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## **KEY=ENGINEERING - HOLDEN CHAMBERS**

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### **THE PROCEEDINGS OF THE 9TH FRONTIER ACADEMIC FORUM OF ELECTRICAL ENGINEERING**

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#### **VOLUME I**

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*Springer Nature This book includes the original, peer-reviewed research papers from the 9th Frontier Academic Forum of Electrical Engineering (FAFEE 2020), held in Xi'an, China, in August 2020. It gathers the latest research, innovations, and applications in the fields of Electrical Engineering. The topics it covers including electrical materials and equipment, electrical energy storage and device, power electronics and drives, new energy electric power system equipment, IntelliSense and intelligent equipment, biological electromagnetism and its applications, and insulation and discharge computation for power equipment. Given its scope, the book benefits all researchers, engineers, and graduate students who want to learn about cutting-edge advances in Electrical Engineering.*

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### **THE PROCEEDINGS OF THE 9TH FRONTIER ACADEMIC FORUM OF ELECTRICAL ENGINEERING**

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#### **VOLUME II**

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*Springer Nature This book includes the original, peer-reviewed research papers from the 9th Frontier Academic Forum of Electrical Engineering (FAFEE 2020), held in Xi'an, China, in August 2020. It gathers the latest research, innovations, and applications in the fields of Electrical Engineering. The topics it covers including electrical materials and equipment, electrical energy storage and device, power electronics and drives, new energy electric power system equipment, IntelliSense and intelligent equipment, biological electromagnetism and its applications, and insulation and discharge computation for power equipment. Given its scope, the book benefits all researchers, engineers, and graduate students who want to learn about cutting-edge advances in Electrical Engineering.*

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## **FUNDAMENTAL RESEARCH IN ELECTRICAL ENGINEERING**

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### **THE SELECTED PAPERS OF THE FIRST INTERNATIONAL CONFERENCE ON FUNDAMENTAL RESEARCH IN ELECTRICAL ENGINEERING**

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*Springer This volume presents the selected papers of the First International Conference on Fundamental Research in Electrical Engineering, held at Khwarazmi University, Tehran, Iran in July, 2017. The selected papers cover the whole spectrum of the main four fields of Electrical Engineering (Electronic, Telecommunications, Control, and Power Engineering).*

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## **ELECTRICAL ENGINEERING**

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### **THE ENGINEERING JOURNAL OF THE ELECTRICAL INDUSTRY**

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## **ADVANCES IN DESIGN, SIMULATION AND MANUFACTURING V**

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### **PROCEEDINGS OF THE 5TH INTERNATIONAL CONFERENCE ON DESIGN, SIMULATION, MANUFACTURING: THE INNOVATION EXCHANGE, DSMIE-2022, JUNE 7-10, 2022, POZNAN, POLAND - VOLUME 1: MANUFACTURING AND MATERIALS ENGINEERING**

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[Springer Nature](#) *This book reports on topics at the interface between manufacturing and materials engineering, with a special emphasis on smart and sustainable manufacturing. It describes innovative research in design engineering and manufacturing technology, covering the development and characterization of advanced materials alike. It also discusses key aspects related to ICT in engineering education. Based on the 5th International Conference on Design, Simulation, Manufacturing: The Innovation Exchange (DSMIE-2022), held on June 7-10, 2022, in Poznan, Poland, this first volume of a 2-volume set provides academics and professionals with extensive information on trends and technologies, and challenges and practice-oriented experience in all the above-mentioned areas.*

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## **ELECTRICITY PRICING**

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### **REGULATED, DEREGULATED AND SMART GRID SYSTEMS**

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[CRC Press](#) *Electricity Pricing: Regulated, Deregulated and Smart Grid Systems presents proven methods for supplying uninterrupted, high-quality electrical power at a reasonable price to the consumer. Illustrating the evolution of the power market from a monopoly to an open access system, this essential text: Covers voltage stability analysis of longitudinal power supply systems using an artificial neural network (ANN) Explains how to improve performance using flexible alternating current transmission systems (FACTS) and high-voltage direct current (HVDC) Takes into account operating constraints as well as generation cost, line overload, and congestion for expected and inadvertent loading stress Goes beyond FACTS and HVDC to provide multi-objective optimization algorithms for the deregulated power market Proposes the use of stochastic optimization techniques in the smart grid, preparing the reader for future development Electricity Pricing: Regulated, Deregulated and Smart Grid Systems offers practical solutions for improving stability, reliability, and efficiency in real-time systems while optimizing electricity cost.*

