

## **Md. Farhad Hossain, PhD**

### **Professor**

Department of Electrical and Electronic Engineering (EEE)  
Bangladesh University of Engineering and Technology (BUET)  
Dhaka-1205, Bangladesh  
&

Advisor (PABX) to Vice-Chancellor (VC), BUET

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IEEE Membership # 90925682

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## **I. Teaching Experiences**

<b>Position</b>	<b>Organization</b>	<b>Duration</b>
Professor	Department of Electrical and Electronic Engineering (EEE), BUET, Bangladesh	21/05/2017 to date
Associate Professor	Department of Electrical and Electronic Engineering (EEE), BUET, Bangladesh	08/07/2014 to 20/05/2017
Assistant Professor	Department of Electrical and Electronic Engineering (EEE), BUET, Bangladesh	07/02/2006 - 07/07/2014
Lecturer	Department of Electrical and Electronic Engineering (EEE), BUET, Bangladesh	17/03/2003 - 06/02/2006
Tutor	School of Electrical and Information Engineering, The University of Sydney, Sydney, NSW, Australia	July 2010 - Oct 2013

## **II. Consultancy and Expert Services**

Delivering Consultancy and Expert Services in the field of Electrical and Electronic Engineering since 2005.

### **Consultancy Projects (Selected):**

- Member, BUET Consultant Team for the "*On the Development of a Steno Telephone Set Using Two Telephone Sets of Panasonic 880MX Models*" as Requested By Telephone Shilpa Shangstha Limited, Gazipur, Bangladesh: Apr 2019 to Dec 2019
- Member, BUET Consultant Team for the "*Inspection Report on Some Imported and Installed Machineries by M/s Edison Industries Limited to Setup Mobile Phone Handset Assembling Factory, Ashulia, Savar, Dhaka, Bangladesh*" as requested by the First Secretary (Vat Rules), National Board of Revenue (NBR), Bangladesh: Nov 2018
- Member, Trainer for "*Training Program for Professionals on the Familiarization of Bangladesh Standards (BDS) for PV Systems*" as requested by Sustainable And Renewable Energy Development Authority (SREDA), Ministry of Power, Energy and Mineral Resources, Dhaka: June 2018

- Member, BUET Consultant Team for the "*Determination of Input-Output Coefficient of Cell Phone Assembly Factory ALAMIN & BROTHERS, Gazipur, Bangladesh*" as requested by Customs, Excise and VAT Commissionerate, Dhaka (North): July 2018
- Member, BUET Consultant Team for the "*Determination of Input-Output Coefficient of Cell Phone Assembly Factory Carlcare Technology, Gazipur, Bangladesh*" as requested by Customs, Excise and VAT Commissionerate, Dhaka (North): July 2018
- Member, BUET Team for the Preparation of "*Inspection Report on the Installed Television Base Station and Broadcast Transmission Equipment of Barind Media Ltd. (Duronto TV), Banani, Dhaka*" as requested by Barind Media Limited: Oct 2017
- Member, BUET Consultant Team for the project of "*Computerized Control System for Modernization of Gate and Hoisting System of Teesta Barrage*" as requested by Bangladesh Water Development Board (BWDB): June 2017 to June 2018
- Member, BUET Consultant Team for the "*Expert Support for Capacity Build up in Transmission Planning and System Operation for Bangladesh Power Sector*" as requested by Ricardo Energy & Environment, UK: May 2017 to June 2018
- Member, BUET Consultant Team for the "*Design and Specification Vetting for Installation and Commissioning of a 5MW Sludge Power Generation System (SPGS)*" to be implemented by a Chinese contractor at Tannery Industrial Estate (TIED), Savar, Dhaka under Bangladesh Small and Cottage Industries Corporation (BSCIC), Dhaka, Bangladesh: Dec 2016 to date
- Member, BUET Consultant Team for the "*Design and Specification Vetting of Installation and Commissioning of Turnkey Construction and Implementation of Common Tannery Effluent Treatment Plant including Collection and Conveyance System, Common Chrome Recovery Unit, Solid Waste Dumping Yard and Central Laboratory*" being implemented by a Chinese contractor at Tannery Industrial Estate (TIED), Savar, Dhaka under Bangladesh Small and Cottage Industries Corporation (BSCIC), Dhaka, Bangladesh: Apr 2014 to 2018
- Member, BUET Consultant Team for the "*Technical Specification Preparation, Tender Evaluation, and Supervision of Installation & Commissioning of Two Diesel Generators of 800 kVA and 1250 kVA*" as requested by Bangladesh Agricultural Research Institute (BARI), Gazipur, Bangladesh: Dec 2014 to date
- Member, BUET Consultant Team for the "*Investigation and Report Preparation on Determining the Functioning Capabilities of Various Optical Fiber Network Equipment (including MUX, Switches and Optical Platform)*" imported by Summit Communications Ltd. as requested by Commissioner, Custom House, Dhaka: Aug 2016
- Member, BUET Consultant Team for the project "*Assignment for Technology Adaptation and National Capacity Building for Climate Technology Centre and Network (CTCN) in Bangladesh*", conducted by the Center for Energy Studies, BUET and funded by the Institute for Global Environmental Studies (IGES), Japan: Aug 2014 - Jan 2015
- Member, BUET Consultant Team for the "*Electrical Load Forecasting, Cost Estimation and Technical Specification Preparation for the G-to-G (Bangladesh-China) Mega Project of The Expansion and Strengthening of Power System Network Under Dhaka Power Distribution Company (DPDC) Area for Year 2025*" as requested by DPDC, Dhaka, Bangladesh: July 2015

- Member, BUET Consultant Team for the "*Investigation and Report Preparation of the Cause and Remedy of Overheat Problem of a 1000 kVA AVR*" installed in Novartis, Gazipur, Bangladesh: July 2014
- Member, BUET Consultant Team for the "*Test Facilities Development and Testing of 750 kVA and 1000 kVA, 11/0.415 kV Dry Type Cast Resin Transformers*" manufactured by Energypac Engineering Ltd., Savar, Bangladesh: June 2014
- Member, BUET Consultant Team for the "*Development of Schemes for Preventing Blackout in Bangladesh Power Systems*" as Requested by the Power Grid Company Bangladesh (PGCB) Ltd., Dhaka, Bangladesh: Jan 2009-Dec 2009
- Member, BUET Consultant Team for the project of "*Testing and Commissioning of 360 kW Gas Generator at BeaniBazar, Sylhet Gas Field Limited (SGFL)*", Sylhet, Bangladesh: July 2009
- Member, BUET Consultant Team for the "*Vetting of the Specifications of the Tender Documents for Supply, Installation, Testing and Commissioning of Closed Circuit Television (CCTV) System*" for Head Office, Bangladesh Bank Building, Dhaka, Bangladesh: Jan 2009
- Member, BUET Consultant Team for the "*Investigation of the Cause, Nature and Circumstances of Fire in Penguin Ice & Fish Processing (Pvt.) Ltd.*", Ismailpur, Shyamnagar, Satkhira, Bangladesh: Jan 2009
- "*Testing, Checking and Evaluation of Electrical Installations*" at South Asia Enterprise Development Facility (SEDF) Office, Dhaka, Bangladesh: May 2006
- "*Preparing Written Exam Questions and Script Evaluation for the Recruitment of Electrical and Telecommunications Engineers*" for many national (Government) organizations, e.g., Power Grid Company Bangladesh (PGCB); Dhaka Power Distribution Company (DPDC) Ltd.; Bangladesh Power Development Board (BPDB); Electricity Generation Company of Bangladesh (EGCB) Ltd.; Bangladesh Public Service Commission (BPS) of Bangladesh Government; Bangladesh Infrastructure Finance Fund Ltd. (BIFFL) under Ministry of Finance of Bangladesh Government; Bangladesh Gas Fields Company Ltd. (BGFCL) and Paschimanchal Gas Comp Ltd. under Bangladesh Oil, Gas and Mineral Corporation (Petrobangla); Eastern Refinery Ltd. and Meghna Petroleum Ltd. under Bangladesh Petroleum Corporation and Water and Sweage Authority (WASA): 2005 to date

#### **Testing and Report Preparation Projects (Selected):**

- "*Testing and Certification of CAT-6 UTP Data Cable*" as Requested by BGMEA University of Fashion & Technology (BUFT), Dhaka, Bangladesh: Jan 2018
- "*Testing and Certification of Transformer of a 800 kVA Transformer*" as requested by Norp Knit Industries Ltd. Unit-2, Gazipur, Bangladesh: Aug 2017
- "*Testing and Report Preparation on Two Air Circuit Breakers (ACBs), Two Capacitor Banks and One Diesel Generator*" Supplied by JLEPCL-DCL-JV, Uttara, Dhaka, Bangladesh: Oct 2016
- "*Testing and Report Preparation on A 1540 AH Deep Cycle Lead Acid Battery of Gaston Brand*" as requested by UNHCR Sub-Office, Cox's Bazar, Bangladesh: Aug 2016

- *"Testing and Report Preparation on a 33/11.55 kV, 10/14 MVA, 3-Phase Transformer and a 33/11.0 kV, 16/20 MVA, 3-Phase Transformer"* Manufactured by Energypac Engineering Ltd., Savar, Dhaka, Bangladesh: June 2015
- *"Testing and Report Preparation on A CISCO 3845 Router with Related Accessories"* as requested by Commissioner, Custom House, Dhaka: Nov 2014
- *"Testing and Report Preparation on A 50W Repeater Station for Wireless Communications System"* as requested by Dhaka South City Corporation: Sep 2014
- *"Testing and Report Preparation for the Calibration Test of Various Electrical Digital Meters (Earth Tester, Clamp Meter and Voltmeter)"* as requested by StyleCraft Ltd., Gazipur, Bangladesh: Apr 2014
- *"Standard Type Test and Certification of 3-Phase, 100 kVA/200kVA/250 kVA, 11 kV/415 V Distribution Transformers"* manufactured by different manufacturers in Bangladesh, e.g., Energypac Engineering Ltd., General Electric Manufacturing Co. Ltd., Integral Electric Company, Powermann Bangladesh Limited, Techno Venture Ltd., Multiple Energy Ltd., Bengal Telecommunication & Electric Corporation (BETELCO) Ltd., ACME Electronics Ltd., Adex Corporation Ltd., Multiple Energy Ltd. and General Electric Manufacturing Co. Ltd.: 2005 to date
- *"Testing and Report Preparation of Low Voltage and High Voltage Electrical Cables"* manufactured in Bangladesh and Overseas, e.g., 1×400 mm NYY (XLPE) and 1×500 mm NYY (XLPE) of Poly brand; 4×240 mm NYFGbY Cable of Supersign brand; 1×1.3 mm BYA, 1×2 mm BYA, 1×10 mm BYA, 1×95 mm NYY, 1×300 mm NYY and 3×1.0 mm cables of Partex Brand; MEP Brand 3×50 mm/25 mm NYY cable; BYA 1×10 mm, BYA 1×25 mm, BYM 1×1.5 mm, BYM 1×2.5 mm, BYM 1×4 mm, BYM 1×6 mm, NYY 4×16 mm cables of Poly brand; 3×25 mm and 3×35 mm NYFF cable of BRB brand and HR PVC Winding Wire of Unistar brand (India): 2005 to date
- *"Evaluation of Quality and Quantity of Equipment of 250 KVA, 11/0.415 KV Sub-Station and Generating Units"* Commissioned at the Campus of Ahsanullah University of Science and Technology, Dhaka, Bangladesh: June 2008
- *"Testing and Report Preparation on Lead-Acid Batteries of Various Capacities"* supplied by various battery manufacturing companies, e.g., Electro Battery Limited, VOLVO, Gaston Brand, Rahim Afroz Batteries Limited, Hamko Corporation Ltd. and Eco Batteries Ltd.: 2005 to date
- *"Testing and Report Preparation on Singer Brand 1300 mm Sweep AC Ceiling Fan"* as requested by Singer Bangladesh Limited, Dhaka, Bangladesh: Dec 2005

