MIST newsletter

Technology for Advancement

Military Institute of Science and Technology

20th Year | Jul - Dec 2020 | Issue 37

COMMANDANT'S GLOSS



MIST, a renowned Engineering Institution of Bangladesh Armed Forces, focuses on developing quality technical education and research. To enrich students and faculty members with updated technical knowledge and skills, MIST regularly arranges different seminars, conferences, workshops, industrial tours and other co-curricular activities. The second half of the academic session 2019-20 was not an exception. Even during this pandemic, this institution has continued its academic curriculum in full swing. This newsletter reflects the activities of last six months. I express my heartfelt thanks and gratitude to the editorial board for publishing MIST Newsletter regularly.

CORONA AWARENESS PROGRAM





On 16th December, 2020 conceiving the theme **Safety Through Mask** and realizing the fact **My life-My Responsibility**, a **Corona Awareness Program** held at MIST as a part of ongoing program of **Victory Day.** Commandant MIST, Maj Gen Md Wahid-Uz-Zaman, ndc, aowc, psc, te inaugurated the program as the chief guest. At the beginning of his speech, Commandant expressed his deepest respect on the Victory Day to the Father of the Nation Bangabandhu Sheikh Mujibur Rahman. He also paid tribute to the martyrs of Liberation War 1971 who made their supreme sacrifice for the independence of Bangladesh. He requested all to adhere the call made by the Honorable Prime Minister for wearing mask to remain safe during Corona Pandemic. In addition to this event, the chief guest also thanked all concerned, related to the publication of special issue of MIST International Journal of Science and Technology (MIJST)- A Peer Reviewed Online Open Access Journal, on the occasion of Victory Day. In this public awareness program on Victory Day, during the birth centenary of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman, MIST campus was decorated with various banners, festoons, and placards with information on COVID-19. Military and non-military faculty members, officers, military students and other members of MIST joined that program.

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INAUGURATION OF BIOGAS PLANT OF MIST

On 20th September, 2020 under the arrangement of Research and Development wing, MIST a low cost biogas plant has been setup for household and industrial purpose. Commandant MIST, Maj Gen Md Wahid-Uz-Zaman, ndc, aowc, psc, te inaugurated the project. Colonel Molla Md. Zubaer, te A/Director Research and Development wing, MIST was the chief Coordinator, Research Assistant Gazi Hamidur Rahman is the Principal Investigator and Lt Col Muhammad Sanaullah, psc, Engrs, General Staff Officer-1 (Research), MIST was Coordinator of the Biogas project. The aim of this biogas project is to provide benefit to the rural people of Bangladesh.



GOVERNING BODY MEETING OF MIST



The 35th and 36th meetings of the **Governing Body of MIST** were held on 19th July and 8th December, 2020 respectively at MIST. Major General Ibne Fazal Shayekhuzzaman, BSP, SGP, afwc, psc, Engineer in Chief, Bangladesh Army presided over the meeting. Commandant MIST, high military officials from AFD, Services Headquarters, BUP and other high civil officials/Academicians from DU, BUET and different ministries were also present in the meeting.

ACADEMIC COUNCIL OF MIST

The 65th and 66th meetings of the **Academic Council of MIST** were held on 14th October and 10th December, 2020 respectively at MIST. Commandant MIST Major General Md. Wahid-Uz-Zaman, ndc, aowc, psc, te chaired the meeting. Representatives from DU, BUET, Ministry of Education, Ministry of Defence, Armed Forces Division, Army, Navy and Air Force were also present in the meeting.



MEETING HELD WITH A2I INNOVATION LAB REGARDING COLLABORATION RESEARCH AND DEVELOPMENT



On 15th October, 2020 a team of CSE Department MIST headed by the respective head of the Department Brigadier General Md. Sajjad Hossain along with Col. Shahjahan Mojib, Lt. Col. Dr. Muhammad Nazrul Islam visited a2i Innovation Lab. The a2i Innovation Lab (iLab) is working tirelessly to solve national problems through domestic innovation. MIST has already enriched their labs sufficiently for pursuing groundbreaking research and development. A formal discussion on collaborative research and innovation was held between the high officials of iLab and MIST representatives.
Mr. Sudipta Mukherjee, Resident Representative of UNDP Bangladesh, was present at the discussion. All attendees expect that MIST and iLab would collaboratively pursue research and development (R&D) activities to further expand domestic innovation activities.

SEMINAR ON INTERNATIONAL RECOGNITION OF ICT KNOWLEDGE AND SKILLS



Department of CSE, MIST jointly with Japan International Cooperation Agency (JICA) and Bangladesh Computer Council (BCC), organized a seminar on **International Recognition of ICT Knowledge and Skills** at multipurpose hall, MIST targeting Japanese market. Akihiro Shoji, JICA expert was present as guest of honour while Md Golam Sarwar, Project Director, BCC delivered Keynote speech.

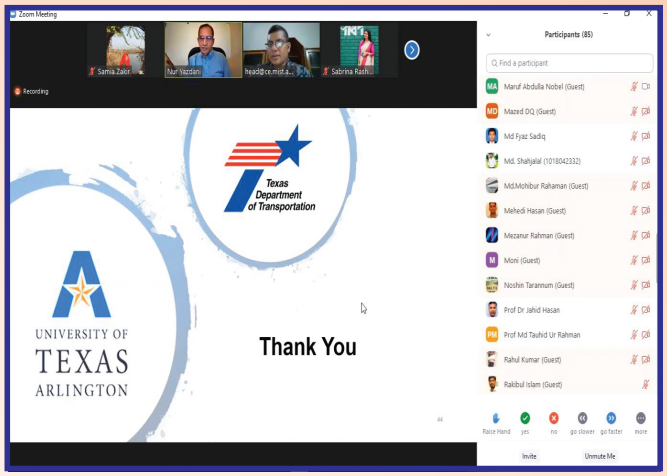
ONLINE COUNSELING AT MIST DURING COVID-19

At the beginning of the pandemic situation of COVID-19, People were going through different mental health issues like- anxiety, depression, panic during this quarantine, lockdown, and isolation. All educational institutions were closed because of this pandemic. This situation put impacts on both physical and mental arena. Therefore, Counselor of MIST provided mental health support through online sessions titled **Online Counseling at MIST During COVID-19** for the students as well as for all the members of MIST through online under the supervision of Directorate of Students' Welfare.



