investment: Refinery Construction; Significant Purchase Agreements; Efforts in the 110th and 111th Congress to Expand ISA Application; Other Energy-Related Sanctions Ideas; (2) Relationships to Other U.S. Sanctions: Ban on U.S. Trade and Investment With Iran; Treasury Department Targeted Financial Measures; Terrorism-Related Sanctions; Executive Order 13224; Proliferation-Related Sanctions; Efforts to Promote Divestment; Blocked Iranian Property and Assets. Tables. **Physics in Food Manufacturing Case Studies in Fundamental and Applied Research** This book is the first authoritative text on the role that physicists play in solving the inherently multidisciplinary science and technology challenges in food manufacturing. Topics range from designing safe, nutritious and great-tasting foods to the process technology and manufacturing know-how needed to deliver compelling product innovation. The book provides a foundational resource for the transformation of engineering and materials characterisation in the food and pharmaceuticals industries. It is an essential reference for interdisciplinary physical scientists, food/nutrition scientists and engineers working in academic research, government labs and industry, and it is also a valuable resource for R&D staff and product engineers working for suppliers of specialist instrumentation and equipment to the food processing industry. The book is augmented by complementary presentations from the Fourth IOP Physics in Food Manufacturing Conference 2020, held in Leeds, UK. Key Features The first authoritative account of the diverse role that physics and physicists play in the food processing industry. A go-to reference source for anyone wishing to become involved in food processing - science, technology, engineering. Expert accounts by leading academics and industrial scientists. **Application of Intelligent Systems in Multi-modal Information Analytics Proceedings of the 2020 International Conference on Multi-model Information Analytics (MMIA2020), Volume 1** Springer Nature This book presents the proceedings of the 2020 International Conference on Intelligent Systems Applications in Multi-modal Information Analytics, held in Changzhou, China, on June 18-19, 2020. It provides comprehensive coverage of the latest advances and trends in information technology, science and engineering. It addresses a number of broad themes, including data mining, multi-modal informatics, agent-based and multi-agent systems for health and education informatics, which inspire the development of intelligent information technologies. The contributions cover a wide range of topics such as AI applications and innovations in health and education informatics; data and knowledge management; multi-modal application management; and web/social media mining for multi-modal informatics. Outlining promising future research directions, the book is a valuable resource for students, researchers and professionals, and a useful reference guide for newcomers to the field. **Information and Communication Technologies in Tourism 2021 Proceedings of the ENTER 2021 eTourism Conference, January 19-22, 2021** Springer This open access book is the proceedings of the International Federation for IT and Travel & Tourism (IFITT)'s 28th Annual International eTourism Conference, which assembles the latest research presented at the ENTER21@yourplace virtual conference January 19-22, 2021. This book advances the current knowledge base of information and communication technologies and tourism in the areas of social media and sharing economy, technology including AI-driven technologies, research related to destination management and innovations, COVID-19 repercussions, and others. Readers will find a wealth of state-of-the-art insights, ideas, and case studies on how information and communication technologies can be applied in travel and tourism as we encounter new opportunities and challenges in an unpredictable world. **Semiconductor Gas Sensors** Woodhead Publishing Semiconductor Gas Sensors, Second Edition, summarizes recent research on basic principles, new materials and emerging technologies in this essential field. Chapters cover the foundation of the underlying principles and sensing mechanisms of gas sensors, include expanded content on gas sensing characteristics, such as response, sensitivity and cross-sensitivity, present an overview of the nanomaterials

utilized for gas sensing, and review the latest applications for semiconductor gas sensors, including environmental monitoring, indoor monitoring, medical applications, CMOS integration and chemical warfare agents. This second edition has been completely updated, thus ensuring it reflects current literature and the latest materials systems and applications. Includes an overview of key applications, with new chapters on indoor monitoring and medical applications Reviews developments in gas sensors and sensing methods, including an expanded section on gas sensor theory Discusses the use of nanomaterials in gas sensing, with new chapters on single-layer graphene sensors, graphene oxide sensors, printed sensors, and much more

