

AHMED MORTUZA SALEQUE

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Academic background

Sep 19 – Till

**Doctor of Philosophy (Ph.D.) in Applied Physics
(Will be graduating in August 2022)**

The Hong Kong Polytechnic University, Hong Kong

- An awardee of the Hong Kong **Ph.D. Fellowship** scheme^[a]
- **QS Ranking: 66**
- **Ph.D. research title:** Natural Porous and 2D Materials for Efficient Solar Energy Conversion

Sep 13 – Aug 15

Erasmus Mundus Master Course in Sustainable Transportation and Electrical Power Systems (EMMC STEPS) ^[b]

[<http://www.emmcsteps.eu>]

This program allows me to study in several reputable universities in Europe including **University of Nottingham**, United Kingdom; **University of Oviedo**, Spain and **University of Rome**, Italy
(2 years, 120 ECT credits)

- QS Ranking: University of Nottingham: 82
QS Ranking: University of Rome: 171
- Native Ranking: University of Oviedo: 12

Cumulative Grade Point Average (CGPA): 8.362 (Scale of 10.00)

Master's Thesis Title: Investigation of Losses in Induction Machine Drives due to Signal Injection Methods

Conducted at Wisconsin Electric Machines and Power Electronics Consortium (WEMPEC) Lab at University of Wisconsin Madison, USA

Supervisor: [*Prof. Robert D. Lorenz*](#)

- QS Ranking: University of Wisconsin-Madison: 75
- Conducted the master degree with **European Union Fund**, equivalent to **55000 USD**
- Awarded based on academic excellence, statement of purpose, and related job experiences, competition was open to all globally
- Per year **only 100** engineering students from **all over the globe** received this award

April 11 – May 12 Master of Engineering in Telecommunications
American International University-Bangladesh (AIUB), (rank 5th in Bangladesh^[c])
Cumulative Grade Point Average (CGPA): 3.98 (Scale of 4.00)
In **top 2%** among the master of engineering in telecommunication graduates in the class of 2012
Conducted the degree with full tuition fees waiver (Details see the award section)

Jan 07– Sept 10 Bachelor of Science in Electrical and Electronic Engineering
American International University-Bangladesh (AIUB), (rank 5th in Bangladesh^[c])
Cumulative Grade Point Average (CGPA): 3.96 (Scale of 4.00)
In **top 2%** among the class of 2010 (1st class honour)
Conducted the degree with full tuition fees waiver (Details see the award section)

Thesis Title: Position Sensorless Control of an Interior Permanent Magnet Synchronous Motor (IPMSM) Fed by Space Vector Modulation (SVM) Drive with Artificial Neural Network (ANN) Based Flux Estimator
Supervisor: [*Prof. Bashudeb Chandra Ghosh*](#)

[a] Hong Kong Ph.D. fellowship scheme is the most prestigious academic scholarship in Hong Kong. The Fellowship provides an annual stipend of HK\$322,800 (approximately US\$41,400) and a conference and research-related travel allowance of HK\$13,500 (approximately US\$1,730) per year for each awardee for a period up to three years. 250 PhD Fellowships will be awarded in the 2019/20 academic year. Awarded based on academic excellence, research, publications, and related job experiences, competition was open to all globally.

[b] Erasmus Mundus is a European Union cooperation and mobility program in the field of higher education, offering scholarship to students. Erasmus Mundus itinerary takes students at least two European countries. Upon graduation, students will be awarded an officially recognized double, multiple or joint degree.

[c] Secured 5th position among all universities in Bangladesh [www.aiub.edu] according to Entire Education University Ranking (2017/18) (<http://www.entireeducation.com/top-10-universities-in-bangladesh/>) and International University Web Ranking (2015/16) (<http://www.4icu.org/bd/>), respectively.

