



Technology for Advancement

MIST newsletter

Military Institute of Science and Technology

16th Year

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Issue 31

COMMANDANT'S GLOSS



It is indeed a matter of great satisfaction that MIST is publishing its 31st issue of newsletter. MIST started its journey on 19 April 1998 with the motto "Technology for Advancement". Keeping this motto ahead, it has now 12 departments. In the 2nd half of this year many academic, social and administrative events took place. Among those the 19th Council of MIST was the most significant event which was held on 4 October 2017. I express my heartfelt thanks and gratitude for the sincere effort of the faculties and officials to make MIST as "Centre of Excellence". The editorial board of MIST Newsletter deserves appreciation.

19th MEETING-COUNCIL OF MIST



The 19th council meeting of MIST was held on 4 October 2017 at MIST. Education Minister Mr. Nurul Islam Nahid, MP presided over the meeting. Commandant MIST, Major General Md Abul Khair, ndc, PEng welcomed the Minister.

Chief of Army Staff, Chief of Naval Staff, Chief of Air Staff, Principal Staff Officer Armed Forces Division, VC BUP, Engineer-in-Chief, high ranking representatives of Dhaka University, BUET, Ministry of Defence, Ministry of Education, Ministry of Information and Communication Technology were present in the meeting.

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30th MEETING- GOVERNING BODY OF MIST

The 30th meeting of the '**Governing Body of MIST**' was held on 7 December 2017 at MIST. Commandant MIST Major General Md Abul Khair, ndc, PEng presided over the meeting. Engineer in Chief Bangladesh Army Major General Md Siddiqui Rahman Sarker, SGP, hdmc, psc, higher officials from civil and military, representatives from DU, BUET and BUP were present in the meeting.



54th and 55th MEETING-ACADEMIC COUNCIL OF MIST



The 54th and 55th meetings of the Academic Council of MIST were held on 27 July and 2 November 2017 at MIST respectively. Commandant MIST Major General Md Abul Khair, ndc, PEng chaired the meeting. Representatives from DU, BUET, Ministry of Education, Ministry of Defence, Armed Forces Division, Army, Navy and Air Force were present in the meeting.

SEMINAR ON 'ENERGY SCENARIO AND PROSPECT OF PETROLEUM AND MINING ENGINEERING IN BANGLADESH'

The department of Petroleum and Mining Engineering (PME) of MIST organized a seminar titled '**Energy Scenario and Prospect of Petroleum and Mining Engineering in Bangladesh**' on 29 July 2017. Mr Nasrul Hamid, MP, Honourable State Minister, Ministry of Power, Energy and Mineral Resources graced the occasion as Chief Guest. The keynote speeches were delivered by professor Dr. Badrul Imam, Department of Geology, Dhaka University and Engr Mohammad Hossain, Director General, Power Cell, Ministry of Power, Energy and Mineral Resources.



Major General Md Abul Khair, ndc, PEng, Commandant, MIST, academicians, professionals, entrepreneurs and other high military and civil officials were also present in the seminar.

WORKSHOP ON 'TRANSPORT PLANNING AND POLICY'

A workshop was organized by Civil Engineering Department on 10 September 2017 at MIST. It was conducted by Mr. Fuad Yasin Huda, consultant in Planning and Design Division of Amec Foster Wheeler, Environment and Infrastructure UK Ltd., UK. Mr. Huda initially delivered a speech on '**Transport Planning and Policy**' focusing primarily on the shortcomings of the transport planning and policy of Bangladesh. He also presented some interesting case studies of UK as examples of effective transport planning. At the end of lecture session, Mr. Huda gave a demonstration on designing a roadway junction by using a micro modeling tool, Junctions 9, developed by Transportation Research Laboratory (TRL), UK. Faculty members and students of CE Department were highly benefitted from the workshop.