E-learning and Social Networking Handbook Resources for Higher Education Routledge Digital resources—from games to blogs to social networking—are strong forces in education today, but how can those tools be effectively utilized by educators and course designers in higher education? Filled with practical advice, the e-Learning and Social Networking Handbook, Second Edition provides a comprehensive overview of online learning tools and offers strategies for using these resources in course design, highlighting some of the most relevant and challenging topics in e-learning today, including:

- using social networking for educational purposes
- designing for a distributed environment
- strengths and weaknesses of delivering content in various formats (text, audio, and video)
- potential constraints on course design
- implementation, evaluation, induction, and training

Illustrated by short, descriptive case studies, the e-Learning and Social Networking Handbook, Second Edition also directs the reader to useful resources that will enhance their course design. This helpful guide will be invaluable to all those involved in the design and delivery of online learning in higher education.

Symmetry in Mechanical Engineering MDPI Recent advancements in mechanical engineering are an essential topic for discussion. The topics relating to mechanical engineering include the following: measurements of signals of shafts, springs, belts, bearings, gears, rotors, machine elements, vibration analysis, acoustic analysis, fault diagnosis, construction, analysis of machine operation, analysis of smart-material systems, integrated systems, stresses, analysis of deformations, analysis of mechanical properties, signal processing of mechanical systems, and rotor dynamics. Mechanical engineering deals with solid and fluid mechanics, rotation, movements, materials, and thermodynamics. This book, with 15 published articles, presents the topic “Symmetry in Mechanical Engineering”. The presented topic is interesting. It is categorized into eight different sections: Deformation; Stresses; Mechanical properties; Tribology; Thermodynamic; Measurement; Fault diagnosis; Machine. The development of techniques and methods related to mechanical engineering is growing every month. The described articles have made a contribution to mechanical engineering. The proposed research can find applications in factories, oil refineries, and mines. It is essential to develop new improved methods, techniques, and devices related to mechanical engineering.

Advances in Memristors, Memristive Devices and Systems Springer This book reports on the latest advances in and applications of memristors, memristive devices and systems. It gathers 20 contributed chapters by subject experts, including pioneers in the field such as Leon Chua (UC Berkeley, USA) and R.S. Williams (HP Labs, USA), who are specialized in the various topics addressed in this book, and covers broad areas of memristors and memristive devices such as: memristor emulators, oscillators, chaotic and hyperchaotic memristive systems, control of memristive systems, memristor-based min-max circuits, canonic memristors, memristive-based neuromorphic applications, implementation of memristor-based chaotic oscillators, inverse memristors, linear memristor devices, delayed memristive systems, flux-controlled memristive emulators, etc. Throughout the book, special emphasis is given to papers offering practical solutions and design, modeling, and implementation insights to address current research problems in memristors, memristive devices and systems. As such, it offers a valuable reference book on memristors and memristive devices for graduate students and researchers with a basic knowledge of electrical and control systems engineering.

Advancement in Sensing Technology New Developments and Practical Applications Springer Science & Business Media The book presents the recent advancements in the area of sensors and sensing technology, specifically in environmental monitoring, structural health monitoring, dielectric, magnetic, electrochemical, ultrasonic, microfluidic, flow, surface acoustic wave, gas, cloud computing and bio-medical. This book will be useful to a variety of readers, namely, Master and PhD degree students, researchers, practitioners, working on sensors and sensing technology. The book will provide an opportunity of a dedicated and a deep approach in order to improve their knowledge in this specific field.