WEBINAR OF TWO CONSECUTIVE LECTURES BY CE DEPARTMENT

On 21st October, 2020 a Webinar of two consecutive lectures titled **Evaluation of a Precast Prestressed Concrete Bridge through Non-Destructive Evaluation (NDE) and Load Testing** by Dr Nur Yazdani, Professor, Department of Civil Engineering, University of Texas at Arlington, USA and **Performance-based Seismic Analysis and Design of Structures** by Lt Col Khondaker Sakil Ahmed, PhD, Associate Professor, Department of Civil Engineering, MIST was held successfully. Faculty of CE Department undergraduate and postgraduate students of CE Department, distinguished guest from other universities and professionals from various organizations have attended the Webinar.



A WEBINAR COMPRISING THREE LECTURES BY CE DEPARTMENT



A Webinar comprising three lectures titled **Transit Reliability Assessment along a Congested Urban Corridor: A Traffic Micro simulation Modeling Approach** by Dr. Mahmudur Fatmi, Assistant Professor, School of Engineering, Civil Engineering, The University of British Columbia, Canada; A **Framework for Involving the Young Generation in Transportation Planning Using Social Media and Crowd Sourcing** by Dr. Moinul Hossain, Professor, Department of Civil and Environmental Engineering, Islamic University of Technology, Gazipur, Bangladesh, and **Impact of Climate Change on Pavement Performance in Bangladesh** by Brig Gen Shah Md Muniruzzaman (Retd), PhD, Professor, Department of Civil Engineering, MIST was held on 10th November, 2020 successfully. Faculty of CE Department, undergraduate and postgraduate students of CE Department distinguished guests from other universities and professionals from various organizations have attended the Webinar.

A WEBINAR ON ADAPTING TO TEACHING-LEARNING ONLINE DURING COVID-19 PANDEMIC: CHALLENGES AND MITIGATION STRATEGIES

On 29th August, 2020 a webinar on **Adapting to Teaching-Learning Online During Covid-19 Pandemic: Challenges and Mitigation Strategies** was arranged successfully by CSE Department, MIST. The aim of the webinar was to share experiences. There were three-valued speakers from universities in the USA, Canada, and Bangladesh. Basically, the whole session was divided into three parts. The first part, 'Online Teaching, Learning, and Evaluation: Experiences at uSask', was covered by Prof. Dr. Chanchal K. Roy, Department of Computer Science, University of Saskatchewan, Canada.



The next part was on Technology in Imparting Education Online: Experiences at SMU which was discussed by Mousumi Tanha, Academic Technology Services Director, Southern Methodist University, Dallas, Texas. The Final session was delivered by Prof. Dr. Javed Bari, Dean, School of Engineering and Physical Sciences, North South University, Dhaka on the topic of 'Online Teaching, Learning, and Evaluation: Experiences at NSU'.

WEBINAR ON NAVIGATING MY CAREER AS A CSE GRADUATE



A webinar titled **Navigating My Career as a CSE Graduate** was held on 18th July, 2020 by CSE Alumni Association of MIST (CAAM). 5 valued speakers, each distinguished in their varied work domain, ranging from CSE 2 to CSE 10 shared their valuable experience with the current student and alumni members. The aim of this webinar was to give students insights on the various career paths that can be adopted by a CSE graduate, as well as to learn from the experiences of our beloved alumni.

ONLINE WEBINAR ON PROJECT MANAGEMENT FOR INDUSTRIAL REVOLUTION 4.0

On 6th October, 2020 an online webinar was organized by Department of Mechanical Engineering on **Project Management for Industrial Revolution 4.0.** The keynote speaker Rashed Noman conducted the webinar. Students and faculty members of Mechanical Engineering department attended the webinar.

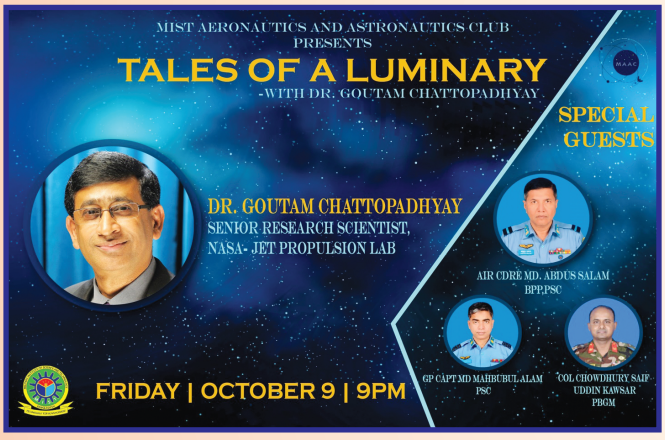


WEBINAR ON SPACE STUDIES AND RESEARCH IN BANGLADESH

On 12th September, 2020 Department of Aeronautical Engineering, MIST successfully arranged a webinar on **Space Studies and Research in Bangladesh.** The program was conducted live over Zoom. The Aim of the Webinar was to Share Knowledge and Stimulate Research on Space Engineering among Faculties, Industry Professionals and Students. The webinar was chaired by Air Cdre Md. Abdus Salam, BPP, psc head of AE Department, MIST.



TALES OF A LUMINARY BY MIST AERONAUTICS & ASTRONAUTICS CLUB (MAAC)



On 9th October, 2020 MIST Aeronautics & Astronautics Club (MAAC) had the privilege to arrange a webinar on **Tales of a Luminary** with Dr. Goutam Chattopadhyay, a remarkably established Senior Research Scientist from NASA. Dean of Mechanical Faculty & Head of AE Department Air Cdre Md Abdus Salam, Senior Instructor of the Department of AE Gp Capt Md Mahbubul Alam & the Director of Students Welfare Col Chowdhury Saif Uddin Kawsar were special guests. The webinar focused on the prospects of NASA, its diversities & the ample scopes in this world-famous platform.

WEBINAR ON NUCLEAR FUEL CYCLE AND WASTE MANAGEMENT

On 27th September, 2020 Department of NSE has successfully organized a webinar on **Nuclear Fuel Storage and Waste Management.** Commodore M Muzibur Rahman, (E), psc, BN, Dean, Faculty of Science and Engineering, MIST graced the occasion as chief guest. Dr Tanvir Farouk, Associate Professor, Department of ME, University of South Carolina, USA and Dr. Syed Masud Rana, Principal Scientific Office, BAEC were the resource persons in the lecture session. They delivered speech on nuclear fuel storage and also portrayed a glimpse on nuclear and radiological waste management to the audience. In this session, all students and faculty members of the Department of Nuclear Science and Engineering of MIST were present.