WORKSHOP ON 'PERFORMANCE BASED SEISMIC DESIGN OF STRUCTURES-2017'

Civil Engineering Department, MIST organized a workshop on '**Performance Based Seismic Design of Structures**' on 17 December 2017. The workshop was focused to increase knowledge on various topics related to performance based seismic design. The course was conducted by Dr. Shahriar Alam, Associate Professor, School of Engineering, University of British Columbia, Okanagan campus, Kelowna, Canada. A total number of 50 participants were attended in the short course. Among them Faculty members, Military and Civil Officials from different organizations, MIST CE Graduate and Undergraduate students were present.



WORKSHOP ON 'BIOMEDICAL ENGINEERING SCOPE OF RESEARCH AND ITS APPLICATION'

Biomedical Engineering Department, MIST organized a workshop on '**Biomedical Engineering Scope of Research and its Application**' on 19 July 2017. Engr. Md Anwar Hossain, Technical Manager (Repair), NEMEMW and Engr. Muhammad Abdur Rahman Khan, Bio-Medical Engineer, icddr,b conducted the session.



SHORT COURSE ON CONSTRUCTION PROJECT MANAGEMENT-2017

Department of Civil Engineering, MIST successfully organized a short course titled '**Construction Project Management – 2017**' held on 10-11 December 2017. The two days long short course was conducted by Professor Irtishad Ahmed, PhD, P.E, Fellow of ASCE, Founding Director, Moss School of Construction, Infrastructure and Sustainability, Florida International University, Miami, Florida, USA. A total number of 55 participants were present in the short course. The short course was focused on project management information system, feasibility study, contractual claims and disputes, cost engineering, allocation of resources and many more important topics. At the end certificates were awarded to the participants.



SHORT COURSE ON ANALYSIS AND DESIGN OF BOX GIRDER BRIDGES



A Short Course on '**Analysis and Design of Box Girder Bridges**' was organized by Civil Engineering Department from 23-26 December, 2017. This short course was conducted by expert engineers from local government agencies and faculty members of MIST. A total number of 50 participants were present in the short course. Among them Faculty members, Military and Civil Officials from different organizations, MIST CE Graduate and Undergraduate students were present. At the end certificates were awarded to the participants.

CERTIFICATE AWARDING CEREMONY OF 'CERTIFICATE COURSE ON CYBER SECURITY'

Certificate Awarding Ceremony of '**Certificate Course on Cyber Security**' was conducted by CSE Department of MIST. The closing and certificate awarding ceremony was held on 28 December 2017. Lt Gen Md Mahfuzur Rahman, rcds, ndc, afwc, psc, PhD, Principal Staff officer Armed Forces Division +was the Chief Guest in the ceremony.



SHORT COURSE ON 'ELECTRICAL SERVICE DESIGN' AND 'AUTOCAD FOR ELECTRICAL SERVICE DESIGN'

Department of Electrical Electronic and Communication Engineering organized a short course on '**Electrical Service Design**' and '**AutoCAD for Electrical Service Design**'. The course was conducted from 09-27 July 2017 with 27 contact hours. The objective of the course was to introduce diagrammatic representation of substation schematics, transmission grid schematics, wiring diagram schematics and ladder diagrams.



SHORT-COURSE ON 'MICROCONTROLLER AND ROBOTICS'



A short-course on '**Microcontroller and Robotics**' was inaugurated by EECE Department on 10 December 2017 for the 5th time in MIST. The course lasted for a month till 10 January 2018 with 80 contact hours' classes. The primary objective of this course was to present microcontrollers in a way that is appealing and applicable to all engineering disciplines. The participants of the short-course received their certificates after a Grand Closing Ceremony held on 16 January, 2018 at MIST where Professor Dr. Saiful Islam, Vice-Chancellor, BUET and Major General Md. Abul Khair, ndc, PEng, Commandant, MIST were present as Chief Guest and Special Guest, respectively. There had been ten amazing and novel project ideas developed and implemented by the participants which were showcased later on.