Magnetic Nanostructures Environmental and Agricultural Applications Springer Recently, magnetic nanostructures have gained a remarkable interest for basic research and applied studies. Because of their low cost and ease of manufacture and modification, they have great potential for agricultural and environmental applications. The use of magnetic nanostructures has been proven in a wide range of fields including catalysis, biotechnology, biomedicine, magnetic resonance imaging, agriculture, biosensors, and removal of environmental pollutants, among others. This book includes 16 chapters of collected knowledge, discoveries, and applications in agriculture, soil remediation, and water treatment. It describes the role of nano-agriculture with regard to food security and discusses environmental and agricultural protection concerns. It further offers potential applications of magnetic nanomaterials in the agriculture and food sectors, such as the development of sensors, environment monitoring for wastewater treatment and the remediation of contaminated soils. Increasing crop yield through the use of nanopesticides or nanofertilizers and biosecurity using sensors for detecting pathogens along the entire food chain are discussed as well. This book also brings together various sources of expertise on different aspects magnetic nanostructure application in the agri-food sector and environment remediation. Magnetic nanostructures also have great potential in biotechnological processes, as they can be utilized as a carrier for enzymes during different biocatalytic transformations. Novel magnetic nanomaterials can be used for detection and separation of pesticides from environmental and biological samples. The excellent adsorption capacity of the modified magnetic nanoadsorbents together with other advantages such as reusability, easy separation, environmentally friendly composition, and freedom of interferences of alkaline earth metal ions make them suitable adsorbents for removal of heavy metal ions from environmental and industrial wastes. One of the most important environmental applications of magnetic nanostructures has been in the treatment of water, whether in the remediation of groundwater or through the magnetic separation and/or sensing of contaminants present in various aqueous systems. The integrated combination of these 16 chapters, written by experts with considerable experience in their area of research, provides a comprehensive overview on the synthesis, characterization, application, environmental processing, and agriculture of engineered magnetic nanostructures. Its comprehensive coverage discusses how nanostructure materials interact in plants as well as their potential and useful applications.

Sensors for Automotive and Aerospace Applications Springer This volume covers the various sensors related to automotive and aerospace sectors, discussing their properties as well as how they are realized, calibrated and deployed. Written by experts in the field, it provides a ready reference to product developers, researchers and students working on sensor design and fabrication, and provides perspective on both current and future research.

Intelligent and Fuzzy Techniques in Big Data Analytics and Decision Making Proceedings of the INFUS 2019 Conference, Istanbul, Turkey, July 23-25, 2019 Springer This book includes the proceedings of the Intelligent and Fuzzy Techniques INFUS 2019 Conference, held in Istanbul, Turkey, on July 23–25, 2019. Big data analytics refers to the strategy of analyzing large volumes of data, or big data, gathered from a wide variety of sources, including social networks, videos, digital images, sensors, and sales transaction records. Big data analytics allows data scientists and various other users to evaluate large volumes of transaction data and other data sources that traditional business systems would be unable to tackle. Data-driven and knowledge-driven approaches and techniques have been widely used in intelligent decision-making, and they are increasingly attracting attention due to their importance and effectiveness in addressing uncertainty and incompleteness. INFUS 2019 focused on intelligent and fuzzy systems with applications in big data analytics and decision-making, providing an international forum that brought together those actively involved in areas of interest to data science and knowledge engineering. These proceeding feature about 150 peer-reviewed papers from countries such as China, Iran, Turkey, Malaysia, India, USA, Spain, France, Poland, Mexico, Bulgaria, Algeria, Pakistan, Australia, Lebanon, and Czech Republic.

Iran's Foreign and Defense Policies Iran's national security policy is the product of many overlapping and sometimes competing factors such as the ideology of Iran's Islamic revolution, perception of threats to the regime and to the country, long-standing national interests, and the interaction of the Iranian regime's factions and constituencies. Iran's leadership:

- * Seeks to deter or thwart U.S. or other efforts to invade or intimidate Iran or to bring about a change of regime.
- * Has sought to take advantage of opportunities of regional conflicts to overturn a power structure in the Middle East that it asserts favors the United States, Israel, Saudi Arabia, and other Sunni Muslim Arab regimes.
- * Seeks to enhance its international prestige and restore a sense of "greatness" reminiscent of ancient Persian empires.
- * Advances its foreign policy goals, in part by providing material support to regional allied governments and armed factions.
- Iranian officials characterize the support as helping the region's "oppressed" and assert that Saudi Arabia, in particular, is instigating sectarian tensions and trying to exclude Iran from regional affairs.
- * Sometimes disagrees on tactics and strategies.

Supreme Leader Ali Khamene'i and key hardline institutions, such as the Islamic Revolutionary Guard Corps (IRGC), oppose any compromises of Iran's national security core goals. Iran's elected president, Hassan Rouhani, and Foreign Minister Mohammad Javad Zarif have supported Iran's integration into regional and international diplomacy.

