
Solar Powered Automatic Irrigation Control System

Advances in Greener Energy Technologies
Smart Structures in Energy Infrastructure
Nanoelectronics, Circuits and Communication Systems
Wireless Sensor Networks
The Benefits and Risks of Solar Powered Irrigation - a global overview
Energy and Civilization
Artificial Intelligence and Renewables Towards an Energy Transition
Advances in Smart Communication and Imaging Systems
Smart Farming Technologies for Sustainable Agricultural Development
Alternative Energy Systems in Building Design (GreenSource Books)
Energy-Efficient Wireless Sensor Networks
Coping with Water Scarcity
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Artificial Intelligence and Renewables Towards an Energy Transition
Advances in Solar Energy Technology
Technology in Agriculture
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New Contributions in Information Systems and Technologies
Agricultural Internet of Things and Decision Support for Precision Smart Farming
The Internet of Energy
Advances in Electrical Control and Signal Systems
2021 7th International Conference on Advanced Computing and Communication Systems (ICACCS)
Smart Agritech
Handbook on Pressurized Irrigation Techniques
ICCCE 2020

Renewable energy for agri-food systems: Towards the Sustainable Development Goals and the Paris Agreement
Dryland Agriculture in India

*Solar Powered Automatic Irrigation
Control System*

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RAYMOND GILL

Advances in Greener Energy Technologies Springer Nature
This book features selected papers presented at the Fifth International Conference on Nanoelectronics, Circuits and Communication Systems (NCCS 2019). It covers a range of topics, including nanoelectronic devices, microelectronics devices, material science, machine learning, Internet of things, cloud computing, computing systems, wireless communication systems, advances in communication 5G and beyond. Further, it discusses VLSI circuits and systems, MEMS, IC design and testing, electronic system design and manufacturing, speech signal processing, digital signal processing, FPGA-based wireless communication systems and FPGA-based system design, Industry 4.0, e-farming, semiconductor memories, and IC fault detection and correction.
Smart Structures in Energy Infrastructure Springer
In the era of Industry 4.0, the world is increasingly becoming smarter as everything from mobile phones to cars to TVs connects with unique addresses and communication mechanisms. However, in order to enable the smart world to be sustainable, ICT must embark into energy efficient paradigms. Green ICT is a moving factor contributing towards energy efficiency by reducing energy utilization through software or hardware procedures. Role of IoT in Green Energy Systems presents updated research trends in green technology and the latest product and application developments towards green energy. Covering topics that include energy conservation and harvesting, renewable energy, and green and underwater internet of things, this essential reference book creates further awareness of smart energy and critically examines the contributions of ICT towards green technologies. IT specialists, researchers, academicians, and students in the area of energy harvesting and energy management, and/or those working towards green energy technologies, wireless sensor networks, and smart applications will find this monograph beneficial in their studies.
Nanoelectronics, Circuits and Communication Systems BoD -

Books on Demand

In 2021, the United Nations Secretary-General will convene the Food Systems Summit to advance dialogue and action towards transforming the way the world produces, consumes and thinks about food guided by the overarching vision of a fairer, more sustainable world. The Secretary-General will also convene the High-Level Dialogue on Energy (HLDE) to promote the implementation of the energy-related goals and targets of the 2030 Agenda for Sustainable Development. Given the inextricable linkages between the energy and agriculture sectors, integrating the nexus perspective within the FSS and the HLDE is crucial to formulate a joint vision of actions to advance the 2030 Agenda for Sustainable Development and the Paris Agreement. In this context, IRENA and FAO have decided to jointly develop a report on the role of renewable energy used in food chain to advance energy and food security as well as climate action towards the achievement of Sustainable Development Goals and the Paris Agreement. While energy has a key enabling role in food system transformation and innovation in agriculture, its current use is unsustainable because of the high dependence on fossil fuels and frequent access to energy in developing countries. The challenge is to disconnect fossil fuel use from food system transformation without hampering food security. The use of renewable energy in food systems offers vast opportunities to address this challenge and help food systems meet their energy needs while advancing rural development while contributing to rural development and climate action.

