



# MIST

MILITARY  
INSTITUTE OF  
SCIENCE AND  
TECHNOLOGY,  
BANGLADESH

# Newsletter



## MOTTO, VISION AND MISSION OF MIST

**Motto of MIST :** Technology for Advancement

**Vision of MIST :** To be a center of excellence for providing quality education in the fields of science, engineering and technology and conducting research to meet the national and global challenges.

**Mission of MIST :** Provide comprehensive education and conduct research in diverse disciplines of science, engineering, technology and engineering management.

Produce technologically advanced intellectual leaders and professionals with high moral and ethical values to meet the socio-economic development of Bangladesh and global needs.

Conduct collaborative research activities with national and international communities for continuous interaction with academia and industry.

Provide consultancy, advisory, testing, and other related services to government, non-government and autonomous organizations including personnel for widening practical knowledge and to contribute in sustainable development of the society.

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### COMMANDANT'S FOREWORD

The establishment of the Military Institute of Science and Technology (MIST) marked a significant milestone in advancing engineering education in Bangladesh. MIST embarked on its journey on 19 April 1998 and since has become a key contributor to the development of science and technology education in the country. MIST offers high-quality science, technology and research based education to address both national and global challenges. With a commitment to inclusivity, MIST welcomes both civil and military students, allowing them to make meaningful contributions to the nation's progress. MIST is poised for continued growth and aims to secure a prestigious position among educational institutions. I am pleased to present the 44<sup>th</sup> issue of the newsletter, which highlights the institution's significant activities and provides a vibrant visual record for its readers. I extend my gratitude to the Editorial Board for their dedicated efforts and I hope these endeavours will continue to flourish in the future.



## ARRIVAL OF NEW COMMANDANT



Major General Md Nasim Parvez, BSP, ndc, afwc, psc was commissioned in the Corps of Signals on 20 December 1991. He has served in different command, staff and instructional appointments in his illustrious career including Commanding Officer of a Division Signal Battalion, GSO-3 (Operations) at 86 Independent Signal Brigade, Grade-2 and Grade-1 Staff at Army Headquarters and served as Chief Instructor at the Signals Training Centre and School (STC&S). He served twice as the Director General of the Bangladesh Telecommunication Regulatory Commission (BTRC). He has attended numerous international conferences and workshops at home and abroad. He has served twice in UN peacekeeping missions in DR Congo and Liberia. He has a number of publications in the NDC Journal and telecommunications magazines. Recently, he has received the National Post and Telecommunication Award and Distinguished Service Medal (BSP) for his contributions to the sector. The General is a graduate of the Defence Services Command and Staff College (DSCSC) and the National Defence College (NDC), Mirpur. He has attained Bachelor of Science in Computer Science and Engineering (CSE) degree from Bangladesh University of Engineering and Technology (BUET), Bachelor of Science (pass) degree from Chattogram University, Masters of Science in Information and Communication Technology (MICT), Masters in Security and Development from Bangladesh University of Professionals (BUP) and Masters in Defence Studies from National University. Currently the General is undergoing PhD programme in BUP. At present he is serving as Commandant, Military Institute of Science and Technology (MIST) in Mirpur Cantonment. Before joining MIST, he served as Commandant of Bangladesh Institute of Peace Support Operation Training (BIPSOT). Major General Nasim is happily married with Mrs Sultana Dil Marufa and a proud father of three daughters.

# COMMANDANT'S VISIT TO DEPARTMENTS AND WINGS OF MIST



Admission Office on 14 August 2024



Central Library on 14 August 2024



Daycare Centre on 14 August 2024



Medical Centre on 14 August 2024



Concrete Lab of CE Department on 15 September 2024



Analog and Digital Communication Lab of EECE Department on 22 September 2024

Commandant, MIST visited various departments, wings and facilities at MIST, including the Laboratories, Central Library, Medical Centre, Daycare Centre and Cafeteria. The purpose of his visit was to gain a deeper understanding of departments and wings' capabilities and to foster stronger connections by interacting with the faculty, staff and students. His engagement provided an opportunity for valuable exchange of ideas and perspectives. During the visit, the Commandant shared his invaluable insights and vision for the future of MIST. His thoughtful remarks underscored the critical importance of innovation and excellence, reinforcing collective commitment to academic and professional growth in the days ahead.

# TRIBUTE TO MARTYRS OF MIST IN THE STUDENTS AND MASS PEOPLE ANTI-DISCRIMINATION MOVEMENT

## CONTRIBUTION OF SHAHEED SHYKH AASH-HA-BUL YAMIN AND SHAHEED MD RAKIBUL HOSSAIN IN STUDENTS AND MASS PEOPLE ANTI-DISCRIMINATION MOVEMENT



Student of MIST, Shaheed Shykh Aash-Ha-Bul Yamin (Student ID No. 202114096), studied in Level-4 of the CSE Department. He was a resident student of MIST's Osmani Hall. Shaheed Yamin was a friendly young man. He always jumped to the aid of friends in trouble and danger. Shaheed Yamin always stood for justice. He strongly protested against any injustice. Although somewhat introverted, he never shied away from revealing the truth or correct information. Shaheed Yamin was always concerned for the safety of his classmates and the protesting students. Several of his friends were injured in Mirpur, Dhaka during in police firing on the anti-discrimination student movement. In this context, Yamin asks his father for help in admitting his injured friends to the hospital. On 18 July 2024, after offering the Zuhr prayer at the mosque, he learned that one of his friends had been seriously hurt in the eye by the gunfire of police. After seeing to his injured friend, he participated in the front line of

resistance with the protesting students near the Savar Pakija Model Mosque. To stop the indiscriminate firing of the police on the student crowd, the brave hero climbed on the roof of the APC. At that time, he was seriously injured by gunfire of the police at close range and later passed away while being treated unfairly by the police. His contribution to establishing equality and justice will forever be a role model for all the young students of Bangladesh and the world. We wish the departed soul of this brave martyr to rest in peace and express our deepest condolences to the bereaved family.

Shaheed Md Rakibul Hossain (Student ID No. 201518038), graduated from the Mechanical Engineering Department, MIST. At the beginning of the anti-discrimination movement in July 2024, this fearless hero boosted the morale of protesters by distributing water among students and people in Mirpur-10 and nearby areas. On 19 July 2024, this indomitable brave warrior was martyred by the gunfire of the miscreants. His sacrifice and contribution in the movement to build Bangladesh based on truth, justice and equality will inspire and give courage to the young student society for ages. We wish the departed soul of this brave martyr to rest in peace and express our deepest condolences to the bereaved family.



# TRIBUTE TO MARTYRS OF MIST IN THE STUDENTS AND MASS PEOPLE ANTI-DISCRIMINATION MOVEMENT

## TRIBUTE TO SHAHEED SHYKH AASH-HA-BUL YAMIN AND SHAHEED MD RAKIBUL HOSSAIN



On 18 July 2024, Shaheed Shykh Aash-Ha-Bul Yamin was martyred during the anti-discrimination movement of students and Mass people. On 18 August 2024, to honour his sacrifice and remember his contributions, the Commandant, MIST visited Shaheed Yamin's room at MIST's Osmani Hall and Shaheed Yamin's Grave, where he paid tribute to his memory. Following this, a tribute ceremony was held at the Shaheed Rakibul Muktomoncho, where the entire MIST family gathered to honour both Shaheed Shykh Aash-Ha-Bul Yamin and Shaheed Md Rakibul Hossain. This event was well-attended by faculty members, students, guardians and other distinguished guests and all gathered to pay tribute and support this noble cause. The ceremony was a heartfelt reflection of the profound respect and admiration the MIST community holds for their sacrifice and legacy. Their courage and dedication continue to inspire the MIST Family.

## INAUGURATION OF MIST AUDITORIUM AND MUKTOMONCHO TO HONOUR MARTYRED STUDENTS

Shaheed Shykh Aash-Ha-Bul Yamin, CSE Department and Shaheed Md Rakibul Hossain, an ex-student from the Mechanical Engineering Department of MIST, were martyred during the anti-discrimination movement of students and Mass people. On 1 September 2024, MIST organized an inauguration ceremony to honour the martyred students. During the ceremony, the MIST Auditorium was named 'Shaheed Yamin Auditorium' and the MIST Muktomoncho was named 'Shaheed Rakibul Muktomoncho' in the presence of their parents to pay tribute. In addition, a Shaheed Yamin-Rakib Corner was established in MIST's Central Library to commemorate them.



### ACADEMIC COUNCIL MEETING OF MIST



The '80<sup>th</sup>, 81<sup>st</sup>, 82<sup>nd</sup> and 83<sup>rd</sup> Academic Council Meeting' of MIST were held on 03 April, 17 July, 08 August and 30 September 2024 respectively. Major General Md Nasim Parvez, BSP, ndc, afwc, psc, Commandant of MIST chaired the 83<sup>rd</sup> Academic Council Meeting. Representatives from the Ministry of Education, Ministry of Defence, Armed Forces Division, three Services Headquarters, BMA, BNA, BAFA, BUET, and Dhaka University were present in the meeting. In those meeting, various academic affairs including research and conference papers of faculties and students published in international journals were discussed.