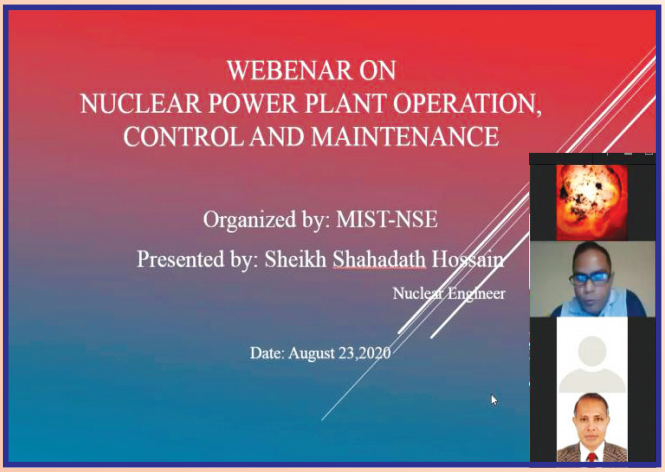
WEBINAR ON BIOSAFETY FOR CLINICAL AND PUBLIC HEALTH

On 8th September, 2020 a webinar on **Biosafety for Clinical and Public Health** was organized by the Department of BME MIST. It focused on guidelines for implementation of safe work environment in laboratories and hospitals, and on the biosafety practices followed by organizations in the country and abroad. The event was honored by Chief Patron Maj Gen Md Wahid-Uz-Zaman, ndc, aowc, psc, te, Commandant, MIST, with welcome speeches by Commodore M Muzibur Rahman, (E), psc, BN, Dean, Faculty of Science and Engineering while Col Syed Mahfuzur Rahman, Head of Department of Biomedical Engineering, MIST was the organizer.



Over 150 participants from MIST and outside attended the webinar, which was conducted in two sessions. The first session, 'Biosafety for Infection Control' was conducted by Professor Dr. Ahmed Abu Saleh, Chairman of the Department of Microbiology and Immunology at Bangabandhu Sheikh Mujib Medical College (BSMMU), and the second session 'Ensuring Complete Disinfection While Limiting Medical Device Damage' was conducted by J. Tobey Clark, Engineering Supervisor & Co-Director of WHO Collaborating Center for HTM from the University of Vermont, USA. The challenges that emerged in the advent of COVID-19, and the solutions being developed to tackle them were highlighted. The event was moderated by Maj Md. Maruf Hasan, PhD, with Master of Ceremony Lecturer Akid Ornob from the Department of BME, MIST.

WEBINAR ON NUCLEAR POWER PLANT OPERATION AND MAINTENANCE



On 23th August, 2020 Department of NSE has successfully organized webinar on **Nuclear Power Plant Operation and Maintenance.** Sheikh Shahdath Hossain, Nuclear Engineer, National Research Council (NRC), CANADA was the resource person in the lecture session. He delivered his speech on Nuclear Power Plant Operation and Maintenance to the audience. In this session, all students and faculty members of the Department of NSE of MIST were present.

WEBINAR ON WATER POLLUTION AND PUBLIC HEALTH

On 28th October, 2020 Department of EWCE, MIST organized a webinar titled **Water Pollution and Public Health.** Commandant MIST Maj Gen Md Wahid-Uz-Zaman, ndc, awoc, psc, te graced the occasion as the chief guest. The webinar was chaired by Col Md. Monzurul Islam, PBGMS, psc, Head, Department of EWCE. It was conducted by distinguished speaker Dr. Tanvir Ahmed, Professor, Department of Civil Engineering, BUET. The webinar was held online via ZOOM. A wide range of audience covering faculty members of MIST, staff officers of MIST, students of EWCE department, MIST attended the webinar.



WEBINAR ON LEAN SIX SIGMA



On 16th July, 2020 an online seminar titled **Lean Six Sigma** was arranged by IPE Department, MIST. A good number of students from different levels attended that seminar. Dr. Ahad Ali, Assistant Professor, College of Engineering, Lawrence Technological University, USA and Joseph M. Ogundu, PhD, MBA, President & CEO, Emerald Global Consulting Inc., West Bloomfield, Michigan, USA were present in that seminar as trainers. The trainers instructed on Lean **Six Sigma** and **Application of Lean Six Sigma** in Different Manufacturing and Service Industries.

WEBINAR AN ENGINEERS VIEW OF SUPPLY CHAIN

On 13th July, 2020 MIST Career Club organized a webinar **An Engineers View of Supply Chain** to learn about the opportunity and skills needed for the engineers to become a successful supply chain expertise in association with Unilever Bangladesh Limited under the direct supervision of Directorate of Students Welfare (DSW). Two Alumni from MIST currently working in Unilever Fahmida Akhter (Procurement Manager-Packaging) and Nazmus Sakib (Material Planner) had shared their experience and expertise in this field. The webinar was held through Zoom platform and a good number of participants joined the Webinar. Col Chowdhury Saif Uddin Kawsar, Director DSW, MIST attended the program as the chief guest.

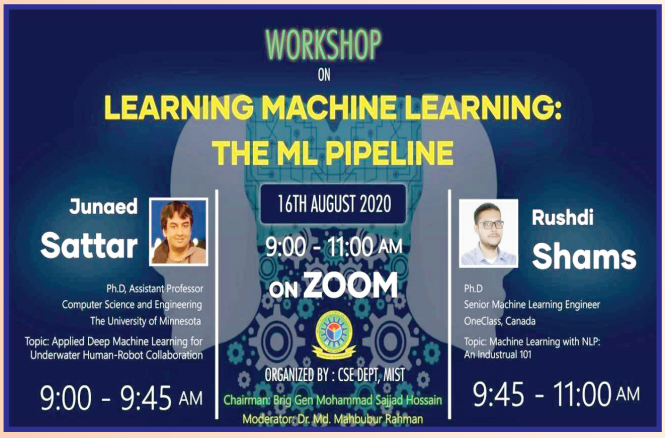


IPE CAREER TALK 1.0 RMG SECTOR

On 25th October, 2020 an online workshop titled **IPE Career Talk 1.0 RMG Sector** was organized by IPE Department, MIST. Engr. Md. Enamul Kabir, Production Team Manager, Decathlon Bangladesh Limited and Engr. Md. Jasim Uddin, Fakir Apparels Limited, Narayanganj, were present in that workshop as keynote speakers. They discussed job opportunities of IPE graduates in RMG sector and top skills required by the fresh graduates for getting jobs. A good number of students from different levels attended the workshop.