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## **UNIVERSITY OF MICHIGAN OFFICIAL PUBLICATION**

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[UM Libraries](#) *Each number is the catalogue of a specific school or college of the University.*

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## **CURRICULUM HANDBOOK WITH GENERAL INFORMATION CONCERNING ... FOR THE UNITED STATES AIR FORCE ACADEMY**

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### **AUTOMATIC DETECTION OF RESEARCH INTEREST USING TOPIC MODELING**

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*We demonstrated the possibility of inferring the research interest of an MIT faculty member given the title of only a few research papers written by him or her, using a topic model learned from a corpus of research paper text not necessarily related to any faculty members of MIT, and a list of topic keywords such as that of the Library of Congress. The topic model was generated using a variant of Latent Dirichlet Allocation coupled with a pointwise mutual information analysis between topic keywords and latent topics.*

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## **ANNUAL CATALOGUE**

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### **COLLEGE OF ENGINEERING**

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[UM Libraries](#)

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## **A SHORT HISTORY OF CIRCUITS AND SYSTEMS**

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[CRC Press](#) *After an overview of major scientific discoveries of the 18th and 19th centuries, which created electrical science as we know and understand it and led to its useful applications in energy conversion, transmission, manufacturing industry and communications, this Circuits and Systems History book fills a gap in published literature by providing a record of the many outstanding scientists, mathematicians and engineers who laid the foundations of Circuit Theory and Filter Design from the mid-20th Century. Additionally, the book records the history of the IEEE Circuits and Systems Society from its origins as the small Circuit Theory Group of the Institute of Radio Engineers (IRE), which merged with the American Institute of Electrical Engineers (AIEE) to form IEEE in 1963, to the large and broad-coverage worldwide IEEE Society which it is today. Many authors from many countries contributed to the creation of this book, working to a very tight time-schedule. The result is a substantial*

contribution to their enthusiasm and expertise which it is hoped that readers will find both interesting and useful. It is sure that in such a book omissions will be found and in the space and time available, much valuable material had to be left out. It is hoped that this book will stimulate an interest in the marvellous heritage and contributions that have come from the many outstanding people who worked in the Circuits and Systems area.

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## **UNITED STATES AIR FORCE ACADEMY**

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### **HANDBOOK OF RESEARCH ON SMART POWER SYSTEM OPERATION AND CONTROL**

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*IGI Global* Because society depends greatly on electric energy, power system control and protection focuses on ensuring a secure and reliable supply of power. To operate the electric systems in safe mode, the power system component should be equipped with intelligent controllers. The Handbook of Research on Smart Power System Operation and Control is a collection of innovative research on the theoretical and practical developments in smart power system operation and control that takes into account both smart grid and micro-grid systems. While highlighting topics including cybersecurity, smart grid, and wide area monitoring, this book is ideally designed for researchers, students, and industry professionals.

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### **COMPUTATIONAL METHODOLOGIES FOR ELECTRICAL AND ELECTRONICS ENGINEERS**

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*IGI Global* Artificial intelligence has been applied to many areas of science and technology, including the power and energy sector. Renewable energy in particular has experienced the tremendous positive impact of these developments. With the recent evolution of smart energy technologies, engineers and scientists working in this sector need an exhaustive source of current knowledge to effectively cater to the energy needs of citizens of developing countries. Computational Methodologies for Electrical and Electronics Engineers is a collection of innovative research that provides a complete insight and overview of the application of intelligent computational techniques in power and energy. Featuring research on a wide range of topics such as artificial neural networks, smart grids, and soft computing, this book is ideally designed for programmers, engineers, technicians, ecologists, entrepreneurs, researchers, academicians, and students.