### COMMITTEE FOR ADVANCED STUDIES AND RESEARCH (CASR) MEETING OF MIST



The '36<sup>th</sup> and 37<sup>th</sup> Committee for Advanced Studies and Research (CASR) Meeting of MIST' were held on 21 March and 05 September 2024 respectively. Major General Md Nasim Parvez, BSP, ndc, afwc, psc, Commandant of MIST, chaired the 37<sup>th</sup> CASR meeting. Representatives from BUET and BUP were also present in those meeting. Various issues including selection of supervisor, research proposal, research cost and approval of defence board, etc. for postgraduate students were discussed in the meeting.

### 6<sup>th</sup> INTERNATIONAL CONFERENCE ON ELECTRICAL ENGINEERING AND ICT (ICEEICT-2024)



The '6<sup>th</sup> International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT-2024)' was held at MIST from 02 May 2024 to 04 May 2024. At this conference, researchers and professionals from both academia and industry from the United States, the United Kingdom, Canada, Norway, Sweden, Denmark, Australia, Malaysia, South Korea, Japan, China, the United Arab Emirates and India, along with Bangladesh, participated sharing up-to-date knowledge and experience in the fields of Electrical and Communication Engineering. The conference focused on recent research, artificial intelligence, biomedical engineering, computer network and security, communications, digital signal and image processing, optoelectronics and photonics, power electronics and drives, power system and renewable energy, semiconductor device and nano-technology, software engineering, VLSI and circuits, microwave engineering, radar engineering, satellite navigation etc. This conference will create a global platform for researchers, entrepreneurs, engineers and students, fostering collaboration and knowledge exchange. It will pave the way for innovation and sustainable development in Electrical, Electronics Engineering and ICT, playing a pivotal role in shaping the future of Digital Bangladesh. The conference's closing ceremony was held at MIST Auditorium on 04 May 2024. Lieutenant General Waker-Uz-Zaman, SBP, OSP, SGP, psc, former Chief of General Staff (at present Chief of Army Staff), Bangladesh Army was present as Special Guest.

### SEMINAR ON CAREER OPPORTUNITIES FOR ENGINEERS IN JAPAN



A seminar on 'Career Opportunities for Engineers in Japan' was organized by the Mechanical Engineering (ME) Department, MIST on 08 July 2024. Air Cdre Md. Aminul Haque, ndc, psc, Engg, Dean, Faculty of ME graced the event as the Chief Guest. Mr. Asifur Rahman, PhD of MAT Services Bangladesh, delivered insights as the seminar speaker. Faculty members, students of Level 3 and 4, postgraduate students and alumni actively participated in exploring avenues for academic pursuits and professional careers in Japan.

## ACADEMIC AFFAIRS

### SEMINAR ON THE ROADMAP TO BECOME A SUCCESSFUL AEROSPACE ENGINEER



On 03 June 2024, the Aeronautical Engineering (AE) Department of MIST organized a seminar titled 'The Roadmap to Become a Successful Aerospace Engineer.' The esteemed speaker, Dr. Humayun Kabir, a Rocket Scientist and Senior Loads and Dynamics Engineer of the Boeing Company, as well as a Professor at Drexel University, shared his extensive experience and insights into the aerospace field. The seminar aimed to guide students through the key aspects of building a successful career in aerospace engineering. Dr. Kabir discussed the scope of

research opportunities, the importance of higher studies, and the value of publishing papers and presenting at conferences. He also highlighted industry standards and best practices, while emphasizing the significance of continuous learning and involvement in educational activities.

### SEMINAR ON SUSTAINABLE MANUFACTURING

A seminar on 'Sustainable Manufacturing' was organized by the Industrial and Production Engineering (IPE) Department, MIST on 02 July 2024. The event underscored the critical importance of sustainable manufacturing in advancing the Sustainable Development Goals, emphasizing cost-effective approaches that minimize environmental footprints. Sustainable Manufacturing in industries is an essential step to achieve Sustainable Development Goals (SDG) as it ensures the creation of manufactured products through economically-sound processes that minimize adverse environmental impacts



while ensuring use of less amount of energy and natural resources. Colonel Syed Rashedul Haque, Head of the PME Department graced the event as the Chief Guest and Dr. Md. Abdul Gafur, Chief Scientific Officer, Bangladesh Council of Scientific and Industrial Research (BCSIR) joined the programme as Keynote Speaker at the seminar. All faculty members and students of IPE Department also attended the seminar.

### WORKSHOP ON CLOUD COMPUTING



On 13 May 2024, a collaborative effort between the Computer Science and Engineering (CSE) Department at MIST and Intercloud Limited culminated in an illuminating workshop on 'Cloud Computing'. This event served as a platform for knowledge exchange and exploration of the latest advancements in cloud technology. Attended by industry experts, academics, and students alike, the workshop provided a comprehensive overview of the principles, applications, and benefits of cloud computing.

### FACULTY DEVELOPMENT PROGRAMME - 2024



'Faculty Development Programme-2024' was organized by Academic Wing, MIST, on 04 and 08 April 2024, to improve the teaching skills of the faculty members. Air Cdre Md Aminul Haque, ndc, psc, Dean Faculty of ME & Head, AE Department, MIST, Brigadier General S M Zia-UI-Azim, ndc, afwc, psc, Dean, Faculty of Science & Engineering and Director, Research and Development Wing, MIST, Brigadier General Mohammad Sajjad Hossain, Controller of Examination, MIST, Brigadier General Md Mahfuzul Karim Majumder, ndc, psc, te, Director

Academic, MIST, graced the programme as speakers. They shared their knowledge and skills with the most important resource of higher education the faculty members.

### IEEE USER AWARENESS PROGRAMME - 2024

On 30 May 2024, the Research and Development Wing of MIST organized 'The IEEE User Awareness Programme-2024'. The event featured Prof. Dr. Mohammed Moshikul Hoque, Chair of IEEE Bangladesh Section, as the special guest. Recognizing the importance of access to cutting-edge information, MIST launched its IEEE subscription in 2015 to provide students, faculty, and researchers with valuable resources from the world's largest professional association for technological innovation. IEEE plays a pivotal role in advancing global technological progress through its renowned publications, conferences, standards, and educational initiatives. The IEEE User Awareness Programme aimed to equip the MIST community with essential knowledge about how to effectively utilize IEEE's vast e-resources. This initiative will empower participants to stay at the forefront of technological advancements and enhance their research, learning, and development in various engineering fields.



### MoU SIGNING BETWEEN MIST AND WALTON DIGI-TECH INDUSTRIES LIMITED TO FOSTER RESEARCH AND INNOVATION COLLABORATION



On 25 September 2024, MIST and Walton Digi-Tech Industries Limited signed an MoU to establish a three-year partnership aimed at promoting research, cooperation, innovation, and technological advancement. This strategic collaboration will focus on extending the basis for friendship and cooperative exchanges between the two parties, with a particular emphasis on research and innovation (R&I) projects. Under the terms of the MoU, MIST and Walton Digi-Tech will work together on various initiatives to develop and exchange ideas in areas of mutual interest. The partnership aims to enhance access to smart technology in educational institutions, providing students and researchers with cutting-edge tools along with resources as well as technical training, workshop, industrial visit, scholarships etc. that will drive future technological growth in Bangladesh. This agreement marks an important step in fostering mutual cooperation, empowering both organizations to contribute to the nation's research ecosystem and promote the widespread adoption of smart technology in the education system.

### ORIENTATION PROGRAMME FOR OVERSEAS COURSE MEMBERS OF NDC - 2024



The orientation programme for Overseas Course Members of NDC-2024 was held on 21 January 2024. Twenty-six foreign officers, including two staff officers, attended the programme. The team was briefed about the various academic activities, facilities and achievements of MIST. The foreign officers also visited the Geotechnical Lab of the CE Department, the Cyber Range Lab of the CSE Department, the Cell and Tissue Engineering Lab of the BME Department, the Automobile Lab

of the ME Department and the Applied Aerodynamics Lab of the AE Department. The visit offered valuable insights into advanced academic practices and cutting-edge technologies used in various engineering disciplines at MIST. The visit strengthened international relations and enhanced MIST's reputation as a leading institution in engineering and technology in Bangladesh.

### ORIENTATION PROGRAMME FOR ARMED FORCES WAR COURSE (AFWC)-2024

On 19 February 2024, participants from the Armed Forces War Course (AFWC) – 2024 visited the Cyber Range Lab of the Computer Science and Engineering (CSE) Department at the Military Institute of Science and Technology (MIST) to deepen their understanding of cyber warfare and cyber security principles. This visit enabled them to engage in dynamic discussions and hands-on activities that highlighted the critical importance of safeguarding vital infrastructure and digital platforms against emerging cyber threats. Participants received essential knowledge and skills that will help them enhance national security in their positions. MIST displayed its capabilities in cyber education and strengthened its collaboration with military institutions, highlighting its dedication to advancing the field of cyber security through research and knowledge.



### ORIENTATION PROGRAMME FOR MEMBERS OF BCS & BJS - 81



On 29 February 2024, participants from the Bangladesh Civil Service (BCS) and Bangladesh Judicial Service (BJS) - 81 visited the Cyber Range Lab of the Computer Science and Engineering (CSE) Department at the Military Institute of Science and Technology (MIST). The primary objective of this visit was to deepen their understanding of the fundamental principles of cyber warfare and cyber security. Throughout the day, attendees engaged in dynamic discussions that highlighted the complexities of contemporary cyber

threats. They participated in hands-on activities, allowing them to explore various tools and techniques used in cyber defense. This practical experience emphasized the critical importance of safeguarding vital infrastructures and digital platforms in an increasingly digital world. By the end of the visit, participants gained valuable insights and skills that are essential for addressing the challenges posed by cyber threats in their respective roles.