- * Supports acts of international terrorism, as the "leading" or "most active" state sponsor of terrorism, according to each annual State Department report on international terrorism since the early 1990s. The Trump Administration insists that an end to Iran's malign activities is a requirement of any revised JCPOA and normalization of relations with the United States. The Trump Administration has articulated a strategy to counter Iran's "malign activities" based on
- * Applying "maximum pressure" on Iran's economy and regime through sanctions. President Trump withdrew the United States from the JCPOA on May 8, 2018, and reimposed all U.S. sanctions as of November 5, 2018.
- * Attempting to diplomatically, politically, and economically isolate Iran.
- * Training, arming, and providing counterterrorism assistance to partner governments and some allied substate actors in the region.
- * Deploying U.S. forces to deter Iran and interdict its arms shipments to its allies and proxies, and threatening military action against Iranian actions that pose an immediate threat to U.S. regional interests or allies.

Advances in Safety Management and Human Factors Proceedings of the AHFE 2019 International Conference on Safety Management and Human Factors, July 24-28, 2019, Washington D.C., USA Springer This book discusses the latest findings on ensuring employees' safety, health, and welfare at work. It combines a range of disciplines – e.g. work physiology, health informatics, safety engineering, workplace design, injury prevention, and occupational psychology – and presents new strategies for safety management, including accident prevention methods such as performance testing and participatory ergonomics. The book, which is based on the AHFE 2019 International Conference on Safety Management and Human Factors, held on July 24–28, 2019, Washington D.C., USA, provides readers, including decision makers, professional ergonomists and program managers in government and public authorities, with a timely snapshot of the state of the art in the field of safety, health, and welfare management. It also addresses agencies such as the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH), as well as other professionals dealing with occupational safety and health.

Sustainable Agriculture Reviews 34 Date Palm for Food, Medicine and the Environment Springer This book is the result of remarkable contribution from the experts of interdisciplinary fields of Science with comprehensive, in-depth and up-to-date research and reviews. It describes the applications of date palm for food, medicine and the environmental sectors. Date palm is one of the oldest cultivated trees and its fruit has been a dietary staple around the world for many centuries. Date pulps contain dietary fibers and easily digestible sugars (70%), mainly glucose, sucrose and fructose. They also contain vitamins like biotin, thiamine, riboflavin, ascorbic and folic acid that are important for our body. The date palm fruit has been used in folk remedies for the treatment of various infectious diseases, cancer and immuno-modulatory activity. Date stones and date palm leaves are freely and abundantly available biomass. Therefore, the renovation of agricultural biomass wastes into activated carbons for drinking water purification, wastewater treatment, treatment of dyes, and metal-ions from aqueous solution would add value to agricultural commodities which offer a solution to environmental problems as well as reduce the cost of waste disposal.

Ethnic Identity and the State in Iran Palgrave Macmillan Tehran's complicated relationship with its ethnic sub-groups has been a pressing security concern since the formation of modern Iran in 1925. This concern is intimately linked with issues related to citizenship, democracy, and democratic political processes, which remain fundamental to Iran's political structure and the Iranian political sphere. This book argues that, while the Islamic Republic has employed various strategies to mitigate the worst excesses of inter-ethnic tension while still securing a Shi'a-Persian dominated state, the systematic neglect of ethnic groups by both the Islamic Republic and its predecessor regime has resulted in the politicization of ethnic identity in Iran.

Organizational Design A Step-by-Step Approach Cambridge University Press In today's volatile business environment, it is more important than ever that managers, whether of a global multinational or a small team, should understand the fundamentals of organizational design. Written specifically for executives and executive MBA students, the edition of this successful book provides a step-by-step 'how to' guide for designing an organization. It features comprehensive coverage of the key aspects of organizational design, including goals, strategy, process, people, coordination, control and incentives. These aspects are explained through the use of a unique series of 2 x 2 graphs that provide an integrated, spatial way to assess and plan organizational design. The new edition features a number of important improvements, including a new framework for understanding leadership and organizational climate, the introduction of the concept of manoeuvrability and a completely new chapter examining joint ventures, mergers, partnerships and strategic alliances.