Wireless Sensor Networks Penguin

This book presents recent findings on virtually every aspect of wireless IoT and analytics for agriculture. It discusses IoT-based monitoring systems for analyzing the crop environment, and methods for improving the efficiency of decision-making based on the analysis of harvest statistics. In turn, it addresses the latest innovations, trends, and concerns, as well as practical challenges encountered and solutions adopted in the fields of IoT and analytics for agriculture. In closing, it explores a range of applications, including: intelligent field monitoring, intelligent data processing and sensor technologies, predictive analysis systems,

crop monitoring, and weather data-enabled analysis in IoT agro-systems.

The Benefits and Risks of Solar Powered Irrigation - a global overview Springer

The management of irrigation systems is context-dependent, socially constructed, and technically uncertain. An example of complex social-ecological systems, irrigation deals with both the ecosystem uncertainty and the implementation of new technological systems and water management options. Issues to be addressed by irrigation systems at the global scale include: water productivity and food security, field operation and maintenance, spate irrigation in climate change scenarios, and vulnerability of environmental resources. This book provides examples of some of the current challenges faced by irrigation systems from technical and social perspectives. The book offers an easy-to-follow format focused on different case studies combining evidence-based solutions for increasing resilience and reducing vulnerability of irrigation systems in semi-arid and arid regions across the world.

Energy and Civilization Int. Rice Res. Inst.

Increasing the efficiency of water use and enhancing agricultural water productivity at all levels of the production chains are becoming priorities in a growing number of countries. In particular, shifting to modern on-farm irrigation practices can contribute to a substantial increase in both water use efficiency and water productivity. The objective of this handbook is to provide a practical guide on the use of pressurized irrigation techniques to farmers, irrigation technicians, and extension workers in the field. In this second edition, the handbook has been considerably revised, including new chapters on low-cost drip irrigation and pipe distribution systems for smallholders.--
Publisher's description.

Artificial Intelligence and Renewables Towards an Energy Transition Springer Nature

Food security is one of the primary themes of the United Nations' Sustainable Development Goals. In this regard, agricultural engineering is considered the backbone of agriculture, and agricultural mechanization is considered a helpful way to enhance

crop yield and farmers' profitability. Technology in Agriculture presents research in the field of agricultural engineering technologies and applications in agricultural equipment engineering, biosystem engineering, energy systems engineering, and computers in agriculture. It provides an overview of recent advancements in agricultural engineering and examines key aspects of emerging technologies and their applications. In addition, the book explores modern methodologies such as artificial intelligence and machine learning for agricultural mechanization.

Advances in Smart Communication and Imaging Systems Infobase Publishing

This book presents ongoing research activities of currently available renewable energy technologies and the approaches towards clean technology for enabling a socio-economic model for the present and future generations to live in a clean and healthy environment. The book provides chapter wise implementation of research works in the area of green energy technologies with proper methods used with solution strategies and energy efficiency approaches by combining theory and practical applications. Readers are introduced to practical problems of green computation and hybrid resources optimization with solution based approaches from the current research outcomes. The book will be of use to researchers, professionals, and policy-makers alike.

Smart Farming Technologies for Sustainable Agricultural Development Springer Nature

Contributed papers of a seminar.

Alternative Energy Systems in Building Design (GreenSource Books) McGraw Hill Professional

• New York Times bestseller • The 100 most substantive solutions to reverse global warming, based on meticulous research by leading scientists and policymakers around the world "At this point in time, the Drawdown book is exactly what is needed; a credible, conservative solution-by-solution narrative that we can do it. Reading it is an effective inoculation against the widespread perception of doom that humanity cannot and will not solve the climate crisis. Reported by-effects include increased determination and a sense of grounded hope." —Per Espen Stoknes, Author, *What We Think About When We Try Not To Think About Global Warming* "There's been no real way for ordinary

people to get an understanding of what they can do and what impact it can have. There remains no single, comprehensive, reliable compendium of carbon-reduction solutions across sectors. At least until now. . . . The public is hungry for this kind of practical wisdom." —David Roberts, Vox "This is the ideal environmental sciences textbook—only it is too interesting and inspiring to be called a textbook." —Peter Kareiva, Director of the Institute of the Environment and Sustainability, UCLA In the face of widespread fear and apathy, an international coalition of researchers, professionals, and scientists have come together to offer a set of realistic and bold solutions to climate change. One hundred techniques and practices are described here—some are well known; some you may have never heard of. They range from clean energy to educating girls in lower-income countries to land use practices that pull carbon out of the air. The solutions exist, are economically viable, and communities throughout the world are currently enacting them with skill and determination. If deployed collectively on a global scale over the next thirty years, they represent a credible path forward, not just to slow the earth's warming but to reach drawdown, that point in time when greenhouse gases in the atmosphere peak and begin to decline. These measures promise cascading benefits to human health, security, prosperity, and well-being—giving us every reason to see this planetary crisis as an opportunity to create a just and livable world.

