

11th International Conference on Energy and Power Systems Operation and Planning (ICEPSOP)

Transcorp Hilton Hotel, Abuja, Nigeria
December 16 - 19, 2019



SECOND CALL FOR PAPERS

CONFERENCE OBJECTIVE

The 2019 International Conference on Energy and Power Systems Operation and Planning (ICEPSOP), organized by Howard University includes a workshop on engaging key industry players and U.S. researchers in addressing sustainable power system development needs and challenges in energy systems adaption to microgrids to combat long term, uncontrolled global emission impacts on the environment. New energy technologies such as mini hydro, solar, biomass, wind energy and methods of analysis and integration into transmission and distribution networks are of current research interest worldwide. More significantly, the prevalence of weak grids in Africa and harsh environmental challenges and microgrid technologies will provide vital test bed for understanding the nature of the problems confronted by engineers and researchers in the U.S.-Africa collaborative workshop.

This 11th International Conference, in line with its predecessors, continues to promote planning and operations of complex power and energy systems in the competitive environment to meet these added objectives. Ideas and innovations in science, engineering, and research innovations will lead to U.S. and Africa to address the grand challenges in sustainable and reliable energy systems.

SCOPE: Topics to be covered include, but are not limited to:

I. Photovoltaic Energy, Wind Energy, Hydro Power, Biomass Energy Resources and Energy Storage Systems:

Topics to be covered in this session will include but not limited to discussions on state of the art in small- to large-scale applications of Renewable Energy Resources (RERs) (such as photovoltaic and wind energy), Hydro Power and its impact on the environment and ecosystems; Biomass utilization for remote power; and renewable energy resources. Issues regarding waste disposal and management can be implemented with the use of these wastes as sources of fuel for the biomass. Revolutionary materials and innovations in Science and Technology; Impact on the environment; Smart Grid development. Economic and social benefits will be discussed.

II. Scalable Microgrids for Increasing System Reliability, Security, and Resiliency in the Smart Grid Era

Advances in smart grid technology have yet to coalesce into a comprehensive solution integrating the landscape of future power systems. In this session, the vision for the future energy system to develop, demonstrate, and operate highly integrated, flexible, scalable, and efficient systems that provide integration of clean energy sources while maintaining reliability and resiliency will be discussed. Specifically, the microgrid concept which can offer energy solutions to a wide range of end users, ranging from secure military installations to urban and rural communities in Africa with sample demonstration projects will be presented.

III. Integration of Distributed and Renewable Energy Sources and Grid Operations

The topic will focus on requirements and control techniques associated with the effective integration of distributed energy resources (DERs) into grid operations. Topics to be covered in this session will include but not limited to transmission interconnections, dynamic optimization, and expansion options towards the development of microgrid; Stable and reliable penetration of large-scale RER; Safety and standards; Interconnectivity; Power Electronics; Economics and the environment; Congestion and loss issues; Cost benefit and technology challenges.

IV. Technology for Microgrid and Smart grid

The discussion topic will focus on sharing insights and lessons learned regarding how smart grid projects were organized and deployed, as well as on providing recommendations on best approaches for designing and implementing them. Smart grid projects involve myriad set of skills and capabilities that often require the involvement of personnel across the internal company organizational structure of a utility, as well as experts external to the organization.

V. Regulatory Issues in Microgrid and Smart grid

From communication with customers and regulatory bodies to optimal integration of renewables, utilities face demands to be more transparent, more available and more personal than ever

before. Customers want an improvement in electric reliability and protection from unreasonable rate increases. Meanwhile, utilities must invest in infrastructure to meet growing needs for electricity to power data centers and projected waves of electric vehicles.

VI. Cyber Physical Systems

Cyber physical systems are large complex physical systems (CPS) that interact with a considerable number of distributed computing elements for monitoring and management. The discussion topics on this area focus on the need of CPS in Africa power network. The key challenges of CPC such as: 1) management of information, protocol and standard for interconnectivity of microgrid system. 2) development of different automation functions to enable the performance of microgrid in different systems. 3) distributed, reliable and efficient management of CPS 4) engineering support for design and operation of CPS 5) cognitive cyber physical system of systems will also be addressed.

SPECIAL ONE TO ONE AND A HALF DAYS SESSIONS WILL ADDRESS LOCAL/AFRICAN NEEDS SUCH AS:

VII. Reduction in Losses in Distribution Networks in Emerging Economies

The radial network is unreliable and contributes to a high number of system collapses. The distribution grid also suffers from high technical and non-technical losses, lack of skilled distribution sub-station operators (manpower), electricity theft, vandalization of distribution equipment, a poor maintenance regime aggravated by lack of a centralized and automatized control system, inadequate funding, distribution/transmission interface issues, inefficient revenue collection, etc. Average electricity consumption per inhabitant is only 150 kWh per capita, one of the lowest in the world.

VIII. Customer Centred Service Improvement in Electricity Industry in Emerging Economies

Grid edge technologies offer the potential for an exciting transformation of the electricity industry, one that creates more choice for customers, greater efficiency, more efficient service delivery, and better economics for stakeholders across the value chain. By following the recommendations in this session, policy-makers, regulators and private enterprise can work together to secure the positive changes they offer to electricity customers.

IX. Electricity Power Collaborations for Sustainable Development

Detailed considerations of each step in the energy chains seem very important and necessary to outcomes of sustainable development. This topic will thoroughly enhance the opportunities abound in the sector. The collaboration of public and private sectors would further develop and enhance opportunities for the teeming population. Determination of appropriate steps and consideration of factors necessary for a geometric growth would be seen as the way to grow sustainability in the power sector. The Speakers would further digest these factors, technologies, and investment opportunities

that will enhance a cleaner provision of power and its sustainability.