### ACCREDITATION VISIT BY INSTITUTE OF ARCHITECTS BANGLADESH (IBA) TEAM

The Department of Architecture organized the Accreditation Visit-2024 on 05 September 2024. An evaluation team from the IAB, consisting of four members, visited to assess the Bachelor of Architecture programme for accreditation. The visiting team discussed with Commandant, MIST, Head of the Department and senior faculties of MIST. They also interacted with current and former students. After the discussion, they visited different classrooms, labs, studios, jury spaces, faculty rooms, library and facilities of MIST. The purpose of this



comprehensive visit was to verify that the Bachelor of Architecture programme complies with the standards established by the Institute of Architects Bangladesh (IAB) for architectural education. The insights and feedback gathered during this visit will be essential for the ongoing enhancement of the programme and for upholding high standards in architectural education at MIST.

### VISIT OF OFFICERS BASIC INTERNATIONAL COURSE (BIC)



On 26 September 2024, a team of 35 members, including instructors and student officers from the 66<sup>th</sup> batch of the Basic Intelligence Course (BIC), visited MIST. The team was briefed by GSO-1 Academy about the various academic activities, facilities and achievements of MIST. The visit focused on the advanced capabilities of the newly established Cyber Range in the Computer Science and Engineering (CSE) Department, which is a state-of-the-art platform for cyber security training and simulations. The officers were informed about various training modules, current technological advancements, and the Cyber Range's role in enhancing cyber defense capabilities. The visit provided participants with valuable hands-on experience, deepening their understanding of modern cyber-security techniques vital for national security. Additionally, the event reflected MIST's commitment to supporting professional training for defense personnel, thereby contributing to national preparedness in cyber operations. The team also had the opportunity to tour the Geotechnical Lab of the CE Department and the Aerodynamics Lab of the AE Department, further enriching their visit.

### DGDA INSPECTION OF BME FACILITIES FOR CRO APPROVAL



On 29 September 2024, the inspection by the Directorate General of Drug Administration (DGDA) for clinical trial and equipment validation was completed successfully at the Biomedical Engineering (BME) Department of MIST. The inspection team expressed high satisfaction with the department's preparations and facilities. Although the final approval process will take some time, they provided verbal consent for approval. Once approved, the BME Department will be able to conduct clinical trials for validating medical devices and pharmaceutical products. The Biomedical Research and Innovation Centre (BRIC) is also on track to be recognized as a Contract Research Organization (CRO) and will lead in medical equipment validation in Bangladesh.

### BANGLADESH - GERMAN JOINT RESEARCH PROJECT - FLOODSAFE



MIST and RWTH (Rhineland-Westphalian Technical University) Aachen University in Germany collaborated on a pioneering research project focused on utilizing advanced autonomous drones for the delivery of snake bite anti-venom. This innovative initiative is funded by the German Ministry of Education and involves collaboration with key government agencies in Bangladesh, specifically the Directorate General of Medical Services (DGMS) and the Directorate General of Health Services (DGHS). As part of this project, the

Mechanical Engineering (ME) Department of MIST played a crucial role by providing technical support for the technological demonstrations and flight testing of the drones. These tests took place in Dewanganj Upazila, located in the Jamalpur District, from 3 March to 5 March, 2024. The successful completion of these tests marked a significant step forward in exploring how drone technology can enhance healthcare delivery, particularly in remote areas where timely access to anti-venom is critical for treating snake bites.

### CERTIFICATION COURSE ON SHIP DESIGN SOFTWARE (MAXSURF & RHINO)



The Department of Naval Architecture and Marine Engineering (NAME) launched a 'Certification Course on Ship Design Software (MAXSURF & RHINO)' on 04 February 2024 and the duration of the course was three weeks. The purpose of the course was to equip students and professionals with essential skills and knowledge for excelling in ship design. By providing specialized training in advanced software tools, the course aimed to enhance participants' competencies in the field, thereby improving their ability to excel in naval architecture and marine

engineering. This initiative sought to bridge the gap between theoretical understanding and practical application, ultimately preparing participants for successful careers in ship design and related industries. The programme featured instruction from two external experts and one internal instructor, all proficient in the software. A total of 41 participants enrolled in the course, including 31 students of MIST. Upon successful completion, participants received certificates and grades to acknowledge their achievements.

### CYBER SECURITY TRAINING FOR GOVERNMENT OFFICIALS

The 'Cyber Security Training for Government Officials' was jointly conducted by the Enhancing Digital Government and Economy (EDGE) project, in collaboration with the Bangladesh Computer Council of the ICT Division and the Center for Advanced Computing and Research (CACR), MIST from 12 May 12 to 16 May, 2024. During this five-day course, 18 officers from various government organizations-including the Ministry of Law, Justice, and Parliamentary Affairs, the Ministry



of Defense, the Ministry of Water Resources, the Ministry of Industry, the Ministry of Cultural Affairs, and the Bangladesh Securities and Exchange Commission and others, received hands-on training in cyber security. Participants gained a thorough understanding of cyber security concepts, covering topics such as sniffing, spoofing, Vulnerability Assessment and Penetration Testing (VAPT), Security Operations Center (SOC) operations and the use of Security Information and Event Management (SIEM) tools for web system operations. By equipping government officials with this knowledge, MIST is helping to establish a foundation for a smarter and more resilient nation.

### GEOLOGICAL FIELD TRIP OF PME DEPARTMENT



On 18 to 20 February 2024, students from the Petroleum and Mining Engineering (PME) Department participated in a geological field trip. The field trip included detailed observations of the Bhuban Bokabil Formation, Kopili Shale, Dihing Formation, and Girujan Formation in the hilly areas of Tamabil and Jaflong. They also learned to measure Strike-Dip with a Clinometer and visited the seventh well of the Haripur Gas Field. Additionally, they explored the Dupitila Formation in the Dupigao hilly area and examined

geological structures, including the Tipam fold and joints, in the Tetulghat and Lalakhal hilly regions. The geological field trip aimed to enhance PME students' understanding of key geological formations and structures. By applying theoretical knowledge in a practical setting, students gained valuable skills and insights essential for their future careers in petroleum and mining engineering.

### INDUSTRIAL TRAINING VISIT OF NSE DEPARTMENT

In February 2024, the Nuclear Science and Engineering (NSE) Department organized an industrial training visit to several projects and organizations including the Rooppur Nuclear Power Plant (RNPP), the Atomic Energy Centre (AEC), Combined Military Hospital (CMH), Dhaka and Bangladesh Industrial Technical Assistance Center (BITAC), allowing students to connect theoretical knowledge with practical experiences. By visiting key facilities, students gained insights into the practical applications of nuclear science and engineering principles, understand industry practices, and explore career opportunities in the field. Additionally, these visits aimed to enhance their understanding of safety protocols, operational processes, and the role of nuclear technology in energy production and healthcare.



### INDUSTRIAL TRAINING VISIT OF ME DEPARTMENT



On 07 March 2024, industrial training of Level 3 students was successfully finished. Our students went to 10 different industries/institutions for the above mentioned training. Faculty members of the respective department visited a few industries and met the students' concerned supervisors. The faculty members thanked the concerned industry authority on behalf of MIST and the Mechanical Engineering (ME) Department.

# ACHIEVEMENTS

## AIAA DESIGN/BUILD/FLY (DBF) COMPETITION - 2024



The '28<sup>th</sup> AIAA Design/Build/Fly (DBF) Competition – 2024' was held from 18 April to 21 April, 2024 in Wichita, Kansas, USA. MIST Team NOVONIL's 'AKASHTORI' aircraft was meticulously designed and manufactured to meet these requirements. Team NOVONIL, comprising 33 students and three faculty advisors, achieved second place among South Asian countries and 71 out of 107 universities worldwide. Seven of the team members participated in the competition. Asif Hasnayeem led the team. The chief designer was Md Ridwan Hasan, and Md Nafiz Redwan led Manufacturing.

## ANATOLIAN ROVER CHALLENGE (ARC) 2024



'MIST Mongol Barota' achieved an outstanding 2<sup>nd</sup> position in the highly competitive Anatolian Rover Challenge (ARC) 2024, which took place at Middle East Technical University in Ankara, Turkiye, from 17 to 21 July, 2024. The Space Exploration Society (UKET), Turkiye, organized the event. His Excellency M. Amanul Haq, the Ambassador of Bangladesh to Turkiye, graced the occasion with his presence to celebrate our noteworthy achievement. 21 teams from different countries participated, including Poland, India, Turkiye, and Bangladesh. More than 200 participants attended the final Competition. Each team had to perform four missions, the scenarios of which were Mars field, moon field, and Earth hall. 'MIST Mongol Barota' was comprised of nine members. The team members hailed from the Computer Science and Engineering (CSE) and Mechanical Engineering (ME) Departments, with individuals named Lt Md Sarower Morshed, Md. Jawadur Rahman and Istiaque Ahmed Arik from CSE Dept; Alamin Rashid Tarek and Ahmed Ahnaf Saqafi from ME Dept. The team was under the guidance of Lt Col Muhammad Nazrul Islam, Maj Md Shawkat Ali and Lec Shah Md Ahasan Siddique. Their success was celebrated on 08 September 2024 at Shaheed Yamin Auditorium. Commandant MIST, Major General Md Nasim Parvez, BSP, ndc, afwc, psc attended the event and inspired future engineers with a message of perseverance, teamwork, and innovation.

