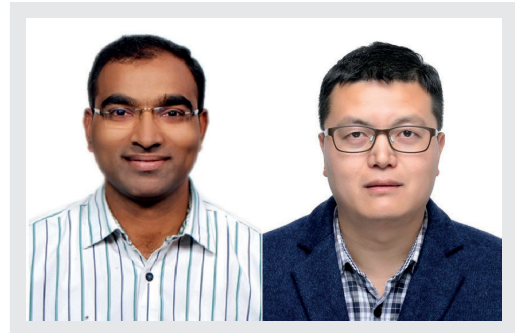


Foreword about Associate Professor Surender Reddy Salkuti from the Department of Railroad and Electrical Engineering, Woosong University, Daejeon, Republic of Korea and Professor Cheng Li from the Department of Vehicle Engineering, Soochow University, Suzhou, China:

Surender Reddy Salkuti is working with Woosong University, South Korea as an Associate Professor in the Department of Railroad and Electrical Engineering since April 2014. He received the Ph.D. degree in Electrical Engineering from the Indian Institute of Technology Delhi (IITD), India, in 2013. He was a Postdoctoral Researcher at Howard University, Washington, DC, USA, from 2013 to 2014. His research interests include power system restructuring issues, smart grid development with the integration of wind and solar photovoltaic energy sources, battery storage and electric vehicles, demand response, power system analysis and optimization, soft computing techniques application in power systems and renewable energy. He has published one edited volume with Springer Lecture Notes in Electrical Engineering (LNEE) and more than 200 research articles in peer-reviewed international journals and conference proceedings. He has served as or is serving as Guest Editor for various international journals. He is also an editorial board member for many journals. He is the recipient of the 2016 Distinguished Researcher Award from Woosong University Educational Foundation, South Korea, and Power System Operation Corporation Limited (POSO) Power System Award (PPSA) 2013, India. He is a member of Institute of Electrical and Electronics Engineers (IEEE) and IEEE Power and Energy Society.



Surender Reddy
Salkuti

Cheng Li

Cheng Li received the Ph.D. degree in mechanical engineering from City University of Hong Kong, Hong Kong, China, in 2011. He was a visiting scholar at Woosong University, Daejeon, Republic of Korea, from 2016 to 2017, and at the Hong Kong Polytechnic University, Hong Kong, China, from 2017 to 2018. He is currently working as a Professor in the Department of Vehicle Engineering, Soochow University, Suzhou, China. His current research interests include smart materials and structures, vehicle dynamics and control, electrical engineering and automation, and micro/nano-mechanics, including self-driving vehicles and its technology, wheel rail coupling dynamics, nano-robot mechanics with self-power supply, nonlinear vibration and control of moving structures, etc. He received the research supports by the National Natural Science Foundation of China in 2012 and 2019 respectively, and he also received Jiangxi Natural Science Award in 2021 in China.

Dear readers and authors,

This special theme issue focused on the recent developments in the Electrical Engineering-related topics, mainly on the smart grid. The purpose of publishing this issue is to present a collection of original papers that gives an overview of the current progress in research, development, and applications in the field of smart grid. The electric grid is deliberated to be a technological prodigy in handling so many generating units, high megawatts of generating capacity and several miles of transmission lines. A grid would be more efficient when more resiliency is added into the existing electrical network and made ready for diffident unavoidable tragedies and natural calamities. Therefore, if some extra powerful features are supplemented to the existing grid then it becomes a smart grid. The extra powerful features can be advanced power and control techniques application in grid operation. This will make the existing grid network more efficient, faster in power transmission and self-repair after power disturbances, inexpensive, improved securityetcThrough smart grid, the power system becomes smart by communicating, sensing, control and applying intelligence. For ideal system, the smart grid technologies are more compatible to permit many functions which can optimize with the combination of the use of bulk generation and transmission.