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### **INTERNATIONAL JOURNAL OF APPLIED SCIENCES: CURRENT AND FUTURE RESEARCH TRENDS (IJASCFRT)**

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International Journal of Applied Sciences: Current and Future Research Trends (IJASCFRT)

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### **LIFELONG LEARNING FOR ENGINEERS AND SCIENTISTS IN THE INFORMATION AGE**

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*Elsevier* The book provides a comprehensive review of lifelong learning, information literacy and internships including assessment techniques for lifelong learning, teamwork and information literacy as defined by the ABET criteria. It also discusses critical thinking skills for scientists and engineers and their role in lifelong learning in the information age. It will be invaluable for: Engineering educators including librarians interested in developing programs to satisfy the ABET criteria for lifelong learning and teamwork. Engineering librarians developing programs and assessment tools for information literacy using online databases and the Internet. Engineering educators and career advisors interested in developing internship programs in engineering. An internship is defined as work performed in an industrial setting that provides practical experience and adds value to the classroom and research learning processes. This book will cover all aspects involved in administering internship and cooperative education programs. Employers of interns will find useful information on needs assessment, program development, evaluation and the importance of lifelong learning; and, Science and engineering educators interested in developing critical thinking skills in their students as an aid to developing lifelong learning skills especially given the challenges in the digital age. Provides information on how to develop programs and assessment tools for information literacy Describes how to set up an internship program Develops critical thinking skills

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### **9TH INTERNATIONAL CONFERENCE ON ROBOTIC, VISION, SIGNAL PROCESSING AND POWER APPLICATIONS**

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### **EMPOWERING RESEARCH AND INNOVATION**

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*Springer* The proceeding is a collection of research papers presented, at the 9th International Conference on Robotics, Vision, Signal Processing & Power Applications (ROVISP 2016), by researchers, scientists, engineers, academicians as well as industrial professionals from all around the globe to present their research results and development activities for oral or poster presentations. The topics of interest are as follows but are not limited to: • Robotics, Control, Mechatronics and Automation • Vision, Image, and Signal Processing • Artificial Intelligence and Computer Applications • Electronic Design and Applications • Telecommunication Systems and Applications • Power System and Industrial Applications • Engineering Education

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## **ENERGY STORAGE SYSTEMS**

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Springer Science & Business Media *Proceedings of the NATO Advanced Study Institute, Çesme, Izmir, Turkey, 27 June-8 July, 1988*

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## **2021 3RD INTERNATIONAL CONFERENCE ON ELECTRICAL ENGINEERING (EECON)**

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*EECon 2021 solicits research papers describing significant and innovative research contributions to all fields of electrical engineering We invite submissions on a wide range of research topics in Electrical Engineering Topics of interest include, but are not limited to Power Quality and Reliability Power Systems Stability and Power Systems Control Electrical Machines, Power Electronics and Control Drives Renewable Energy Systems and Battery Technologies Smart Technologies and Electric Transportation Conventional Energy Technologies Power Systems Economics High voltage and Nano Technology Control & Automation Robotics and intelligent Systems*

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## **POWER QUALITY IN MODERN POWER SYSTEMS**

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*Academic Press Power Quality in Modern Power Systems presents an overview of power quality problems in electrical power systems, for identifying pitfalls and applying the fundamental concepts for tackling and maintaining the electrical power quality standards in power systems. It covers the recent trends and emerging topics of power quality in large scale renewable energy integration, electric vehicle charging stations, voltage control in active distribution network and solutions to integrate large scale renewable energy into the electric grid with several case studies and real-time examples for power quality assessments and mitigations measures. This book will be a practical guide for graduate and post graduate students of electrical engineering, engineering professionals, researchers and consultants working in the area of power quality. Explains the power quality characteristics through suitable real time measurements and simulation examples Explanations for harmonics with various real time measurements are included Simulation of various power quality events using PSCAD and MATLAB software PQ disturbance detection and classification through advanced signal processing and machine learning tools Overview about power quality problems associated with renewable energy integration, electric vehicle supply equipment's, residential systems using several case studies*

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## **RECENT ADVANCES IN ELECTRICAL ENGINEERING AND CONTROL APPLICATIONS**

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*Springer This book of proceedings includes papers presenting the state of art in electrical engineering and control theory as well as their applications. The topics focus on classical as well as modern methods for modeling, control, identification and simulation of complex systems with applications in science and engineering. The papers were selected from the hottest topic areas, such as control and systems engineering, renewable energy, faults diagnosis—faults tolerant control, large-scale systems, fractional order systems, unconventional algorithms in control engineering, signals and communications. The control and design of complex systems dynamics, analysis and modeling of its behavior and structure is vitally important in engineering, economics and in science generally science today. Examples of such systems can be seen in the world around us and are a part of our everyday life. Application of modern methods for control, electronics, signal processing and more can be found in our mobile phones, car engines, home devices like washing machines is as well as in such advanced devices as space probes and systems for communicating with them. All these technologies are part of technological backbone of our civilization, making further research and hi-tech applications essential. The rich variety of contributions appeals to a wide audience, including researchers, students and academics.*

