

## Editorial

The Special Issue on *Advanced Electrical and Communication Technologies (2019)* in the *Advances in Science, Technology and Engineering Systems Journal (ASTES Journal)* presents a focused and forward-looking collection of research that highlights the rapid progress and expanding scope of electrical and communication engineering. The year 2019 marked a significant phase in the evolution of these fields, characterized by the convergence of high-speed communication systems, intelligent electrical networks, and emerging digital technologies. This special issue brings together contributions that address both foundational developments and cutting-edge applications, reflecting the critical role of electrical and communication technologies in enabling modern society.

A prominent theme across the contributions is the advancement of next-generation communication systems. The transition toward high-capacity, low-latency networks has driven research in areas such as wireless communication, signal processing, and network optimization. The studies included in this issue explore innovative techniques to enhance data transmission efficiency, improve spectrum utilization, and ensure reliable connectivity in increasingly complex communication environments. These developments are essential for supporting applications such as the Internet of Things (IoT), smart cities, and real-time data-driven services, where seamless and robust communication is a fundamental requirement.

Equally significant is the progress in electrical engineering systems, particularly in the areas of power generation, distribution, and management. The integration of renewable energy sources, the development of smart grids, and the implementation of advanced control strategies have transformed traditional power systems into more flexible and intelligent networks. Contributions in this issue examine novel approaches to energy optimization, grid stability, and fault detection, highlighting the importance of efficient and resilient electrical infrastructure in meeting growing energy demands.

The intersection of electrical and communication technologies is another key aspect emphasized in this special issue. The convergence of these domains has led to the emergence of cyber-physical systems, where electrical components are closely integrated with communication networks and computational intelligence. This integration enables real-time monitoring, control, and decision-making, significantly enhancing system performance and adaptability. The research presented demonstrates how such interconnected systems are being applied in areas such as industrial automation, smart healthcare, and intelligent transportation.

Innovation in embedded systems and hardware design also features prominently in the collected works. Advances in microelectronics, sensor technologies, and low-power devices have enabled the development of compact, efficient, and high-performance systems. These technologies form the backbone of modern communication and electrical applications, supporting a wide range of functionalities from data acquisition and processing to system control and automation. The studies included in this issue illustrate how hardware advancements are driving new possibilities in system design and implementation.

The editorial team extends its sincere appreciation to all authors, reviewers, and contributors whose dedication and expertise have made this special issue possible. Their collective efforts have ensured the dissemination of high-quality research that advances the frontiers of electrical and communication technologies. The works presented in this issue reflect the ongoing

transformation of these fields into more intelligent, interconnected, and efficient systems, providing valuable insights and a strong foundation for future innovations.

**Guest Editor**

**Dr. Mohssin Aoutoul**