# ACHIEVEMENTS

## ACHIEVEMENT AT WICE 2024 WITH A GOLD MEDAL



Bangladesh significantly impacted the World Invention Competition and Exhibition (WICE) 2024, held from 21 to 25 September, 2024 at MAHSA University, Kuala Lumpur, Malaysia. Teams from 15 countries competed in various categories, such as Applied Life Sciences, IT & Robotics, and Environmental Sciences. Bangladesh proudly secured four gold medals, excelling in the IT & Robotics category across university and high school divisions. Among the gold-winning teams was 'Team Code Black', the first all-female robotics team from Bangladesh, making history in the 'IT & Robotics - University' category. Student ID- 202214078, Progga Laboni Ray (CSE-22), played a pivotal role in the team's success, exemplifying their dedication to breaking gender barriers and achieving excellence in a traditionally male-dominated field. This achievement underscores Bangladesh's growing presence in global technological innovation.

## ACHIEVEMENT AT ANNUAL INSPIRELI AWARD IN 2024



It is a matter of great pride that Saraf Nawer, a recent graduate from the Architecture Department, MIST, has been awarded the 9<sup>th</sup> Annual INSPIRELI Award in the Architecture category for her undergraduate thesis project, 'Tale of an Ocean: Oceanarium Complex at Sonadia.' Her project was selected from 1,174 submissions by participants from 87 countries in the world's largest student architecture competition.

Link: <https://www.inspireli.com/en/awards/detail/7210>

# ACHIEVEMENTS

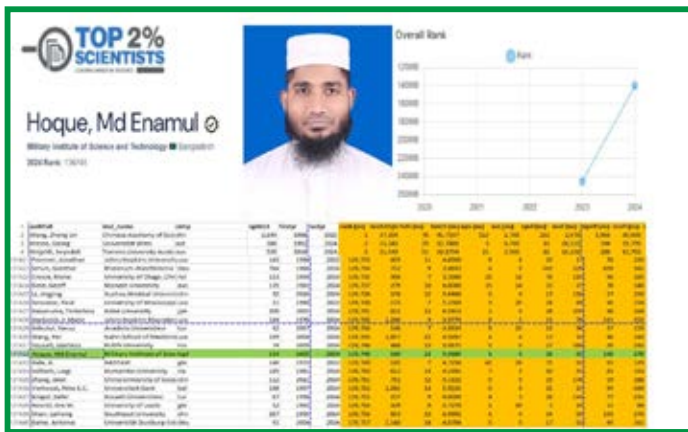
## ATTENDING CONFERENCE GLOCOMS 2024



Global Conference on Maritime Studies (GLOCOMS)-2024 was held on 09 September 2024 in Malaysia and featured researchers from 18 countries. Along with Prof. Ts Dr Mohd Zamri Ibrahim, Vice Chancellor, University Malaysia Terengganu (UMT) Dr Riyadi Subur and Dr Tri Laela Wulandari from Indonesia, Mr Mansor fr Jordon, UMT Principals and Prof. Dr Mokhlesur Rahman from NSE Department, MIST, were invited as guest speakers at the opening ceremony of the international conference. During

the conference, Prof. Dr Mokhlesur Rahman contributed insights on addressing drinking water quality challenges during floods and other environmental disasters. He presented his paper titled 'Development of a Modified Filtration Unit for Safe Drinking'.

## INCLUSION IN THE WORLD'S TOP 2% SCIENTISTS - 2024



Professor Dr. Md. Enamul Hoque, Biomedical Engineering (BME) Department and Lieutenant Colonel Muhammad Nazrul Islam, PhD, Sigs, Computer Science and Engineering (CSE) Department have been recognized among the World's Top 2% Scientists in 2024 by Stanford University and Elsevier, marking their third consecutive year of receiving this prestigious honor. This achievement further enhances the global reputation of the Military Institute of Science and Technology (MIST), Dhaka, Bangladesh. Prof. Hoque, renowned for his groundbreaking work in biomaterials, nanotechnology, and tissue engineering, has also been ranked as the Best Biomedical Engineering Scientist in Bangladesh (AD Scientific Index 2025) and has authored over 300 scientific publications. Lt. Col. Nazrul, acknowledged for his contributions to human-computer interaction, machine learning, and health informatics, has published more than 200 research works. Together, their significant academic contributions continue to elevate MIST's global academic standing.

## SPORTS AND COMPETITION

### INTER DEPARTMENT VOLLEYBALL COMPETITION - 2024



'Inter-Department Volleyball Competition - 2024' was held on 29 May 2024. The Directorate of Students' Welfare organized the event. Students from different departments of MIST participated in the competition. The exciting competition ended on 03 June 2024, with the Electrical, Electronic and Communication Engineering (EECE) Department being the champion and the Mechanical Engineering (ME) Department being the runner-up. Major Tahmid from the EECE Department was the Best Player in the tournament. Commandant of MIST was present at the final event as the chief guest and distributed prizes among the winners in the competition.

### INTER DEPARTMENT CULTURAL COMPETITION - 2024



'Inter-Department Cultural Competition - 2024' was held on 19 May 2024 and ended on 28 May 2024, organized by the Directorate of Students' Welfare. This competition, arranged each year to allow all students to exhibit their latent potential, has become one of the most popular extra-curricular activities among many others. The competition featured four categories of songs, recitation, dance, and 5-minute short dramas, along with anchoring. The Electrical, Electronic and Communication Engineering (EECE) Department emerged as the competition's overall champion, delivering outstanding performances across all categories, and the Civil Engineering (CE) Department was the Runner-up. The prize distribution ceremony took place on 06 June 2024, where the esteemed Commandant of MIST attended as the chief guest and distributed the prize among the winners of various events of the competition.

# SPORTS AND COMPETITION

## INTER DEPARTMENT DEBATE COMPETITION - 2024



Inter-Department Debate Competition - 2024 was organized by the Department of Science and Humanities from 26 May to 30 June 2024. Twelve teams from twelve departments took part in the Competition. After a hard contest, the Department of Industrial and Production Engineering (IPE) won the champion trophy, and the Department of Mechanical Engineering (ME) became runner-up. Former Commandant MIST attended the final event as the chief guest and distributed prizes among the winners of various competition events.

## 14<sup>th</sup> NATIONAL UNDERGRADUATE MATH OLYMPIAD (NORTH REGION) - 2023

The '14<sup>th</sup> National Undergraduate Mathematics Olympiad Competition for the North Region – 2023' took place at MIST on 09 February 2024. Air Commodore Md Aminul Haque, ndc, psc, was the chief guest of the competition. The occasion was also graced by two special guests, Professor Dr. Md Manirul Alam, Mathematics Department, BUET and Professor Dr. Chandra Nath Poddar, Mathematics Department, DU. 164 participants from 18 universities competed, and the top 10 advanced to the next round. Notably, two MIST students qualified themselves for the next round. Major Mahboob from the CE Department secured the fourth place, and Md Raihan from the CSE Department secured the sixth place.



## PITCH CAMP 3.0



The MIST Innovation Club organized an event titled 'Pitch Camp 3.0' under the guidance of the Research & Development Wing on 04 July 2024. Known as a beacon of innovation, the MIST Innovation Club consistently nurtures an environment where ideas thrive and equips students with skills to tackle real-world challenges. Colonel Mollah Md. Zubaer, Director of ICT, MIST, graced the occasion as the Chief Guest. This event marked the culmination of weeks of dedication, creativity, and hard work from our talented participants.

### YOU WILL ALWAYS REMAIN IN OUR HEART

Professor Dr. Rafiqul Islam of the Applied Chemistry and Chemical Engineering Department at Dhaka University passed away on 29 January 2024. He was a member of the Governing Body of the Academic Council of MIST for over 15 years. During his sickness, the respected Commandant personally remained in touch with him and assigned the Medical Officer of MIST to stay beside him for any assistance for his better treatment. The spouse of Professor Dr. Rafiqul Islam expressed her heartfelt gratitude to the MIST authority for the constant support. The respected Commandant expressed his deep condolences on the sad demise of Professor Dr. Rafiqul Islam.



### TOKEN OF LOVE FROM MIST TO OUR BELOVED FLOOD-AFFECTED PEOPLE



Since 22 August 2024, heavy rainfall, combined with the release of water from upstream sources, has led to severe flooding in several districts of Bangladesh. This relentless rain, coupled with upstream water inflows, has caused the rivers to overflow, severely inundating low-lying districts including Moulvibazar, Habiganj, Sylhet, Feni, Cumilla, Noakhali, Khagrachhari, Brahmanbaria, Chattogram, Lakshmipur, and Cox's Bazar. MIST extended a helping hand to those in need and provided essential assistance, such as food, clothes, medicine, etc., during this challenging time.