### **III. Participation in National Commissions, Committees, etc. commissioned by the Government of Bangladesh and Govt. Institution/Organizations**

#### **Pre-shipment Inspection (PSI) / Factory Acceptance Test (FAT) / Design Vetting in Overseas**

- Member, Factory Acceptance Test (FAT) Team for Visiting Two Factories (Guangdong Hengtong Optic-electric Technology Co., Ltd., Guangdong Sheng, China & Yangtze Optical Fibre and Cable Joint Stock Limited Company, Wuhan, China) and Testing of Optical Fiber Cable in China, for the project of *"Optical Fiber Cable for Info-Sarker Project (Phase - 3)"*, Ministry of Posts,

Telecommunications & Information Technology, Information and Communication Technology Division, Dhaka, Bangladesh: 26 Sep 2017 to 4 Oct 2017

- Member, Pre-shipment Inspection (PSI) Team to China for Various Electrical Equipment in Several Chinese Factories for the Project of "*Design and Specification Vetting of Installation and Commissioning of Turnkey Construction and Implementation of Common Tannery Effluent Treatment Plant including Collection and Conveyance System, Common Chrome Recovery Unit, Solid Waste Dumping Yard and Central Laboratory*" implemented by the Chinese contractor at Tannery Industrial Estate (TIED), Savar, Dhaka under Bangladesh Small and Cottage Industries Corporation (BSCIC), Dhaka, Bangladesh: May 2016
- Member, BUET Consultant Team for Visiting "Lingzhi Environmental Protection Co.,Ltd, Heqiao Industrial Park, Yixing, China" and Electrical System Design Vetting for the Project of "*Design and Specification Vetting of Installation and Commissioning of Turnkey Construction and Implementation of Common Tannery Effluent Treatment Plant including Collection and Conveyance System, Common Chrome Recovery Unit, Solid Waste Dumping Yard and Central Laboratory*" implemented by the Chinese contractor at Tannery Industrial Estate (TIED), Savar, Dhaka under Bangladesh Small and Cottage Industries Corporation (BSCIC), Dhaka, Bangladesh: March 2015

#### **Price Negotiation / Adjustment Committee**

- Member, Committee for the "*Price Adjustment and Specifications Modifications of Various Packages for Modifying the DPP*" for the "*Installation of Modern and Digital Broadcast Equipment at the National Betar Bhaban*", Agargaon, Dhaka, Bangladesh: June 2018
- Member, Committee for "*Negotiation with ZTE Corporation, China*" for the "*Price Adjustment of Few Sectors in the Project of Modernization of Telecommunication Networks for Digital Connectivity*", Bangladesh Telecommunications Company Limited (BTCL), Ministry of Post, Telecommunications and Information Technology, Dhaka, Bangladesh: Mar 2018
- Member, Committee for Price Negotiation with Huawei, China (Package 1), NOKIA, Finland (Package 2) and Alcatel-Lucent, France (Package 3) for the Project of 'Supply, Installation and Commissioning Telecom Equipment' under the Project titled "Modernization and Expansion of Teletalk's 2G/3G Network up to Rural Areas (MEP)", Teletalk Bangladesh Limited, Dhaka, Bangladesh: Sep 2015 - Jan 2016

#### **Tender Evaluation Committee (TEC)/ Technical Specification Committee (TSC) / Proposal Evaluation Committee (PEC)/ Recruitment Committee / Other Committees**

- Member, Steering Committee for the "*Formulation of Guidelines for Launching 5G Cellular Network Technology in Bangladesh*", Bangladesh Telecommunication Regulatory Commission (BTRC), Dhaka: Sep 2019 to date
- Member, Tender Evaluation Committee (TEC) for the "*Procurement of Equipment for Audio-Visual News Production*" of Bangladesh Sangbad Sangstha (BSS), National News Agency of Bangladesh: Dec 2019 to date
- Member, Tender Specification Committee (TSC) for the "*Procurement and Installation of CCTV Surveillance System along the 250 km Dhaka-Chittagong Highway*" under the project of "*Enhancing the Capacity of Highway Police*", Highway Police Headquarters, Bangladesh Police: Dec 2019 to date

- Member, *Spectrum Management Committee*, Bangladesh Telecommunications Regulatory Commission (BTRC), Ramna, Dhaka, Bangladesh: 2018 to date
- Member, Tender Evaluation Committee (TEC) for the *"Supply, Installation, Testing and Commissioning of Television Broadcast Studio Lighting Equipment for BTV on Turnkey Basis"* under the Project of *"Modernization, Digitalization and Automation (1<sup>st</sup> Phase) of the Central Broadcasting System of Bangladesh Television (BTV)"*, Ministry of Information, Rampura, Dhaka: 2018 to 2019
- Member, Tender Evaluation Committee (TEC) for the *"Procurement of Studio Equipment"* under the Project of *"Modernization, Digitalization and Automation (1<sup>st</sup> Phase) of the Central Broadcasting System of Bangladesh Television (BTV)"*, Ministry of Information, Rampura, Dhaka: 2018 to 2019
- Member, Proposal Evaluation Committee (PEC) of the Submitted "Request for Proposal (RFP) Proposals" for the *"Consultancy Services"* under the Project of *"Modernization, Digitalization and Automation (1<sup>st</sup> Phase) of the Central Broadcasting System of Bangladesh Television (BTV)"*, Ministry of Information, Rampura, Dhaka: 2018 to 2019
- Member, Proposal Evaluation Committee (PEC) of the Submitted "Express of Interest (EOI) Proposals" for the *"Consultancy Services"* under the Project of *"Modernization, Digitalization and Automation (1<sup>st</sup> Phase) of the Central Broadcasting System of Bangladesh Television (BTV)"*, Ministry of Information, Rampura, Dhaka: 2018 to 2019
- Member, Technical Specification Committee (TSC) for the *"Supply, Installation, Testing and Commissioning of Television Broadcast Studio Lighting Equipment for BTV on Turnkey Basis"* under the Project of *"Modernization, Digitalization and Automation (1<sup>st</sup> Phase) of the Central Broadcasting System of Bangladesh Television (BTV)"*, Ministry of Information, Rampura, Dhaka: 2018 to 2019
- Member, Tender Specification Committee (TSC) for the *"Procurement of Studio Equipment"* under the Project of *"Modernization, Digitalization and Automation (1<sup>st</sup> Phase) of the Central Broadcasting System of Bangladesh Television (BTV)"*, Ministry of Information, Rampura, Dhaka: 2018 to 2019
- Member, *Tender Evaluation Committee (TEC)*, Directorate of Planning and Development (P&D), BUET, Dhaka, Bangladesh: 9 Oct 2017 to date
- Member, Committee for Expert (further) Evaluation of the recommendations provided by another Committee on the *'Upgrading of 3G System to 4G/LTE System'* under the project of *"Modernization and Expansion of Teletalk's 2G/3G Network up to Rural Areas (MEP)"*, Teletalk Bangladesh Limited, Dhaka, Bangladesh: Dec 2017
- Member, Technical Specification Committee (TSC), National Telecommunication Monitoring Center (NTMC), Ministry of Home Affairs, Dhaka, Bangladesh: Financial Year 2017/2018
- Member, Technical Sub-Committee (TSC), National Telecommunication Monitoring Center (NTMC), Ministry of Home Affairs, Dhaka, Bangladesh: Financial Year 2017/2018
- Member, Technical Committee for the purchase of *"Digital Access Control/ Digital Attendance System for Bangladesh National Parliament Secretariat"*, Bangladesh National Parliament Secretariat, Dhaka, Bangladesh: 12 Feb 2018 to date
- Member, Tender Evaluation Committee (TEC) for the project of *"Construction of Saidpur 150 MW ± 10% Simple Cycle (HSD Based) Power Plant Project"*, Bangladesh Power Development Board, Dhaka, Bangladesh: Dec 2017 - July 2018.
- Member, Tender Evaluation Committee (TEC) for the project of *"GD2: Supply, Installation, Testing & Commissioning of Radio Studio Equipment for Bangladesh Betar, Mymensingh and Bangladesh*

*Betar, Gopalganj including the Local & Foreign Training on Turn-Key Basis*", Bangladesh Betar, Dhaka, Bangladesh: Sep 2017- Dec 2017.

- Member, Committee formed by the Syndicate of University of Dhaka for the "Vetting of the Offer of Upgradation of the Existing 180+2400 Line PABX System and Installation of IP Phones at the University of Dhaka", Dhaka, Bangladesh: July 2017
- Member, Committee for the "*Supervision and Confirmation of the Quality of the Supply, Installation and Commissioning of Telephone Wiring System, Telephone Exchange Battery, Cordless Telephone Set at BCIC Bhaban in Turn-key basis*", Bangladesh Chemical Industries Corporation (BCIC), Dhaka-1000, Bangladesh: May 2017
- Member, Tender Evaluation Committee (TEC) for the "*Installation of Wireless Broadband Networks for Digital Bangladesh*", Bangladesh Telecommunications Company Limited (BTCL), Ministry of Post, Telecommunications and Information Technology, Dhaka, Bangladesh: Dec 2016 to date
- Member, Tender Evaluation Committee (TEC) for purchasing "*Telecommunication Technology*" for "*Supply, Installation, Testing and Commissioning of DWDM Optical Transmission Equipment for Several Locations under the Project of BTCL for Installation of High Capacity DWDM Optical Fiber Transmission Network to Connect Kuakata, Benapole and Akhaura on Turn-key basis*", Bangladesh Telecommunications Company Limited (BTCL), Dhaka, Bangladesh: June 2016 to date
- Member of the Committee for the "*Remodeling the Curriculum of Bangladesh Technical Education Board*", Bangladesh Technical Education Board, Agargaon, Dhaka, Bangladesh: March 2016
- Member, Tender Evaluation Committee (TEC) for the purchase of "*Studio Lighting System for Sangshad Bangladesh Television*", Bangladesh National Parliament Secretariat, Dhaka, Bangladesh: 2015/2016
- Member, Tender Evaluation Committee (TEC) of 'Package-1 to Package-4' for the Project of 'Supply, Installation and Commissioning Telecom Equipment' under the Project titled "Modernization and Expansion of Teletalks's 2G/3G Network up to Rural Areas (MEP)", Teletalk Bangladesh Limited, Dhaka, Bangladesh: Sep 2015 - Jan 2016
- Member, Radio Equipment Condemnation Committee, Police Telecom and Information Management Headquarters, Bangladesh Police, Police Telecom Bhaban, Dhaka, Bangladesh: Aug 2015 - June 2017
- Member, Technical Specification Committee (TSC) for "*Technical Machineries and Office Accessories Purchase/Repair for the Security Purpose of VVIP/VIP*", Special Branch (SB), Bangladesh Police, Dhaka, Bangladesh: 2015/2016 Financial Year
- Member, Technical Evaluation Committee (TEC) for "*Computer Accessories & Network Equipment Purchase/Repair and Software & Network Maintenance*", Special Branch (SB), Bangladesh Police, Dhaka, Bangladesh: 2015/2016 Financial Year
- Member, Tender Evaluation Committee (TEC) for purchasing "*Offset Press*" under the project of "*Improvement of Digital Mapping System of Survey of Bangladesh*", Survey of Bangladesh, Ministry of Defense, Dhaka, Bangladesh: Dec 2014 - June 2015
- Member, Technical Specification Committee (TSC) for purchasing "*Mobile Tracking Analysis Equipment and Face Drawing & Recognition Solution*", Police Bureau of Investigation (PBI), Bangladesh Police, Dhaka, Bangladesh: Aug 2015 - June 2015

