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-Proceedings of the International Symposium on Innovative and Interdisciplinary Applications of Advanced Technologies (IAT 2019)
Optical Imaging and Metrology
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International Conference on Applications of Advanced Technologies in Transportation Engineering

This collection contains 121 technical papers presented at the Seventh International Conference on Applications of Advanced Technology in Transportation, held in Boston, Massachusetts, August 5-7, 2002.

Advanced Technology for Human Support in Space

A comprehensive review of the state of the art and advances in the field, while also outlining the future potential and development trends of optical imaging and optical metrology, an area of fast growth with numerous applications in nanotechnology and nanophysics. Written by the world's leading experts in the

field, it fills the gap in the current literature by bridging the fields of optical imaging and metrology, and is the only up-to-date resource in terms of fundamental knowledge, basic concepts, methodologies, applications, and development trends.

Dairy Engineering

This volume spans a wide range of technical disciplines and technologies, including complex systems, biomedical engineering, electrical engineering, energy, telecommunications, mechanical engineering, civil engineering, and computer science. The papers included in this volume were presented at the International Symposium on Innovative and Interdisciplinary Applications of Advanced Technologies (IAT), held in Neum, Bosnia and Herzegovina on June 26 and 27, 2016. This highly interdisciplinary volume is devoted to various aspects and types of systems. Systems thinking is crucial for successfully building and understanding man-made, natural, and social systems.

Modeling of Materials and Its Applications in Advanced Technologies

The inspiration for this book came from an American Carbon Society Workshop entitled "Carbon Materials for Advanced Technologies" which was hosted by the Oak Ridge National Laboratory in 1994. Chapter 1 contains a review of carbon materials, and emphasizes the structure and chemical bonding in the various forms of carbon, including the four allotropes diamond, graphite, carbynes, and the fullerenes. In addition, amorphous carbon and diamond films, carbon nanoparticles, and engineered carbons are discussed. The most recently discovered allotrope of carbon, i.e., the fullerenes, along with carbon nanotubes, are more fully discussed in Chapter 2, where their structure-property relations are reviewed in the context of advanced technologies for carbon based materials. The synthesis, structure, and properties of the fullerenes and nanotubes, and modification of the structure and properties through doping, are also reviewed. Potential applications of this new family of carbon materials are considered. The manufacture and applications of adsorbent carbon fibers are discussed in Chapter 3. The manufacture, structure and properties of high performance fibers are reviewed in Chapter 4, and the manufacture and properties of vapor grown fibers and their composites are reported in Chapter 5. The properties and applications of novel low density composites developed at Oak Ridge National Laboratory are reported in Chapter 6. Coal is an important source of energy and an abundant source of carbon. The production of engineering carbons and graphite from coal via a solvent extraction route is described in Chapter 7. Applications of activated carbons are discussed in Chapters 8-10, including their use in the automotive arena as evaporative loss emission traps (Chapter 8), and in vehicle natural gas storage tanks (Chapter 9). The application of activated carbons in adsorption heat pumps and refrigerators is discussed in Chapter 10. Chapter 11 reports the use of carbon materials in the fast growing consumer electronics application of lithium-ion batteries. The role of carbon materials in nuclear systems is discussed in Chapters 12 and 13, where fusion device and fission reactor applications, respectively, are reviewed. In Chapter 12 the major technological issues for the utilization of carbon as a plasma facing material are discussed in the context of current and future

fusion tokamak devices. The essential design features of graphite moderated reactors, (including gas-, water- and molten salt-cooled systems) are reviewed in Chapter 13, and reactor environmental effects such as radiation damage and radiolytic corrosion are discussed. The fracture behaviour of graphite is discussed in qualitative and quantitative terms in Chapter 14. The applications of Linear Elastic Fracture Mechanics and Elastic-Plastic Fracture Mechanics to graphite are reviewed and a study of the role of small flaws in nuclear graphites is reported.