WORKSHOP ON LEARNING MACHINE LEARNING: THE ML PIPELINE



On 16th August, 2020 an online workshop on **Learning Machine Learning: The ML Pipeline** was arranged by Department of CSE, MIST. The workshop was open for all MIST Students. The workshop had two live sessions. Dr. Junaid Sattar, Assistant Professor, Department of CSE, University of Minnesota took the first session and second session by Dr. Rushdi Shams, Senior Machine Learning Engineer, One Class, Canada who shedded a light on Machine learning with NLP from an industrial standpoint. The session was chaired by Brig Gen Sajjad Hossain, Head, Department of CSE, MIST.

ONLINE WORKSHOP ON IONOSPHERIC PREDICTION AND FORECASTING

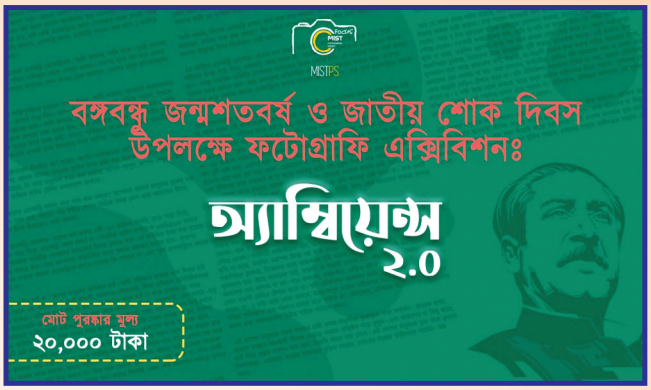
On 19th July, 2020 the Department of EECE arranged a workshop for professional development through interactive learning. The online workshop was organized on a riveting topic, **Ionospheric Prediction and Forecasting.** The workshop was conducted by Dr. Haris Haralambous, a senior researcher at Frederick Research Center and an Assistant Professor at the Electrical Engineering Department of Frederick University of Cyprus. The workshop was Chaired by Dr. Col Md Golam Mostafa (Retd). The workshop came to an end with a vote of thanks delivered by Brigadier General A. K. M. Nazrul Islam, head of the Department of EECE.



OBSERVANCE

ONLINE PHOTOGRAPHY EXHIBITION BANGABANDHU JONMO SHOTO BORSHO & NATIONAL MOURNING DAY PHOTOGRAPHY EXHIBITION: AMBIENCE 2.0

On 26th August, 2020 an online photography exhibition **Bangabandhu Jonmo Shoto Borsho & National Mourning Day Photography Exhibition: Ambience 2.0** was held. The event was arranged by MIST Photographic Society. More than 300 participants had participated in the exhibition. The first three winners of the competition were Miskat Farjana, Level -2 of IPE Department, Mosharat Belal Tahia, Level -1 of NSE Department and Zubaer Mostafa, Level -2 of IPE Department.



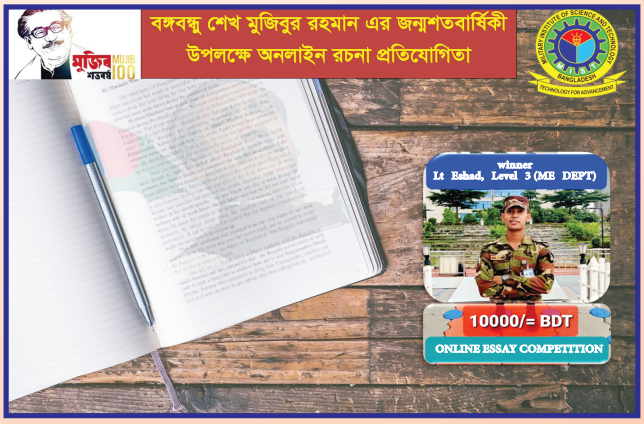
ONLINE BANGABANDHU JONMO SHOTOBORSHO INTER DEPARTMENT CULTURAL PROGRAM



Online Bangabandhu Jonmo Shoto Borsho Inter Department Cultural Program 2020 was commenced from 10th to 31th August, 2020. 110 participants from different departments of MIST participated in the event. Maj Gen Md Wahid-Uz-Zaman, ndc, awoc, psc, te, Commandant, MIST enjoyed the program online and praised the participants for their excellent performance.

MUJIB BORSHO ONLINE ESSAY COMPETITION

Md Nazirul Ahsan Eshad, level 3, ME Department, has won first prize in **Online Essay Competition** Arranged by MIST for the occasion of 100th Birth Anniversary of the Father of the Nation, Bangabandhu Sheikh Mujibur Rahman. In addition, Md Mirajul Islam, level 3, ME Department, has been recognized too for his comprehensive understanding on the theme and overall presentation of the essay. The MIST authority heartily congratulated and awarded them.



COMPETITION

INTER DEPARTMENT FOOTBALL COMPETITION-2020

Inter Department Football Competition -2020 took place from 12th to 22nd November, 2020. Military Students from different departments of MIST participated in the event. Maj Gen Md Wahid-Uz-Zaman, ndc, awoc, psc, te, Commandant, MIST attended the final match between CE & ARCH Vs CSE & NAME department at MIST play ground on 22nd November, 2020. CE & ARCH department became the champion of Inter Department Football Tournament 2020. Lt Esteaque from CE Department was awarded as player of the tournament.



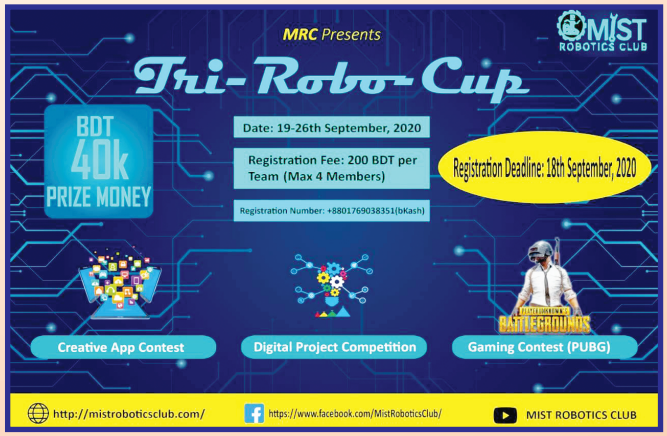
CIVIL ENGINEERING ONLINE COMPETITION 2020



An online based inter-department competition titled **Civil Engineering Online Competition 2020** was started on 29th September and ended successfully on 3rd November, 2020. Students of CE, EWCE and PME participated in this competition covering the events Photography Contest, Poster Presentation, Case Competition and Short Film.