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## **JOURNAL OF THE AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS**

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*Includes preprints of: Transactions of the American Institute of Electrical Engineers, ISSN 0096-3860.*

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## **BASIC ELECTRICAL AND ELECTRONICS ENGINEERING**

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Firewall Media

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## **ELECTRICAL ENGINEERING - VOLUME III**

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*EOLSS Publications Electrical Engineering is the component of Encyclopedia of Physical Sciences, Engineering and Technology Resources in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. The Theme on Electrical Engineering with contributions from distinguished experts in the field provides the essential aspects and fundamentals of electrical engineering. These three volumes are aimed at the following five major target audiences: University and College Students Educators, Professional Practitioners, Research Personnel and Policy Analysts, Managers, and Decision Makers, NGOs and GOs.*

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## TRANSITIONS IN WRITING

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*BRILL Transitions in Writing explores the writer's experience of managing new demands in a range of settings and contexts, from both macro- and micro perspectives.*

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## PROCEEDINGS OF SECOND INTERNATIONAL CONFERENCE ON ELECTRICAL SYSTEMS, TECHNOLOGY AND INFORMATION 2015 (ICESTI 2015)

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*Springer This book includes the original, peer-reviewed research papers from the 2nd International Conference on Electrical Systems, Technology and Information (ICESTI 2015), held in September 2015 at Patra Jasa Resort & Villas Bali, Indonesia. Topics covered include: Mechatronics and Robotics, Circuits and Systems, Power and Energy Systems, Control and Industrial Automation, and Information Theory. It explores emerging technologies and their application in a broad range of engineering disciplines, including communication technologies and smart grids. It examines hybrid intelligent and knowledge-based control, embedded systems, and machine learning. It also presents emerging research and recent application in green energy system and storage. It discusses the role of electrical engineering in biomedical, industrial and mechanical systems, as well as multimedia systems and applications, computer vision and image and signal processing. The primary objective of this series is to provide references for dissemination and discussion of the above topics. This volume is unique in that it includes work related to hybrid intelligent control and its applications. Engineers and researchers as well as teachers from academia and professionals in industry and government will gain valuable insights into interdisciplinary solutions in the field of emerging electrical technologies and its applications.*

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## SELECTED PAPERS FROM IEEE ICKII 2019

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*MDPI This book, entitled "Selected papers from IEEE ICKII 2019", selected 13 excellent papers from the 260 papers presented in the IEEE International Conference on Knowledge Innovation and Invention (IEEE ICKII) 2019 on energies. The 2nd IEEE ICKII 2019 was held in Seoul, South Korea, 12-15 July, 2019, and provided a unified communication platform for research on information technology, innovation design, communication science and engineering, industrial design, creative design, applied mathematics, computer science, electrical and electronic engineering, mechanical and automation engineering, green technology and architecture engineering, material science, and other related fields. The ICKII conference enables interdisciplinary collaboration of science and engineering technologists in the academic and industrial fields, as well as international networking. This book is a collection of 13 research papers. The fields included are as follows: energy fundamentals, energy sources and energy carriers, energy exploration, intermediate and final energy use, energy conversion systems, and energy research and development. The main goals of this book are to encourage scientists to publish their experimental and theoretical results in as much detail as possible, and to discover new scientific knowledge relevant to the topics of energies.*

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## EMERGING TECHNOLOGIES IN INTELLIGENT APPLICATIONS FOR IMAGE AND VIDEO PROCESSING

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*IGI Global Image and Video Processing is an active area of research due to its potential applications for solving real-world problems. Integrating computational intelligence to analyze and interpret information from image and video technologies is an essential step to processing and applying multimedia data. Emerging Technologies in Intelligent Applications for Image and Video Processing presents the most current research relating to multimedia technologies including video and image restoration and enhancement as well as algorithms used for image and video compression, indexing and retrieval processes, and security concerns. Featuring insight from researchers from around the world, this publication is designed for use by engineers, IT specialists, researchers, and graduate level students.*