Polymers for Advanced Technologies

This book presents the scientific outcomes of the conference 11th Days of Bosnian-Herzegovinian American Academy of Arts and Sciences, held in Sarajevo, Bosnia and Herzegovina, June 20-23, 2019. Including innovative applications of advanced technologies, it offers a uniquely comprehensive, multidisciplinary and interdisciplinary overview of the latest developments in a broad range of technologies and methodologies, viewed through the prism of computing, networking, information technology, robotics, complex systems, communications, energy, mechanical engineering, economics and medicine, among others.

Nanostructured Materials for Advanced Technological Applications

This book presents in a systematic manner the advanced technologies used for various modern robot applications. By bringing fresh ideas, new concepts, novel methods and tools into robot control, robot vision, human robot interaction, teleoperation of robot and multiple robots system, we are to provide a state-of-the-art and comprehensive treatment of the advanced technologies for a wide range of robotic applications. Particularly, we focus on the topics of advanced control and obstacle avoidance techniques for robot to deal with unknown perturbations, of visual servoing techniques which enable robot to autonomously operate in a dynamic environment, and of advanced techniques involved in human robot interaction. The book is primarily intended for researchers and engineers in the robotic and control community. It can also serve as complementary reading for robotics at the both graduate and undergraduate levels.

Real-time PCR

This book introduces innovative and interdisciplinary applications of advanced technologies. Featuring the papers from the 10th DAYS OF BHAAAS (Bosnian-Herzegovinian American Academy of Arts and Sciences) held in Jahorina, Bosnia and Herzegovina on June 21-24, 2018, it discusses a wide variety of engineering and scientific applications of the different techniques. Researchers from academic and industry present their work and ideas, techniques and applications in the field of power systems, mechanical engineering, computer modelling and simulations, civil engineering, robotics and biomedical engineering, information and communication technologies, computer science and applied mathematics.

Applications of Advanced Technologies in Transportation Engineering

This collection contains 121 technical papers presented at the Seventh International Conference on Applications of Advanced Technology in Transportation, held in Boston, Massachusetts, August 5-7, 2002.

Advanced Technologies for Intelligent Transportation Systems

Nanoscience and Nanotechnology are experiencing a rapid development in many aspects, like real-space atomic-scale imaging, atomic and molecular manipulation, nano-fabrication, etc. , which will have a profound impact not only in every field of research, but also on everyday life in the twenty-first century. The common efforts of researchers from different countries and fields of science can bring complementary expertise to solve the rising problems in order to take advantage of the nanoscale approaches in Materials Science. Nanostructured materials, i. e. materials made with atomic accuracy, show unique properties as a consequence of nanoscale size confinement, predominance of interfacial phenomena and quantum effects. Therefore, by reducing the dimensions of a structure to nanosize, many inconceivable properties will appear and may lead to different novel applications from na- electronics and nanophotonics to nanobiological systems and nanomedicine. All this requires the contribution of multidisciplinary teams of physicists, chemists, materials scientists, engineers and biologists to work together on the synthesis and processing of nanomaterials and nanostructures, understanding the properties related to the nanoscale, the design of nano-devices as well as of new tools for the characterization of nano-structured materials. The first objective of the NATO ASI on Nanostructured Materials for Advanced Technological Applications was to assess the up-to-date achievements and future perspectives of application of novel nanostructured materials, focusing on the relationships material structure ? functional properties ? possible applications.

Advanced Technologies, Systems, and Applications V

This book provides an abundance of information about the science and application of nanoparticles in the creation of nanocomposite materials, covering the synthesis, properties, and applications of nanomaterials. Written by experts in their fields, the chapters provide important updates on a number of aspects of nanomaterials and their practical applications to create new materials, particularly polymer composite materials. The book is an outgrowth of notes the authors have compiled and used to teach advanced courses on polymers for many years. Useful for engineers and researchers, the book also functions as a highly practical and useful ancillary text for advanced-level students studying nanomaterials and polymer science.