SHORT-COURSE ON COMPUTATIONAL FLUID DYNAMICS (CFD)

Department of Aeronautical Engineering (AE) offers a comprehensive course on '**Computational Fluid Dynamics (CFD)**' in its B.Sc. course. But in order to give a wider access to interested learners, a short course covering the basic aspects of CFD was arranged from 13-19 December 2017. The course was conducted by Wg Cdr Dr. Vikram Deshpande of Indian Air Force, currently affiliated with AE Department. The course contents included: introduction to CFD (governing equations, CFD modelling), meshing, discretization techniques, problem setting, solution, post processing, geometry drawing/importing, sample problems related to external aerodynamics and thermo fluidic applications. A 'Certificate of Participation' was handed over to each participant in the closing ceremony. The program was graced by the Dean, Faculty of Mechanical Engineering, Head of ME, AE, IPE Department and faculty members of AE Department.



SHORT COURSE ON 'DESIGN AND DEVELOPMENT OF PROTOTYPE USING COMPUTER INTEGRATED MANUFACTURING (CIM) PROCESS'

A tremendously successful short training course was organized by the department of IPE, MIST from 11 December to 13 December 2017. The short course entitled '**Design and Development of Prototype Using Computer Integrated Manufacturing (CIM) Process**' is directly related to the cutting edge research technology of the manufacturing around the globe. The trainer, Engr. Faruk Hossen, mentored and guided the students with the exposure to the Computer Integrated Manufacturing.



RENEWAL OF ACCREDITATION OF B.SC IN CSE PROGRAM



A 03 member team of the Board of Accreditation for Engineering and Technical Education (BAETE) visited CSE Department of MIST on 23 August 2017. Associate Professor Dr. Md. Salekul Islam, Head CSE Department, UIU, Dhaka, led the visiting team. The board finally approved the accreditation of Computer Engineering program of MIST for a period of three years. BAETE is the professional body that gives accreditation to engineering programs in Bangladesh.

RENEWAL OF ACCREDITATION OF B.SC IN EECE PROGRAM

A 2 member team of the Board of Accreditation for Engineering and Technical Education (BAETE) visited EECE Department of MIST on 27 September 2017. Professor Anisul Haque led the visiting team. The board finally approved the accreditation of EECE program of MIST for a period of three years. BAETE is the professional body that gives accreditation to engineering programs in Bangladesh.



RENEWAL OF ACCREDITATION OF B.SC IN ME PROGRAM



Mechanical Engineering Department had been accredited as 'Good' for 5 years by the Board of Accreditation for Engineering and Technical Education (BAETE) on October 10, 2017. A team led by Professor Dr. Engr. M. Fazole Ilahi, Chairman, Sectoral Committee, Mechanical Engineering Program, BAETE visited MIST for this purpose. Because of sound foundation in science and mathematics and the professional practice of engineering, ME department achieved the recognition.

DELEGATION VISIT

ORIENTATION TRAINING VISIT OF BCS AND BJS-70

A 80 member team of 70th batch of BCS and BJS officers visited MIST on 26 July 2017. The team was briefed on different activities and facilities of MIST. After the briefing, they visited CATS-MIST, Faculty of CE, Faculty of ECE and Faculty of ME.



VISIT OF NO 59 FLIGHT SAFETY OFFICERS (FSO) COURSE

The FSO team comprising 17 members (12 student officers, OC FSI, Chief Instructor, Directing staff, Course Coordinator and 1 Instructor) visited MIST on 20 September 2017. The purpose of the visit was to attend theoretical and practical classes on aircraft stability and propulsion. The visit concluded with a formal ceremony of gift handover session in attendance of Faculty Dean, Mechanical Engineering Faculty.