## OBSERVANCE OF GENOCIDE DAY AT MIST



MIST observed 'The Genocide Day' on 25 March 2024 to commemorate the memories of the victims of 25 March 1971. Discussions on the Great War of Liberation were organized under the supervision of the NAME Department. All military and civilian officers and employees working in MIST participated in the programme. The valiant freedom fighter Lt Cdr Amzad Hossen, BN (Retd), was the Chief Speaker of the programme. A special prayer was organised for the martyrs after Zuhr prayer.

## OBSERVANCE OF INDEPENDENCE DAY AT MIST

On 26 March 2024, on the Independence and National Day, a documentary screening followed by a special prayer was held at the Multipurpose Hall and MIST Mosque. The Commandant, MIST, graced the occasion as the chief guest. On the same occasion, an Iftar party followed by dinner was also arranged in the evening.



## OBSERVANCE OF EID-E-MILADUNNABI - 2024



Eid-e-Miladunnabi is an annual festival commemorating the birthday of the Islamic prophet Muhammad on the traditional date of 12 Rabi' al-Awwal, the third month of the Islamic calendar. It is a special day of Islamic traditions and is celebrated with festivity by Muslims. MIST observed Eid-e-Miladunnabi on 16 September 2024. MIST arranged a special prayer and pritivoj after Johor. Commandant MIST, Major General Md Nasim Parvez, BSP, ndc, afwc, psc and all members of MIST attended the event.

## WELCOME TEA PARTY TO COMMANDANT MADAM



On 24 September 2024, MIST organized a Tea Party in honour of the spouse of Commandant, MIST. The members of the MIST Ladies Club warmly received Madam. The programme was arranged on the occasion of Commandant Madam's arrival as the new guardian of the MIST Ladies Community.

# INCOMING OFFICIALS



**BA-4118 Maj Gen Md Nasim Parvez, BSP, ndc, afwc, psc**  
**Commandant, MIST**  
 Joined on 13-08-24



**BA-4619 Brig Gen Md Anisur Rahman**  
**Head ME Department**  
 Joined on 19-04-24



**BA-4246 Brig Gen Md Awal Khan**  
**Exam Controller**  
 Joined on 29-09-24



**BA-5051 Brig Gen Md Kamal Uddin Komol, psc**  
**Head, CE Dept**  
 Joined on 16-02-2024



**BA-5672 Brig Gen Md Kabir Uddin Sikder, ndc, psc**  
**Head, EWCE Dept**  
 Joined on 12-07-24



**BD/8615 Air Cdre Md Maksudul Alam, BUP, psc, Engg**  
**Head, AE Dept**  
 Joined on 12-08-2024



**P No-938 Cdre Md Mohidul Hasan, (E), OSP, psc, BN**  
**Head, NAME Department**  
 Joined on 16-05-24



**BA-4477 Col Md Zillal Hossain, psc**  
**Head, PME Dept**  
 Joined on 21-08-2024



**BA-5268 Col Syed Rashedul Haque**  
**Head, IPE Dept**  
 Joined on 16-01-24



**BA-5560 Col Sarker Md Iqbal Hossain, psc**  
**Director, DSW**  
 Joined on 16-01-2024



**BA-5873 Col Hasan Masud, afwc, psc**  
**Dir Admin, Admin Wg**  
 Joined on 28-09-24



**BA-6016 Col Mohammad Shariful Islam, psc**  
**Head, BME Dept**  
 Joined on 01-03-2024



**BD/8703 Gp Capt Mohammad Akter Jamil, PhD, Engg**  
**SI, AE Dept**  
 Joined on 28-01-2024



**BA-6580 Lt Col Mosammat Sultana Razia, Engrs**  
**GSO-1, DSW**  
 Joined on 20-02-2024



**BA-7413 Lt Col Mst Tahmina Bushara, psc, Engrs**  
**GSO-1, MIST Sectt**  
 Joined on 25-03-2024



**BA-9256 Lt Col Md. Tawfiq Amin, PhD, Sigs**  
**Instr Cl A, EECE Dept**  
 Joined on 04-09-2024



**BD-9342 Wg Cdr Nashid Ibne Shaheed, Engg**  
**Instr Cl A, ME Dept**  
 Joined on 18-07-2024



**BP No-1375 Cdr Md Ruhul Ameen Sarker, (Edn), (N), BN**  
**Instr Cl A, Sc & Hum Dept**  
 Joined on 17-09-2024

# INCOMING OFFICIALS



**PNo-1447 Cdr S M Fazlul Karim, (C), BCGM, BN**  
GSO-1 (Aca), Aca Wg  
Joined on 24-04-2024



**BA-7925 Maj Ahmed Muhtasim Taj, Engrs**  
GSO-2 (Database Admin)  
Joined on 06-03-24



**BA-7966 Maj Kazi Imtiaz Kabir, SGP, Engrs**  
GSO 2 (ARSTC), R&D Wg  
Joined on 26-02-24



**BA-8073 Maj Md Rezaur Rabby, G, Arty**  
GSO-2, (Mess), Admin Wg  
Joined on 28-04-24



**BSP-8109 Maj Md Ahsan Habib, ASC**  
Acct Offr (Compt), Admin Wg  
Joined on 26-07-24



**BA-8275 Maj Tania Afrin, Engrs**  
GSO-2(Aca), Aca Wg  
Joined on 02-02-24



**BA-8321 Maj Neamul Nasir Siddiquey, Inf**  
PS to Comdt  
Joined on 20-08-24



**BSP-8511 Maj Syed Mahbub Alam, Inf**  
QM, Admin Wg  
Joined on 05-06-24



**P No-2324 Lt Cdr Hafsa Sultana, (L), BN**  
Instr Cl B, CSE Dept  
Joined on 23-01-24



**P No-2614 Lt Cdr Naima Afrin Tonni, (E), BN**  
Instr Cl B, NAME Dept  
Joined on 22-09-24



**P No-3024 Lt Cdr Akteruzzaman, (E), BN**  
Instr Cl B, NAME Dept  
Joined on 19-03-24



**BA-9776 Capt Md. Nazmul Hasan Ramim, Inf**  
GSO-3, MIST Sectt  
Joined on 26-09-24

# OUTGOING OFFICIALS



BA-3728 Maj Gen Mohammed Saidul Islam, rcds, ndc, psc  
Commandant, MIST  
Departed on 13-08-24



BA-3899 Brig Gen S M Zia-Ul-Azim, ndc, afwc, psc,  
Ditector, R&D Wg  
Departed on 23-08-24



BD 8474 Air Cdre Md. Aminul Haque, ndc, psc  
Head, AE Department  
Departed on 12-08-24



BA-4333 Brig Gen Towhidul Islam, PBGM, BGBMS, ndc, afwc, psc  
Head CSE Dept  
Departed on 02-03-24



BA-4246 Brig Gen Md Awal Khan  
Head, ME Dept  
Departed on 16-05-24



BA-4646 Brig Gen Md Zahid Hossain, psc  
Ditector, R&D Wg  
Departed on 24-01-24



BA-4775 Brig Gen Md Moin Uddin, SUP, SPP, ndc, psc  
Head, CE Dept  
Departed on 29-02-24



P No 1044 Cdre A H M Rafiqul Islam, (E), NUP, psc, BN  
Head, NAME Dept  
Departed on 09-04-24



BA-5079 Col Muhammad Sohail-Us-Samad  
Head, Arch Dept  
Departed on 17-09-24



BA-5275 Col Muhammad Romeo Nowreen Khan, psc  
Col Staff  
Departed on 17-09-2024



P No-1181 Capt Kaosar Rashid, (E), psc, BN  
Director, DSW  
Departed on 25-01-24



P No-1194 Cdr K M Tanveer Anwer, (L), BN  
Instr Cl-A, EECE Dept  
Departed on 23-03-24



BD 8705 Wg Cdr Md Monirul Islam, Edn  
Instr Cl A, Sc & Hum Dept  
Departed on 14-01-24



BD 8920 Wg Cdr Toyobur Rahman, psc, PhD, Engg  
Instr Cl A, EECE Dept  
Departed on 21-01-2024



P No-1418 Cdr Abu Md Shoeb, (E), psc, BN  
Instr Cl-A, NAME Dept  
Departed on 26-01-24



PNo-1483 Cdr Taslima Akter,  
Gso-1(Aca), Aca Wg  
Departed on 30-04-24



P No-1522 Cdr Tasnuva Anan, (E), psc, BN  
Instr Cl A, NAME Dept  
Departed on 22-03-24



BA-7188 Lt Col K M Haidarul Alam, psc, Engr  
Instr Cl A, PME Dept  
Departed on 25-01-24