Computational Models, Software Engineering, and Advanced Technologies in Air Transportation: Next Generation Applications

This book contains the proceedings of Symposium L of the International Conference on Materials for Advanced Technologies, held from the 1st to the 6th of July, 2001 in Singapore. The aim of this important meeting was to bring together researchers and engineers having very different backgrounds, and thus promote

free discussion and the exchange of ideas across many interdisciplinary boundaries.

Advanced Applications of Blockchain Technology

This contributed volume discusses diverse topics to demystify the rapidly emerging and evolving blockchain technology, the emergence of integrated platforms and hosted third-party tools, and the development of decentralized applications for various business domains. It presents various applications that are helpful for research scholars and scientists who are working toward identifying and pinpointing the potential of as well as the hindrances to this technology.

Advanced Technologies, Systems, and Applications

"This book disseminates knowledge on modern information technology applications in air transportation useful to professionals, researchers, and academicians"--Provided by publisher.

Carbon Materials for Advanced Technologies

Written for and by dairy and food engineers with experience in the field, this new volume provides a wealth of valuable information on dairy technology and its applications. The book covers devices, standardization, packaging, ingredients, laws and regulatory guidelines, food processing methods, and more. The coverage of each topic is comprehensive enough to serve as an overview of the most recent and relevant research and technology.

Advanced Technologies, Systems, and Applications II

The Most Complete and Up-to-Date Account of Advanced Sensor Networking Technologies Handbook of Sensor Networking: Advanced Technologies and Applications provides a complete professional reference and practitioner's guide to today's advanced sensor networking technologies. The handbook focuses on both established and recent sensor networking theory,

Advanced Array Systems, Applications and RF Technologies

This book addresses the behavior of inorganic material in combustion systems. The past decade has seen unprecedented improvements in understanding the rates and mechanisms of inorganic transformations and in developing analytical tools to predict them. These tools range from improved fuel analysis procedures to predictive computer codes. While this progress has been met with great enthusiasm within the research community, the practices of the industrial community remain largely unchanged. The papers in this book were selected from those presented at an Engineering Foundation Conference of the same title. All have been peer reviewed. The intent of the conference was to illustrate the application of advanced technology to ash-related problems in boilers and, by so doing, engage the research and industrial communities in more productive dialog. Those attending the conference generally felt that we were successful on these

counts. We also engaged the industrial community to a greater extent than ever before in the conference discussion and presentation. We hope these proceedings will facilitate a continued and improved interaction between industrial and research communities. Behavior of inorganic material has long been recognized as one of the major considerations affecting the design and operation of boilers that burn ash-producing fuels. The practical problems associated with the behavior are sometimes catastrophic and spectacular, ranging from major slag falls that damage the bottom of furnaces to complete plugging of convection passes.

Fundamentals of Advanced Omics Technologies: From Genes to Metabolites

"This book disseminates knowledge on modern information technology applications in air transportation useful to professionals, researchers, and academicians"--Provided by publisher.

Renewable Energy Systems

Fundamentals of Advanced Omics Technologies: From Genes to Metabolites covers the fundamental aspects of the new instrumental and methodological developments in omics technologies, including those related to genomics, transcriptomics, epigenetics, proteomics and metabolomics, as well as other omics approaches such as glycomics, peptidomics and foodomics. The principal applications are presented in the following complementary volume. The chapters discuss in detail omics technologies, DNA microarray analysis, next-generation sequencing technologies, genome-wide analysis of methylation and histone modifications, emerging nanotechniques in proteomics, imaging mass spectrometry in proteomics, recent quantitative proteomics approaches, and advances in high-resolution NMR-based metabolomics, as well as MS-based non-targeted metabolomics and metabolome analysis by CE-MS, global glycomics analyses, foodomics, and high resolution analytical tools for quantitative peptidomics. Key aspects related to chemometrics, bioinformatics, data treatment, data integration and systems biology, deep-sequencing data analysis, statistical approaches for the analysis of microarray data, the integration of transcriptome and metabolome data and computational approaches for visualization and integration of omics data are also covered. Covers the latest advances in instrumentation, experimental design, sample preparation, and data analysis Provides thorough explanations and descriptions of specific omics technologies Describes advanced tools and methodologies for data pretreatment, storage, curation and analysis, as well as data integration