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## SCIENTIFIC AND TECHNICAL AEROSPACE REPORTS

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## ELECTRICAL ENGINEERING: KNOW IT ALL

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*Newnes The Newnes Know It All Series takes the best of what our authors have written to create hard-working desk references that will be an engineer's first port of call for key information, design techniques and rules of thumb. Guaranteed not to gather dust on a shelf! Electrical engineers need to master a wide area of topics to excel. The Electrical Engineering Know It All covers every angle including Real-World Signals and Systems, Electromagnetics, and Power systems. A 360-degree view from our best-selling authors Topics include digital, analog, and power electronics, and electric circuits The ultimate hard-working desk reference; all the essential information, techniques and tricks of the trade in one volume*

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## ADVANCES IN ELECTRICAL ENGINEERING AND COMPUTATIONAL SCIENCE

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*Springer Science & Business Media Advances in Electrical Engineering and Computational Science contains sixty-one revised and extended research articles written by prominent researchers participating in the conference. Topics covered include Control Engineering, Network Management, Wireless Networks, Biotechnology, Signal Processing, Computational Intelligence, Computational Statistics, Internet Computing, High Performance Computing, and industrial applications. Advances in Electrical Engineering and Computational Science will offer the state of art of tremendous advances in electrical*

engineering and computational science and also serve as an excellent reference work for researchers and graduate students working with/on electrical engineering and computational science.

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## **ELECTRICAL ENGINEERING - VOLUME I**

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*EOLSS Publications* Electricity is an integral part of life in modern society. It is one form of energy and can be transported and converted into other forms. Throughout the world electricity is used to light homes and streets, cook meals, power computers and run industrial plants. Electricity is so integrated with our way of living that electricity consumption per person is used to measure the levels of economic development of countries. Any disruptions to electricity supply or blackouts will lead to huge financial loss and threats to lives well-being in the community. Electrical engineering is the profession and study of generating, transmitting, controlling and using electrical energy. It offers a wide range of exciting opportunities to those looking for a fulfilling, challenging and professional career. Electrical engineers are the designers of modern electrical machinery, power systems, transportation and communication systems. They work in various sectors of the community as well including the building industry, the manufacturing industry, the construction industry, consultancy services, technology development, education services as well as government. In these volumes, the essential aspects and fundamentals of electrical engineering are presented. In depth knowledge of various areas of electrical engineering are disseminated by learned scholars in their fields. It is hoped that readers will find all the writings comprehensive, informative and interesting. It is further hoped that these fundamentals will assist the readers to study advanced topics in electrical engineering. If the readers are electrical engineers themselves, it is hoped that the articles will broaden their horizon in electrical engineering and provide them with the necessary knowledge to further their profession as electrical engineers.

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## **RECENT ADVANCES IN ELECTRICAL AND INFORMATION TECHNOLOGIES FOR SUSTAINABLE DEVELOPMENT**

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### **PROCEEDINGS OF THE 3RD INTERNATIONAL CONFERENCE ON ELECTRICAL AND INFORMATION TECHNOLOGIES – ICEIT 2017, MOROCCO**

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*Springer* The book includes the best extended papers which were selected from the 3rd International Conference of Electrical and Information Technologies (ICEIT 2017, Morocco). The book spans two inter-related research domains which shaped modern societies, solved many of their development problems, and contributed to their unprecedented economic growth and social welfare. Selected papers are based on original and high quality research. They were peer reviewed by experts in the field. They are grouped into five parts. Part I deals with Power System and Electronics topics that include Power Electronics & Energy Conversion, Actuators & Micro/Nanotechnology, etc. Part II relates to Control Systems and their applications. Part III concerns the topic of Information Technology that basically includes Smart Grid, Information Security, Cloud Computing Distributed, Big Data, etc. Part IV discusses Telecommunications and Vehicular Technologies topics that include, Green Networking and Communications, Wireless Ad-hoc and Sensor Networks, etc. Part V covers Green Applications and Interdisciplinary topics, that include intelligent and Green Technologies for Transportation Systems, Smart Cities, etc. This book offers a good opportunity for young researchers, novice scholars and whole academic sphere to explore new trends in Electrical and information Technologies.