Energy-Efficient Wireless Sensor Networks BoD - Books on Demand

One of the main problems confronting the world of the 21st Century is a shortage of water. There is already severe scarcity in many regions of the world, causing tremendous problems for local populations and indeed entire societies. There is insufficient water available for the production of food to alleviate poverty and starvation; the lack of water hampers industrial, urban and tourism development, forcing restrictions on other sectors, especially agriculture; health problems arise as the deterioration of ground and surface waters favours water-borne diseases, which flourish in the absence of decent water distribution and sewerage systems. Water conflicts still arise in areas under stress, while water for nature has become a vanishing priority in such zones. This book is a guide to the establishment of regional and/or local guidelines for developing and implementing new ideas for coping

with water scarcity. The basic premise underlying the book is that water scarcity will persist, so personal, human and society-wide skills will be needed to cope with it while living in harmony with the necessary environmental constraints. The book provides basic information to assist decision makers, water managers, engineers, agronomists, social scientists and other professions (and their students) in formulating coherent, hopefully harmonious and consolidated views on the issue. Guidelines are also given for introducing the general public to the concept of water scarcity and how to deal with it.

Coping with Water Scarcity Springer

This textbook focuses specifically on the combined topics of irrigation and drainage engineering. It emphasizes both basic concepts and practical applications of the latest technologies available. The design of irrigation, pumping, and drainage systems using Excel and Visual Basic for Applications programs are explained for both graduate and undergraduate students and practicing engineers. The book emphasizes environmental protection, economics, and engineering design processes. It includes detailed chapters on irrigation economics, soils, reference evapotranspiration, crop evapotranspiration, pipe flow, pumps, open-channel flow, groundwater, center pivots, turf and landscape, drip, orchards, wheel lines, hand lines, surfaces, greenhouse hydroponics, soil water movement, drainage systems design, drainage and wetlands contaminant fate and transport. It contains summaries, homework problems, and color photos. The book draws from the fields of fluid mechanics, soil physics, hydrology, soil chemistry, economics, and plant sciences to present a broad interdisciplinary view of the fundamental concepts in irrigation and drainage systems design.

Plant, Soil and Microbes Springer Nature

This volume is the third in the series of the book entitled, 'Advances in Solar Energy Technology'. The purpose of writing this multiple volume book is to provide all the relevant latest information in the field of Solar Energy (Applied as well as theoretical) to serve as the best source material at one place. Attempts are made to discuss topics in depth to assist both the students (undergraduate, post-graduate, Research Scholars) and the professionals (consulting, design, contracting firms). The third volume discusses the heating, agricultural and photovoltaic applications of Solar Energy. Chapter 1 deals with solar cookers,

one of the important application area for developing countries. After discussing the history of solar cookers, eight types of direct solar cookers, two types of box solar cookers and two types of advanced solar cookers are discussed in detail. The performance studies carried out on direct type and on box type solar cookers are also presented. A test procedure for rating a box type solar cooker is also introduced. The limitations and advantages of various cookers are discussed briefly in the chapter. Desalinated water for drinking purposes, for industrial and agricultural applications is required. The topic of Solar Distillation is discussed in detail in chapter two. Solar Distillation has a long history and in this chapter various kind of solar stills like conventional solar still, tilted tray solar still, wick type solar still, multiple effect diffusion solar still, multistage flash distillation, etc.

Water Management in Irrigated Rice Microdigitaled

This book explores both the state-of-the-art and the latest developments in wireless sensor networks technology. It describes the fundamental concepts and practical aspects of wireless sensor networks and addresses challenges faced in their design, analysis and deployment. It is believed that the book will serve as a comprehensive reference for graduate and undergraduate senior students who seek to learn the latest developments in wireless sensor networks.