VIRTUAL ROBOTICS COMPETITION

Virtual Robotics Competition was organized by the MIST Robotics Club, under the supervision of the Department of EECE. The week-long inter-university competition titled as **Tri-Robo-Cup 2020** was inaugurated on 19th September, 2020. Brigadier General A. K. M. Nazrul Islam, head of the department of EECE was the chief guest of the event. A total of 162 students from the reputed engineering schools from all over the country participated in the competition with relish. The outstanding performers were provided with certificates and had shares from the well-deserved total prize money of BDT 40,000.

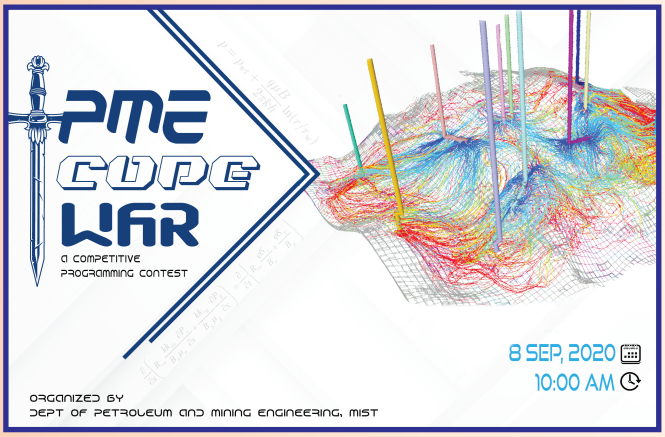


BUSINESS CASE COMPETITION MEGA MIND 1.0

A three-day online-based competition titled **Business Case Competition Mega Mind 1.0** was held from 1st September, 2020 to 3rd September, 2020 was organized by IPE Department, MIST. Total 180 students from different Departments of MIST participated in that competition. The 1st, 2nd and 3rd positions were secured by three different teams from PME, IPE and AE Department, respectively.



PME CODE WARS-A COMPETITIVE PROGRAMMING CONTEST



Department of PME has successfully organized an Online Competition on **PME Code Wars-A Competitive Programming Contest** on 8th September, 2020. Associate Professor Md. Amirul Islam, Lecturer Rubaya Tasnin and Lecturer Fahim Anjum conducted this competition. The aims of the contest were to develop interest in petroleum engineering software among students and to evaluate their competence level on software application in real oil and gas field. Students of level 4 of PME department participated in the contest. The participants interpreted seismic survey and well logs for lithology, water saturation, porosity, permeability and oil & gas zone detection. They constructed and simulated eclipse reservoir simulation model for production forecasting and oil & gas field development. This contest was very competitive and interesting.

ONLINE GAMING COMPETITION-2020

To relieve the monotony of the online class, **Online Gaming Competition-2020** was organized from 15th to 26th July, 2020. Current Students from different departments as well as Alumni from different departments of MIST participated in the event. A total of 600 participants had participated in the competition.

MIST ONLINE GAMING COMPETITION - 2020

FINAL MATCH RESULT

SEGMENT	CHAMPION	RUNNERS UP
LUDO SINGLE	TASIN TASFIA (ARCHI)	TASNIA IQBAL (CSE)
LUDO DOUBLE	CAPTIVATORS (CE) (ISMAT NABEELA, TASNIA AHMED)	DHET NOOB (EWCE) (SUMAIYA KHATUN, NAHIN IBNAT)
LUDO DOUBLE (ALUMNI)	DARK FUTURE	CHAAPER BAP
8 BALL POOL	MIRAJUL ALAM SARKAR(ME)	MUSHFIQUE HOSSAIN SHAFIN (CSE)
CHESS	TARIQUL ISLAM (CSE)	MIRAZ HOSSAIN (IPE)

ORGANIZED BY – MIST SPORTS

LIVE SHOW THE TORQUE HOUR ORGANIZED BY MOTO MIST AUTOMOTIVE CLUB



An exclusive live show **The Torque Hour** was hosted by MOTO MIST Automotive Club on 31st August, 2020. This show brought the participants close to the most talented and passionate engineers who are successful in their respective fields. They talked about their achievements and gave guidelines to the engineering students who participated in the live show. On 11th September, 2020 MOTO MIST Automotive Club presented second episode of 'The Torque Hour' where students of the club hosted the esteemed 'Team Red-X' on their show. 'Team Red-X' is an international quality dream team that has made our country proud overseas. It has successfully participated in the 'Shell Eco-Marathon' events held in Singapore (2017) and France (2018). They earned 9th position in Urban Concept Gasoline Fuel Type category in Singapore and a 2nd position a year later in France. Four members of "Team Red-X" shared their story and future plans which was utmost source of inspiration for the engineering.

MOCK BID COMPETITION



An online contest **Mock Bid Competition** was organized by Department of PME on 24th October, 2020. It was aimed to offer the students an opportunity to apply their fundamental understanding in solving a real- field issue of a mine having fun. It was a real-time competition. It is believed that the students had quality time in the COVID situation and opened the door of thinking of a mine-field.

MOBILE PHOTOGRAPHY COMPETITION

On 29th July, 2020 **Mobile Photography Competition** was organized by Student alliance of Army Universities, BD. Adiba Tasnim of BME-05, earned 2nd runner up in the **'Mobile Photography'** segment of **চিত্রঃচতুষ্কোণ-২০২০.** She also earned the 1st runner up in the Photography competition of '**Spectrum Presents: Artistry Quest'**, held on 23rd of December, 2020.



ACHIEVEMENT

ASIAN BRITISH PARLIAMENTARY (ABP) DEBATING CHAMPIONSHIP 2020

Asian British Parliamentary (ABP) Debating Championship 2020 was held online in Malaysia from 3rd to12th October, 2020. It was organized by the Taylors University and the Malaysian Institute for Debate and Public Speaking (MIDP). It is an annual tournament where debaters from Asia fight to represent their institutions. The tournament is conducted in the British Parliamentary format. This year for the first time, MISTDS sent a team to participate in this prestigious competition. The participants are Habibur Rahman Khan and Zubayer Uddin from PME Department, MIST.