Advanced Distillation Technologies

This book focuses on emerging technologies in the field of Intelligent Transportation Systems (ITSs) namely efficient information dissemination between vehicles, infrastructures, pedestrians and public transportation systems. It covers the state-of-the-art of Vehicular Ad-hoc Networks (VANETs), with centralized and decentralized (Peer-to-Peer) communication architectures, considering several application scenarios. With a detailed treatment of emerging communication

paradigms, including cross networking and distributed algorithms. Unlike most of the existing books, this book presents a multi-layer overview of information dissemination systems, from lower layers (MAC) to high layers (applications). All those aspects are investigated considering the use of mobile devices, such as smartphones/tablets and embedded systems, i.e. technologies that during last years completely changed the current market, the user expectations, and communication networks. The presented networking paradigms are supported and validated by means of extensive simulative analysis and real field deployments in different application scenarios. This book represents a reference for professional technologist, postgraduates and researchers in the area of Intelligent Transportation Systems (ITSs), wireless communication and distributed systems.

Polymer Science and Engineering

Polymers are used in everything from nylon stockings to commercial aircraft to artificial heart valves, and they have a key role in addressing international competitiveness and other national issues. Polymer Science and Engineering explores the universe of polymers, describing their properties and wide-ranging potential, and presents the state of the science, with a hard look at downward trends in research support. Leading experts offer findings, recommendations, and research directions. Lively vignettes provide snapshots of polymers in everyday applications. The volume includes an overview of the use of polymers in such fields as medicine and biotechnology, information and communication, housing and construction, energy and transportation, national defense, and environmental protection. The committee looks at the various classes of polymers--plastics, fibers, composites, and other materials, as well as polymers used as membranes and coatings--and how their composition and specific methods of processing result in unparalleled usefulness. The reader can also learn the science behind the technology, including efforts to model polymer synthesis after nature's methods, and breakthroughs in characterizing polymer properties needed for twenty-first-century applications. This informative volume will be important to chemists, engineers, materials scientists, researchers, industrialists, and policymakers interested in the role of polymers, as well as to science and engineering educators and students.

Advanced Fuzzy Logic Technologies in Industrial Applications

This book presents advanced technologies used in practice to enable early recognition and tracking of various threats to national security. It discusses practical applications, examples and recent challenges in the application fields using sophisticated sensory devices, embedded designs and airborne and ground unmanned vehicles. Undeniably rapid advances in the development of sophisticated sensory devices, significant increases of computing power available to embedded designs and the development of airborne and ground unmanned vehicles offer almost unlimited possibilities for fighting various types of pathologies affecting our societies. The book provides scientists, researchers, engineers and graduate students involved in computer vision, image processing, data fusion, control algorithms, mechanics, data mining, navigation and integrated circuit (IC) with numerous valuable, useful and practical suggestions and solutions.

Star 21

Advanced Technologies in Modern Robotic Applications

Advanced Technologies in Practical Applications for National Security

During the 1980s the water industry made great strides in introducing advanced technology in water management. This book reflects on the achievements made during the last decade and addresses the challenges facing the industry in the 1990s.

