

# FOREWORD

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## **Bismillahir Rahmanir Rahim**

The Military Institute of Science and Technology (MIST) embarked on its remarkable journey on 19 April 1998 as the pioneering technical institute of the Bangladesh Armed Forces, with the vision of becoming a "Center of Excellence".

Since its inception, MIST has transcended its primary focus on technical education by actively contributing to the nation through exceptional engineering education for military and civil students. In its pursuit of academic and research excellence, MIST has proudly introduced the MIST International Journal of Science and Technology (MIJST), a peer-reviewed, open-access journal published bi-annually. MIJST provides a platform for disseminating original research addressing critical challenges in science and technology. As we strive to enhance the journal's impact and reach, efforts are underway to have MIJST indexed in prestigious databases like Scopus and Web of Science, marking a significant milestone in its journey toward global recognition.

With immense pleasure, we present the latest issue, Volume 12, December Edition 2024, which features pioneering research and innovative solutions at the forefront of scientific and technological advancements. The works presented in this edition reflect academic rigor and promise practical implications for advancing knowledge and innovation.

This achievement would not have been possible without the relentless dedication of the Editorial Board, whose commitment has ensured the successful publication of this edition. I extend my heartfelt gratitude to the reviewers for their meticulous evaluation and insightful recommendations, which have significantly enriched the quality of the published works. My sincerest congratulations go to the authors, whose contributions have added substantial value to this issue. Additionally, I deeply appreciate the unwavering support and guidance provided by the National and International Members of the Editorial Board and the invaluable efforts of the R&D Wing of MIST in publishing this journal.

Looking ahead, I remain optimistic about MIJST's prospects for inclusion in global indexing platforms such as Scopus and Web of Science. This will undoubtedly enhance the visibility and impact of the research it publishes, fostering collaborations and innovation across disciplines.

As the Chief Patron of MIJST, I wish continued success to this journal and its contributors. May MIJST continue to serve as a beacon of academic and technological excellence in the years to come.



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**Major General Md Nasim Parvez, BSP, ndc, afwc, psc**  
*Commandant, MIST, Bangladesh*  
*Chief Patron, MIJST, Bangladesh*