TEAM MIST THERMIQUE BECAME 2ND RUNNER-UP IN DIGITAL PROJECT SHOWCASING



During the covid-19 pandemic situation, people may be infected easily even by coming slightest closer to an infected person. At this backdrop, fever can be an indicator for identifying an infected person. Giving alarm may restrict the entrance of people with suspected temperature. That's how the idea of Project THERMIQUE was generated. Using thermal scanning devices with sensors, can scan a person's temperature and also a time-attendance management system for identification purpose & monitoring it in real time.

MIST DEVELOPS PLASMA BANK APPLICATION TO ENHANCE THE CAPABILITY OF CMH IN TREATING COVID-19 PATIENTS



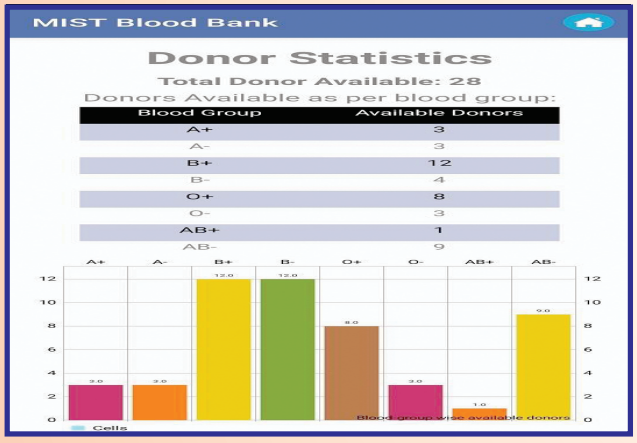
A team of CSE students and faculties from MIST under the direct supervision of Commandant, MIST in collaboration with CMH (Combined Military Hospital) and AFIP (Armed Forces Institute of Pathology) voluntarily prepared a plasma bank app to make and manage a platform for plasma donors and accumulated plasma in CMH and AFIP. The unique app works as a database for storing details about donors and stored plasma information. This app will help the patients in CMH to get required plasma fast. It will also help the doctors to check the availability of plasma in the plasma bank. Certainly, the endeavor of CMH and MIST for making the Plasma bank app will enhance the capability of CMH to give better treatment to COVID-19 Patients. Under the guidance of the head of CSE Department, Brig Gen Mohammad Sajjad Hossain and faculty member Lt Col Dr. Muhammad Nazrul Islam, the app is developed by Maj Noor Nafiz Islam, osp, Nafiz Imtiaz Khan and Md Shadman Aadeeb of CSE Department, Level-4.

DIGITAL WORLD 2020



Digital World is a brand event of the Government of Bangladesh and is organized in Public-Private Partnership. It is one of the largest ICT expositions and knowledge sharing platforms in South Asia. It provides a platform for sharing the best practices in ICT adoption, achievements and experiences, networking among IT & ITES industry leaders, experts, policy makers, government officials, entrepreneurs and academicians. MIST being a premium educational institution of Bangladesh is proudly participating in Digital World 2020 through the exclusive installment of virtual stall along withthe biggest franchisees of Bangladesh. The virtual stall of MIST is demonstrating UVC-PURGE: a semi-autonomous virus disinfection robot for the safe destruction of Covid-19 virus and Thermique: a temperature monitoring system for the mass crowd using thermal imaging. This a unique milestone towards promoting innovativeness & technological advancement in this critical time of pandemic.

CREATIVE APP CONTEST "TRI ROBOCUP"



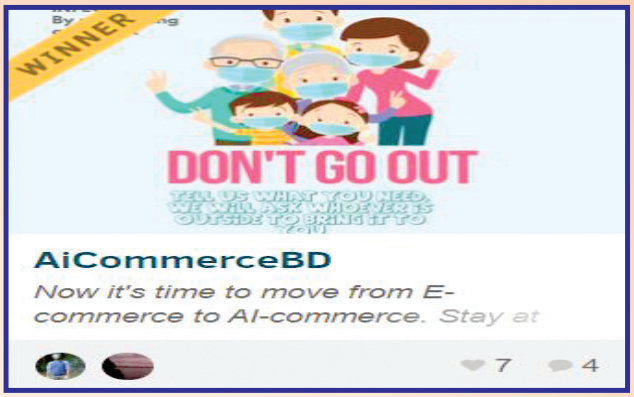
A team of CSE students from the MIST prepared a blood bank app and became champion in the creative app challenge of the **"Tri Robo cup"** by the MIST Robotics club. The app provides and manages a platform to make a bridge between blood donors and receivers in MIST. The unique app works as a database for storing details about donors and stored blood information. This app will help the patients to get the required blood fast and check the authenticity of the potential donor. Under the guidance of the head of the CSE department, Brig Gen Mohammad Sajjad Hossain, and faculty member Lt Col Dr. Muhammad Nazrul Islam, the app is developed by Maj Noor Nafiz Islam, OSP, Nafiz Imtiaz Khan, and Md Shadman Aadeeb all from the CSE Department respectively.

DEVELOPED FIRE DOOR TESTING CHAMBER

ME Department of MIST has developed one kind of positive pressured fire door testing chamber that can test the fire resistance of a fire door for different hour ratings. One door has been tested on 12th October, 2020. The chamber is natural gas fired and can sustain more than 1500°C. The test door was exposed to 1023°C for two hours rating. The temperature was measured by a custom made thermocouple and temperature controller. Currently work is going on to build the full size fire door testing chamber.



FACEBOOK MESSAGING HACKATHON AND WINS USD 1500



One Team from the Department of CSE, MIST secured third place in the Worldwide Facebook Messenger Hackathon arranged by Facebook Messenger Platform. Total 665 teams from all over the world consisting of 2738 participants took part in this hackathon and the team from Bangladesh secured the 3rd position worldwide making it the only Bangladeshi prize-winning team as well. The team also received a USD 1500 for it's position. The team designed an Artificial Intelligence (AI) driven Facebook Messenger Chatbot that lets people deliver essential goods to the doorstep so that community transmission of COVID-19 can be prevented to a certain extent. The chatbot dynamically connects the people willing to deliver goods with the people staying home and wanting the delivery, hence making it much easier for many to stay home during this pandemic! The team consists of two students from CSE Department; Tasfik Rahman and Rahul Mohoto. The department conveys it's heartiest congratulations to the students and always look forward to students enthusiastically participation in further open hackathons at the national and international level.