Working Experience

Professional Experience:

Sept 19 – Till Assistant Professor (On study leave)
Department of Electrical and Electronic Engineering (EEE),
Faculty of Engineering, American International University-
Bangladesh (AIUB)

April 16 – Oct 19

Assistant Professor

Department of Electrical and Electronic Engineering (EEE), Faculty of Engineering, American International University- Bangladesh (AIUB)

Responsibilities:

- Conducting research (Renewable Energy, Power Electronics & Electric Drives)
- Publishing research work
- Conducting Theory and laboratory courses
- Organizing Departmental Events and Festivals
- Developing laboratories and courses
- Supervising final year students for the guided research project
- **Developed Renewable Energy Technology theory and laboratory courses for the undergraduate students**

Oct 15 – Mar 16

Lecturer

Department of Electrical and Electronic Engineering (EEE), Faculty of Engineering, American International University- Bangladesh (AIUB)

Responsibilities:

- Conducting research (Renewable Energy, Power Electronics & Electric Drives)
- Publishing research work
- Conducting Theory and laboratory courses
- Organizing Departmental Events and Festivals
- Developing laboratories and courses
- Supervising final year students for the guided research project

Mar 15 – Aug 15

Visiting Research Scholar

Wisconsin Electric Machines and Power Electronics Consortium (WEMPEC), University of Wisconsin-Madison, 1513 University Avenue, Madison, WI 53706-1572 USA.

<http://www.wempec.wisc.edu/>

Responsibilities:

- Conducting research on Electric Drives and Power Electronics
- Conduct laboratory classes for the undergraduate students

Sep 13 – Aug 15

Lecturer (On Study Leave)

Department of Electrical and Electronic Engineering (EEE), Faculty of Engineering, American International University- Bangladesh (AIUB)

Oct 10 – Aug 13

Lecturer

Department of Electrical and Electronic Engineering (EEE),
Faculty of Engineering, American International University-
Bangladesh (AIUB)

Responsibilities:

- Conducting research
- Publishing research work
- Conducting Theory and laboratory courses
- Organizing Departmental Events and Festivals
- Developing laboratories and courses
- Supervising final year students for the guided research project

Publications

Published Journal Papers:

[J17] **A. M. Saleque**, N. Nowshin, M.N.A.S. Ivan, S. Ahmed, Y.H. Tsang, Natural Porous Materials for Interfacial Solar Steam Generation toward Clean Water Production, **Sol. RRL.** (2022) 2100986. (Wiley, Impact Factor: 8.582) [<https://doi.org/10.1002/solr.202100986>]

[J16] P.K. Cheng, S. Ahmed, J. Qiao, L.W. Wong, C.F. Yuen, **A. M. Saleque**, M.N.A.S. Ivan, S.U. Hani, M.I. Hossain, J. Zhao, Q. Wen, Y.H. Tsang, Nonlinear optical properties of two-dimensional palladium ditelluride (PdTe₂) and its application as aerosol jet printed saturable absorbers for broadband ultrafast photonics, **Appl. Mater. Today.** 26 (2022) 101296. (Elsevier, Impact Factor: 10.041) [<https://doi.org/10.1016/j.apmt.2021.101296>]

[J15] M.N.A.S. Ivan, **A. M. Saleque**, S. Ahmed, P.K. Cheng, J. Qiao, T.I. Alam, Y.H. Tsang, Waste Egg Tray and Toner-Derived Highly Efficient 3D Solar Evaporator for Freshwater Generation, **ACS Appl. Mater. Interfaces.** (2022) acsami.1c22215. (American Chemical Society, Impact Factor: 9.229) [<https://doi.org/10.1021/acsami.1c22215>]

[J14] **A. M. Saleque**, S. Ahmed, M.N.A.S. Ivan, M.I. Hossain, W. Qarony, P.K. Cheng, J. Qiao, Z.L. Guo, L. Zeng, Y.H. Tsang, High-temperature solar steam generation by MWCNT-HfTe₂ van der Waals heterostructure for low-cost sterilization, **Nano Energy.** 94 (2022) 106916. (Elsevier, Impact Factor: 17.881) [<https://doi.org/10.1016/j.nanoen.2022.106916>]