Comprehensive Cervical Cancer Control A Guide to Essential Practice World Health Organization Most women who die from cervical cancer, particularly in developing countries, are in the prime of their life. They may be raising children, caring for their family, and contributing to the social and economic life of their town or village. Their death is both a personal

tragedy, and a sad and unnecessary loss to their family and their community. Unnecessary, because there is compelling evidence, as this Guide makes clear, that cervical cancer is one of the most preventable and treatable forms of cancer, as long as it is detected early and managed effectively. Unfortunately, the majority of women in developing countries still do not have access to cervical cancer prevention programmes. The consequence is that, often, cervical cancer is not detected until it is too late to be cured. An urgent effort is required if this situation is to be corrected. This Guide is intended to help those responsible for providing services aimed at reducing the burden posed by cervical cancer for women, communities and health systems. It focuses on the knowledge and skills needed by health care providers, at different levels of care. **Carbon and Oxide Nanostructures Synthesis, Characterisation and Applications** Springer Science & Business Media This volume covers all aspects of carbon and oxide based nanostructured materials. The topics include synthesis, characterization and application of carbon-based namely carbon nanotubes, carbon nanofibres, fullerenes, carbon filled composites etc. In addition, metal oxides namely, ZnO, TiO₂, Fe₂O₃, ferrites, garnets etc., for various applications like sensors, solar cells, transformers, antennas, catalysts, batteries, lubricants, are presented. The book also includes the modeling of oxide and carbon based nanomaterials. The book covers the topics: Synthesis, characterization and application of carbon nanotubes, carbon nanofibres, fullerenes Synthesis, characterization and application of oxide based nanomaterials. Nanostructured magnetic and electric materials and their applications. Nanostructured materials for petro-chemical industry. Oxide and carbon based thin films for electronics and sustainable energy. Theory, calculations and modeling of nanostructured materials. **Trends in Bioelectroanalysis** Springer This volume offers a careful selection of trend-setting topics in the field. In-depth review articles illustrate current trends in the field. Experienced experts present a comprehensive overview concerning the electrochemical biosensing of glucose for diabetes care from an industrial research and development perspective a survey of bioassay applications for individually addressable electrochemical arrays, focusing on liquid-phase bioanalytical assays a review of recent advances in the development of electronic tongues based on the use of biosensor arrays coupled with advanced chemometric data analysis novel strategies of DNA biosensor development and corresponding applications for studies of DNA damage a survey of recent trends in the electrochemistry of redox proteins, including the increasing diversity of redox proteins used in electrochemical studies, novel immobilization strategies, and biosensor / biofuel cell applications an overview of electrochemical sensing of blood gases with advanced sensor concepts a survey of recent bioelectroanalytical studies with high spatial resolution using scanning electrochemical microscopy with a wide range of applications covering imaging of living cells, studies of metabolic activity, imaging of local enzyme activity, and studies of transport through bilayers This timely collection will be of interest not only for experts in the field, but also to students and their teachers in disciplines that include analytical chemistry, biology, electrochemistry, and various interdisciplinary research areas. **Organic Pollutants in Wastewater I Methods of Analysis, Removal and Treatment** Materials Research Forum LLC Wastewater represents an alternative to freshwater if it can be treated successfully for re-use applications. Promising techniques involve photocatalysis, adsorption, nanocomposites, and membranes. The book focusses on the following topics: Effluent detoxification and degradation kinetics of organic dyes using Fenton and photo-Fenton processes. Degradation of methylene blue using nanocomposites as a potential photocatalyst. Agricultural and agro-industries based wastes as low-cost biosorbents. Use of carbon quantum dots (CQDs) for photocatalytic degradation of organic pollutants. Detection, determination and removal of phenolic compounds from wastewater. Decomposition of organic dyes via photocatalysis. Oxide-semiconductor nanomaterials for photocatalytic wastewater purification. Photocatalytic efficiency of various ZnO composites for degradation of organic pollutants. TiO₂ based nanocomposites. Membrane filtration processes for the removal of organics from industrial wastewater. **Methods in Sustainability Science Assessment, Prioritization, Improvement, Design and Optimization** Elsevier Methods in Sustainability Science: Assessment, Prioritization, Improvement, Design and Optimization presents cutting edge, detailed methodologies needed to create sustainable growth in any field or industry, including life cycle assessments, building design, and energy systems. The book utilized a systematic structured approach to each of the methodologies described in an interdisciplinary way to ensure the methodologies are applicable in the real world, including case studies to demonstrate the methods. The chapters are written by a global team of authors in a variety of sustainability related fields. Methods in Sustainability Science: Assessment, Prioritization, Improvement, Design and Optimization