- Member, Tender Evaluation Committee (TEC), Electrical and Mechanical Engineering Purchase, Estate Department, Janata Bank, Head Office, Dhaka, Bangladesh: May 2014 to 2016
- Member, Tender Evaluation Committee-1 (TEC-1) for "*Diesel Fueled Quick Rental Power Plants*", Bangladesh Power Development Board (BPDB), Dhaka, Bangladesh: Oct 2009
- Member, Tender Evaluation Committee 6 (TEC-6), Bangladesh Power Development Board (BPDB), Dhaka, Bangladesh: Mar 2009 - Feb 2010
- Member, Proposal Evaluation Committee (PEC), Bangladesh Power Development Board (BPDB), Dhaka, Bangladesh: Feb 2009 - Feb 2010
- Member, Tender Evaluation Committee 5 (TEC-5), Bangladesh Power Development Board (BPDB), Dhaka, Bangladesh: Jan 2009 - Feb 2010
- Member, Tender Evaluation Committee 3 (TEC-3), Bangladesh Power Development Board (BPDB), Dhaka, Bangladesh: Jan 2008 - Feb 2010
- Member, Tender Evaluation Committee 1 (TEC-1), Bangladesh Power Development Board (BPDB), Dhaka, Bangladesh: Jan 2008 - Feb 2010

**Selection Board / Recruitment Committee / Viva Board / Question Setter & Script Examinations**

- Member, *Viva Board* for the "*Recruitment of Officers*", Jamuna Oil Company Ltd., Bangladesh Petroleum Corporation, Chittagong, Bangladesh: Sep 2019
- Member, Selection (Recruitment) Committee 2, Bangladesh Atomic Energy Regulatory Authority (BAERA), Agargaon, Dhaka, Bangladesh: Aug 2017 to 2019
- External Member, Question Moderation Committee, Dept. of EEE, Shahjalal University of Science and Technology (SUST), Sylhet, Bangladesh: UG Jan-Jun 2019 Semester
- *Question Setter/Question Moderator/Script Examiner/Viva Board Member* for the "*Recruitment in various 1<sup>st</sup> Class and 2<sup>nd</sup> Class Posts in the field of Electrical and Electronic Engineering*", Bangladesh Public Service Commission (PSC), Agargaon, Dhaka, Bangladesh: April 2017 to date
- Member, *Viva Board* for the "*Recruitment of Assistant Manager (Technical) & Junior Assistant Manager (Technical)*", Bangladesh Telecommunications Company Limited (BTCL), Ministry of Post, Telecommunications and Information Technology, Dhaka, Bangladesh: Aug 2018
- Member, *Viva Board* for the "*Recruitment of Officers for Different Posts*", Bangladesh Petroleum and Exploration and Production Company Ltd. (BAPEX), Karwan Bazar, Dhaka, Bangladesh: April 2016

**IV. Experience Related to Review of Self-Assessment (SA) Process under the Higher Education Quality Enhancement Project (HEQEP) supervised by the University Grants Commission (UGC), Bangladesh**

S/N	Organization & Programme	Role	Time Period
1	Department of Electronics and Telecommunications Engineering (ETE),	Subject Expert, External Peer	12-14 May 2018 (three-day visit)



	University of Liberal Arts Bangladesh (ULAB) Dhaka, Bangladesh	Review Team (EPRT)	
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## V. Experience Related to Accreditation for University Programme formed by Board of Accreditation for Engineering and Technical Education (BAETE)

S/N	Organization & Programme	Role	Time Period
1	B.Sc. in Electrical & Electronic Engineering (EEE) Independent University, Bangladesh (IUB) Dhaka, Bangladesh	Team Member	May 2017 (three-day visit)
2	B.Sc. in Electronic & Telecommunication Engineering (ETE) Independent University, Bangladesh (IUB) Dhaka, Bangladesh	Team Member	May 2017 (three-day visit)
3	B.Sc. in Electrical & Electronic Engineering (EEE) Ahsanullah University of Science and Technology (AUST) Dhaka, Bangladesh	Team Member	Nov 2017 (three-day visit)
4	B.Sc. in Electrical & Electronic Engineering (EEE) Green University Bangladesh (GUB) Dhaka, Bangladesh	Team Member	Feb 2018 (three-day visit)
5	B.Sc. in Electronic & Communication Engineering (ECE) BRAC University Dhaka, Bangladesh	Team Member	July 2018 (three-day visit)
6	B.Sc. in Electrical & Electronic Engineering (EEE) Green University Bangladesh (GUB) Dhaka, Bangladesh <b>(Outcome based Education (OBE) Accreditation)</b>	Team Member	Aug 2019 (three-day visit)

## VI. Contribution to the University Administration

### a) Administrative Responsibilities:

- Advisor (PABX) to Vice-Chancellor (VC), BUET: 4 June 2018 to date
- Assistant Provost (Maintenance), Titumir Hall, BUET: 2 Dec 2014 - 5 Oct 2018

**b) Activities Assigned by Universities authorities in addition to own duties:**

**Service to the Registrar Office, BUET:**

- Member, "Pandal and Sitting Arrangement Sub-Committee" for the Convocation 2019, BUET: Feb-March 2019
- Member of a *Selection Board* for the recruitment of a "Assistant AC Technician" for the Engineering Office, BUET: Committee formed in Feb 2020
- Member of a *Selection Board* for the recruitment of Two "Supervisors" for the Engineering Office, BUET: Committee formed in Jan 2020
- Member of a *Selection Board* for the recruitment of five "Cleaners" for the Engineering Office, BUET: Committee formed in Jan 2020
- Member of a *Selection Board* for the recruitment of a "CCTV and Computer Network Technician" for the IICT, BUET: Committee formed in Feb 2020
- Member of a *Selection Board* for the recruitment of a "Lab Attendant" for the JIDPUS, BUET: Committee formed in Aug 2019
- Member of a *Selection Board* for the recruitment of a "Store Keeper (Grade - 2)" for the Engineering Office, BUET: Committee formed in Dec 2019
- Member of a *Selection Board* for the recruitment of a "Lab Attendant" for the IICT, BUET: Committee formed in Aug 2019
- Member of a *Selection Board* for the recruitment of an "MLSS" for the IICT, BUET: Committee formed in Aug 2019
- Member of a *Selection Board* for the recruitment of an "AC cum Generator Technician" for the Engineering Office, BUET: Committee formed in Nov 2019
- Member of a *Selection Board* for the recruitment of an "LDA cum Computer Operator" for the Engineering Office, BUET: Committee formed in July 2019
- Member of a *Selection Board* for the recruitment of an "MLSS" for the Engineering Office, BUET: Committee formed in July 2019
- Member of a *Selection Board* for the recruitment of an "MLSS" for the Department of Mathematics, BUET: 2019
- Member of a *Selection Board* for the recruitment of a "Office Assistant" for the Dr. M. A. Rashid Hall, BUET: Committee formed in July 2019
- Member of a *Selection Board* for the recruitment of a "Cleaner" for the Institute of Water and Flood Management (IWFM), BUET: Committee formed in Feb 2019
- Member of a *Selection Board* for the recruitment of an "MLSS" for the Department of Mathematics, BUET: Committee formed in June 2018
- Member of a *Selection Board* for the recruitment of Two "Shop Attendant" for the Carpentry Shop, DAERS, BUET: Committee formed in Jan 2018
- Member of a *Selection Board* for the recruitment of an "Electrician" for the Engineering Office of BUET: Committee formed in May 2017

- Member of a *Selection Board* for the recruitment of a "Telephone Operator" for the Engineering Office of BUET: Committee formed in May 2017

**Service to the Controller of Examinations Office, BUET and Other Universities:**

- Member for *Ph.D. Thesis Examination*, Department of EEE, BUET: 2017 (**One Ph.D. Thesis examined**)
  - Member of the *Doctoral Committee of a Ph.D. Student* in the Department of EEE, BUET: 2016-2017
  - Internal Member for *M.Sc. Engineering Thesis Examination*, Department of EEE, BUET: 2014 to date (**Examined Three M.Sc. Theses**)
  - External Member for *M.Sc. Engineering Thesis Examination*, Institute of Information and Communication Technology (IICT), BUET: 2017 to date (**Examined Two M.Sc. Theses**)
  - External Member for *M.Sc. Engineering Thesis Examination*, Institute of Appropriate Technology (IAT), BUET: 2019 (**Examined One M.Sc. Theses**)
  - External Member for *M.Sc. Thesis Examination*, Department of Applied Physics and Electronic Engineering, University of Rajshahi, Rajshahi, Bangladesh: 2017 (**Examined One M.Sc. Theses**)
  - *External Examiner* for Undergraduate Thesis Defense, Department of EEE, BUET: 2014 to date
  - *Scrutinizer*, BUET Undergraduate Admission Test 2017
  - Member, *Security Committee*, BUET Undergraduate Admission Test 2017
  - Member for '*Echo Checking*' and '*Certificate Checking & Collection*' in Undergraduate Admission Test 2015 & 2016
  - *Invigilator for both Undergraduate and Postgraduate Admission Tests*, BUET: 2003 to date
  - Member, *Strong Room* (Term Final Question preparation) of Undergraduate Term Final Examinations, BUET: 2014-2015 (Twice)
  - *Paper Setter, Examiner and Grade Sheet Preparer* for Postgraduate Examinations, Department of EEE, BUET: 2014 to date
  - *Paper Setter, Examiner and Grade Sheet Preparer* for Undergraduate Examinations, Department of EEE, BUET: 2003 to date
  - *Invigilator for both Undergraduate and Postgraduate Examinations*, BUET: 2003 to date
- c) **Chairman or Member of Committees formed by University Authority, Syndicate, Academic Council, Finance Committee, Committee for Advance Studies & Research, Boards of Studies, etc.:**
- Examination Committee, Department of EEE, BUET: 16 Feb 2019 to 31 Dec 2019
  - Member, *Academic Council*, BUET: Feb 2015 to date
  - External Member, *Faculty Committee*, Faculty of Architecture and Planning, BUET: 11 April 2018 to date

- Member, Committee for *Reviewing the Syllabus for MSc / MEngg (ICT) Programme*, Research and Academic Committee Institute of Information and Communication Technology (IICT), BUET: Nov 2018
- Member, Committee for *Reviewing the Syllabus for Post Graduate Diploma Programme*, Research and Academic Committee Institute of Information and Communication Technology (IICT), BUET: April 2018
- Member, *Tender Evaluation Committee (TEC)*, Directorate of Planning and Development (P&D), BUET, Dhaka, Bangladesh: 9 Oct 2017 to date
- Member, *Committee for Bringing all the Student Halls of BUET under CCTV Coverage*, Director of Students' Welfare (DSW), BUET, 2017
- Member, *Faculty Committee*, Faculty of EEE, BUET: Mar 2014 to date
- Member, *Board of Postgraduate Studies (BPGS)*, Department of EEE, BUET: Mar 2014 to date
- Member, *Board of Undergraduate Studies (BUGS)*, Department of EEE, BUET: Mar 2003 to date

**d) Contribution to the Department other than those already stated above:**

**Chairman or Member of Committees formed by BPGS and BUGS, Dept. of EEE, BUET**

- **Member Secretary**, Board of Postgraduate Studies (BPGS), Department of EEE, BUET: 22 Jan 2019 to date
- Academic Advisor to around undergraduate students of the Department of EEE, BUET: 2014 to date
- Academic Advisor to postgraduate students of the Department of EEE, BUET: 2014 to date
- **Convener, Undergraduate Thesis Distribution Committee**, Dept. of EEE, BUET: Jan 2019, Jan 2018 and July 2017 Semesters for UG students
- **Member, Question Moderation Committee**, Dept. of EEE, BUET: UG Jan 2019 Semesters
- Member, Committee for arranging the Panel Session on "*Role of Telecommunications for National Development of Bangladesh*" held in conjunction with the IEEE 10th International Conference on Electrical and Computer Engineering (ICECE 2018), BUET: 22 Dec 2018
- Convener of the Committee of Job Seminar held during the EEE Day 2018, BUET: 11 July 2018
- Convener of the Committee of Job Seminar held during the EEE Day 2017, BUET on 18 May 2017
- Member of M.Sc. Admission Committee, Department of EEE, BUET: Apr 2015, Apr 2016 Semesters
- Convener of the Orientation Committee for the Newly Admitted Undergraduate Students (Jan 2016 Semester) in the Department of EEE, BUET: 2016
- Member, Committee for *Proposal Preparation including Cost Estimation* for the *Modernization of Circuit Labs*, Department of EEE, BUET: 2016