STUDENTS TRAINING VISIT

TRAINING VISIT AT BARAPUKURIA COAL MINE AND MADDHAPARA HARD ROCK MINE

On 27th November 2017, a group of 24 students including 6 faculty members and Head of the department of Petroleum and Mining Engineering Department visited Barapukuria Coal Mine and Maddhapara Hard Rock Mine on a study tour to observe the coal and hard rock mining process and learn about the coal extraction, shaft operation, mine dewatering, environment control, subsidence monitoring and mining field management.



TRAINING VISIT AT JAFLONG AND LALAKHAL, SYLHET

From 3 -5 December 2017, a group of 21 student (Level 1) including 6 faculty members and Head of the department of Petroleum and Mining Engineering Department visited Jaflong and Lalakhal, Sylhet on a study tour to visit hilly areas for observing different patterns of landforms incl anticlines, synclines and learning about the dip strike measurement system on ground, rock layer sedimentation, geological structures and different rock properties. The tour was a great success for students as it increased the interest in petroleum industry.



TRAINING VISIT AT AFIP

Faculty and the students of BME department MIST visited AFIP Dhaka on 5 July 2017. The tour enriched their practical knowledge.



OBSERVANCE

OBSERVANCE OF 'NATIONAL MOURNING DAY'

MIST observed the **National Mourning day** on 15 Aug 2017 with the deepest respect and honour on the occasion of the 42nd death anniversary of Father of the Nation Bangabandhu Sheikh Mujibur Rahman. The day was a public holiday and the national flag flew at half-mast. Special prayer was offered after Fajr for the departed soul of Bangabandhu. Documentary films were shown and discussion was held highlighting the struggle, achievements and contribution of the Father of the Nation. Everybody urged upon to fulfil Bangabandhu's dream of building a happy and prosperous 'Sonar Bangla'.



'MECHANICAL DAY-2017'



Amid sheer enthusiasm and festive mood **Mechanical Day- 2017** was observed on 28 September 2017. The day was observed to strengthen the brotherhood among ME department students, highlighted the achievements of ME department and also found ways to accomplish unfinished tasks. Day long program included a frolicsome rally from MIST plaza guided by Dean of Faculty of ME, Head of ME department and Senior Faculty Members, cake cutting session, exchange of views between present and previous students followed by a jolly cultural program.

'RAG DAY-2017'

Two days long farewell celebration for final year students of MIST titled as '**Rag Day-2017**' was observed on 15-16 October 2017 under the responsibility of Director Student Welfare (DSW) MIST. Almost two thousand students from MIST including 514 final year students, faculties, and staff officers attended the event.



COMPETITION

'ANKUR-2017' AN INTER-UNIVERSITY CULTURAL COMPETITION

'ANKUR-2017' an inter-university cultural competition is organized by Literature and Cultural Club of MIST on 28 July 2017 at the university premises. Honourable Minister Asaduzzaman Noor, MP, Ministry of Cultural Affairs graced the occasion as the Chief Guest. He said that young generation could contribute in the progress of Bangladesh through positive cultural movements. A good number of students from different public and private universities attended the program. Major General Md Abul Khair, ndc, PEng, Commandant, MIST was also present in the festival to encourage the student.



INTER-DEPARTMENT DEBATE COMPETITION-2017



'Inter-Department Debate Competition-2017' was organized by the Department of Science and Humanities from 09-17 July 2017. Eight teams from twelve departments took part in the competition. After a hard contest Dept of EECE won the trophy of Champion and Department of NAME became Runner-up. Comdr M Munir Hasan, (E), BN, Dean, Faculty of Mechanical Engineering graced the program as the Chief Guest. Every year MIST arranges such debate competitions as a part of co-curricular activities.

INTER-DEPARTMENT FOOTBALL COMPETITION- 2017

'Inter-Department Football Competition-2017' was organized by Admin Wing on 16-25 July 2017. A total of 08 teams participated in this competition. ME Department became Champion and CSE Department became Runner up. Dean Faculty of CE MIST Brigadier General K M Salzar Hossain ndc, psc graced the prize giving ceremony as the Chief Guest.



