EDITORIAL

Multidisciplinary research approach in advancement of science & technology

Pushparaj Pal*, Amod Kumar, Garima Saini

ECE Department, National Institute of Technical Teachers Training & Research, Chandigarh 160019, India

* Corresponding author: Pushparaj Pal, pushprajpal@gmail.com

ARTICLE INFO

Received: 16 June 2023 Accepted: 7 July 2023 Available online: 27 July 2023

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We are thrilled to present to you a remarkable special issue that delves into the "Multidisciplinary Research Approach in Advancement of Science & Technology." Within this collection of papers, we explore the captivating intersection of various disciplines, illuminating the transformative power of collaboration in driving progress in the realms of science and technology. The papers featured in this special issue encompass a wide array of captivating topics, each reflecting the synergistic potential of multidisciplinary research. Let us provide you with a glimpse into the fascinating areas covered within this compilation:

Emerging Technologies^[1]: we investigate the latest advancements in emerging technologies, including artificial intelligence, quantum computing, nanotechnology, robotics, and their potential applications across different scientific domains.

Data Science and Analytics^[2]: the integration of data science, machine learning, and analytics takes centre stage, exploring their role in scientific research, data-driven decision making, and predictive modelling.

Biotechnology and Life Sciences^[3]: we showcase interdisciplinary research at the nexus of biology, genetics, bioinformatics, and technology, with applications in healthcare, agriculture, and environmental sustainability.

Sustainable Science and Technology^[4]: highlighting research on sustainable practices, renewable energy sources, green technologies, and environmental conservation, addressing global challenges through scientific innovation.

Materials Science and Engineering^[5]: we delve into the investigation of novel materials, material synthesis techniques, and their diverse applications in scientific and technological fields.

Interdisciplinary Approaches in Physical Sciences^[6]: collaboration between physics, chemistry, and other scientific disciplines takes centre stage as we advance knowledge and uncover new phenomena.

Computational Modelling and Simulation^[7]: the utilization of computational methods, simulations, and modelling in scientific research is explored, spanning physics, chemistry, biology, and beyond.

Technology and Society^[8]: we examine the societal implications of technological advancements, including ethical considerations, policy implications, and the impact of technology on various aspects of society.

Interconnectivity of Scientific Disciplines^[9]: investigating the interconnectedness of scientific fields, we unveil how collaboration across disciplines can lead to breakthrough discoveries and innovations.

Science Communication and Outreach^[10]: Effective strategies for communicating scientific findings to the public, promoting scientific literacy, and engaging diverse audiences are showcased.

Each paper within this special issue embodies the passion, dedication, and expertise of researchers pushing the boundaries of their respective fields. We extend our deepest appreciation to the authors for their exceptional contributions and the reviewers for their invaluable insights, ensuring the highest quality of research presented here. We hope that this special issue will serve as a catalyst for further interdisciplinary exploration, inspiring researchers to embrace collaboration and the interplay between diverse perspectives. By doing so, we can forge new pathways towards scientific advancement, propelling the boundaries of science and technology^[11].

We invite you to immerse yourselves in the captivating contents of this special issue, embracing the ideas and insights within to ignite your own research endeavours.

Warm regards.

Conflict of interest

The authors declare no conflict of interest.

References

- 1. Adner R, Levinthal DA. The emergence of emerging technologies. *California Management Review* 2002; 45(1): 50–66. doi: 10.2307/41166153
- 2. Kumar A, Saini G. AI-based ECG signal monitoring system for arrhythmia detection using IoMT. In: *AI for Big Data-Based Engineering Applications from Security Perspectives*, 1st ed. CRC Press; 2023. pp. 85–106.
- 3. Alluhaidan AS, Pushparaj, Subbappa A, et al. An automatic threshold selection using ALO for healthcare duplicate record detection with reciprocal neuro-fuzzy inference system. *Computers, Materials & Continua* 2023; 74(3): 5821–5836.
- 4. Seif R, Salem FZ, Allam NK. E-waste recycled materials as efficient catalysts for renewable energy technologies and better environmental sustainability. *Environment, Development and Sustainability* 2023; 1–36. doi: 10.1007/s10668-023-02925-7
- 5. Yadav G, Ahmaruzzaman M. Recent progress on synthesis and modifications of ZnIn₂S₄ based novel hybrid materials for potential applications. *Materials Science and Engineering: B* 2023; 292: 116418. doi: 10.1016/j.mseb.2023.116418
- 6. Fears R, Canales C. The role of science, technology and innovation in transforming food systems globally. In: von Braun J, Afsana K, Fresco LO, et al. (editors). *Science and Innovations for Food Systems Transformation*. Springer; 2023. pp. 831–847.
- 7. Pandimani P. Computational modeling and simulations for predicting the nonlinear responses of reinforced concrete beams. *Multidiscipline Modeling in Materials and Structures* 2023; 19(4): 728–747. doi: 10.1108/MMMS-09-2022-0193
- 8. Malmio I. Ethics as an enabler and a constraint—Narratives on technology development and artificial intelligence in military affairs through the case of Project Maven. *Technology in Society* 2023; 72: 102193. doi: 10.1016/j.techsoc.2022.102193
- 9. Lapenok MV, Lozinskaya AM, Shestakova LG, et al. The methodology of development of electronic educational resources for learning of general scientific disciplines in non-native language. In: Uskov V, Howlett R, Jain L (editors). *Smart Education and e-Learning 2019*. Springer Singapore; 2019. pp. 127–137.

- 10. Clark G, Russell J, Enyeart P, et al. Science educational outreach programs that benefit students and scientists. *PLoS Biology* 2016; 14(2): e1002368. doi: 10.1371/journal.pbio.1002368
- 11. Hnydiuk-Stefan A. A multidisciplinary approach to engineering. *Multidisciplinary Journal of Engineering Sciences* 2023; 1: 1–2.