will provide academics, researchers and practitioners in sustainability, especially environmental science and environmental engineering, with the most recent methodologies needed to maintain a sustainable future. It is also a necessary read for postgraduates in sustainability, as well as academics and researchers in energy and chemical engineering who need to ensure their industrial methodologies are sustainable. Provides a comprehensive overview of the most recent methodologies in sustainability assessment, prioritization, improvement, design and optimization Sections are organized in a systematic and logical way to clearly present the most recent methodologies for sustainability and the chapters utilize an interdisciplinary approach that covers all considerations of sustainability Includes detailed case studies demonstrating the efficacies of the described methods **Transport of Fluids in Nanoporous Materials** MDPI This book is a printed edition of the Special Issue "Transport of Fluids in Nanoporous Materials" that was published in Processes **Handbook of Graphene Growth, Synthesis, and Functionalization** John Wiley & Sons Handbook of Graphene, Volume 1, essentially focuses on graphene growth, synthesis, and functionalization in order to realize optimized graphene-based nanostructures which can be utilized for various applications. This handbook provides detailed and up-to-date overviews of the synthesis and functionalization of graphene on various substrates (metallic and semiconducting), their properties and possible application methods. In particular, the chapters cover: - Optimization of graphene growth and challenges for synthesis of high-quality graphene and graphite in metallic materials; - Exfoliation of graphene sheets obtained by sonication, ball milling and use of polymers and surfactants; - Structure, electronic properties, functionalization methods, and prospects of epitaxial graphene grown on hexagonal and cubic silicon carbide substrates; - Growth of graphene on Si(111) wafers via direct deposition of solid-state carbon atom and characterization of graphene-on-silicon films; - Chemical reactivity and modification of electronic properties of graphene grown on Ni(111); - Enhancement of the cell wall strength and stability of foam structure utilizing graphene; - Influence of applied strain and magnetic field on the electronic and transport properties of graphene with different kinds of defects; - Application of hydrogen functionalized graphene in spintronic nanodevices; - Electrochemistry and catalytic properties of graphene-based materials; - Functionalization of graphene with molecules and/or nanoparticles for advanced applications such as flexible electronics, biological systems, ink-jet applications and coatings; - Graphene-based composite materials devoted to electrochemical applications such as supercapacitors, lithium ion batteries and electrode material; - Three-dimensional graphene-based structures which preserve the intrinsic properties of 2D graphene and provide advanced functionalities with desired characteristics in a wide range of applications such as sensors, batteries, supercapacitors, fuel cells, etc.; - Carbon allotropes between diamond and graphite, which allow creating semiconductor properties in graphene and related structures. The 18 chapters of this handbook represent deep and very stimulating contributions to the processes of growth, synthesis and functionalization of graphene for several potential applications. This book is intended for students and active researchers in the field of graphene who are currently investigating the fundamental properties of this amazing low-dimensional material and its applications in micro- and nanotechnologies. It is also necessary reading for entrepreneurs and industrialists because it discusses a variety of possible applications of graphene and different ways of improving the quality of synthesized graphene. **Green Adsorbents for Pollutant Removal Innovative materials** Springer This is the second volume on adsorption using green adsorbents and is written by international contributors who are the leading experts in the adsorption field. Together with the first volume they show a typical selection of green materials used in wastewater treatment, with emphasis on industrial effluents. This second volume focuses on innovative materials. It presents hemp-based materials for metal removal, and the use of leaves for metal removal. It describes the biosorption of metals and metalloids on various materials and discusses the recent advances in cellulose-based adsorbents used in environmental purposes. Furthermore, activated carbons from food wastes, aerogels and bones, and municipal solid waste biochar as efficient materials for pollutant removal, respectively are reviewed as well as biosorption of dyes onto microbial biosorbents and the use of mushroom biomass to remove pollutants are looked at. The volume also includes detailed review of green adsorbents for removal of antibiotics, pesticides and endocrine disruptors and the use of pillared interlayered clays as innovative materials for pollutant removal. Finally, the use of green adsorbents for radioactive pollutant removal from natural water is discussed. The audience for this book includes students, environmentalists, engineers, water scientists, civil and industrial personnel who wish to specialize in adsorption technology. Academically, this book will be of use to students in chemical and environmental engineering who wish to learn about adsorption and its fundamentals. It has also been compiled for practicing engineers who wish to know about recent developments on adsorbent materials in order to promote further research toward improving and developing newer adsorbents and processes for the efficient removal of pollutants