X. Interface Challenges in Electrical Networks

The main purpose of the Electricity Transmission, Distribution Interface and Expansion program is to assess the interface infrastructure in the NESI to establish the gaps that prevent the effective dispatch and distribution of the available generation capacity even when the effective load demand is much greater than the available generation capacity. The Speakers will identify similar challenges in other climes; make comparative analysis while proffering solutions to this impasse.

XI. Outsourcing Services and Operations in Electricity Industry

Electrical networks business is traditionally publicly owned and outsourcing in the field is a fairly new phenomenon with a very limited number of examples and cases addressing it. This session assesses the drivers, benefits and risks of outsourcing from the interactions of a publicly owned network company and a privately-owned service provider company. Both the expected and benefits will be discussed in outsourcing a publicly owned company to a private sector service provider vis-z-vis feared risk. This session provides insight according to which outsourcing in an industry based on old monopolies can be used to solve internal problems, moving risks and raise the value of the company. It is also expected that discussions will show how the electricity industry, based on old monopolies, offers many opportunities and challenges for privately owned service companies.

This topic will help to enlighten the audience on the vast opportunities in the metering business and how the framework is designed to awaken the interest of investors in the Nigerian Electricity Supply Industry (NESI).

XII. Enforcements and Compliance: Regulatory Legal Frameworks and Implications in African Electricity Markets

The success of any regulatory body to a large extent is predicated on its ability to enhance the growth of the sector by inducing entities to comply with laid down rules developed through a participatory consultation process. This is to create and promote efficient industry and market to foster a culture of regulatory compliance. Enforcement of regulations is one of the tools in modern societies for inducing conduct. African regulatory market is mostly still in its infancy but the evaluation of regulatory governance substance and outcomes.

PAPER SUBMISSION

The maximum length is five pages, and extra pages will attract monetary charges of \$10.00 per extra page. Provide a cover letter with the title of the paper, complete mailing address, email address, contact telephone, and number of author(s). Include a statement in your cover letter confirming that if the paper is accepted, one or more author(s) will attend the conference for presentation. The manuscript is due by September 6, 2019.

The ICEPSOP Program Committee will review the paper(s) and notification of acceptance of the manuscript mailed by October 4, 2019. If minor corrections are to be made by the author(s), the final manuscript must be received by October 18,

2019. Please send papers prepared according to the Microsoft Word formatting manuscript instructions below to:

ICEPSOP 2019 PLANNING COMMITTEE

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CONFERENCE FEE AND ACCOMMODATION PLAN

U.S. \$200.00 (or equivalent) will be charged to all participants to cover conference charges. A local subcommittee will handle the local arrangements for all participants. For the U.S. participants, limited funding will be provided to help defer some of the conference expenses such as accommodation and travel. (Further details will be developed in the website).

COMMITTEE MEMBERS

Prof. Peter Bofah	(Coordinator/Chair, USA)
Prof. M. S. Haruna	(Local coordinator, Nigeria)
Prof. Karen Kaberere	(Kenya)
Prof. Trevor Gaunt	(S. Africa)
Prof. Joe Chow	(USA)
Prof. Kevin Tomsovic	(USA)
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ICEPSOP 2019 SECRETERIAT

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IMPORTANT DATES

Closing Date: September 6, 2019.
Acceptance Notice: October 4, 2019.
Revision Paper: October 18, 2019.

MANUSCRIPT INSTRUCTION PREPARATIONS

1. All papers, tutorials, etc should be submitted electronically in Microsoft word.doc.
2. Language: English
3. Length: 5 pages (US \$10.00 for each additional page).
4. Manuscript: Manuscripts should be typed in 10 pt. Times new roman font, on 8.5x11 inches or A4 size paper, leaving a 1 inch margin on each side and at the top of all but the first page. Spacing for the top of the first page should be 1.5 inches. Spacing at the bottom for 8.5x11 should be 1 inch and should be 1.25 for A4 paper. (Table 2 below summarizes the conversion to centimeters).
5. The title and author information are to be centered across the top of the first page and then two -column format is to be followed for the balance of the paper.

6. Manuscripts should be single spaced, with 1.5 line spacing between paragraphs.
7. The paper should include:
 - a. Title-14 words maximum length (14 pt. bold)
 - b. Name (s) of author (s) (12npt.) affiliation (s), mailing and email addresses (10 pt.)
 - c. Abstract (maximum of 300 words)
 - d. A maximum of six key words
 - e. A clearly written, previous work, purpose and paper contributions.
 - f. A conclusion indicating clearly advantages, limitations and possible applications.
8. Diagrams and photographs must be of high quality and legible without magnification.
9. Consistent with the order cited in the manuscript, references should be quoted in the text with a number in square brackets, (for e.g. [1]). Two forms of referencing are:
 - a. Papers: author, title, journal, volume number, issue number, and year, inclusive pages. For example:
[1] G.E. Moore, "Microprocessor and Integrated electronic Technology", IEEE Proc., vol. 64, June 1976, pp. 837-841.
 - b. Books: author, title, pages, publisher, locations and year. For example:
[2] M.Kayston and W.R. Fried, "Avionic Navigation Systems", John wiley and sons inc., New York, 1969.
10. Manuscripts should be camera ready for reproduction.

Table 1: Dimensions for the formatted manuscripts

Manuscript Sections for Papers	Dimensions	
	inches	cm
Side and bottom margins of 8.5''x11''		1.9
Top margins first page		3.8
Inter-column spacing		0.6
Bottom of A4 paper only		3.2