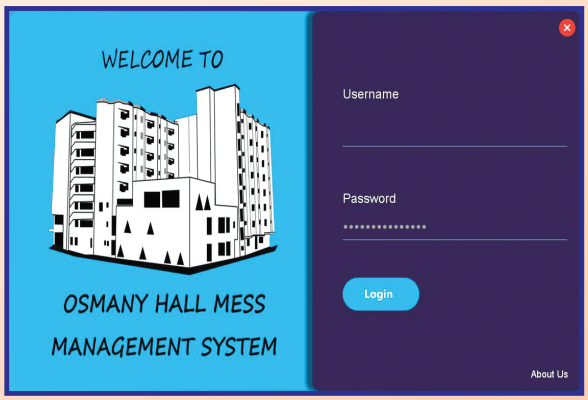
CSE DEPARTMENT'S STUDENTS DEVELOPED UVC DISINFECTION ROBOT "V-PURGE"



For the first time in Bangladesh with the wholehearted effort and support of students with the leading role of Computer Science and Engineering Department of MIST have **Developed a UVC Disinfection** semi-autonomous robot to fight against present COVID-19 pandemic situation. This robot is capable to destroy coronavirus with the help of ultraviolet type-C ray (wavelength 254 nm). It has also a mechanical arm to pick any suspicious object and a 180-degree rotatable camera. It is fully wireless controlled by both mobile and pc with a large area. It is applicable for any indoor environment such as office room, classroom, corridor, apartment etc. Moreover, it is cost-efficient.

DEVELOPED MANAGEMENT SYSTEM OF MIST OSMANY HALL MESS

After the establishment of Osmany Hall, all the accounts related to the mess were maintained in black and white. In order to automate the mess system first software was introduced around 2008 but needed lots of optimizations. In 2019 the second version of this software was introduced by a group of students from CSE-16 under the supervision of Col. Mahboob Karim. Yet it had some limitations of features and needed a lot of constraints to apply to maintain the consistency of the system. In order to make the software more user-friendly, this new system is developed by collaborating with the previous developer team.



DEVELOPS MIST HAND SANITIZER

The Department of Biomedical Engineering, MIST **Develops Hand-Sanitizer** for combating the spread of COVID-19. The hand-sanitizer is produced on campus following the instructions recommended by WHO (World Health Organization), with regular quality control being performed by BME department. Being supplied to military, government, and private organizations locally at low cost, the hand-sanitizer comes in various sizes.



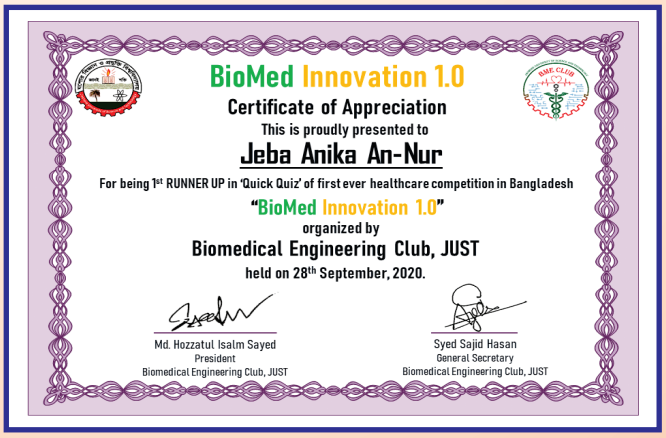
EINTHOVEN CLUB AS PARTNER OF BIOMED INNOVATION 1.0



The Einthoven Club of the Department of Biomedical Engineering, MIST was an engagement partner of **BioMed Innovation 1.0** The event was organized by the Biomedical Engineering Club of Jashore University of Science and Technology (JUST), and was held from 25th to 28th of September, 2020.

QUICK QUIZ SEGMENT OF BIOMED INNOVATION 1.0

Jeba Anika An-Nur of BME-04, Level-3 of the Department of BME, MIST became the 1st runner up in the **Quick Quiz segment of BioMed Innovation 1.0** after a competitive battle with participants from all over the country. The event was organized by the Biomedical Engineering Club of Jashore University of Science and Technology (JUST), and was held on the 28th of September, 2020 with participants from engineering universities of Bangladesh.


BioMed Innovation 1.0
Certificate of Appreciation
This is proudly presented to
Jeba Anika An-Nur
For being 1st RUNNER UP in 'Quick Quiz' of first ever healthcare competition in Bangladesh
"BioMed Innovation 1.0"
organized by
Biomedical Engineering Club, JUST
held on 28th September, 2020.
Md. Hozzatul Isalm Sayed
President
Biomedical Engineering Club, JUST
Syed Sajid Hasan
General Secretary
Biomedical Engineering Club, JUST

10TH INTERNATIONAL CONFERENCE ON GEOTECHNIQUE, CONSTRUCTION MATERIALS AND ENVIRONMENT

Lt Col Md Jahidul Islam from, PhD, CE Department Chaired the Session at 10th International Conference on Geotechnique, Construction Materials and Environment, Melbourne, Australia held on 12th November, 2020.



BEST PAPER AWARD



M.Sc. student of EECE Department A A M Shah Sadman received the 1st Prize of Dr. Fatema Rashid Best Paper Award in 23rd International Conference on Computer and Information Technology (ICCIT), held on 19-21 December, 2020. The paper titled 'Design of a 2x3 Microstrip Patch Phased Array Antenna for GNSS Augmentation' is a part of his M.Sc. thesis under the supervision of Prof Dr. Md. Hossam-E-Haider. In this paper, a 2x3 phased array antenna is designed and analyzed using rectangular microstrip patch antenna on FR-4 dielectric substrate with an aim of accomplishing beam scanning. As in various fields of communication such as satellite and radar, beam steering not only provides superior performance but also heightens the overall integrity of the communication system.