from industrial effluents. It is hoped that the book will serve as a readable and useful presentation not only for undergraduate and postgraduate students but also for the water scientists and engineers and as a convenient reference handbook in the form of numerous recent examples and appended information. **Cognitive Networks Applications and Deployments** CRC Press A cognitive network makes use of the information gathered from the network in order to sense the environment, plan actions according to the input, and make appropriate decisions using a reasoning engine. The ability of cognitive networks to learn from the past and use that knowledge to improve future decisions makes them a key area of interest for anyone whose work involves wireless networks and communications. Cognitive Networks: Applications and Deployments examines recent developments in cognitive networks from the perspective of cutting-edge applications and deployments. Presenting the contributions of internationally renowned experts, it supplies complete and balanced treatment of the fundamentals of both cognitive radio communications and cognitive networks—together with implementation details. The book includes case studies and detailed descriptions of cognitive radio platforms and testbeds that demonstrate how to build real-world cognitive radio systems and network architectures. It begins with an introduction to efficient spectrum management and presents a survey on joint routing and dynamic spectrum access in cognitive radio networks. Next, it examines radio spectrum sensing and network coding and design. It explores intelligent routing in graded cognitive networks and presents an energy-efficient routing protocol for cognitive radio ad hoc networks. The book concludes by considering dynamic radio spectrum access and examining vehicular cognitive networks and applications. Presenting the latest standards and spectrum policy developments, the book's strong practical orientation provides you with the understanding you will need to participate in the development of compliant cognitive systems. **Integrated Natural Resources Research** Springer Nature This book is a sister volume to Volume 20 of the Handbook of Environmental Engineering Series, "Integrated Natural Resources Management", and expands on the themes of that volume by addressing the conservation and protection of natural resources in an environmental engineering context through state-of-the-art research methodologies and technologies. With a focus on water and wastewater treatment, the book takes a multidisciplinary approach to provide readers with an understanding of developments in natural resources technology over the last few decades, and how technology and industry methods will progress to ensure cleaner and sustainable methods of natural resources management. The key topics covered include biological activated carbon treatment for recycling biotreated wastewater, composting for food processing wastes, treatment of wastewater from chemical industries, agricultural waste as a low-cost adsorbent, and the invention, design and construction of potable water dissolved air flotation and filtration plants. The book will be useful to environmental resources engineers, researchers, water treatment plant managers, chemical engineers, industrial plant managers, and environmental conservation agencies. **North Korea Sanctions Regulations (US Office of Foreign Assets Control Regulation) (Ofac) (2018 Edition)** Createspace Independent Publishing Platform North Korea Sanctions Regulations (US Office of Foreign Assets Control Regulation) (OFAC) (2018 Edition) The Law Library presents the complete text of the North Korea Sanctions Regulations (US Office of Foreign Assets Control Regulation) (OFAC) (2018 Edition). Updated as of May 29, 2018 The Department of the Treasury's Office of Foreign Assets Control (OFAC) is amending the North Korea Sanctions Regulations and reissuing them in their entirety, in order to implement three recent Executive orders and to reference the North Korea Sanctions and Policy Enhancement Act of 2016 and the Countering America's Adversaries Through Sanctions Act. OFAC is also incorporating several general licenses that have, until now, appeared only on OFAC's website on the North Korea Sanctions page, adding several new general licenses, and adding and expanding provisions to issue a more comprehensive set of regulations that will provide further guidance to the public. Finally, OFAC is updating certain regulatory provisions and making other technical and conforming changes. Due to the number of regulatory sections being updated or added, OFAC is reissuing the North Korea Sanctions Regulations in their entirety. This book contains: - The complete text of the North Korea Sanctions Regulations (US Office of Foreign Assets Control Regulation) (OFAC) (2018 Edition) - A table of contents with the page number of each section **Handbook of Media Management and Economics** Routledge This comprehensive Handbook provides a synthesis of current work and research in media management and economics. The volume has been developed around two primary objectives: assessing the state of knowledge for the key topics in the media management and economics fields; and establishing the research agenda in these areas, ultimately pushing the field in new directions. The Handbook's chapters are organized into parts addressing the theoretical components, key issues, analytical tools, and future directions for research. Each chapter offers the current state of theory and scholarship of a specific area of study, and the volume contributors—all well established in their areas of specialty—represent domestic and international scholarship. With its unparalleled breadth of content from expert authors, the Handbook provides background