- *Question Paper Setter/Invigilator/Answer Script Examiner* for the M.Sc. Admission Test, Department of EEE, BUET: 2014 to date
- Member, Committee for Multi-media Facilities, Department of EEE, BUET: Aug 2015 to date
- Convener, Undergraduate Routine Committee, Department of EEE, BUET: July 2014, Jan 2015 Semesters

#### **Chairman or Member of Committees formed by BRTC, Dept. of EEE, BUET**

- Recruitment Committee for the Post of "*Office Assistant cum Computer Operator*" for the BRTC Office, Department of EEE, BUET: Jan 2019
- Member, Committee for "*Determining Testing Fee and Preparing Testing Manual*" for the Photovoltaic Testing Laboratory, Department of EEE, BUET, financed by Infrastructure Development Company Limited (IDCOL), Ministry of Finance, Dhaka: 2017-2018
- Member, *Photovoltaic Components and Testing Laboratory (PCSTL) user Group*, Department of EEE, BUET: 2017 to date
- Member of the Committee for Preparation of Guideline to Remove Anomalies of EEE-BRTC Job Distribution from by BRTC-Department of EEE, BUET: 2014
- Serving as an active Member of Bureau of Research, Testing and Consultation (BRTC) of the Department of EEE, BUET and have been involved in many testing and consultancy works: Oct 2005 to date

#### **Curriculum Improvement**

- As a Member of the Board of Undergraduate Studies (BUGS), participated in the revision of various old courses and inclusion of new courses in undergraduate level
- Since April 2014, as a Member of the Board of Postgraduate Studies (BPGS), actively participated in updating postgraduate curriculum
- During 2015-2016, served the main role as a Member of the Syllabus Update Committee of the "Communication and Signal Processing Group" for **Undergraduate Studies** in developing the new courses *EEE 437 Wireless Communication*, and played major role in transforming the previous *EEE 309 Communication Theory* course into two new courses, namely, *EEE 309 Communication Systems I* and *EEE 439 Communication Systems II*. Also had major contribution in updating the course *EEE 331 Random Signals and Processes*. Moreover, participated in the meetings of the group and played active role in designing other new courses and updating other existing courses.
- Currently serving as a Member of the Syllabus Update Committee of the "Communication and Signal Processing Group" for **Postgraduate Studies** and designed two new courses, one is the *Wireless and IP Networking*, and the other is the *Sensor Networks*. Course codes for these courses have not been finalized yet. In addition, also regularly participating in the meetings and playing substantial role in designing and updating other courses.

### **Laboratory Development**

- **Lab-in-Charge**, Circuit Lab 1 (old), Department of EEE, BUET: Nov 2014 to date
- **Lab-in-Charge**, Circuit Lab 2 (new), Department of EEE, BUET: Nov 2014 to June 2018
- Member, Committee for *Proposal Preparation including Cost Estimation* for the *Modernization of Circuit Labs*, Department of EEE, BUET: 2016
- Preparation and Updating of Lab Sheets for *EEE 310 Communication Laboratory* including the design of a new experiment on *Pulse Code Modulation (PCM)* using TIMS Module, an experiment on *Optical Fiber Communication*, etc.
- *Design of Lab Sheets for EEE 437 Digital Communication Laboratory*: 2007

### **VII. Membership/Fellowship of Learned Societies, Professional Institutions and Other Noteworthy Affiliations, etc.**

- Member, Institute of Electrical and Electronic Engineers (IEEE) (Member # 90925682)
- Member, IEEE Communications Society
- Member, IEEE Young Professionals
- Member, Green ICT Community, IEEE
- Member, Smart Grid Community, IEEE

### **VIII. Professional Awards / Honors /Assistantship Received**

- **Best Paper Award**, 6<sup>th</sup> IEEE International Conference on Information and Communication Technology (ICoICT), Bandung, Indonesia, May 2018
- **Best Paper Award**, IEEE International Conference on Informatics, Electronics & Vision (ICIEV), Dhaka, Bangladesh, May 2016
- **Dr. Fatema Rashid Best Paper Award**, IEEE International Women in Engineering (WIE) Conference on Electrical and Computer Engineering (WIECON-ECE), Dhaka, Bangladesh, Dec 2015
- **Best Paper Award**, Student Paper Competition, IEEE Communication Society (Bangladesh), Dhaka, Bangladesh, 2014
- **Student Travel Grant awarded** by the IEEE International Global Communications Conference (GLOBECOM), Anaheim, California, USA, Dec 2012
- **The TransGrid Prize for Outstanding Research**, Research Conversazione, The University of Sydney, Australia, Oct 2012
- **Postgraduate Research Support Scheme (PRSS)**, The University of Sydney, Australia, 2012
- **SingTel Optus Prize for Best Research Project**, Research Conversazione, The University of Sydney, Australia, Oct 2010

- **University of Sydney International Student (USydIS) Scholarship**, The University of Sydney, Australia: 2010-2013
- **Norman I Price Scholarship**, The University of Sydney, Australia: 2010-2013
- **Tutor**, School of Electrical and Information Engineering, The University of Sydney, Australia: 2010-2013
- **Top-up Scholarship**, The University of Sydney, Australia: 2010-2012
- **Graduate Research Assistantship**, University of Alberta, Canada, 2006-2007
- **Offer of Graduate Research Assistantship**, University of Waterloo, Canada 2006
- **Offer of Graduate Research Assistantship**, University of Manitoba, Canada, 2006
- **Scholarship for Academic Excellence awarded by the University Grant Commission (UGC)**, Bangladesh: 2002
- **University Merit Scholarship** all through the eight semesters of B.Sc. engineering study in BUET: 1998-2002
- **Dean's List Scholarship** for all the four years of B.Sc. studies in BUET for academic excellence: 1998-2002
- **Scholarship awarded by BUET for obtaining the 34<sup>th</sup> position** in the B.Sc. Engineering Admission Test: 1997
- **Dhaka Board Scholarship** for the Result of H.S.C. (Higher Secondary Certificate) Examination: 1996-1998
- **Dhaka Board Scholarship** for the Result of S.S.C. (Secondary School Certificate) Examination: 1994-1996
- **Placed 3<sup>rd</sup> in the "National Competition for Children '93"** in District Level (Gazipur District) "Essay Writing" Group, Islamic Foundation Bangladesh, Gazipur, Bangladesh: Oct 1993
- **Placed 1<sup>st</sup> in the "National Competition for Children '93"** in Thana Level (Tongi Thana) "Essay Writing" Group, Islamic Foundation Bangladesh, Gazipur, Bangladesh: July 1993
- **Junior scholarships (Talent Pool)** offered by the Government of Bangladesh: 1992

## IX. Professional Work at National and International Levels

### A. Member in Conference / Workshop Organization

- **Technical Program Committee (TPC), Bulletin of Electrical Engineering and Informatics (BEEI)**, ISSN: 2089-3191, e-ISSN: 2302-9285, Indonesia: Jan 2020 to date
- **Technical Program Committee (TPC), Green Communications Systems and Networking, IEEE International Conference on Global Communications (GLOBECOM 2020)**, Taipei, Taiwan, Dec 2020
- **Technical Committee, IEEE International Conference on Telecommunications and Photonics (ICTP 2019)**, Dhaka, Bangladesh, Dec 2019
- **Technical Program Committee (TPC), Green Communications Systems and Networking, IEEE International Conference on Global Communications (GLOBECOM 2018)**, Abu Dhabi, UAE, Dec 2018

- **Best Paper Award Committee**, *IEEE International Conference on Electrical and Computer Engineering (ICECE 2018)*, Dhaka, Bangladesh, Dec 2018
- **Technical Committee**, *IEEE International Conference on Electrical and Computer Engineering (ICECE 2018)*, Dhaka, Bangladesh, Dec 2018
- **Technical Committee**, *IEEE International Conference on Advancement in Electrical and Electronic Engineering (ICAEEE 2018)*, Gazipur, Bangladesh, Nov 2018
- **Technical Program Committee (TPC)**, *IEEE International Conference on Advances in Computing, Communications and Informatics (ICACCI 2018)*, Bangalore, India, Sep 2018
- **Technical Committee**, *IEEE International Conference on Telecommunications and Photonics (ICTP 2017)*, Dhaka, Bangladesh, Dec 2017
- **Technical Program Committee (TPC)**, *IEEE International Conference on Image Information Processing (ICIIP 2017)*, Himachal Pradesh, India, Dec 2017
- **Technical Program Committee (TPC)**, *IEEE International Conference on Vehicular Technology (VTC 2017 Spring)*, Sydney, Australia, June 2017
- **Technical Program Committee (TPC)**, **Green Communications Systems and Networks**, *IEEE International Conference on Global Communications (GLOBECOM 2016)*, Washington, DC, USA, Dec 2016
- **Technical Committee**, *IEEE International Conference on Electrical and Computer Engineering (ICECE 2016)*, Dhaka, Bangladesh, Dec 2016
- **Technical Program Committee (TPC)**, *IEEE International Conference on Vehicular Technology (VTC 2016 Fall)*, Montreal, Canada, Sep 2016
- **Technical Program Committee (TPC)**, **Green Communications and Computing Technical Committee**, *IEEE International Conference on Global Communications (GLOBECOM 2015)*, San Diego, CA, USA, Dec 2015
- **Technical Committee**, *IEEE International Conference on Telecommunications and Photonics (ICTP 2015)*, Dhaka, Bangladesh, Dec 2015
- **Session Chair**, *IEEE International Conference on Telecommunications and Photonics (ICTP 2015)*, Dhaka, Bangladesh, Dec 2015
- **Technical Program Committee (TPC)**, *IEEE International Conference on Vehicular Technology (VTC 2015 Fall)*, Boston, USA, Sep 2015
- **Organizing Committee**, *IEEE International Conference on Electrical and Computer Engineering (ICECE 2014)*, Dhaka, Bangladesh, Dec 2014
- **Technical Program Committee (TPC)**, **Green Communication Systems and Networks**, *IEEE International Conference on Global Communications (GLOBECOM 2014)*, Austin, TX, USA, Dec 2014
- **Technical Program Committee (TPC)**, *IEEE International Conference on Vehicular Technology (VTC 2014 Fall)*, Vancouver, Canada, Sep 2014
- **Member Secretary**, “*Workshop on Fire Detection Systems and Electrical Safety*” (for RMG industries) organized by the Department of EEE, BUET, May 2014



- **Technical Program Committee (TPC)**, *IEEE International Conference on Vehicular Technology (VTC 2013 Fall)*, Las Vegas, USA, Sep 2013
- **Technical Program Committee (TPC)**, *IEEE International Conference on Vehicular Technology (VTC 2013 Spring)*, Dresden, Germany, June 2013
- **Organizing Volunteer**, *IEEE International Conference on Personal, Indoor and Mobile Radio Communication (PIMRC)*, Sydney, Australia, Sep 2012
- **Organizing Volunteer**, *IEEE Wireless Communications and Networking Conference (WCNC)*, Australia, Apr 2010
- **Organizing Committee**, *IEEE International Conference on Electrical and Computer Engineering (ICECE 2008)*, Dhaka, Bangladesh, Dec 2008

## **B. Reviewer of Research Papers**

### **Journals (selected):**

- IEEE Transactions on Wireless Communications (TWC)
- IEEE Journals of Selected Areas in Communications (JSAC)
- IEEE Intelligent Transportation Systems Magazine
- IEEE Wireless Communications Letter (WCL)
- IEEE Access (Multidisciplinary Open Access Journal)
- IEEE Access
- Springer Annals of Telecommunications
- Wiley Journal of Wireless Communications and Mobile Computing (WCMC)
- Wiley Transactions on Emerging Telecommunications Technologies (ETT)
- Wiley International Journal of Communication Systems
- Journal of China Communications
- Electronics and Telecommunications Research Institute (ETRI) Journal
- Institute of Engineers Bangladesh (IEB) Journal of Electrical Engineering

