Editorial

The Special Issue on *Innovative Research in Applied Science, Engineering and Technology (2020)* in the *Advances in Science, Technology and Engineering Systems Journal (ASTES Journal)* presents a diverse and forward-looking compilation of research that reflects the critical role of applied innovation in addressing contemporary scientific and engineering challenges. The year 2020 marked a period of intensified focus on translating theoretical knowledge into practical solutions, as global demands required rapid, efficient, and impactful technological responses. This special issue brings together contributions that exemplify the integration of applied science with engineering practices and technological development, highlighting the importance of innovation in real-world problem-solving.

A central theme of this issue is the application of scientific principles to develop engineering solutions that are both effective and scalable. The included studies demonstrate how advancements in applied sciences—ranging from physics and chemistry to computational and environmental sciences—are being utilized to enhance engineering processes and system performance. Through the use of experimental investigations, analytical modeling, and simulation-based approaches, researchers have developed solutions that address practical challenges in areas such as materials engineering, energy systems, and industrial processes.

The role of emerging technologies is also prominently emphasized throughout this collection. Advances in artificial intelligence, machine learning, and data analytics have significantly influenced the way applied research is conducted and implemented. These technologies enable more accurate predictions, optimized designs, and intelligent control systems, thereby improving efficiency and reliability across various applications. The contributions in this issue illustrate how digital tools and computational techniques are being leveraged to drive innovation in fields such as smart systems, automation, and advanced manufacturing.

Another important aspect highlighted in this special issue is the focus on sustainability and resource efficiency. As global concerns regarding environmental impact and resource depletion continue to grow, applied research has increasingly aimed to develop solutions that are environmentally responsible and economically viable. The studies presented explore innovative approaches to renewable energy integration, waste reduction, and sustainable material development, demonstrating how applied science and engineering can contribute to long-term environmental stewardship.

Interdisciplinary collaboration emerges as a key driver of innovation within this issue. The complexity of modern challenges necessitates the integration of knowledge from multiple disciplines, enabling researchers to develop more comprehensive and effective solutions. The works featured highlight how collaboration between scientists, engineers, and technologists leads to the creation of systems that are not only technically advanced but also adaptable to diverse applications and conditions.

The editorial team extends its sincere appreciation to all authors, reviewers, and contributors for their valuable efforts in making this special issue possible. Their dedication has ensured the publication of high-quality research that advances applied science, engineering, and technology. The collection presented in this issue reflects a continued emphasis on innovation, practicality, and interdisciplinary engagement, offering meaningful insights and a strong foundation for future advancements in applied research and technological development.

Guest Editor

Prof. Bachir Benhala