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## **RESEARCH AND TECHNICAL WRITING FOR SCIENCE AND ENGINEERING**

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*CRC Press* Engineering and science research can be difficult for beginners because scientific research is fraught with constraints and disciplines. *Research and Technical Writing for Science and Engineering* breakdowns the entire process of conducting engineering and scientific research. This book covers those fascinating guidelines and topics on conducting research, as well as how to better interact with your advisor. Key Features: advice on conducting a literature review, conducting experiments, and writing a good paper summarizing your findings. provides a tutorial on how to increase the impact of research and how to manage research resources. By reflecting on the cases discussed in this book, readers will be able to identify specific situations or dilemmas in their own lives, as the authors provide comprehensive suggestions based on their own experiences.

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## **ADVANCES IN ENERGY TECHNOLOGY**

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### **SELECT PROCEEDINGS OF EMSME 2020**

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*Springer Nature* This book presents select proceedings of International Conference on Energy, Material Sciences and Mechanical Engineering (EMSME) 2020, held at National Institute of Technology Delhi. Various topics covered in this book include clean materials, solar energy systems, wind energy systems, power optimization, grid integration of renewable energy, smart energy storage technologies, artificial intelligence in solar and wind system, analysis of clean energy material in environment, converter topology, modelling and simulation. This book will be useful for researchers and professionals working in the areas of solar material science, electrical engineering, and energy technologies.

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**10TH INTERNATIONAL CONFERENCE ON ROBOTICS, VISION, SIGNAL PROCESSING AND POWER APPLICATIONS**

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**ENABLING RESEARCH AND INNOVATION TOWARDS SUSTAINABILITY**

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*Springer* This proceedings book presents a collection of research papers from the 10th International Conference on Robotics, Vision, Signal Processing & Power Applications (ROVISP 2018), which serves as a platform for researchers, scientists, engineers, academics and industrial professionals from around the globe to share their research findings and development activities. The book covers various topics of interest, including, but not limited to: •Robotics, Control, Mechatronics and Automation•Vision, Image, and Signal Processing•Artificial Intelligence and Computer Applications•Electronic Design and Applications•Biomedical, Bioengineering and Applications•RF, Antenna Applications and Telecommunication Systems•Power Systems, High Voltage and Renewable Energy•Electrical Machines, Drives and Power Electronics•Devices, Circuits and Embedded Systems•Sensors and Sensing Techniques

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**RESOURCES IN EDUCATION**

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**FUNDAMENTAL RESEARCH IN ELECTRICAL ENGINEERING**

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**THE SELECTED PAPERS OF THE FIRST INTERNATIONAL CONFERENCE ON FUNDAMENTAL RESEARCH IN ELECTRICAL ENGINEERING**

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*Lecture Notes in Electrical En* This volume presents the selected papers of the First International Conference on Fundamental Research in Electrical Engineering, held at Khwarazmi University, Tehran, Iran in July, 2017. The selected papers cover the whole spectrum of the main four fields of Electrical Engineering (Electronic, Telecommunications, Control, and Power Engineering).

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**POWER ELECTRONICS FOR GREEN ENERGY CONVERSION**

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*John Wiley & Sons* **POWER ELECTRONICS for GREEN ENERGY CONVERSION** Written and edited by a team of renowned experts, this exciting new volume explores the concepts and practical applications of power electronics for green energy conversion, going into great detail with ample examples, for the engineer, scientist, or student. Power electronics has emerged as one of the most important technologies in the world and will play a big role in the conversion of the present power grid systems into smart grids. Applications like HVDC systems, FACTS devices, uninterruptible power systems, and renewable energy systems totally rely on advances in power electronic devices and control systems. Further, the need for renewable energy continues to grow, and the complete departure of fossil fuels and nuclear energy is not unrealistic thanks to power electronics. Therefore, the increasingly more important role of power electronics in the power sector industry remains paramount. This groundbreaking new volume aims to cover these topics and trends of power electronic converters, bridging the research gap on green energy conversion system architectures, controls, and protection challenges to enable their wide-scale implementation. Covering not only the concepts of all of these topics, the editors and contributors describe real-world implementation of these ideas and how they can be used for practical applications. Whether for the engineer, scientist, researcher, or student, this outstanding contribution to the science is a must-have for any library.