# OUTGOING OFFICIALS



**BA-9259 Lt Col Hussain Md. Abu Nyeem, PhD, EME**  
Instr CI A, EECE Dept  
Departed on 08-08-24



**BA-9273 Lt Col Osman Amin, PhD, Engrs**  
Instr CI A, NAME Dept  
Departed on 09-05-24



**BA-4572 Maj Sazmul Haque**  
GSO-2 (Aca) Academic Wg  
Departed on 12-09-2024



**BA-5450 Maj Syed Monirul Alam, Arty**  
GSO-2, DSW  
Departed on 13-01-24



**BA-5765 Maj Md Zafur Sadique, Engrs**  
Instr CI-B, NSE Dept  
Departed on 07-05-24



**BA-6456 Maj Ariful Rahman, Inf**  
GSO-2 (Mess), Admin Wg  
Departed on 9-7-24



**BA-7663 Maj S M Shahadat Hussain**  
Acct Offr, Admin Wg  
Departed on 7-8-24



**BSP-7664 Maj Mohammad Atiqur Rahman**  
QM, Admin Wg  
Departed on 17-05-24



**BA-7919 Maj Md Saiyeedur Rahman**  
PS to Comdt  
Departed on 12-08-24



**BA-8809 Maj Adib Bin Rashid**  
Instr CI-B, IPE Dept  
Departed on 08-05-24



**BA-8815 Maj Nafiz Ul Ahsan, Engrs**  
GSO-2, MIST Sectt  
Departed on 30-09-24



**BA-8917 Maj MD. Ashrafuzzaman, PhD, EME**  
Instr CI-B, BME Dept  
Departed on 19-05-24



**BA-8948 Maj Md. Tanvir Hassan, AEC**  
Instr CI-B, Sc & Hum  
Departed on 18-04-24



**BA-9112 Syed Nayem Hossain, Sigs**  
Instr CI-B, CSE Dept  
Departed on 02-03-24



**BA-9113 Maj Md Mahbubur Rahman, Sigs**  
Instr CI-B, CSE Dept  
Departed on 18-01-24



**BA-9266 Maj Numan-Al-Kibriya, Engrs**  
Instr CI-B, EWCE Dept  
Departed on 01-05-24



**P No-2663 Lt Cdr Jannatul Ferdous Mumu, (E), BN**  
GSO-2, MIST Sectt  
Departed on 02-02-24

# PUBLICATIONS

## JOURNAL ARTICLE

### CE DEPARTMENT

- Md Habibul Huq, Md Mafizur Rahman Prof Dr. G M Jahid Hasan published a journal article titled ‘Social perception on rainwater harvesting and wastewater reuse: Opportunities and challenges of a fast-growing township in Dhaka’ in Journal ‘Cleaner Responsible Consumption’ Elsevier on 03 January 2024.
- Naila Matin, Md. Enamul Haq Sakib, Prof Dr. G M Jahid Hasan published a journal article titled ‘Vulnerability assessment of tropical cyclones and deep depressions: an index-based spatio-temporal assessment along the coastal zones of Bangladesh’ in Journal ‘Natural Hazards’ Springer 10 January 2024.
- Shakil Mahmood, Lt Abu Shyed Md. Abdullahil Kafi, Syeda Fariha Tahsin Rysha, Col Nasir Uddin Ahmed, Md. Mohaimenul Islam Sourav published a journal article titled ‘An Empirical Study on Acceptance of Carpooling Service in Mirpur DOHS, Dhaka’ in journal ‘European Transport \ Trasporti Europei (2024)’ Issue 96, Paper no 4, ISSN 1825-3997 March 2024.
- Md Khairul Amin and Professor Dr G. M. Jahid Hasan has published a journal article titled as ‘Linear and non-linear trends of tides along the coastline of Bangladesh’ in Regional Studies in Marine Science (Q2, Impact Factor 2.1) of Elsevier in April, 2024, <https://doi.org/10.1016/j.rsma.2024.103508>.
- Asst Prof Kha Afia Farjana Hoq , Asst Prof Rishath Sabrin, Lt Col Khondaker Sakil Ahmed, PhD published a journal article titled ‘Soil Bearing Capacity Estimation using Plate Load Test for Station 5 of MRT Line 6 at Dhaka: A Case Study’ in Journal Indian Geotechnical Journal (Publisher: Springer, IF: 1.4) on March 2024.
- Asst Prof Kha Afia Farjana Hoq, Lt Col Khondaker Sakil Ahmed, PhD, Assoc Prof Lt Col Mohiuddin Ahmed (Retd), PhD, Prof Dr. Md Zoynul Abedin published a journal article titled ‘Vertical bearing capacity of spun precast concrete pile in liquefiable soil: a case study’ in Journal ‘Geotechnical Research’ (Publisher: Emerald Publishing)’ on February 2024.
- Avijit Paul, Lt Col Khondaker Sakil Ahmed, PhD published a journal article titled ‘Data-driven machine learning approaches for predicting slump of fiber-reinforced concrete containing waste rubber and recycled aggregate’ in journal ‘Construction and Building Materials’ (Publisher: Elsevier, Q1, IF: 7.4) on 23 February 2024.
- Ashef Israk Arnob, Assoc Prof Lt Col Mohiuddin Ahmed (Retd), PhD, Lt Col Khondaker Sakil Ahmed, PhD published a journal article titled ‘SPT And CPT Correlations for Jolshiri Area of Dhaka Reclaimed By Dredged River Sediments’ in journal ‘Journal of Geo Engineering (Publisher: Taiwan Geotechnical Society)’ on November 2023.
- Lt Col Mohammed Russedul Islam, PhD published a journal article titled ‘Heterogeneity in Stakeholder’s perceptions on delays in infrastructure Projects: scenario of Bangladesh’ in journal ‘Engineering, Construction and Architectural Management’ on 08 March 2024.
- Assistant Professor Rishath Sabrin, Md. Shahjalal, Hasiba Afrin Eema Bachu, Mirza Md Lutful Habib, Tamanna Jerin, AHM Muntasir Billa published a journal article titled ‘Recycling of different industrial wastes as supplement of cement for sustainable production of mortar’ in International Journal Journal of Building Engineering on 11 February 2024.

# PUBLICATIONS

## JOURNAL ARTICLE

### CE DEPARTMENT

- Kh. Afia Farzana Haque, Rishath Sabrin, Mohiuddin Ahmed & Khondaker Sakil Ahmed published a journal article titled 'Soil Bearing Capacity Estimation using Plate Load Test for Station 5 of MRT Line-6 at Dhaka: A Case Study' in International Journal 'Indian Geotechnical Journal' on 12 March, 2024.
- Md Habibul Huq, Md Mafizur Rahman, Dr. G M Jahid Hasan published a journal article titled 'Climate resilient urban drainage planning: an approach using GIS-based SCS-CN model' The article was published in Journal of Water and Climate Change (Publisher: IWA, IF: 2.8) on 1 July 2024.
- M. Tauhid Ur Rahman & Adnan Khairullah published a journal article titled 'Assessment of water security challenges in hilly terrain of Bangladesh: an insight of quantity and quality concerns and implementation of effective solutions' The article was published in Journal of Sustainable Water Resources Management, Springer, Volume 10, article number 153 (2024) Cite this article, IF 2.2, Q2 on 17 July 2024.
- Lt Col Khondaker Sakil Ahmed, PhD, published a journal article titled 'Numerical investigation for shear behavior of pretensioned spun precast concrete pile' Published in International Journal 'Structures' in July 2024.
- Lecturer Tusher, Lt Col Khondaker Sakil Ahmed, PhD, PEng, CEng and Maj Saleh Bin Ibrahim published a journal article titled "Bond behavior of deformed rebar in concrete containing recycled brick aggregate and waste rubber" in Journal of Building Engineering (Q1, Impact Factor 6.4) of Elsevier in September, 2024. <https://doi.org/10.1016/j.jobbe.2024.109729>.

### ME DEPARTMENT

- Asst Prof Md. Insiat Islam Rabby, Lec Wasi Uddin published a journal article titled 'Impact of non-uniform heat flux conditions on convective heat transfer and energy efficiency in a corrugated tube' in Journal Heliyon, published on 23 May 2024 at Elsevier Publication. <https://doi.org/10.1016/j.heliyon.2024.e31663>.
- Asst Prof Md Insiat Islam Rabby, Siti Ujila Masuri, Ahmad Syakir Fariz Bin Samsul Kamal, Abdul Aziz Bin Hairuddin, Nuraini Bt Abdul Aziz, Zulkiflle Bin Leman published a journal article titled Numerical Investigation of Disk Bypass Pipeline Inspection Gauge with Hole in Disk' in Journal of Engineering Research Published on 22 May 2024. <https://doi.org/10.1016/j.jer.2024.05.016>.