The Advances in Electronic and Electric Engineering (AEEE) is a high-quality journal that publishes the research in areas of Electrical and Electronic Engineering with a strong policy, editorial team and review process. AEEE is indexed in major databases such as WOS (Web of Science), SCOPUS and SJR (SCImago Journal Rank), etc.

Kumar, Sandhu and Sharma proposed a novel control strategy to improve the power quality injection of wind energy system using Doubly Fed Induction Generator (DFIG) into the grid by implementing artificial neural network.

Venugopal, Asok, Arya proposed a hierarchical active power differential signal-based generalized backup protection algorithm using Wide Area Measurement System (WAMS) data for Flexible AC Transmission System (FACTS)-compensated transmission networks.

Harish, Asok, Vasudevan proposes an ensemble feature extraction method for developing intelligent data-driven models for transmission line fault detection and classification.

Nguyen proposed a new approach based on Artificial Ecosystem Optimization (AEO) for the Distributed Generation Placement (DGP) and combination of DGP and network REConfiguration (DGP-REC) problems to reduce power loss of the DS to satisfy the technical constraints including power balance, radial topology, voltage and current bounds, and DG capacity limit.

Veeramsetty, Vaishnavi, Kumar, Kiran, Sumanth, Prasanna, Salkuti developed a machine learning model such as linear regression model is used to forecast the active power load one hour and one day ahead. Real time active power load data to train and test the machine learning model is collected from a 33/11 kV substation located in Telangana State, India.

Veeramsetty, Jadhav, Ramesh, Srinivasula, Salkuti, in this paper, a decision tree classifier based machine learning model is used for the first time for Zero-Crossing Point (ZCP) detection in a wide range of distorted signals by considering noise levels from 10% to 60%, and THD level from 10% to 60%.

Mezaache, Benaoud, Sekhane, Chaouch, Babes, in this paper, Particle Swarm Optimization (PSO) and PSO with a Disturbance Term (PSO-DT) methods are employed to properly resolve this issue. Obtained results from simulation clearly demonstrate that a chosen method PSO-DT yields better quality of the optimal global or near-global solutions compared to other standard PSO results.

Vutla, Chintham, Malleshm analysed a multi-objective approach for optimal planning of Rapid Charging Station (RCS) and Distributed Generators (DG) in a distributed system coupled with a transportation network. The proposed optimal planning method aims to achieve reduced active power loss, Electric Vehicle (EV) user costs, and voltage deviation for effective RCS and DG planning.

Shaikh, Nadeem, Shaikh, Khokhar, in this paper, the work has been carried out on the optimal size and placement of capacitor banks at proper locations for IEEE 33 and 69 radial distribution systems.

Patnaik, Nayak, Viswavandya examines the unbalanced power flow operation during dynamic load intervals in distribution systems for controlling storage and wind production. A novel Red Fox Optimisation (RFO) method is used to effectively solve highly nonlinear power system problems.

Guerraiche, Midouni, Sahraoui, Dekhici, in this paper, a new algorithm, Equilibrium Optimizer (EO), which is based on the physical equation of the mass balance, is implemented in the problem of the Optimal Coordination of Directional Overcurrent Relays (DOCRs).

Kumar, Namrata, Kumar, in this paper, a hyper parametric tuning of the eXtreme Gradient Boosting (XGB) machine learning model has been carried out using two meta heuristic algorithms: Moth Flame Optimization (MFO) and Grey Wolf Optimization (GWO).

Garika, Kottala, in this paper, a physical monitoring with the aid of the Internet-of-Things and electrical parameters calibrated with the help of wavelet analysis has been carried out. Authors proposed approach furnishes an Internet of Things (IoT) supervised Photovoltaic - High Voltage Direct Current (HVDC) combined wide area power network security scheme using wavelet detailed coefficients under various types of faults with Fault-Inception-Angles.

Finally, we would like to take this opportunity to thank the Editorial team of Advances in Electrical and Electronic Engineering (AEEE) for their great work.