### **Conferences/Symposiums (selected):**

- *IEEE International Conference on Global Communications (GLOBECOM 2018)*, Abu Dhabi, UAE, Dec 2018
- *IEEE International Conference on Advancement in Electrical and Electronic Engineering (ICAEEE 2018)*, Gazipur, Bangladesh, Nov 2018
- *IEEE International Conference on Advances in Computing, Communications and Informatics (ICACCI 2018)*, Bangalore, India, Sep 2018.
- *IEEE International Conference on Image Information Processing (ICIIP 2017)*, Himachal Pradesh, India, Dec 2017

- *IEEE International Conference on Telecommunications and Photonics (ICTP 2017)*, Dhaka, Bangladesh, Dec 2017
- *IEEE International Conference on Vehicular Technology (VTC 2017 Spring)*, Sydney, Australia, June 2017
- *IEEE International Conference on Global Communications (GLOBECOM 2016)*, Washington, D.C., USA, Dec 2016
- *IEEE International Conference on Electrical, Computer & Telecommunication Engineering (ICECTE 2016)*, Rajshahi, Bangladesh, Dec 2016
- *IEEE International Conference on Electrical and Computer Engineering (ICECE 2016)*, Dhaka, Bangladesh, Dec 2016
- *IEEE International Conference on Electrical Engineering and Information Technology (ICEEICT 2016)*, Dhaka, Bangladesh, Sep 2016
- *IEEE International Conference on Vehicular Technology (VTC 2016 Fall)*, Montreal, Canada, Sep 2016
- *International Conference on Informatics, Electronics and Vision (ICIEV 2016)*, Dhaka, Bangladesh, May 2016
- *IEEE International Conference on Electrical and Electronic Engineering (ICEEE 2015)*, Rajshahi, Bangladesh, Nov 2015
- *IEEE International Conference on Global Communications (GLOBECOM 2015)*, San Diego, CA, USA, Dec 2015
- *IEEE International Conference on Telecommunications and Photonics (ICTP 2015)*, Dhaka, Bangladesh, Dec 2015
- *IEEE International Conference on Vehicular Technology (VTC 2015 Fall)*, Boston, USA, Sep 2015
- *International Symposium on Women in Computing and Informatics (WCI 2015)*, Kerala, India, Aug 2015
- *International Conference on Networking Systems and Security 2015 (NSysS 2015)*, Dhaka, Bangladesh, Jan 2015
- *IEEE International Conference on Electrical and Computer Engineering (ICECE 2014)*, Dhaka, Bangladesh, Dec 2014
- *IEEE International Conference on Global Communications (GLOBECOM 2014)*, Austin, TX, USA, Dec 2014.
- *IEEE International Conference on Vehicular Technology (VTC 2014 Fall)*, Vancouver, Canada, Sep 2014
- *IEEE International Conference on Vehicular Technology (VTC 2013 Fall)*, Las Vegas, USA, Sep 2013
- *IEEE International Conference on Vehicular Technology (VTC 2013 Spring)*, Dresden, Germany, June 2013
- *IEEE International Conference on Global Communications (GLOBECOM 2012)*, Anaheim, CA, USA, Dec 2012

- *IEEE International Conference on Personal, Indoor and Mobile Radio Communication (PIMRC 2012)*, Sydney, Australia, Sep 2012
- *International Symposium on Wireless Communication Systems (ISWCS 2012)*, Paris, France, Aug 2012
- *IEEE Wireless Communications and Networking Conference (WCNC 2012)*, Paris, France, Apr 2012

## X. Funded Research Projects

### **Project 1:**

**Project Title:** Internet of Things (IoT) based Railway Fishplate and Track Monitoring System for Safe Transport

**Position:** Project Director

**Duration:** One year (awarded in Feb 2020)

**Total Grant:** BDT. 3,00,000 (Three lac taka only)

**Grant Authority:** University Grant Commission (UGC))  
Bangladesh

### **Project 2:**

**Project Title:** Building Energy Management System (BEMS)

**Position:** Co-investigator

**Duration:** Mar 2018 - Feb 2020 (24 months)

**Total Grant:** BDT. 50,00,000 (Fifty lac taka only)

**Grant Authority:** Bangladesh Energy and Power Research Council (BEPRC)  
Power Division  
Ministry of Power, Energy and Mineral Resources  
Government of the People's Republic of Bangladesh

## XI. Completed Supervised Research:

### **A. Postgraduate Thesis:**

Sl. No.	Level (Masters/Ph.D.)	Name of Student	Thesis Title	Status
1	M.Sc. Engg. in EEE	Ayman Uddin Mahin	Design of Millimeter Wave Based Sag Measurement and Monitoring System for Overhead Transmission Lines in a Smart Grid	Completed Nov 2019
2	M.Sc. Engg. in EEE	Mst. Rubina Aktar	Energy Efficient Hybrid Powered C-RAN Architectures with Dynamic User Association	Completed Sep 2019

3	M.Sc. Engg. in EEE	Anthonyo Barsha Rozario	An Architecture for M2M Communications over Cellular Networks Using Clustering and Hybrid TDMA-NOMA	Completed June 2019
4	M.Sc. Engg. in EECE	Abu Jahid Setu	Energy Efficient Operations of CoMP based LTE-A Cellular Networks with Hybrid Power Supplies	Completed Jan 2019
5	M.Sc. Engg. in EEE	Md. Ibrahim Ibne Alam	Design of EM Wave based MAC Protocols for Underwater Sensor Networks with TDMA based Control Channel	Completed May 2017

**B. Undergraduate Thesis:**

Sl. No.	Department (B.Sc. Engg.)	Thesis Title	Status
1	EEE	Data Aggregation of Machine to Machine Communications Over 5G Network Slicing	Completed Apr 2019
2	EEE	Hybrid Beamforming in Multi-Cell Multi-User Millimeter-Wave Systems for Massive MIMO	Completed Apr 2019
3	EEE	Downlink Throughput and Energy Efficiency Analysis of Satellite Communication Systems	Completed Apr 2019
4	EEE	A Novel Cooperation Based Inter-RAN Load Sharing Technique for Energy Efficient Cellular Networks	Completed Oct 2018
5	EEE	IoT based Real-time Systems over Cellular Networks	Completed Oct 2018
6	EEE	A Secured Offline Online Approach for IoT Using Real- Time Database	Completed Oct 2018
7	EEE	Full Duplex Uplink Communications for DAS based 5G Cellular Networks	Completed Dec 2017
8	EEE	User Association and Queueing Theory based Analysis for Massive MIMO Enabled HetNets for Both DTU and NDTU Traffic	Completed Sep 2017
9	EEE	A Novel Technique for Underwater Object Detection using 3D EM Sensor Network	Completed Sep 2017
10	EEE	Data Fusion based Object Tracking using EM UWSNs	Completed Feb 2017
11	EEE	Real-Time Pricing for Smart Grid Communications over Cellular Networks	Completed Feb 2017

12	EEE	Downlink Performance Analysis of LTE Cellular Networks with Distributed Antenna System for Non-uniform User Distribution using Stochastic Geometry	Completed Feb 2016
13	EEE	Performance Analysis of Combined DPS and JT CoMP Technique in Downlink LTE-A Cellular Networks	Completed Sep 2016
14	EEE	Analysis of an EM Wave based Hybrid MAC Protocol for Underwater Wireless Sensor Network	Completed Sep 2016
15	EEE	Performance Analysis of AUV Navigation System using EM Wave based Underwater Sensor Networks	Completed Sep 2015
16	EEE	Downlink OFDMA Network Analysis with Stochastic Geometry Models	Completed Sep 2015
17	EEE	Downlink Energy Efficiency of Heterogeneous LTE-A Cellular Networks using Combined Dynamic Point Selection and Joint Transmission	Completed Sep 2015
18	EEE	Underwater Object Detection and Tracking using Electromagnetic Waves	Completed Sep 2015

## XII. Teaching activities undertaken (course and laboratory) at undergraduate and graduate levels (selected):

### A. Graduate Courses Conducted:

Course No. and Title of the Courses	Department / Organization	Level	No. of Students	Hrs/ week	Semester/ Year
EEE 6202 Advanced Telecommunication Engineering	EEE, BUET	Postgraduate	30	3	Apr 2019
EEE 6202 Advanced Telecommunication Engineering	EEE, BUET	Postgraduate	8	3	Apr 2018
EEE 6202 Advanced Telecommunication Engineering	EEE, BUET	Postgraduate	21	3	Apr 2017
EEE 6202 Advanced Telecommunication Engineering	EEE, BUET	Postgraduate	22	3	Oct 2015
EEE 6202 Advanced Telecommunication Engineering	EEE, BUET	Postgraduate	12	3	Oct 2014

**B. Undergraduate Courses Conducted (selected):**

Course No. and Title of the Courses	Department / Organization	Level	No. of Students	Hrs/week	Semester/Year
EEE 438 Wireless Communication Laboratory	EEE, BUET	Undergraduate L-4/T-2	33	3	Jan 2020
EEE 172 Electrical Circuits Sessional	BME*, BUET	Undergraduate L-1/T-2	30	3	Jan 2020
EEE 309 Communication Systems I	EEE, BUET	Undergraduate L-3/T-1	65	3	Jan 2019
EEE 310 Communication Systems I Laboratory	EEE, BUET	Undergraduate L-3/T-2	32	3	Jan 2019
EEE 441 Telecommunication Engineering	EEE, BUET	Undergraduate L-4/T-2	49	3	July 2018
EEE 206 Energy Conversion Laboratory	EEE, BUET	Undergraduate L-2/T-2	32	3	July 2018
EEE 309 Communication Systems I	EEE, BUET	Undergraduate L-3/T-1	65	3	Jan 2018
EEE 310 Communication Systems I Laboratory	EEE, BUET	Undergraduate L-3/T-2	32	3	Jan 2018
EEE 309 Communication Theory	EEE, BUET	Undergraduate L-3/T-2	65	3	July 2017
EEE 310 Communication Laboratory	EEE, BUET	Undergraduate L-3/T-2	32	3	July 2017
EEE 309 Communication Theory	EEE, BUET	Undergraduate L-3/T-2	65	3	January 2017
EEE 310 Communication Laboratory	EEE, BUET	Undergraduate L-3/T-2	32	3	January 2017
EEE 309 Communication Theory	EEE, BUET	Undergraduate (Self-Study)	4	3	July 2016
EEE 206 Energy Conversion Laboratory	EEE, BUET	Undergraduate L-2/T-2	33	3	July 2016
EEE 172 Electrical Circuits Sessional	BME*, BUET	Undergraduate L-1/T-2	30	3	July 2016
EEE 309 Communication Theory	EEE, BUET	Undergraduate L-3/T-2	65	3	January 2016
EEE 310 Communication Laboratory	EEE, BUET	Undergraduate L-3/T-2	32	3	January 2016

EEE 309 Communication Theory (Sec: A)	EEE, BUET	Undergraduate L-3/T-2	65	3	July 2015
EEE 309 Communication Theory (Sec: C)	EEE, BUET	Undergraduate L-3/T-2	65	3	July 2015
EEE 437 Digital Communication	EEE, BUET	Undergraduate L-4/T-2	42	3	January 2015
EEE 106 Electrical Circuits Laboratory	EEE, BUET	Undergraduate L-1/T-2	32	3	January 2015
EEE 309 Communication Theory	EEE, BUET	Undergraduate L-3/T-2	65	3	July 2014
EEE 310 Communication Laboratory	EEE, BUET	Undergraduate L-3/T-2	30	3	July 2014
EEE 437 Digital Communication	EEE, BUET	Undergraduate L-4/T-2	18	3	2009
EEE 312 Digital Signal Processing I Laboratory	EEE, BUET	Undergraduate L-3/T-2	32	3	2009
EEE 110 Electrical Circuit Simulation Laboratory	EEE, BUET	Undergraduate L-1/T-2	32	3	2009
EEE 212 Numerical Techniques Laboratory	EEE, BUET	Undergraduate L-2/T-1	33	3	2009
EEE 205 Energy Conversion	EEE, BUET	Undergraduate L-2/T-2	65	3	2009
EEE 206 Energy Conversion Laboratory	EEE, BUET	Undergraduate L-2/T-2	32	3	2009