ACHIEVEMENT

JOURNAL PUBLICATION-JOURNAL OF TRAFFIC AND TRANSPORTATION ENGINEERING

Col Shah Md Muniruzzaman, psc, Phd Head of Civil Engineering department published a paper titled '**VISCAL: Heuristic Algorithm Based Application Tool to Calibrate Microscopic Simulation Parameters**' in the Journal of Traffic and Transportation Engineering on 17 November 2017.



PARTICIPATION IN INTERNATIONAL CONFERENCE- GCEC



Professor Dr Tauhid-Ur-Rahman Department of CE MIST presented a paper titled '**Detection of Environmental Degradation of Satkhira District, Bangladesh through Remote Sensing Indices**' on 25-28 July in Global Civil Engineering Conference held in Kuala Lumpur, Malaysia.

Research Assistant Myisha Ahmad attended similar Conference and presented a paper titled "**Feasibility assessment of tidal current along the Bay of Bengal to generate electricity as a renewable energy**". The study was supervised by Prof G M Jahid Hasan of Civil Engineering Department, MIST

PARTICIPATION IN INTERNATIONAL CONFERENCE-WSCC

Professor Dr.Tauhid-Ur-Rahman Rahman Department of CE MIST also presented a paper titled '**A Self Reliance Conceptual Model for Ensuring Food Security in Haor Environment, Bangladesh**' on 18-21 September 2017 in Water Security and Climate Change conference held in Cologne, Germany, financed by German Govt's DAAD as Financial Grant Awardee TH Cologne (Technical University, Cologne) and got certificate.



ACHIEVEMENT

PARTICIPATION IN INTERNATIONAL CONFERENCE-GEOMATE 2017

Captain Muhammad Abdur Rahman, Instructor CI 'C' of CE department participated in the **'7th International Conference on Geotechnique, Construction Materials and Environment, GEOMATE 2017'** held on 21-23 November 2017 in Japan and presented the paper titled **'STRESS-STRAIN- DILATANCY RELATIONSHIPS OF NORMALLY CONSOLIDATED DHAKA CLAY'**. The study is supervised by Prof Dr Hossain Md Shahin from IUT, Gazipur and Prof Teruo Nakai from Nagoya Institute of Technology.



PARTICIPATION IN INTERNATIONAL CONFERENCE-SIBE 2017



Research Assistant Myisha Ahmad attended 3rd International Conference on **'Sustainable Infrastructure and Built Environment (SIBE 2017)'** held in Bandung, Indonesia on 26-27 September, 2017 and presented paper titled **'Renewable energy potentials along the Bay of Bengal due to tidal water level variation'**. The study was supervised by Prof G M Jahid Hasan of Civil Engineering Department MIST.

PARTICIPATION IN INTERNATIONAL CONFERENCE-R10HTC 2017

Research Assistant Myisha Ahmad also attended 5th IEEE Region 10 (Asia Pacific) Humanitarian Technology Conference (R10HTC)) held in Dhaka, Bangladesh from 21-23 December, 2017 and presented a paper titled **'Development of a prototype model for assessing tidal energy extraction potential'**. The study was supervised by Prof G M Jahid Hasan of Civil Engineering Department, MIST.



ACHIEVEMENT

PARTICIPATION IN IUT CENNOVATION - 2017

Dilshad Hossain Munmun (201411107) and Samira Tasnim Progga (201411029) of CE department attended CENNOVATION 2017 competition held at Islamic University of Technology (IUT), Gazipur on 11 August 2017. In the competition they participated in poster presentation titled **'Monitoring and Restoration of Water Quality and Artificial Intelligence Based Prediction Modeling: A Case study of Buriganga River'** and secured the 2nd position among the 40 participants from different universities. The study was supervised by Prof. Tauhid Ur Rahman of Civil Engineering Department, MIST.