Computational Models, Software Engineering, and Advanced Technologies in Air Transportation: Next Generation Applications

Distillation has historically been the main method for separating mixtures in the chemical process industry. However, despite the flexibility and widespread use of distillation processes, they still remain extremely energy inefficient. Increased optimization and novel distillation concepts can deliver substantial benefits, not just in terms of significantly lower energy use, but also in reducing capital investment and improving eco-efficiency. While likely to remain the separation technology of choice for the next few decades, there is no doubt that distillation technologies need to make radical changes in order to meet the demands of the energy-conscious society. *Advanced Distillation Technologies: Design, Control and Applications* gives a deep and broad insight into integrated separations using non-conventional arrangements, including both current and upcoming process intensification technologies. It includes: Key concepts in distillation technology Principles of design, control, sizing and economics of distillation Dividing-wall column (DWC) – design, configurations, optimal operation and energy efficient and advanced control DWC applications in ternary separations, azeotropic, extractive and reactive distillation Heat integrated distillation column (HIDiC) – design, equipment and configurations Heat-pump assisted applications (MVR, TVR, AHP, CHRP, TAHP and others) Cyclic distillation technology – concepts, modeling approach, design and control issues Reactive distillation – fundamentals, equipment, applications, feasibility scheme Results of rigorous simulations in Mathworks Matlab & Simulink, Aspen Plus, Dynamics and Custom Modeler Containing abundant examples and industrial case studies, this is a unique resource that tackles the most advanced distillation technologies – all the way from the conceptual design to practical implementation. The author of *Advanced Distillation Technologies*, Dr. Ir. Anton A. Kiss, has been awarded the Hoogewerff Jongerenprijs 2013. http://www.hoogewerff-fonds.nl/nieuws/26/hoogewerff_jongerenprijs_2013_toegekend_aan_veelzijdige_procestecnoloog Find out more (website in Dutch)/a

Advanced Technologies, Systems, and Applications

Energy conversion techniques are key in power electronics and even more so in renewable energy source systems, which require a large number of converters. *Renewable Energy Systems: Advanced Conversion Technologies and Applications* describes advanced conversion technologies and provides design examples of converters and inverters for renewable energy systems—including wind turbine and solar panel energy systems. *Learn Cutting-Edge Techniques for Converters and Inverters* Setting the scene, the book begins with a review of the basics of astronomy and Earth physics. It then systematically introduces more than 200 topologies of advanced converters originally developed by the authors, including 150 updated circuits on modern conversion technologies. It also discusses recently published topologies and thoroughly analyzes new converter circuits. Novel approaches include split-capacitor and split-inductor techniques that can be applied in super-lift and other converters. *Resolve Historic Problems in Conversion Technologies* Along with offering many cutting-edge techniques, the authors resolve some historic problems, such as the accurate determination of the conduction angle of single-phase rectifiers and power factor correction. They also describe a new series—laddered multilevel inverters—that uses few devices to produce more levels, overcoming the drawbacks of the pulse-width-modulation (PWM) inverter and providing great scope for industrial applications. *Tap the Knowledge of Pioneers in the Field* This book is written by pioneers in advanced conversion technology who have created a large number of converters, including the world-renowned DC/DC Luo-converters and super-lift Luo-converters. Featuring numerous examples and diagrams, it guides readers in designing advanced converters for use in renewable energy systems.

Applications of Advanced Technology to Ash-Related Problems in Boilers

The book contains contributions concerning the application of the new instrumental and methodological developments in omics technologies, including those related to Genomics, Transcriptomics, Proteomics, Peptidomics and Metabolomics, Lipidomics and Foodomics. The 16 chapters discuss in detail: innovative applications of functional gene microarrays for profiling microbial communities, microRNA profiling, novel genotyping applications using microarray technology in cancer research, next-generation sequencing applied to the study of human microbiome, emerging RNA-SEQ applications in food science, recent progress in plant proteomics, applications of gel-free proteomic approaches, the challenges and applications of proteomics tools for food authenticity, the role of salivary peptidomics in clinical applications, metabolomic approaches to the study of degenerative, cardiovascular and renal diseases, and neonatal medicine. Also covered are other omics applications such as profiling of genetically modified organisms, the fundamentals, applications and challenges of foodomics, and MS-based lipidomics. Moreover, this volume includes relevant and updated aspects on bioinformatics, data treatment, data integration and systems biology. This book complements the previous volume "Fundamentals of Advanced Omics Technologies: New Advances from Genes to Metabolites" that covered the fundamental aspects of these new omics technologies. Describes the latest applications of omics technologies Provides an excellent reference for applications of advanced omics techniques Includes advanced tools and methodologies for dealing with the data generated