IoT and Analytics for Agriculture Springer

This book is a collection of research papers and articles presented at the 3rd International Conference on Communications and Cyber-Physical Engineering (ICCCE 2020), held on 1-2 February 2020 at CMR Engineering College, Hyderabad, Telangana, India. Discussing the latest developments in voice and data communication engineering, cyber-physical systems, network science, communication software, image and multimedia processing research and applications, as well as communication technologies and other related technologies, it includes contributions from both academia and industry. This book is a valuable resource for scientists, research scholars and PG students working to formulate their research ideas and find the future directions in these areas. Further, it may serve as a reference work to understand the latest engineering and technologies used by practicing engineers in the field of communication engineering.

Role of IoT in Green Energy Systems MIT Press

A comprehensive training resource for producing electric power from the sun.

Solar powered irrigation systems IGI Global

Design High-Performance Alternative Energy Systems for Buildings A comprehensive reference for architects and engineers, this GreenSource book provides practical design and installation guidelines for some of the most commercially viable alternative energy technologies. Construction materials, system deployment, typical installations, and environmental impact are covered. *Alternative Energy Systems in Building Design* includes information on LEED design, energy conservation, and solar power financing and return on investment. Power purchase agreements (PPAs) and national and international carbon cap and trade are also discussed. Valuable appendices contain detailed design data tables and certified equipment listings. *Alternative Energy Systems in Building Design* covers: Solar power system physics and technologies California solar initiative program Energy conservation Passive heating solar technologies Fuel cell technology Wind energy technologies Ocean energy technologies Hydroelectric and micro-hydro turbine power Geothermal energy Biofuel, biogas, and thermal depolymerization technologies Fission- and fusion-type nuclear power Air pollution abatement The Role of Exergy in Energy and the Environment Springer

Agriculture has always been a vital sector of the global economy, providing food and raw materials for industries and households. However, with the growing population, changing climate conditions, and limited resources, the agriculture sector is facing numerous challenges. To address these challenges, farmers and agricultural companies are turning to advanced technologies such as Robotics, Artificial Intelligence (AI), and the Internet of Things (IoT). This exciting new volume provides a comprehensive overview of the latest technological advances in agriculture, focusing on the use of these three cutting-edge technologies. The book will explore the potential benefits of these technologies in improving agricultural efficiency, productivity, and sustainability. Whether for the veteran engineer, scientist in the lab, student, or faculty, this groundbreaking new volume is a valuable resource for researchers and other industry professionals interested in the intersection of technology and agriculture.

Photovoltaics Springer Nature

Solar power for pumping groundwater has a vast potential for

improving the sustainability of water supply schemes. However experience also shows that a lack of knowledge, capacity and expertise to design and implement such schemes is holding back their adoption. This book bridges this gap to equip engineers and technicians with the requisite knowledge for design, implementation and operation of sustainable solar powered water schemes. *Solar Pumping for Water Supply* is a state of the art review of solar water pumping technology combined with practical insights, lessons and best practices drawn from experience. It takes the reader step by step through the different phases that comprise a solar water pumping project, namely: assessment, design, purchase of equipment, installation, operation and management. The book also covers the economics of using solar pumping technology, especially when compared to diesel generators and hand pumps. Finally, the social aspects are included, specifically relating to the operation and management of solar pumping systems and the role that beneficiaries, implementers, government and the private sector might play to ensure long-lasting water supply. The book provides links and references to tools, documents and videos to accompany the content of the different chapters. Essential reading for solar technical practitioners at NGOs, UN agencies, government offices and private sector, including Global and Regional Technical advisors and Field engineers wanting to understand and know how to design water systems using solar power. A basic knowledge in the field of water supply is assumed, but no previous knowledge of solar photovoltaic technology is required. Alberto Ibáñez Llario is a Global Solar and Water Advisor with the International Organization for Migration and has 15 years of experience in water systems and solar PV in various locations around the world. Asenath Kiprono is a solar water pumping expert with 12 years' experience in design and implementation of pumping systems in rural Africa, including solar pumping systems in the private, public and humanitarian sectors.

Solar Pumping for Water Supply Academic Press

This book presents select proceedings of the International Conference on Advances in Electrical Control and Signal Systems (AECSS) 2019. The focus is on the current developments in control and signal systems in electrical engineering, and covers various topics such as power systems, energy systems, micro grid, smart grid, networks, fuzzy systems and their control. The

book also discusses various properties and performance of signal systems and their applications in different fields. The contents of

this book can be useful for students, researchers as well as

professionals working in power and energy systems, and other related fields.

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