knowledge of the various theoretical dimensions and historical paradigms, and establishes the direction for the next phases of research in this growing arena of study. *The Handbook of Media Management and Economics* will serve to stimulate future thought and research in the media management and economics disciplines. As such, this volume will be a required reference for students, professors, and industry practitioners for years to come. **Hybrid Natural Fiber Composites Material Formulations, Processing, Characterization, Properties, and Engineering Applications** Woodhead Publishing Research on natural fiber composites is an emerging area in the field of polymer science with tremendous growth potential for commercialization. *Hybrid Natural Fiber Composites: Material Formulations, Processing, Characterization, Properties, and Engineering Applications* provides updated information on all the important classes of natural fibers and their composites that can be used for a broad range of engineering applications. Leading researchers from industry, academia, government, and private research institutions from across the globe have contributed to this highly application-oriented book. The chapters showcase cutting-edge research discussing the current status, key trends, future directions, and opportunities. Focusing on the current state of the art, the authors aim to demonstrate the future potential of these materials in a broad range of demanding engineering applications. This book will act as a one-stop reference resource for academic and industrial researchers working in R&D departments involved in designing composite materials for semi structural engineering applications. Presents comprehensive information on the properties of hybrid natural fiber composites that demonstrate their ability to improve the hydrophobic nature of natural fiber composites **Reviews recent developments in the research and development of hybrid natural fiber composites in various engineering applications** Focuses on modern technologies and illustrates how hybrid natural fiber composites can be used as alternatives in structural components subjected to severe conditions **Enhancing Financial Inclusion through Islamic Finance, Volume II** Palgrave Macmillan This book is the second of two volumes which highlight the concept of financial inclusion from the Islamic perspective. An important element of the Sustainable Development Goals (SDGs), financial inclusion has been given significant prominence in reform and development agendas proposed by the United Nations and G-20. The significance of Islamic financial inclusion goes beyond improved access to finance to encompass enhanced access to savings and risk mitigation products, as well as social inclusion that allows individuals and companies to engage more actively in the real economy. It represents one of the important drivers of economic growth. This volume explores the financial risks associated with lending to low-income groups due to high poverty levels and the lack of collateralization mechanisms. The first book on the market to provide empirical evidence of Islamic microfinance, deposit insurance and micro-entrepreneurship through the analysis of models and country case studies, this edited collection will be of value to those researching development finance, financial inclusion and Islamic finance. **Advanced Oxidation Processes Applications, Trends, and Prospects** BoD - Books on Demand *Advanced Oxidation Processes - Applications, Trends, and Prospects* constitutes a comprehensive resource for civil, chemical, and environmental engineers researching in the field of water and wastewater treatment. The book covers the fundamentals, applications, and future work in Advanced Oxidation Processes (AOPs) as an attractive alternative and a complementary treatment option to conventional methods. This book also presents state-of-the-art research on AOPs and heterogeneous catalysis while covering recent progress and trends, including the application of AOPs at the laboratory, pilot, or industrial scale, the combination of AOPs with other technologies, hybrid processes, process intensification, reactor design, scale-up, and optimization. The book is divided into four sections: Introduction to Advanced Oxidation Processes, General Concepts of Heterogeneous Catalysis, Fenton and Ferrate in Wastewater Treatment, and Industrial Applications, Trends, and Prospects.