# PUBLICATIONS

## JOURNAL ARTICLE

### BME DEPARTMENT

- Md Enamul Hoque, Asif Mahmud Rayhan has published a journal article titled ‘Jute Fiber Reinforced Biocomposite: Towards Developing Composite Bone Plate’. The article was published in the reputed IOP Conference Series: Materials Science and Engineering, on 01 April 2024.
- Kishan Nandi Shoudho, Tausif Hasan Khan, Ummay Rifat Ara, Moshir Rahman Khan, Zayed Bin Zakir Shawon, Md Enamul Hoque has published a journal article titled ‘Biochar in global carbon cycle: Towards sustainable development goals’. The article was published in the Journal “Current Research in Green and Sustainable Chemistry” by Elsevier on 22 March 2024.
- Sazedur Rahman, Somya Sadaf, Md Enamul Hoque, Akash Mishra, Nabisab Mujawar Mubarak, Guilherme Malafaia, Jagpreet Singh has published a journal article titled ‘Unleashing the promise of emerging nanomaterials as a sustainable platform to mitigate antimicrobial resistance’. The article was published in the “RSC advances” by Royal Society of Chemistry on 10 May 2024.
- Upasana Sarma, Md Enamul Hoque, T Aswani, V Nethravathy, Senthilkumar Rajagopal, published a journal article titled ‘Microalgae in removing heavy metals from wastewater–An advanced green technology for urban wastewater treatment’ The article was published in the Journal of Hazardous Materials Advances.
- Tobibul Islam, Md Enamul Hoque, Mohammad Ullah, Toufiqul Islam, Nabila Akter Nishu, Rabiul Islam, published a journal article titled ‘CNN-based deep learning approach for classification of invasive ductal and metastasis types of breast carcinoma’ The article was published in the Journal of Cancer Medicine.
- Md. Al Noman, Md. Asadur Rahman, A. B. M. Aowlad Hossain, published a journal article titled ‘Segmentation and Classification of Left Ventricular Abnormalities in Cardiac MRI Using Initial Point Prediction based Deformable Mode’ The chapter was published in the journal Future Computing and Informatics Journal by Arab Journals Platform.
- Md Mustaqim Abrar, Zobair Hasan, Abdul Wazed Rifat, Md Asadur Rahman, published a journal article titled ‘Detection and Blurring Bloodstained Violence Scene by Convolutional Neural Network-Based Model for Media Platforms’ The chapter was published in the journal SN Computer Science Journal” by “Springer Nature Singapore.
- Syed Muiz Sadat Yashfe, Adiba Ashrafee, Md Rahatuzzaman, Akid Ornob, published a Journal article titled ‘A 3D Printed Shape Optimized and Modular Trans-Tibial Pylon with Adaptive Load Capacity’ The article was published in the Journal of Available at SSRN.

# PUBLICATIONS

## JOURNAL ARTICLE

### PME DEPARTMENT

- Alam AKM B., Aramaki N., Tamamura S., Ueno A., Murakami T., Tamazawa S., Fujii Y and Kaneko K. (2024), Induced Oxidation Effects on Physical and Mechanical Properties of Lignite from Tempoku, Hokkaido, Japan for Sustainable Mining via Subsurface Cultivation and Gasification Method, Journal of Sustainable Mining, XX:1-11, <https://doi.org/10.46873/2300-3960.1418>.
- Z.X. Li, Fujii, Y., Alam AKM B., Lia Z.H., Dua F., Weid W.J. (2024), Implementing a simple 2D constitutive model for rocks into finite element method, Computers and Geotechnics, 167(2024)106095, <https://doi.org/10.1016/j.compgeo.2024.106095>.
- Md. Nasirul Islam. Md. Shameem Hossain, Mohammad Mujtaba Hasan, Shehoba Yasmin, Prodeepta Neogi, published a Journal article titled 'Evaluating a Computerized CCS Model Against Current Technologies to Optimize Environmental Conservation for the Patuakhali Power Plant in Bangladesh'. Journal of HELIYON, <https://doi.org/10.1016/j.helivon.2024.37107>.
- Mostafizur Rahaman, Mahmudul Hasan. Rayan Md. Moinuddin, Md. Nasirul Islam, published a journal article titled 'Numerical optimization of lead-based and lead-free absorber materials for perovskite solar cell (PSC) architectures: A SCAPS-1D simulation', API advances, Q2, <https://doi.org/10.1063/5.0217486>.
- Tamanna Zafrin Orin, Md. Tauhidur Rahman, Md. Amirul Islam, K M Haidarul Alam, A SM Mannafi, Khairul Habib, published a journal article titled 'Enhanced Oil Recovery through Carbon Dioxide Injection: A Compositional Simulation Approach' Journal of Advanced Research in Applied Sciences and Engineering Technology Vol.49 No.1. <https://doi.org/10.37934/araset.49.1.149160>.

### IPE DEPARTMENT

- Nazia Rodoshi Khan, published a journal article titled 'Exploring the Versatility of Aerogels: Broad Applications in Biomedical Engineering, Astronautics, Energy Storage, Biosensing, and Current Progress' Heliyon Volume 10, Issue 1, 15 January 2024, e23102; December 2023, <https://doi.org/10.1016/j.heliyon.2023.e23102>.
- Adib Bin Rashid, published a journal article titled 'A comparative study on the influence of MWCNT, GO, and Al(OH)<sub>3</sub> gel matrix modification on hierarchical structured composite reinforced with needle-punched jute fiber and glass fiber' Results in Engineering Volume 21, March 2024, 101671; 14 Dec 2023, <https://doi.org/10.1016/j.rineng.2023.101671>.
- Mohammad Naim Uddin, Hussain Nyeem, published a journal article titled 'Engineering a Multi-Sensor Surveillance System with Secure Alerting for Next-Generation Threat Detection and Response' Results in Engineering. Elsevier. [Q1] 7 March 2024.
- Noshin Tasnim Tuli, Adib Bin Rashid, Sinthea Khantun, published a journal article titled 'Unlocking the future of precision manufacturing: A comprehensive exploration of 3D printing with fiber-reinforced composites in aerospace, automotive, medical, and consumer industries' Heliyon (Q1). March, 2024.

# PUBLICATIONS

## JOURNAL ARTICLE

### IPE DEPARTMENT

- Nazia Rodoshi Khan, Adib Bin Rashid, published a journal article titled 'Carbon-based Nanomaterials: a Paradigm shift in Biofuel Synthesis and Processing for a Sustainable Energy Future' Energy conversion and management: X (Q1) 7 March 2024.
- Noshin Tuli, A.K.M. Nurul Amin, Rakin Kaiser, Fatin Ishraq Dhrubo and Adib Bin Rashid, Optimization of machining parameters in high-speed end milling of hardened AISI H13 die steel by integrating RSM and GA, Published online: 02 Sep 2024, <https://doi.org/10.1080/2374068X.2024.2397153>
- Mohamad Naim Uddin, Hussain Nayeem, Md. Tawfiq Amin, 'Plug Guard: A Neural Network-Based Power Quality Control System for Plug Loads', IEEE Transactions on Industrial Informatics, June 2024, (Q1) DOI: 10.1109/TII.2024.3413325.

### ARCH DEPARTMENT

- Professor Dr. Ing Sudipti Biswas published a journal article titled 'Sustainable Waste Management practices in the Informal Sector Towards Industrial Symbiosis' in the Scopus indexed Journal Environmental Research and Technology.

### Sc & Hum DEPARTMENT

- Rafid Buksh, Shahinoor Alam and Nur-E-Mostafa, has published a journal article titled 'Contribution of BSM Particles on Electric Dipole Moment of Charged Leptons in the Minimal Left-Right Symmetric Model, IOP Conference Series: Materials Science and Engineering.' The article was published in IOP Conf.Ser.Mater.Sci.Eng.1305 (2024) 1, 012011 on 2024.
- Md Asaduzzaman, Mehedi Hassan, Kabir Hossain, Shahinoor Alam, Mohammad Omar Faruk and K M Jalal Uddin Rumi, has published a journal article titled 'Transient Analysis of LBLOCA with Subsequent Loss of Offsite Power and Loss of All AC Power in VVER-1200 Reactor'. The article was published in IOP Conference Series: Materials Science and Engineering, Vol. 1305, 2024. DOI: 10.1088/1757-899X/1305/1/012012.
- Sadia Salsabil, Md Shahinoor Alam, Md Abdus Salam, Md Jafar Sharif and Zakir Sultan, has published a journal article titled 'Interaction of Tapentadol with Selected Metal Ions Studied by UV-Vis and FTIR Spectroscopy. The article was published in IOP Conference Series: Materials Science and Engineering, vol. 1305, DOI: 10.1088/1757-899X/1305/1/012006.
- Md. Fahamidul Islam, Mohebul Ahsan, Md. Nurnobi Islam, Mohammad Imran Hossain, Newaz Mohammed Bahadur, Md. Abdul Aziz, Jehan Y. Al-Humaidi, Mohammed M. Rahman, T. Maiyalagan, Mohammad A. Hasnat, has published a journal article titled 'Recent Advancements in Ascribing Several Platinum Free Electro-Catalysts Pertinent to Hydrogen Evolution from Water Reduction'. The article was published in Chemistry-An Asian Journal, e202400220, 2024. DOI: 10.1002/asia.202400220.

# PUBLICATIONS

## CONFERENCE PAPER

### CE DEPARTMENT

- Lt Col Md. Jahidul Islam, PhD, published a conference article titled 'Influence of size, strength, and aggregate type on the effectiveness of CFRP confinement in brick aggregate concrete'. In: Proceedings of the Canadian Society of Civil Engineering Annual Conference 2024, June 5–7, 2024, Niagara Falls, Ontario, Canada.
- Lt Col Md. Jahidul Islam, PhD, published a conference article titled 'Comparison of Theoretical and Experimental Shrinkage of Concrete Partially Replaced with Polypropylene Aggregate', In: Proceedings of the Canadian Society of Civil Engineering Annual Conference 2024, June 5–7, 2024, Niagara Falls, Ontario, Canada.
- Lt Col Khondaker Sakil Ahmed, PhD, published a conference paper titled 'Evaluation of Seismic Responses of Padma Multipurpose Bridge Using Non-linear Dynamic Analysis' in International Conference: '18<sup>th</sup> World Conference of Earthquake Engineering (WCEE 2024) At: Milan, Italy' in July 2024.
- Lt Col Khondaker Sakil Ahmed, PhD, published a conference paper titled 'Seismic Responses of Prestressed Precast Spun Concrete Pile Subjected to Soil Liquefaction' in International Conference: '18<sup>th</sup> World Conference of Earthquake Engineering (WCEE 2024) At: Milan, Italy' in July 2024.
- Lt Col Khondaker Sakil Ahmed, PhD, published a conference paper titled 'Seismic Responses of Prestressed Precast Spun Concrete Pile Subjected to Soil Liquefaction' in International Conference: '18<sup>th</sup> World Conference of Earthquake Engineering (WCEE 2024) At: Milan, Italy' in July 2024.