RESEARCH PAPER IN ASIAN CONFERENCE IN DEFENCE TECHNOLOGY (ACDT), JAPAN



A research paper on **'Exploring the Usability Factors of Military Application: A User Study'** written by Lt Col Md Abdur Razzak and Major Muhammad Nazrul Islam from the Department of Computer Science and Engineering of MIST has been accepted and presented in the IEEE affiliated world renowned military conference named 4th Asian Conference on Defence Technology (ACDT-2017), held in Tokyo, Japan on 29 November – 01 December, 2017.

PRESTIGIOUS RESEARCH GRANT FROM ICT DIVISION

Major Muhammad Nazrul Islam, PhD from the Department of Computer Science and Engineering of MIST has received the prestigious research grant awarded by ICT Division to pursue research on **'Assessing the Usability standard of mHealth applications in Bangladesh'** and received taka 2,00,000.



Another combined research work of Major Nazrul and his postgraduate thesis student Md Arman Ahmed titled **'Design and Development of a Mobile Application for Job Search for Illiterate People in Bangladesh'** received a research grant as ICT Fellowship-2018 from ICT Division and received taka 3,00,000.

ACHIEVEMENT

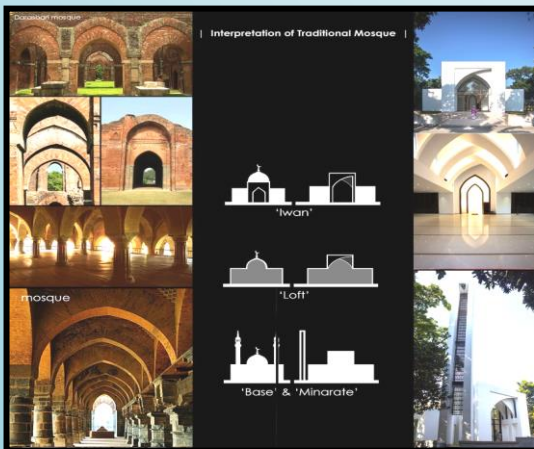
PARTICIPATION IN DESIGN COMPETITION

Lecturer Manifa Rehnuma and Lecturer Tazrin Islam Ananya of Department of Architecture, MIST actively participated in the design competition 'History Preservation and Landscape Design of Old Dhaka Central Jail and Redevelopment of Surrounding Area' (organized by Prisons Directorate, Security Services Division, Ministry of Home Affairs, GOB, supported by Institute of Architects Bangladesh and Bangladesh Institute of Planners) with Form.3 architects. Among the final submissions from 34 teams, the team has been awarded 1st prize by the respected jurors. Lecturer Manifa Rehnuma is a landscape architect and Lecturer Tazrin Islam Ananya is an architect of Form.3 architects.



The team received the award from Honourable Minister of Home Affairs, Asaduzzaman Khan on 29th October 2017 in Bangladesh Shilpakala Academy. All the competition entries were exhibited from 29th October-3rd November 2017 in BSA.

27th JK AYA (ARCHITECT OF THE YEAR AWARDS)



Lecturer Manifa Rehnuma of Department of Architecture, MIST, has won the prestigious award of '27th JK AYA (Architect of the Year Awards)' as a team member of 'And ORDEN' architects for designing the mosque at Mohorpara, Shibpur, Narshingdi. AYA is the much anticipated event of the year for all the leading architects. The jury for AYA is chaired by Yadupati Singhania - Managing Director, J.K. Cement Ltd. and comprises eminent architects from various regions of India and two members representing the participating neighboring countries. Having started in 1990, AYA has lived up to its legacy of awarding excellence every year.

The award ceremony among 200 entries. The project has been awarded to Foreign Countries' Young Architect Award. The team was led by Ar. A.K.M Tanvir Hassan and Ar. Nahid Akram.

