

Editorial

The Special Issue on Computing, Engineering and Multidisciplinary Sciences (2022–23) in the *Advances in Science, Technology and Engineering Systems Journal (ASTES Journal)* reflects the deepening integration of computational technologies with engineering practices and multidisciplinary research frameworks. As the complexity of modern scientific and societal challenges continues to grow, the convergence of diverse fields has become essential for generating innovative, scalable, and impactful solutions. This issue presents a collection of contributions that exemplify how computing and engineering, when combined with insights from multiple disciplines, can address emerging demands across technological and industrial landscapes.

A prominent theme throughout this issue is the pervasive role of advanced computing techniques in transforming engineering systems. Contributions explore the application of artificial intelligence, machine learning, data analytics, and intelligent control systems in optimizing performance, enhancing reliability, and enabling predictive decision-making. These approaches are applied across a wide spectrum of domains, including smart manufacturing, communication networks, energy systems, and automation. The research highlights how computational intelligence is not only augmenting engineering capabilities but also fostering new paradigms of system design and operation.

The multidisciplinary nature of this issue is further reflected in its engagement with sustainability, resilience, and innovation. Several papers focus on environmentally conscious engineering solutions, renewable energy integration, and efficient resource management, emphasizing the importance of sustainable development in contemporary research. Others address challenges in infrastructure, healthcare technologies, and digital ecosystems, demonstrating how cross-disciplinary collaboration can generate holistic solutions that are both technically robust and socially relevant.

Methodological diversity is a defining strength of this collection. The studies employ a combination of theoretical frameworks, simulation-based analyses, experimental investigations, and real-world case studies. This integrative approach ensures that the research maintains academic rigor while also offering practical applicability. Many contributions emphasize scalability and adaptability, providing models and systems that can be extended across different sectors and operational contexts.

The 2022–23 timeframe offers an important backdrop characterized by rapid digital acceleration and increasing emphasis on resilient and intelligent systems. As industries and societies continue to adapt to evolving global conditions, the role of computing and multidisciplinary engineering has become more critical than ever. The works presented in this issue reflect this transition, highlighting innovations that support connectivity, automation, sustainability, and informed decision-making.

The editorial team expresses its sincere gratitude to the authors for their high-quality contributions and to the reviewers for their careful and constructive evaluations. Their dedication has ensured the integrity and scholarly value of this special issue, reinforcing the journal's commitment to excellence in multidisciplinary research.

This special issue demonstrates the transformative potential of integrating computing, engineering, and multidisciplinary sciences. By fostering collaboration across diverse domains

and presenting forward-looking research, it contributes meaningfully to the advancement of knowledge and the development of innovative solutions for complex global challenges..

Guest Editor

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