Emerging and Advanced Technologies in Diverse Forensic Sciences

Membrane materials allow for the selective separation of gas and vapour and for ion transport. Materials research and development continues to drive improvements in the design, manufacture and integration of membrane technologies as critical components in both sustainable energy and clean industry applications. Membrane utilisation offers process simplification and intensification in industry, providing low-cost, and efficient and reliable operation, and contributing towards emissions reductions and energy security. Advanced membrane science and technology for sustainable energy and environmental applications presents a comprehensive review of membrane utilisation and integration within energy and environmental industries. Part one introduces the topic of membrane science and engineering, from the fundamentals of membrane processes and separation to membrane characterization and economic analysis. Part two focuses on membrane utilisation for carbon dioxide (CO₂) capture in coal and gas power plants, including pre- and post-combustion and oxygen transport technologies. Part three reviews membranes for the petrochemical industry, with chapters covering hydrocarbon fuel, natural gas and synthesis gas processing, as well as advanced biofuels production. Part four covers membranes for alternative energy applications and energy storage, such as membrane technology for redox and lithium batteries, fuel cells and hydrogen production. Finally, part five discusses membranes utilisation in industrial and environmental applications, including microfiltration, ultrafiltration, and forward osmosis, as well as water, wastewater and nuclear power applications. With its distinguished editors and team of expert contributors, Advanced membrane science and technology for sustainable energy and environmental applications is an essential reference for membrane and materials engineers and manufacturers, as well as researchers and academics interested in this field. Presents a comprehensive review of membrane science and technology, focusing on developments and applications in sustainable energy and clean-industry Discusses the fundamentals of membrane processes and separation and membrane characterization and economic analysis Addresses the key issues of membrane utilisation in coal and gas power plants and the petrochemical industry, the use of membranes for alternative energy applications and membrane utilisation in industrial and environmental applications

Advanced technologies

This book presents innovative and interdisciplinary applications of advanced technologies. It includes the scientific outcomes of the 9th DAYS OF BHAAAS (Bosnian-Herzegovinian American Academy of Arts and Sciences) held in Banja Vrućica, Teslić, Bosnia and Herzegovina on May 25–28, 2017. This unique book offers a comprehensive, multidisciplinary and interdisciplinary overview of the latest developments in a broad section of technologies and methodologies, viewed through the prism of applications in computing, networking, information technology, robotics, complex systems, communications, energy, mechanical engineering, economics and medicine, to name just a few.

Advanced Technologies in Modern Robotic Applications

This manual presents a comprehensive guide to the most up-to-date technologies and applications as well as providing an overview of the theory of this increasingly important technique. It also discusses a wide range of RT-PCR applications including clinical diagnostics, biodefence, RNA expression studies, and more.

Applications of Advanced Omics Technologies: From Genes to Metabolites

This book presents in a systematic manner the advanced technologies used for various modern robot applications. By bringing fresh ideas, new concepts, novel methods and tools into robot control, robot vision, human robot interaction, teleoperation of robot and multiple robots system, we are to provide a state-of-the-art and comprehensive treatment of the advanced technologies for a wide range of robotic applications. Particularly, we focus on the topics of advanced control and obstacle avoidance techniques for robot to deal with unknown perturbations, of visual servoing techniques which enable robot to autonomously operate in a dynamic environment, and of advanced techniques involved in human robot interaction. The book is primarily intended for researchers and engineers in the robotic and control community. It can also serve as complementary reading for robotics at the both graduate and undergraduate levels.