\* BME = Biomedical Engineering

**C. Tutoring:**

<u>Course No. and Title of the Courses</u>	<u>Organization</u>	<u>Level</u>	<u>No. of Students</u>	<u>Hrs/week</u>	<u>Year</u>
ELEC 5509 Mobile Networks	School of Electrical and Information Engineering, The University of Sydney, NSW 2006, Australia	Graduate	31	2	2013
			60	2	2012
			35	2	2011
ELEC5515 Gigabit Wireless Systems		Graduate	50+	2	2010
ELEC 3506/5740 Data Communications and Internet		Graduate and Undergraduate Mix	45	2	2013
			45	2	2012
ELEC 3505 Communications (Lab)		Undergraduate	44	3	2013

### XIII. Publications

#### A. Journal Papers

1. A. Jahid, M. S. Hossain, M. K. H. Monju, M. F. Rahman and **M. F. Hossain**, "Techno-Economic and Energy Efficiency Analysis of Optimal Power Supply Solutions for Green Cellular Base Stations," (available in online) *IEEE Access*, Feb 2020.
2. I. Elgendi, **M. F. Hossain**, A. Jamalipour and K. S. Munasinghe, "Protecting Cyber Physical Systems Using a Learned MAPE-K Model," *IEEE Access*, vol. 7, pp. 90954 - 90963, July 2019.
3. A. Jahid, M. S. Islam, M. S. Hossain, M. E. Hossain, M. K. H. Monju and **M. F. Hossain**, "Toward Energy Efficiency Aware Renewable Energy Management in Green Cellular Networks with Joint Coordination," *IEEE Access*, vol. 7, pp. 75782-75797, June 2019.
4. **M. F. Hossain**, A. U. Mahin, T. Debnath, F. B. Mosharraf and K. Z. Islam, "Recent Research in Cloud Radio Access Network (C-RAN) for 5G Cellular Systems - A Survey," *Journal of Network and Computer Applications*, vol. 139, pp. 31-48, Aug 2019.
5. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Multi-Operator Cooperation for Green Cellular Networks with Spatially Separated Base Stations Under Dynamic User Associations," *IEEE Transactions on Green Communications and Networking*, vol. 3, no. 1, pp. 93-107, Mar 2019.
6. A. Jahid, M. K. H. Monju, M. S. Hossain and **M. F. Hossain**, "Hybrid Power Supply Solutions for Off-grid Green Wireless Networks," *International Journal of Green Energy*, vol. 16, no. 1, pp. 12-33, 2019.
7. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Energy-Efficient Inter-RAN Cooperation for Non-Collocated Cell Sites with Base Station Selection and User Association Policies," *Springer Journal Wireless Networks*, vol. 25, no. 1, pp. 269-285, Jan 2019 (First Online: 10 July 2017).
8. A. Jahid, A. B. Shams and **M. F. Hossain**, "Dynamic Point Selection CoMP Enabled Hybrid Powered Green Cellular Networks," *Elsevier Journal of Computer and Electrical Engineering*, vol. 72, pp. 1006-1020, Nov 2018.
9. A. Jahid, M. K. H. Monju, M. E. Hossain and **M. F. Hossain**, "Renewable Energy Assisted Cost Aware Sustainable Off-Grid Base Stations with Energy Cooperation," *IEEE Access*, vol. 6, pp. 60900 - 60920, Oct 2018.
10. A. Jahid, A. B. Shams and **M. F. Hossain**, "Green Energy Driven Cellular Networks with JT CoMP Technique," *Elsevier Journal of Physical Communication*, vol. 28, pp. 58-68, June 2018.
11. A. Jahid, A. B. Shams and **M. F. Hossain**, "PV Powered CoMP based Green Cellular Networks with Standby Grid Supply," *International Journal of Photoenergy*, vol. 2017, Article ID 6189468, pp. 1-14, Apr 2017.
12. U. Hany, L. Akter and **M. F. Hossain**, "Degree based WCL for Video Endoscopic Capsule Localization," *IEEE Sensors Journal*, vol. 17, no. 9, pp. 2904-2916, May 2017.
13. K. S. Munasinghe, M. A. Aseeri, S. Almorqi, **M. F. Hossain**, M. B. Wali and A. Jamalipour, "EM-based High Speed Wireless Sensor Networks for Underwater Surveillance and Target Tracking," *Journal of Sensors*, vol. 2017, Article ID 6731204, pp. 1-14, Feb 2017.
14. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Traffic-Aware Two-Dimensional Dynamic Network Provisioning for Energy-Efficient Cellular Systems," *Transactions on Emerging Telecommunications Technologies*, vol. 27, no. 3, pp. 357-372, Mar 2016.



15. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Energy-Aware Dynamic Sectorization of Base Stations in Multi-Cell OFDMA Networks," *IEEE Wireless Communications Letters*, vol. 2, no. 6, pp. 587-590, Dec 2013.
16. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Distributed Inter-BS Cooperation Aided Energy Efficient Load Balancing for Cellular Networks," *IEEE Transactions on Wireless Communications*, vol. 12, no. 11, pp. 5929-5939, Nov 2013.
17. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "On the eNB-based Energy-Saving Cooperation Techniques for LTE Access Networks," *Wireless Communications and Mobile Computing*, vol. 15, no. 3, pp. 401-420, Feb 2015.
18. M. M. Mahfuz, **M. F. Hossain**, R. H. Bhuiyan, N. Haq and M. N. Islam, "Effects of Capture and Retransmission on the Performance of GPRS Access Network," *Bangladesh Journal of Information and Communication Technology*, vol. 9, no. 1, pp. 31-35, July 2005.
19. M. M. Mahfuz, **M. F. Hossain**, R. H. Bhuiyan, N. Haq and M. N. Islam, "Optimization of Total Traffic in a Slotted ALOHA based Access Network Considering the Capture and Retransmission Effects," *Wireless Communications and Mobile Computing*, vol. 5, no. 3, pp. 355-363, May 2005.

## **B. International Conference Papers**

1. N. I. Jaya and **M. F. Hossain**, "RAN Resource Slicing and Sharing with NOMA for Latency Reduction in Uplink URLLC Networks," (**Accepted**) *IEEE Wireless Communications and Networking Conference (WCNC) Workshop*, Seoul, South Korea, pp. 1-6, Apr 2020.
2. M. L. Rahman, R. A. Nabid and **M. F. Hossain**, "Disease Symptom Analysis based Department Selection using Machine Learning for Medical Treatment," *IEEE International Students' Conference on Electrical, Electronics and Computer Sciences (SCEECS)*, Bhopal, India, pp. 1-6, Feb 2020.
3. D. Adhikary, N. S. N. Bayev, **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Coopetition Based Inter-Operator Traffic Sharing for Energy Efficient Cellular Networks," *IEEE International Conference on Signal Processing and Communication Systems (ICSPCS)*, Gold Coast, Australia, pp. 1-7, Dec 2019.
4. A. B. Rozario and **M. F. Hossain**, "Hybrid TDMA-NOMA Based M2M Communications over Cellular Networks with Dynamic Clustering and 3D Channel Models," *IEEE International Symposium on Advanced Electrical and Communication Technologies (ISAECT 2019)*, pp. 1-6, Rome, Italy, Nov 2019.
5. S. K. Das and **M. F. Hossain**, "A Location Aware Communication Mode Selection Mechanism for M2M Communications over Cellular Networks," *IEEE International Conference on Advances in Electrical Engineering (ICAEE 2019)*, Dhaka, Bangladesh, pp. 1-4, Sep 2019.
6. A. U. Mahin, S. Islam and **M. F. Hossain**, "Millimeter Wave Based Sag Measurement Using Parabolic Approximation for Smart Grid Overhead Transmission Line Monitoring," *IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm)*, Beijing, China, pp. 1-5, Oct 2019.
7. N. I. Hasan, M. T. Hasan, N. H. Turja, R. Raiyan, S. Saha and **M. F. Hossain**, "A Cyber-Secured MQTT Based Offline Automation System," *IEEE International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET)*, Tamil Nadu, India, pp. 1-5, Mar 2019.

8. A. U. Mahin and **M. F. Hossain**, "Millimeter Wave Based Sag Measurement Technique for Overhead Transmission Lines in Smart Grid," *IEEE International Conference on Energy and Power Engineering (ICEPE)*, Dhaka, Bangladesh, pp. 1-5, Mar 2019.
9. M. R. Akter, A. Jahid, M. A. Hasan and **M. F. Hossain**, "User Association for Efficient Utilization of Green Energy in Cloud Radio Access Network," *IEEE International Conference on Electrical, Computer and Communication Engineering (ECCE 2019)*, Chittagong, Bangladesh, pp. 1-5, Feb 2019.
10. S. K. Das and **M. F. Hossain**, "TDOA based Localization Architecture for M2M Communications over Cellular Networks," *IEEE International Conference on Electrical and Computer Engineering (ICECE 2018)*, Dhaka, Bangladesh, pp. 1-4, Dec 2018.
11. M. R. Akter, A. Jahid, **M. F. Hossain** and M. A. Hasan, "Energy Sustainable Traffic Aware Hybrid Powered Off-Grid Cloud Radio Access Network," *IEEE International Conference on Innovations in Science, Engineering and Technology (ICISSET 2018)*, Chittagong, Bangladesh, pp. 1-5, Oct 2018.
12. A. B. Shams, M. R. Meghla, M. Asaduzzaman and **M. F. Hossain**, "Performance of Coordinated Scheduling in Downlink LTE-A under User Mobility," *4th IEEE International Conference on Electrical Engineering and Information & Communication Technology (iCEEiCT 2018)*, Dhaka, Bangladesh, pp. 1-6, Sep 2018.
13. N. I. Jaya and **M. F. Hossain**, "A Prototype Air Flow Control System for Home Automation using MQTT over Websocket in AWS IoT Core," *10th IEEE International Conference on Cyber-enabled distributed computing and knowledge discovery (CyberC)*, Zhengzhou, China, pp. 1-6, Oct 2018.
14. M. R. Aktar, A. Jahid and **M. F. Hossain**, "Energy Efficiency of Renewable Powered Cloud Radio Access Network," *4th IEEE International Conference on Electrical Engineering and Information & Communication Technology (iCEEiCT 2018)*, Dhaka, Bangladesh, pp. 1-6, Sep 2018.
15. A. Jahid, M. S. Islam, A. B. Shams, S. R. Abied and **M. F. Hossain**, "Optimization of Network Sustainability for LTE BS Deployment in Bangladesh with Hybrid Supplies," *4th IEEE International Conference on Electrical Engineering and Information & Communication Technology (iCEEiCT 2018)*, Dhaka, Bangladesh, pp. 1-6, Sep 2018.
16. A. B. Rozario and **M. F. Hossain**, "An Architecture for M2M Communications over Cellular Networks Using Clustering and Hybrid TDMA-NOMA," *6<sup>th</sup> IEEE International Conference on Information and Communication Technology (ICoICT)*, Bandung, Indonesia, pp. 1-6, 3-5 May 2018.  
**[Winner of Best Paper Award]**
17. M. R. Aktar, **M. F. Hossain** and M. A. Hasan, "Dynamic Clustering Approach for Interference Cancellation in Downlink C-RAN," *Proc. of IEEE International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering (IC4ME2)*, Rajshahi, Bangladesh, pp. 1-4, Feb 2018.
18. S. Tanzina, S. H. Mahmud and **M. F. Hossain**, "A Novel Technique for Underwater Object Detection Using 3D EM Sensor Network," *Proc. of IEEE International Conference on Telecommunication and Photonics (ICTP)*, Dhaka, Bangladesh, pp. 1-5, Dec 2017.
19. K. T. Ahmed, M. N. Hasan, **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Demand Management using Utility based Real Time Pricing for Smart Grid with a New Cost Function," *Proc. of IEEE International Telecommunication Networks and Applications Conference (ITNAC)*, Melbourne, Australia, pp. 1-6, Nov 2017.
20. M. K. C. Shisher, T. Z. Ornee and **M. F. Hossain**, "QoS Aware User Association in Massive MIMO Enabled HetNets for DTU and NDTU Traffic," *Proc. of 4<sup>th</sup> IEEE International Conference on*

