

The Role of International Journal of Energy and Power Systems (IJEPS)

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Abstract: The role and purpose of this new International Journal of Energy and Power Systems are elucidated.

1. Introduction

As a researcher, scientist and passionate educator, I have long been involved in the dissemination of knowledge through various forms, such as teaching, conference and especially publications. After 20 years of service, I believe it is now time for me to fulfil a lifelong dream of starting my own journal publication, so that I can offer an alternative platform where knowledge transactions are free. It is my hope that this journal will grow in its influence and research impact during my many years of active tenure to come, as well as, long after I have retired. Should this be possible, my service to the research community will never stop and I will still be indirectly contributing to this community that I have grown to love.

With the work of a team of dedicated editors and carefully chosen external reviewers, I strive to set up *IJEPS* as an excellent and advanced forum for related science, technology and policy studies, which is an Open Access journal where articles are free to be downloaded and shared without financial obligations. The editorial team of this journal is interested in issues of energy and power systems and is always looking for innovations of within these fields to solve world most pressing problems, which at this time of writing, is the risk of global warming that has posed a serious threat to lifeforms on earth and our way of living.

Following the above, the *IJEPS* is an international journal that publishes cutting-edge research and technology in the area of electrical power and energy systems. The journal aims to inspire interdisciplinary research among academia and industry for the betterment of future society. The following is a list of topics, although not exhaustive, that fall within the purview of this journal:

1. Power systems
 - a. Traditional power systems
 - i. Power system metering
 - ii. Power system protection
 - iii. Power quality
 - iv. Stability analysis and controls (dynamic performance)
 - v. Power system operational planning and economics
 - vi. Energy conversion
 - vii. Electrical machines
 - b. Modern substations
 - i. Instrumentation and sensor technology
 - ii. Primary and secondary plant
 - iii. Automation and control
 - iv. Electromagnetism

- c. AC and DC grids
 - i. Flexible AC transmission systems (FACTS)
 - ii. High voltage DC transmission and low voltage DC distribution networks
 - iii. Mixed AC-DC transmission networks
 - iv. Traction distribution systems for railways
 - v. AC microgrids and DC microgrids
- d. Green technologies
 - i. Renewable energy systems (i.e., solar, wind, biomass, hydro)
 - ii. Carbon capture technologies (clean fossil fuel)
 - iii. Grid integrations of renewable and clean energy
 - iv. Energy storage systems
 - v. Interaction of electricity with other sectors (i.e., heat, water, gas)
- e. Smart grids
 - i. Wide area monitoring, protection and control (WAMPAC), i.e., PMUs, communication infrastructure, management, analysis, extraction and processing of big data, and cyber security.
 - ii. Home area network (HAN)/home energy management systems (HEMS)
 - iii. AMI metering system
 - iv. System integrity protection schemes (SIPS)
 - v. Modern energy management systems (EMS) and distribution management systems (DMS)
 - vi. Real-time security assessment, situational awareness, prevention of power system blackouts and power system restoration
 - vii. Secure, reliable, self-healing and resilient power systems
 - viii. New solutions of ancillary services in power systems
- f. Power system transients and testing
 - i. Transient processes of power systems and power electronics; electro-magnetic transients (EMT); electro-mechanical transients
 - ii. Off-line and real-time simulation of transient processes, hybrid simulation of large scale systems, co-simulation with information and communication technology (ICT)
 - iii. Complex protection and control schemes, including ICT and hardware testing
 - iv. Harmonics and power quality
- g. Smart distributed and autonomous energy systems
 - i. Micro- and nano-grids, autonomous and islanded remote networks
 - ii. Smart buildings, district and cities
 - iii. Consumer-side and prosumer resource systems
 - iv. Smart demand response
 - v. Smart distribution networks, active network management and advanced monitoring, and control and automation schemes

- vi. Power distribution systems in ships and aircraft
- vii. Electric vehicles and charging networks
- viii. Distributed energy storage systems and energy resources
- ix. Aeronautical and aerospace energy systems
- h. Information and communication infrastructure for future power systems
 - i. Communication technology and protocol
 - ii. Cybersecurity
 - iii. Cyberphysical systems
 - iv. AMI metering system
- 2. Energy research
 - a. Energy sources and energy carriers
 - i. Fossil fuel (i.e., coal, gas, nuclear, oil)
 - ii. Renewable (i.e., geothermal, hydraulic, ocean, solar thermal, solar photovoltaic, solar, wind, biomass, and biofuels)
 - iii. Hydrogen
 - iv. LNG
 - v. Microwave energy conversion
 - b. Energy conversion
 - i. Combustion (conventional and advanced)
 - ii. Thermal engines
 - iii. Boilers
 - iv. Heat exchangers
 - v. Electric-, hybrid-, hydrogen-, and alternative-energy vehicles
 - vi. Energy cascading
 - c. Energy policy
 - i. Energy efficiency
 - ii. Energy usage management and conversion
 - iii. Environmental impacts
 - iv. Sustainable energy policy
 - d. Exergy and energy economics

With the above topics, we shall capture and publish all knowledge of energy and applied energy from good research work worldwide. The editorial team hopes that the above topics can achieve this goal and we hope that you will enjoy publishing in IJEPS!