ACHIEVEMENT

BEST POSTER AWARD FROM BANGLADESH NATIONAL AUTHORITY FOR CHEMICAL WEAPONS CONVENTION (BNACWC) SYMPOSIUM-2017

Two group of student from the Department of Computer Science and Engineering of MIST had presented their poster papers, titled '**Chemical Weapons: Weapon of mass Destruction**' and 'An A to Z Infographics to Understand the Chemical Weapons Convention for the implementation of the Convention and Peaceful Use of Chemicals' in Bangladesh National Authority for Chemical Weapons Convention (BNACWC) Symposium-2017 organized by the organization of the Prohibition of Chemical Weapons (OPCW) and they were among the top 5 teams in that competition.



IEEE R10 HTC 2017 IDEA CONTEST



Team Dreamers comprised of three students of level 3, department of IPE (Fatin Ishraq, Rumaisa Ahmed and Joytun Nisa Joti) won the prestigious Best Idea Presenter Award at '**IEEE R10 HTC 2017 Idea Contest**' held in BUET, from Dec 21-23, 2017. The participants are launching a mobile application called 'AURA' which will allow its female users to know about the early symptoms of Breast Cancer by assisting them in self check-up. The main purpose of the app is to early detect any danger of breast cancer and help the users in appointing an oncologist. The app will also be used as a fundraiser to help the unprivileged women of the society.

AUTOMOBILE QUIZ COMPETITION

Team Hellaflush represented by S.U.M Rabbi Hossain, MD Rokibul Hasan Parvez and Shamit Raja became champion at '**Automobile Quiz Competition**' held in BUET, from 1-2 December. It was a quiz competition, anything about automobiles. Through the elimination and semifinal round held at the first day, 6 teams were chosen for the 2nd day final. A visual round was introduced in the final and through eliminating a team from each segment the last survived team was declared the champion.



ACHIEVEMENT

THE PRESENTATION OF RESEARCH PAPER AT AN INTERNATIONAL CONFERENCE

A team consisting of three students from level-4 of NAME Department had participated at International Undergraduate and Postgraduate (IUP'17) Students Conference on Marine, Maritime Technology and Management 2017 which took place in University Malaysia Terengganu. The topic of their research paper was **'Design And Construction of FRP Boat in Bangladesh'**. They successfully presented the paper and Rusafa Rabi (Std Roll-201424041) got selected as the best presenter of that conference.

Beside this, another team participated at International Conference on Ship and Offshore Technology, India-2017, which took place at IIT, Kharagpur and presented the paper titled **'A Conceptual Analysis of Green Ship Technology using Wind Propulsion System to Reduce Fuel Consumption and Emission'**



ACADEMIC ACHIEVEMENT



For outstanding academic performance in MIST, Chancellor's Gold Medal was awarded to Kh. Md. Faisal (For M.Sc. course) and Shoyon Panday (For B.Sc. course) by the Honorable President of People's Republic of Bangladesh, Abdul Hamid in the 4th BUP Convocation, 2017.

SUCCESSFUL RESEARCH ON COLUMN BEHAVIOR AGAINST CYCLIC LOAD TEST

MIST and JIDPUS-BUET successfully conducted joint test program on RC column under cyclic load test on 10-11 July 2017. This type of cyclic tests are rarely done in Bangladesh due to the fact that there is a difficulty on test setup, data extraction and equipment availability. After the collapse of RC column at the plastic hinge region, repair and retrofitting was conducted by combined micro concrete and FRP rapping as shown in Fig.1. The performance of that particular repair technique is very much significant. The experimental result shows that retrofitted column performance is 20% higher than the actual RC column in terms of strength and drift.