Advanced Technologies, Systems, and Applications IV -Proceedings of the International Symposium on Innovative and Interdisciplinary Applications of Advanced Technologies (IAT 2019)

An important contribution to the professional work performed in the areas on emerging technologies, this book provides an extensive expansion of the literature base on contemporary theories and investigative techniques used in the forensic sciences. Forensic science, as a relatively new field of research still actively identifying itself in the larger landscape of the sciences, has been sharply criticized for utilizing techniques deemed largely unscientific by subject area experts. This book presents a collective analysis and review of the existing challenges as well as directions for state-of-the-art practices found in diverse forensic settings, enabling the reader to make an informed decision about the scientific validity of forensic techniques, and emphasizes the need for a greater understanding of the use of the most appropriate methodology and procedures. The contributors address cutting-edge, developing, and even hypothetical techniques and technologies in forensics research and practice, especially as it relates to the sphere of criminal justice and law enforcement in contemporary society. A useful work for forensics professionals, and students and scholars working in the fields of politics and technology, criminal justice, forensic psychology, police psychology, law enforcement, and forensic science.

Optical Imaging and Metrology

Advanced Array Systems, Applications and RF Technologies adopts a holistic view of arrays used in radar, electronic warfare, communications, remote sensing and radioastronomy. Radio frequency (RF) and intermediate frequency (IF) signal

processing is assuming a fundamental importance, owing to its increasing ability to multiply a system's capabilities in a cost-effective manner. This book comprehensively covers the important front-end RF subsystems of active phased arrays, so offering array designers new and exciting opportunities in signal processing. Provides an up to date record of existing systems from different applications Explores array systems under development Bridges the gap between textbook coverage of idealized phased arrays and practical knowledge of working phased arrays Recognises the significance of cost to the realization of phased arrays Discusses future advances in the field that promise to deliver even more affordable arrays ['intelligent' or self-focussing/-cohering arrays]

Advanced Technologies, Systems, and Applications III

This collection contains 64 papers on surface transportation systems of Pacific Rim countries presented at the Third International Conference on Applications of Advanced Technologies in Transportation Engineering, held in Seattle, Washington, July 25-28, 1993.

Advanced Technology in Water Management

Handbook of Sensor Networking

This book introduces a dynamic, on-line fuzzy inference system. In this system membership functions and control rules are not determined until the system is applied and each output of its lookup table is calculated based on current inputs. The book describes the real-world uses of new fuzzy techniques to simplify readers' tuning processes and enhance the performance of their control systems. It further contains application examples.

Advanced Membrane Science and Technology for Sustainable Energy and Environmental Applications

Advanced Technology for Human Support in Space was written in response to a request from NASA's Office of Life and Microgravity Sciences and Applications (OLMSA) to evaluate its Advanced Human Support Technology Program. This report reviews the four major areas of the program: advanced life support (ALS), environmental monitoring and control (EMC), extravehicular activities (EVA), and space human factors (SHF). The focus of this program is on long-term technology development applicable to future human long-duration space missions, such as for a hypothetical new mission to the Moon or Mars.

Applications of Advanced Technology in Transportation

Applications of Advanced Technologies in Transportation Engineering

This collection contains 125 papers presented at the Eighth International

Conference on Applications of Advanced Technologies in Transportation Engineering, held in Beijing, China, on May 26-28, 2004.

Applications of Advanced Technology in Transportation

This volume spans a wide range of technical disciplines and technologies, including complex systems, biomedical engineering, electrical engineering, energy, telecommunications, mechanical engineering, civil engineering, and computer science. The papers included in this volume were presented at the International Symposium on Innovative and Interdisciplinary Applications of Advanced Technologies (IAT), held in Neum, Bosnia and Herzegovina on June 26 and 27, 2016. This highly interdisciplinary volume is devoted to various aspects and types of systems. Systems thinking is crucial for successfully building and understanding man-made, natural, and social systems.

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