OTHERS ACTIVITIES OF CE DEPARTMENT

- Vetting of Structural and Geotechnical Design Drawing of the project "Construction of Elevated Expressway from Lalkhan Bazar to Shah-Amanat Airport in Chattogram Town, Chattogram". The estimated cost of this project is about US$388 million and the expressway will measure 16.5km, with two lanes in either direction.
- Preparation of Detail Plan, Drawings, Design, Bills of Quantity and Supervision for Repair, Replacement and Renovation Works of Existing Damaged Jetty NB-1 and NB-2 at BV Dockyard, Chattogram.
- Structural Design of Academic and Admin Building of Bangladesh Army International University of Science and Technology (BAIUST), Cumilla.
- Plate Load Test on Location of Exit/Entry Foundations and Generator Rooms for Station 1 – 9, of MRT Line 6.
- Fire Damage evaluation of FR Tower at Banani, Dhaka.
- BEPZA-MIST Green Laboratory Testing Services.
- Performance evaluation and consultancy of Spun Pile manufactured by BMTF.
- Important opinion was given on Protection of Jajira Cantt from bank erosion.
- Department of CE received Lab equipment from Bangladesh Bridge Authority (BBA) for Structura Mechanics, Geotechnical, Concrete and Transport lab worth 2 core 18 lack Taka. Preparing design and drawing of Low Cost Housing Project for flood affected areas in Bangladesh.

ARTICLE PUBLISHED

JOURNAL PAPER

- Prof Dr. G M Jahid Hasan from CE Department has published a journal paper titled 'Regional Trends of Sea Level Rise along the Coast of Bangladesh' in International Journal of Engineering Science, Vol 13(1).
- Prof Dr. Md Tauhid-Ur-Rahman from CE Department has published a journal paper titled 'Landfill area estimation based on solid waste collection prediction using ANN model and final waste disposal options' in Journal of Cleaner Production 256 (2020), Elsevier (a book chapter titled).
- Prof Dr. Md. Tauhid-Ur-Rahman from CE Department has published 'Estimation of Greenhouse Gas Emissions from Matuail Landfill Site' in Urban Mining and Sustainable Waste Management, Springer.
- Lt Col Khandoker Sakil Ahmed, PhD from CE Department has published a journal paper titled 'Stress and Stiffness Analysis of a 7-Teeth Pinion/Rack Jacking System of an offshore Jack-up Rig' in Engineering Failure Analysis, Elsevier.
- Lt Col Khandoker Sakil Ahmed, PhD from CE Department has published a journal paper titled 'Interface dependency of reinforced concrete jacketing for column strengthening' in Structures and Buildings, ICE Publishing 173(1).
- Lt Col Muhammed Russedul Islam, PhD from CE Department has published a journal paper titled 'Application of smoothed particle hydrodynamics (SPH) for simulating various geotechnical problems' in SN Applied Sciences (Springer).
- Lt Col Muhammed Russedul Islam, PhD and Brig Gen (Retd) Shah Md. Muniruzzaman, PhD from CE Department has published a journal paper titled 'Alternative option for road maintenance management in Bangladesh under climate change condition' in International Journal of GEOMATE.
- Lt Col Md Jahidul Islam, PhD and BA-9108 Lt Col Muhammed Russedul Islam, PhD from CE Department has published a journal paper titled 'Evaluation of Commonly Used Aggregates For Sustainable Infrastructure Development In Bangladesh' in Journal of GEOMATE, 2020, 18 (66).
- Lt Col Md Jahidul Islam, PhD from CE Department has published a journal paper titled 'Comparative Study of Physical and Mechanical Properties of Machine and Manually Crushed Brick Aggregate Concrete' in MIST International Journal of Science and Technology, Vol.8(1) (2020).
- Lt Col Khandoker Sakil Ahmed, PhD from CE Department Md. Mominul Islam Chowdhury (Student of MSc) and Assistant Prof Kamrul Islam (on leave) has published a journal paper titled 'Exploratory study on bond behavior of plain and sand coated stainless steel rebars in concrete' in Elsevier.
- Lt Col Khandoker Sakil Ahmed, PhD, Lecturer Md Sahjalal and Assistant Krof Kamrul Islam (on leave) from CE Department has published a journal paper titled 'Flexural response of fiber reinforced concrete beams with waste tires rubber and recycled aggregate' in Elsevier Journal of Cleaner Production in 2020.
- Lt Col Khandoker Sakil Ahmed, PhD and Research Assistant Ibriju Ibrahim has published a journal paper titled 'Advanced nanoindentation simulations for carbon nanotube reinforced nanocomposites' in Elsevier Heliyon (Cell Press). Different Conference Paper Publication.

CONFERENCE PAPER

- Prof Dr Md Tauhid-Ur-Rahman from CE Department has published a conference paper titled 'Exorbitant Shrimp Cultivation Inhibiting Agro Based Livelihoods in Mongla Upazilla, Mirza Mukarram' United International University (UIU), Dhaka in Bangladesh 4th International Conference on Sustainable Dev (ICSD).
- Ex-student Md Noman Munsi, M Nihab Ahsan and Prof Dr Md Tauhid-Ur- Rahman from CE Department has published a Book Chapter paper titled 'Application of Low-Cost Air Quality Monitoring Sensor to Assess the Exposure of Ambient Air Pollution Due to PM2.5 and PM10' in Sustainability Environmental Engineering and Science. Lecture Notes in Civil Engineering, vol 93. Springer, Singapore, Book Chapter in September, 2020.
- Lt Col Khandoker Sakil Ahmed, PhD from CE Department has published a conference paper titled 'Wall thickness dependencies of carbon nanotube reinforced nanocomposites' in IOP Conference Series: Materials Science and Engineering.
- Assistant Professor Tamanna Jerin, Lecturer Jayisha Das and Lt Col Muhammed Russedul Islam, PhD has published a conference paper titled on 'Plypropylane Modified Asphalt Mix to Improve Wearing Course of Flexible Pavement' in Proceedings of International Conference on Transportation and Development (ASCE) 2020.
- Assistant Professor Tamanna Jerin and Lt Col Muhammed Russedul Islam has published a conference paper titled 'Modified Asphalt with Carbon Black from Scrap Tire Pyrolysis' in Proceeding of International Conference on Transportation and Development 2020 (ASCE).
- Lt Col Md Jahidul Islam, PhD and MSc student Niaz Mohammad Ashraful from CE Department has published a conference paper titled 'Investigation Mechanical and Pullout strength of Concrete Containing Recycled Polypropylene Aggregate' in 10th International Conference on Geotechnique, Construction Materials and Environment, Melbourne, Australia, 2020.