- Advances in Electrical Engineering (ICAEE)*, Dhaka, Bangladesh, pp. 363-368, 28-30 September 2017.
21. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "BS Switching for Green Cellular Networks Using Energy-Aware Dynamic Traffic Offloading Schemes," **(Invited Paper)** *Proc. of IEEE Vehicular Technology Conference (VTC)*, Sydney, Australia, pp. 1-5, June 2017.
  22. A. B. Shams, A. Jahid and **M. F. Hossain**, "A CoMP based LTE-A Simulator for Green Communications," *Proc. of IEEE International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET)*, Chennai, India, pp. 1780-1785, Mar 2017.k
  23. A. Jahid, A. B. Shams and **M. F. Hossain**, "Energy Efficiency of JT CoMP Based Green Powered LTE-A Cellular Networks," *Proc. of IEEE International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET)*, Chennai, India, pp. 1768-1774, Mar 2017.
  24. A. B. Shams, S. R. Abied, M. Asaduzzaman and **M. F. Hossain**, "Mobility Effect on the Downlink Performance of Spatial Multiplexing Techniques under Different Scheduling Algorithms in Heterogeneous Network," *Proc. of IEEE International Conference on Electrical, Computer and Communication Engineering (ECCE)*, Cox's Bazar, Bangladesh, pp. 905-910, Feb 2017.
  25. M. I. I. Alam and **M. F. Hossain**, "A TDMA based EM Controlled Multi-Channel MAC Protocol for Underwater Sensor Networks," *Proc. of IEEE International Conference on Electrical, Computer and Communication Engineering (ECCE)*, Cox's Bazar, Bangladesh, pp. 279-284, Feb 2017.
  26. U. Hany, **M. F. Hossain** and L. Akter, "Moving Averaging Method of RSSI Based Distance Estimation for Wireless Capsule Localization," *Proc. of IEEE International Conference on Medical Engineering, Health Informatics and Technology (MediTec)*, Dhaka, Bangladesh, pp. 1-5, Dec 2016.
  27. A. Jahid, A. B. Shams, and **M. F. Hossain**, "Energy Cooperation Among BS with Hybrid Power Supply for DPS CoMP Based Cellular Networks," *Proc. of IEEE International Conference on Electrical, Computer and Telecommunication Engineering (ICECTE)*, Rajshahi, Bangladesh, pp. 1-4, Dec 2016.
  28. M. I. I. Alam and **M. F. Hossain**, "On TDMA based Hybrid Channel MAC Protocol for Underwater Sensor Networks," *Proc. of IEEE International Conference on Electrical and Computer Engineering (ICECE)*, Dhaka, Bangladesh, pp. 574-577, Dec 2016.
  29. A. Jahid, A. S. Ahmad and **M. F. Hossain**, "Energy Efficient BS Cooperation in DPS CoMP Based Cellular Networks with Hybrid Power Supply," *Proc. of IEEE International Conference on Computer and Information Technology (ICCIT)*, Dhaka, Bangladesh, pp. 93-98, Dec 2016.
  30. A. S. Ahmad, J. Huque and **M. F. Hossain**, "A Novel CoMP Transmission Mechanism for the Downlink of LTE-A Cellular Networks," *Proc. of IEEE International Conference on Informatics, Electronics & Vision (ICIEV)*, Dhaka, Bangladesh, pp. 875-880, May 2016. **[Winner of Best Paper Award]**
  31. S. S. Khan, A. A. Khan and **M. F. Hossain**, "Downlink Analysis of Cellular Networks with Distributed Antenna Systems for Non-Uniform User Distribution Using Stochastic Geometry," *Proc. of IEEE International Conference on Informatics, Electronics & Vision (ICIEV)*, Dhaka, Bangladesh, pp. 839-843, May 2016.
  32. A. B. Shams, S. R. Abied and **M. F. Hossain**, "Performance Comparison of Network Layouts with Mobile Users Under Different Resource Scheduling Techniques in Downlink LTE," *Proc. of IEEE International Conference on Informatics, Electronics & Vision (ICIEV)*, Dhaka, Bangladesh, pp. 949-954, May 2016.

33. **M. F. Hossain**, J. Huque, A. S. Ahmad, K. S. Munasinghe and A. Jamalipour, "Energy Efficiency of Combined DPS and JT CoMP Technique in Downlink LTE-A Cellular Networks," *Proc. of IEEE International Conference on Communications (ICC)*, Kuala Lumpur, Malaysia, pp. 2206-2211, May 2016.
34. **M. F. Hossain**, M. B. Wali, K. S. Munasinghe and A. Jamalipour, "Three Dimensional (3D) Underwater Sensor Network Architectures for Intruder Localization Using EM Wave," *Proc. of IEEE Wireless Communications and Networking Conference (WCNC)*, Doha, Qatar, pp. 1847-1852, Apr 2016.
35. M. S. Alam and **M. F. Hossain**, "Reliability and Delay in AUV Navigation Using EM Wave Based Underwater Sensor Network with Shadow Fading," *Proc. of IEEE International Conference on Telecommunication and Photonics (ICTP)*, Dhaka, Bangladesh, pp. 1-5, Dec 2015.
36. M. B. Wali, **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "RF Based Underwater Wireless Sensor Network Architectures for Tracking Intruders in 3D Space," *Proc. of IEEE International Conference on Telecommunication and Photonics (ICTP)*, Dhaka, Bangladesh, pp. 1-5, Dec 2015.
37. M. B. Wali and **M. F. Hossain**, "Accuracy of RF Based Underwater Intruder Localizations Using Sensor Networks with Shadow Fading," *Proc. of IEEE International Women in Engineering (WIE) Conference on Electrical and Computer Engineering (WIECON-ECE)*, Dhaka, Bangladesh, pp. 214-217, Dec 2015. **[Winner of Dr. Fatema Rashid Best Paper Award]**
38. M. B. Wali and **M. F. Hossain**, "On the Architectures of RF Based Underwater Wireless Sensor Networks for Intruder Detection," *Proc. of IEEE International Conference on Electrical Information and Communication Technology (EICT)*, Khulna, Bangladesh, pp. 314-319, Dec 2015.
39. S. M. Hasan, M. A. H. Shiblu and **M. F. Hossain**, "On the Downlink SINR and Outage Probability of Stochastic Geometry Based LTE Cellular Networks with Multi-Class Services," *Proc. of IEEE International Conference on Computer and Information Technology (ICCIT)*, Dhaka, Bangladesh, pp. 65-69, Dec 2015.
40. M. S. Alam, **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Reliability and Delay Analysis of AUV Navigation System Using EM Wave Based Underwater Sensor Network," *Proc. of IEEE International Conference on Signal Processing and Communication Systems (ICSPCS)*, Cairns, Australia, pp. 1-6, Dec 2015.
41. C. Karupongsiri, **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "A Novel Scheduling Technique for Smart Grid data on LTE networks," *Proc. of IEEE International Conference of Signal Processing and Communication Systems (ICSPCS)*, Gold Coast, Australia, pp. 1-5, Dec 2013.
42. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Toward Self-organizing Sectorization of LTE eNBs for Energy Efficient Network Operation Under QoS Constraints," *Proc. of IEEE Wireless Communications and Networking Conference (WCNC)*, Shanghai, China, April 2013.
43. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "On the Energy Efficiency of Self-Organizing LTE Cellular Access Networks," *Proc. of IEEE Global Communications Conference (GLOBECOM)*, Anaheim, California, USA, pp. 5536-5541, Dec 2012. **[Winner of Student Travel Grant]**
44. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "A Self-Organizing Cooperative Heterogeneous Cellular Access Network for Energy Conservation," *Proc. of IEEE International Conference on Communications (ICC)*, Ottawa, Canada, pp. 6838-6842, Jun 2012.
45. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Two Level Cooperation for Energy Efficiency in Multi-RAN Cellular Network Environment," *Proc. of IEEE Wireless Communications and Networking Conference (WCNC)*, Paris, France, pp. 2493-2497, Apr 2012.

46. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Ecological Competition based Resource Control for Sustainable Heterogeneous Wireless Networks," *Proc. of IEEE International Conference on Personal, Indoor and Mobile Radio Communication (PIMRC)*, Toronto, Canada, pp. 1336-1370, Sep 2011.
47. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "An Eco-Inspired Energy Efficient Access Network Architecture for Next Generation Cellular Systems," *Proc. of IEEE International Wireless Communication and Networking Conference (WCNC)*, Cancun, Mexico, pp. 992-997, Mar 2011.
48. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "A Protocooperation-based Sleep-Wake Architecture for Next Generation Green Cellular Access Networks," *Proc. of IEEE International Conference of Signal Processing and Communication Systems (ICSPCS)*, Gold Coast, Australia, pp. 1-8, Dec 2010.
49. **M. F. Hossain**, W. K. Nomani and S. P. Majumder, "User Capacity of DS-CDMA Cellular Communication Systems over a Nakagami-m Distributed Multi-Path Fading Channel," *Proc. of IEEE international Conference on Information and Communication Technology (ICICT)*, March 2007, Dhaka, Bangladesh, pp. 205-208, Mar 2007.
50. **M. F. Hossain** and S. P. Majumder, "Study of DS-CDMA Wireless Communication over a Nakagami-m Multipath Fading Channel in Presence of Imperfect Power Control," *Proc. of IEEE Malaysia International Conference on Communications & International Conference on Networks (MICC-ICON)*, Kuala Lumpur, Malaysia, pp. 1017-1022, Nov 2005.
51. R. H. Bhuiyan, **M. F. Hossain**, M. F. Uddin and S. P. Majumder, "Throughput and Error Analysis of Multicopy Slotted ALOHA in OFDM Multichannel System," *Proc. of International Conference on Computer and Information Technology (ICCIT)*, Bangladesh, pp. 812-815, Dec 2005.
52. Md. F. Uddin, **M. F. Hossain**, R. H. Bhuiyan, C. A. A. Sayeed and S. P. Majumder, "The Effect of Four Wave Mixing on Bit Error Rate Performance of a Direct Sequence Optical Code Division Multiple Access System with Dispersive Fiber," *Proc. of International Conference on Computer and Information Technology (ICCIT)*, Bangladesh, pp. 238-242, Dec 2005.
53. M. M. Mahfuz, **M. F. Hossain**, R. H. Bhuiyan, N. Haq and M. N. Islam, "Analysis of Random Access Channel in GPRS System Including the Capture Effect," *Proc. of IEEE International Conference on Electrical and Computer Engineering (ICECE)*, Dhaka, Bangladesh, pp. 124-127, Dec 2004.
54. Md. Q. Ahsan, **M. F. Hossain**, R. H. Bhuiyan and M. N. Islam, "Electrical Faults Causing Fire in Buildings," (*Invited paper*) *IEEE International Conference on Electrical and Computer Engineering (ICECE)*, Dhaka, Bangladesh, pp. 43-51, Dec 2004.
55. M. M. Mahfuz, **M. F. Hossain**, R. H. Bhuiyan, N. Haq and M. N. Islam, "Capture and Retransmission Effects on the Performance of Slotted ALOHA Based Access Network," *Proc. of IEEE International Conference on Electrical and Computer Engineering (ICECE)*, Dhaka, Bangladesh, pp. 196-199, Dec 2002.