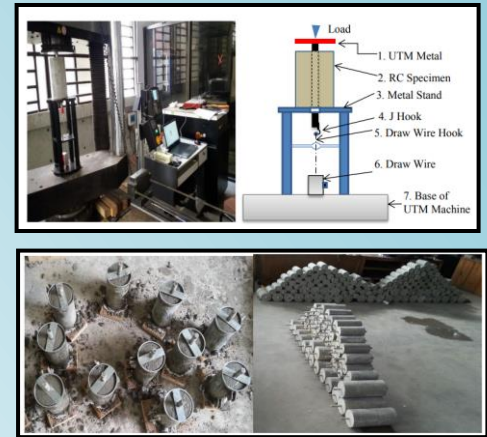


The research was conducted by a group of undergrad and MSc students of MIST namely Mirza Mohaimin Anam, Qamrul Reza and Ahsan Habib. The total research program is supervised by Maj Khondaker Sakil Ahmed, PhD from MIST and Professor Raquib Ahsan of BUET-JIDPUS and also co supervised Asst Professor Kamrul Islam of MIST. The outcome of the research has already been submitted to top tier journal for potential publications.

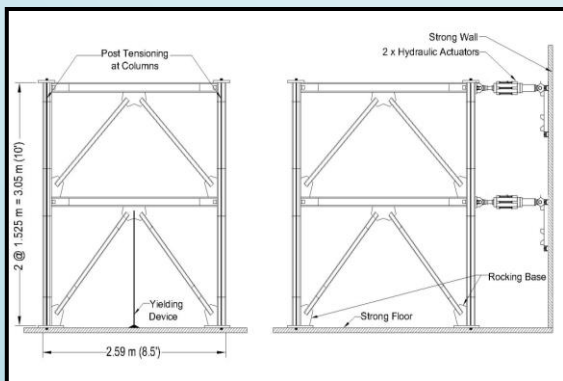
ACHIEVEMENT

RESEARCH ON BOND BEHAVIOR OF STAINLESS STEEL

Md Mominul Islam, a MSc student of the department of civil engineering successfully conducted innovative research on bond behavior of stainless steel on 14 August to 15 September 2017 at SM Lab, MIST. The objective of his study to find out the properties of stainless steel 201 and study on compressive bond behavior of smooth, plain and round stainless-steel reinforcing rebar and its effect in different conditions. The experimental investigation on more than 250 samples confirms the applicability of stainless steel under certain condition. The bond test set up with all required accessories is presented in Fig.2. The research program is conducted by the supervision of Maj Khondaker Sakil Ahmed, PhD, PEng and co-supervised by Asst Prof Kamrul Islam.



LAUNCHING RESEARCH COLLABORATION WITH BUET AND JIDPUS-BUET



Title: Large-scale Cyclic Testing and Design of Controlled Rocking Steel Braced Frames

MIST, BUET and JIDPUS-BUET jointly launch a research program on controlled rocking frame to improve building performance against seismic load on 13 December 2017. Maj Khondaker Sakil Ahmed, PhD, PEng and Asst Prof Kamrul Islam coordinated this research with Professor Khan Mahmud Amanat of BUET and Professor Raquib Ahsan of JIDPUS-BUET. A good number of undergrad and postgrad student from MIST and BUET will have to opportunity to conduct research from this program. The main objectives of this experimental study program are to investigate the cyclic behavior of eight different configurations (size and shape) of yielding devices

and also to capture the behavior of CRSBFs using FEM. In addition, this study aims to develop performance-based damage states for CRSBFs considering different earthquake hazard levels i.e. design basis earthquake (DBE) and most considered earthquake (MCE).

RESEARCH ON PULL-OUT TEST OF POST DRILLED REBARS USING EPOXY

Two undergraduate students namely Tanvir Ahmed Prince and Rifat Rumman Rusha successfully conducted their research on Pullout test of post drilled rebars to investigate the performance of epoxy chemical as a bonding reagent. Tests were conducted over 150 samples on Oct 15 to November 10 of 2017. Pure epoxy chemical was used at the interface of rebar and concrete. Sample preparation to test procedure is presented in the Fig. The research was supervised by Maj Khondaker Sakil Ahmed PhD, PEng.