### EECE DEPARTMENT

- Nomaiya Bashree, Tareque Bashar Ovi, Lt Col Hussain Md Abu Nyeem, PhD, EME, Maj Md Abdul Wahed, Sigs published a conference paper titled 'Enhanced Chest CT Infection Segmentation with Reverse Attention and CBAM' in 'International Conference on Human-Centric Smart Computing-2024' at UEM, Jaipur, India on 25-26 July 2024.
- Md Abrar Shahriar Kabir , Sadia Binte Zahid , Lec Tareque Bashar Ovi , Nomaiya Bashree, Lt Col Hussain Md Abu Nyeem, PhD, EME, Maj Md Abdul Wahed, Sigs published a conference paper titled 'Dual Attention-Guided Deep Learning for Multi-Class Gastrointestinal Disease Detection' in 'International Conference on Human-Centric Smart Computing-2024' at UEM, Jaipur, India on 25-26 July 2024.
- Disha Chowdhury, Nomaiya Bashree, Lec Tareque Bashar Ovi Lt Col Hussain Md Abu Nyeem, PhD, EME Maj Md Abdul Wahed, Sigs, Rawnak Tanzim published a conference paper titled 'Attention-Enhanced Multi-Dilation CNN for Plant Disease Classification' in 'International Conference on Human-Centric Smart Computing-2024' at UEM, Jaipur, India on 25-26 July 2024.
- Lec Sadman Saif, Anika Tahsin Sarker, A K M Nazrul Islam published a conference paper titled 'A Lightweight Load Shedding Control System: Categorized Load Distribution and Management Based on Frequency' in '3<sup>rd</sup> International Conference on Power, Electrical, Electronics and Industrial Applications (PEEIACON 2024)' at RUET, Rajshahi, Bangladesh on 12-13 September 2024.

## ME DEPARTMENT

- Asst Prof Md. Insiat Islam Rabby of ME Department and 3 co-authors published a conference article titled 'Aerodynamic and Flow Characteristics of a Rough Airfoil: A Numerical Study' IOP Conference Series: Materials Science and Engineering on 01 April 2024. DOI: 10.1088/1757-899X/1305/1/012003.
- Md Insiat Islam Rabby, H.M Khairul Enam, Md Wasi Uddin, Afsana Sultana, Rokib Uddin, and Mahfuz Alam published a conference article titled 'Potential Nanoparticles to Integrate with Ceramic Membranes for Treating Industrial Wastewater: A Review' at IOP Conference Series: Materials Science and Engineering on 01 April 2024. DOI: 10.1088/1757-899X/1305/1/012001.
- Mahatab Bin Rashid, Nafiul Islam and Insiat Islam Rabby published a conference article titled 'Laminar Convective Heat Transfer Across a Circular Pipe by Using MWCNT+ Fe<sub>3</sub>O<sub>4</sub> Hybrid Nanofluid: A Numerical Study' at IOP Conference Series: Materials Science and Engineering on 01 April 2024. DOI: 10.1088/1757-899X/1305/1/012005.
- Shah Md. Ahasan Siddique, Sadman Tajwar Shahid, Md Wasi Uddin, Mohammad Tarequl Islam, Safwan-ul-Iman and Md. Humayun Kabir Bhuiyan published a conference article titled 'Mechanical Properties and Microscopic Evaluation of Heat Treated D6A Ultra High-Strength Steel' at IOP Conference Series: Materials Science and Engineering on 01 April 2024. DOI: 10.1088/1757-899X/1305/1/012010.
- Lec Ahasan Siddique of ME Department and 4 co-authors published a conference article titled 'Biomolecular Analysis of Soil Samples and Rock Imagery for Tracing Evidence of Life Using a Mobile Robot' at 2023 IEEE 8<sup>th</sup> International Conference on Recent Advances and Innovations in Engineering (ICRAIE) on 20 March 2024. DOI: 10.1109/ICRAIE59459.2023.10468310.
- Lec Afsana Sultana of ME Dept and 2 co-authors published a conference article titled 'Thermo-elastic Characteristics of Thermal Barrier Coating in a Gas Turbine Combustion Chamber with an Intermediate FGM Layer' 2024 at IOP Conference Series: Materials Science and Engineering on 01 April 2024. DOI: 10.1088/1757-899X/1305/1/012010.
- Lec Mohammad Tarequl Islam of ME Dept and 3 co-authors published a conference article titled 'Thermal Performance Analysis of a Rectangular Finned Heat Sink under Dust Deposition' at IOP Conference Series: Materials Science and Engineering on 01 April 2024. DOI: 10.1088/1757-899X/1305/1/012010.
- Asst Prof Atif Yasir of ME Dept and 3 co-authors published a conference article titled 'Comparative Analysis of Aerodynamic Lift and Drag of Commercially Used Air-foil Incorporated with Co-flow Jet' at IOP Conference Series: Materials Science and Engineering on 01 April 2024. DOI: 10.1088/1757-899X/1305/1/012010.
- Asst Prof Dr. Ahmed Afif Bin Abedin of ME Dept and 3 co-authors published a conference article titled 'Design, Construction, and Investigation of the Drying Equipment Using Solar Power for Bangladeshi Fruits and Vegetables' at IOP Conference Series: Materials Science and Engineering on 01 April 2024. DOI: 10.1088/1757-899X/1305/1/012010.

### ME DEPARTMENT

- Asst Prof Dr. Muammer Din Arif, Asst Prof Dr. Golam Mostofa of ME Dept and 3 co-authors published a conference article titled 'Experimental Cooling Performance Evaluation of Different Coolants for Data Centre' at IOP Conference Series: Materials Science and Engineering on 01 April 2024. DOI: 10.1088/1757-899X/1305/1/012010.
- Asst Prof Dr. Ahmed Afif Bin Abedin of ME Dept and 4 co-authors published a conference article titled 'Structural and Electrochemical Performance of Sr<sub>0.9</sub>La<sub>0.1</sub>WO<sub>4</sub> Electrolyte Materials for Solid Oxide Fuel Cells' at IOP Conference Series: Materials Science and Engineering on 01 April 2024. DOI: 10.1088/1757-899X/1305/1/012010.
- Lec Md. Fahim Faisal of ME Dept and 3 co-authors published a conference article titled 'Development and Analysis of Additively Manufactured Non-Pneumatic Tires for Mars Rover' at IOP Conference Series: Materials Science and Engineering on 01 April 2024. DOI: 10.1088/1757-899X/1305/1/012010.
- Asst Prof Tazeen Afrin Mumu of ME Dept and 3 co-authors published a conference article titled 'Performance Enhancement of PV Module with Cooling Effect using Wet Wicks' at IOP Conference Series: Materials Science and Engineering on 01 April 2024. DOI: 10.1088/1757-899X/1305/1/012010.

### BME DEPARTMENT

- Faria Tasnim, Md Tobibul Islam, Anika Tahsin Maisha, Israt Sultana, Tasnia Akter, Md Toufiqul Islam, 'Comparison of Brain Tumor Detection Techniques by Using Different Machine Learning YOLO Algorithm'. The conference proceeding was published in 'Lecture Notes in Networks and Systems' by Springer, Singapore. The conference proceeding was published in 'Lecture Notes in Networks and Systems' by Springer, Singapore.
- Faria Tasnim, Md Tobibul Islam, Anika Tahsin Maisha, Israt Sultana, Tasnia Akter, Md Toufiqul Islam 'Comparison of Brain Tumor Detection Techniques by Using Different Machine Learning YOLO Algorithms'. The conference proceeding was published in 'Lecture Notes in Networks and Systems' by Springer, Singapore.

### IPE DEPARTMENT

- Mohammad Naim Uddin, Md. Sakibul Islam Sakib, Saionty Nawer, Refa Tasfia Mohona, 'Improved Fire Detection by YOLOv8 and YOLOv5 to Enhance Fire Safety' 26<sup>th</sup> International Conference on Computer and Information Technology (ICCI). 27 Feb 2024.
- Basit Mahmud Shahriar, Md. Sajib Milki 'Investigating Critical Factors for Implementing Safety Measures in RMG Industry Using ISM-MICMAC' 6<sup>th</sup> Industrial Engineering and Operations Management Bangladesh Conference, 03 April 2024.
- Refa Tasfia Mohona, Saionty Nawer, Md. Sakibul Islam Sakib, Mohammad Naim Uddin, 'A Yolov8 Approach for Personal Protective Equipment (PPE) Detection to Ensure Worker's Safety', 3<sup>rd</sup> International Conference on Advancements in Electrical and Electronic Engineering, June 2024, DOI: 10.1109/ICAEE62219.2024.10561752.

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**Published By** : Research and Development Wing, MIST

**Address** : Mirpur Cantonment, Dhaka-1216

**Website** : [www.mist.ac.bd](http://www.mist.ac.bd)

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