### C. Presentations: Conference / Competition

1. **M. F. Hossain**, J. Huque, A. S. Ahmad, K. S. Munasinghe and A. Jamalipour, "Energy Efficiency of Combined DPS and JT CoMP Technique in Downlink LTE-A Cellular Networks," *IEEE International Conference on Communications (ICC)*, Kuala Lumpur, Malaysia, pp. 2206-2211, May 2016.

2. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Dynamic Topology for Reducing CO<sub>2</sub> Emission in Mobile Networks," Three Minute Thesis (3MT) Competition, The University of Sydney, NSW, Australia, 31 Aug 2013.
3. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "On the Energy Efficiency of Self-Organizing LTE Cellular Access Networks," *IEEE Global Communications Conference (GLOBECOM)*, Anaheim, California, USA, 3-7 Dec 2012.
4. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Reduced Energy Cost in LTE Networks Using Dynamic Sectorization of eNodeBs," *Yearly Research Conversazione 2012 organized by the University of Sydney*, Australia, Oct 2012.
5. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Two Level Cooperation for Energy Efficiency in Multi-RAN Cellular Network Environment," *IEEE Wireless Communications and Networking Conference (WCNC)*, Paris, France, 1-4 Apr 2012.
6. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "A Protocooperation-based Sleep-Wake Architecture for Next Generation Green Cellular Access Networks," *IEEE International Conference of Signal Processing and Communication Systems (ICSPCS)*, Gold Coast, Australia, 13-15 Dec 2010.
7. **M. F. Hossain**, K. S. Munasinghe and A. Jamalipour, "Toward Eco-Inspired Sustainable Green Cellular Networks," *Yearly Research Conversazione 2010 organized by the University of Sydney*, Australia, 31 Oct 2010.

#### D. Seminars / Invited Speech

1. **Keynote Speech**, "**5G: The Future Networks**", in the Seminar organized by the Computer Engineering Division, The Institution of Engineers, Bangladesh (IEB), Headquarters, Ramna, Dhaka-1000, in the Presence (as the Chief Guest) of the Honorable Minister, Post & Telecommunications Division, Ministry of Post, Telecommunications & ICT, Government of the People's Republic of Bangladesh: 21 July 2019
2. "Higher Study Opportunities in Australia", (**Invited Speech**) in the Seminar "*Pursue Your Passion: Higher Studies in Abroad*" organized by BUET Career Club, BUET, 7 Dec 2018
3. "Internet of Things (IoT): Use Cases over Cellular Networks", (**Invited Speech**) *A Seminar Jointly Organized by IEEE Young Professionals, Grameenphone and IEEE Bangladesh Section*, GP House, Bashundhara R/A, Dhaka, 6 April 2017
4. "Traffic-Aware Dynamic Provisioning Technique for Energy-Efficient Green Cellular Networks", (**Invited Speech**) *World University of Bangladesh*, Dhaka, Bangladesh, 6 April 2015
5. "Satellite Navigation", (**Invited Speech**) *National Institute of Mass Communication (NIMC)*, Dhaka, Bangladesh, March 2015
6. "BER Performance of Receivers for Wireless Communication", (**Invited Speech**) *National Institute of Mass Communication (NIMC)*, Dhaka, Bangladesh, Feb 2015
7. "Digital Speech Processing", (**Invited Speech**) *National Institute of Mass Communication (NIMC)*, Dhaka, Bangladesh, Feb 2015
8. "Traffic-Aware Two-Dimensional Dynamic Network Provisioning for Energy-Efficient Cellular Systems", *Wireless Networking Group Seminar*, The University of Sydney, NSW, Australia, May 2013.
9. "Toward Self-organizing Sectorization of LTE eNBs for Energy Efficient Network Operation Under QoS Constraints", *Wireless Networking Group Seminar*, The University of Sydney, NSW, Australia, Mar 2013.



10. "On the Energy Saving Cooperation Techniques for Self-Organizing LTE Access Networks", *Wireless Networking Group Seminar*, The University of Sydney, NSW, Australia, Aug 2012.
11. "A Self-Organizing Cooperative Heterogeneous Cellular Access Network for Energy Conservation", *Wireless Networking Group Seminar*, The University of Sydney, NSW, Australia, June 2012.
12. "Ecological Competition based Resource Control for Sustainable Heterogeneous Wireless Networks", *Wireless Networking Group Seminar*, The University of Sydney, NSW, Australia, Sep 2011.
13. "A Cooperative Energy Conserving Framework for Self-Sustainable Cellular Mobile Networks", *Wireless Networking Group Seminar*, The University of Sydney, NSW, Australia, Aug 2011.
14. "An Eco-Inspired Energy Efficient Access Network Architecture for Next Generation Cellular Systems", *Wireless Networking Group Seminar*, The University of Sydney, NSW, Australia, Mar 2011.
15. "Ecologically Inspired Self-Sustainable Green Communication Networks", *Wireless Networking Group Seminar*, The University of Sydney, NSW, Australia, June 2010.

#### **E. Conferences/Workshops/Conversations/Seminars Attended**

- 3<sup>rd</sup> IEEE International Conference on Telecommunications and Photonics (ICTP), Dhaka, Bangladesh, Dec 2019
- "International Symposium: Quality Assurance in Engineering Education through Accreditation" Organized by the Board of Accreditation for Engineering and Technical Education (BAETE), Institution of Engineers, Bangladesh (IEB), Dhaka, Bangladesh, 13-14 March 2019
- 10<sup>th</sup> IEEE International Conference on Electrical and Computer Engineering (ICECE), Dhaka, Bangladesh, 20-22 Dec 2018
- 2<sup>nd</sup> IEEE International Conference on Telecommunications and Photonics (ICTP), Dhaka, Bangladesh, Dec 2017
- Seminar on "IoT Concept: Industry Academia Collaboration - Its High Time" jointly organized by IEEE Young Professionals, Grameenphone and IEEE Bangladesh Section, GP House, Bashundhara R/A, Dhaka, 6 April 2017
- Huawei Headquarters, Shenzhen, China, September 2017
- 9<sup>th</sup> IEEE International Conference on Electrical and Computer Engineering (ICECE), Dhaka, Bangladesh, 20-22 Dec 2016
- IEEE International Conference on Communications (ICC), Kuala Lumpur, Malaysia, 23-27 May 2016
- 1<sup>st</sup> IEEE International Conference on Telecommunications and Photonics (ICTP), Dhaka, Bangladesh, 26-28 Dec 2015
- 8<sup>th</sup> IEEE International Conference on Electrical and Computer Engineering (ICECE), Dhaka, Bangladesh, 20-22 Dec 2014
- IEEE International Global Communications Conference (GLOBECOM), Anaheim, California, USA, 3-7 Dec 2012

- Seminar on “*Generating Impact from Research in Wireless Technologies*” presented by Professor Iain Collings, Deputy Chief – Research, CSIRO Computational Informatics Division, Sydney, Australia, 10 Oct 2012
- IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Sydney, Australia, 9-12 Sep 2012
- 4<sup>th</sup> Annual Student Research Conference, Faculty of Engineering and Information Technologies, The University of Sydney, Australia, 24 Sep 2012
- Yearly Research Conversazione, Faculty of Engineering and Information Technologies, The University of Sydney, Australia, Oct 2012
- IEEE International Wireless Communication and Networking Conference (WCNC), Paris, France, 1-4 Apr 2012
- Yearly Research Conversazione, Faculty of Engineering and Information Technologies, The University of Sydney, Australia, 29 Oct 2010
- IEEE International Conference on Signal Processing and Communication Systems (ICSPCS), Gold Coast, Australia, 13-15 Dec 2010
- IEEE International Wireless Communication and Networking Conference (WCNC), Sydney, Australia, 18-21 Apr 2010
- 5<sup>th</sup> International Conference on Electrical and Computer Engineering (ICECE), Dhaka, Bangladesh, 20-22 Dec 2008
- The Alberta Informatics Circle of Research Excellence (iCORE) Banff Summit, Banff, Canada, 23-25 Aug 2007
- 10<sup>th</sup> Canadian Workshop on Information Theory, University of Alberta, Canada, 6-8 June 2007
- The Alberta ECE Graduate Research Symposium, University of Alberta, Canada, 3 May 2007
- 8<sup>th</sup> International Conference on Computer and Information Technology (ICCIT), Dhaka, Bangladesh, 28-30 Dec 2005
- 3<sup>rd</sup> International Conference on Electrical and Computer Engineering (ICECE), Dhaka, Bangladesh, 28-30 Dec 2004
- 2<sup>nd</sup> International Conference on Electrical and Computer Engineering (ICECE), Dhaka, Bangladesh, 26-28 Dec 2002

#### **F. Short Courses/Training Attended**

- Training Sessions on the “*Testing of PV Panels*”, organized by the Department of EEE, BUET, Dhaka, Bangladesh: 12 Sep & 15-18 Oct 2017
- Workshop on “*Self-Assessment Initiation and Workshop for Team Building*” as a Part of Higher Education Quality Assurance Project Introduced in the Universities by UGC, Organized by the Program Self-Assessment Committee, Department of EEE, BUET, 15 April 2017
- 1-Day Workshop for Faculty & Program Directors on “*Preparation for Outcomes-based Accreditation*”, Organized by the Board of Accreditation for Engineering and Technical Education (BAETE), IEB Headquarters, Ramna, Dhaka, Bangladesh, 4 Januray 2017



- 1/2 Day Training Workshop for Program Evaluator (PEV) on "*Evidence-based Onsite Assessment During Accreditation Visits*", Organized by the Board of Accreditation for Engineering and Technical Education (BAETE), IEB Headquarters, Ramna, Dhaka, Bangladesh, 5 January 2017
- Workshop on "*Initiative for a World Class Science and Technology Museum and Our Expectation*", Organized by the National Science and Technology Museum, Dhaka, Bangladesh, 23 June 2015
- Training Program on "*Demonstration and Operation of BTS, BSC, NodeB and RNC*", Organized by Huawei Technologies Co., Ltd., Dhaka, Bangladesh, 17 December 2014
- Training on "*Tutoring*", Organized by the School of Electrical and Information Engineering, The University of Sydney, NSW 2006, Sydney, Australia, June 2010
- Short Course on "*Mobile and Wireless Communications*", Organized by the Directorate of Continuing Education, BUET, Dhaka, Bangladesh, 8-10 July 2004
- "*Teachers' Appreciation Workshop*", Organized by the Directorate of Continuing Education, BUET, Dhaka, Bangladesh, 1-2 April 2004
- "*Award Leaders' Training Program*", Organized by The Duke of Edinburgh's Award Foundation, Dhaka, Bangladesh, 25-26 July 2008

#### XIV. Academic Qualifications

<b>Degree/ Examination</b>	<b>Institution (University/College/School/ Department)</b>	<b>Class/Division /GPA (Percent Marks where applicable)</b>	<b>Year</b>	<b>Remarks</b>
Doctor of Philosophy (Ph.D.)	School of Electrical and Information Engineering, The University of Sydney, NSW 2006, Australia	N/A	2014	Full Funding provided by the University of Sydney
M.Sc. (Electrical and Electronic Engg.)	Bangladesh University of Engineering and Technology (BUET), Dhaka-1205, Bangladesh	3.92/4.00	2005	
B.Sc. (Electrical and Electronic Engg.)	Bangladesh University of Engineering and Technology (BUET), Dhaka 1205, Bangladesh	3.94/4.00	2003	Placed 4 <sup>th</sup> among 146 students with honours marks
Higher Secondary Certificate (H.S.C.)	Notre Dame College, Dhaka, Bangladesh	84%	1996	Obtained 4 letters
Secondary School Certificate (S.S.C.)	Sirajuddin Sarker Vidyaniketon, Gazipur, Bangladesh	85.1%	1994	Obtained 5 letters

**Declaration**

I, hereby, certify that the statements made above are correct.

Dr. Md. Farhad Hossain  
Professor  
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