[J13] S. Ahmed, J. Qiao, P.K. Cheng, **A. M. Saleque**, M.N.A.S. Ivan, T.I. Alam, Y.H. Tsang, Two-Dimensional Gallium Sulfide as a Novel Saturable Absorber for Broadband Ultrafast Photonics Applications, **ACS Appl. Mater. Interfaces.** 13 (2021) 61518–61527. (American Chemical Society, Impact Factor: 9.229) [<https://doi.org/10.1021/acsami.1c18155>]

[J12] M.I. Hossain, M. Shahiduzzaman, S. Ahmed, M.R. Huqe, W. Qarony, **A. M. Saleque**, M. Akhtaruzzaman, D. Knipp, Y.H. Tsang, T. Taima, J.A. Zapien, Near Field Control for Enhanced Photovoltaic Performance and Photostability in Perovskite Solar Cells, **Nano Energy**, (2021) 89, 106388. (Elsevier, Impact Factor: 17.881) [<https://doi.org/10.1016/j.nanoen.2021.106388>]

[J11] M.I. Hossain, M. Shahiduzzaman, **A. M. Saleque**, M.R. Huqe, W. Qarony, S. Ahmed, M. Akhtaruzzaman, D. Knipp, Y.H. Tsang, T. Taima, J.A. Zapien, Improved Nanophotonic Front Contact

Design for High-Performance Perovskite Single-Junction and Perovskite/Perovskite Tandem Solar Cells, **Sol. RRL**, 5 (2021) 2100509. (Wiley, Impact Factor: 8.582)

[<https://doi.org/10.1002/solr.202100509>]

[J10] S. Ahmed, J. Qiao, P. K. Cheng, **A. M. Saleque**, M. I. Hossain, L. H. Zhao, W. Qarony, Y. H. Tsang, Tin Telluride Quantum Dots as a Novel Saturable Absorber for Q-Switching and Mode Locking in Fiber Lasers, **Advanced Optical Materials**, 9, 2001821 (2021). (Wiley, Impact Factor: 9.926)

[<https://doi.org/10.1002/adom.202001821>]

[J9] **A. M. Saleque**, S. Ma, S. Ahmed, M. I. Hossain, W. Qarony, Y.H. Tsang, Solar Driven Interfacial Steam Generation Derived from Biodegradable Luffa Sponge, **Advanced Sustainable Systems**, 2000291 (2021). (Wiley, Impact Factor: 6.271) [<https://doi.org/10.1002/adsu.202000291>]

[J8] #M. I. Hossain, #**A. M. Saleque**, S. Ahmed, I. Saidjafarzoda, M. Shahiduzzaman, W. Qarony, D. Knipp, N. Biyikli, Y. H. Tsang, “Perovskite/perovskite planar tandem solar cells: A comprehensive guideline for reaching energy conversion efficiency beyond 30%,” **Nano Energy**, vol. 79, 2021. [#Equal Contribution] (Elsevier, Impact Factor: 17.881)

[<https://doi.org/10.1016/j.nanoen.2020.105400>]

[J7] S. M. M. Ahmed, M. R. Al-Amin, S. Ahammed, F. Ahmed, **Ahmed Mortuza Saleque**, and M. Abdur Rahman, “Design, construction and testing of parabolic solar cooker for rural households and refugee camp,” **Solar Energy**, vol. 205, no. April, pp. 230–240, 2020. (Elsevier, Impact Factor: 4.674)

[<https://doi.org/10.1016/j.solener.2020.05.007>]

[J6] **A. M. Saleque**, F. S. Chowdhury, R. A. Khan, and R. Kabir, “Bengali License Plate Detection using Viola-Jones Algorithm,” *International Journal of Innovative Technology and Exploring Engineering*, vol. 9, no. 2, pp. 4058–4065, 2019

[<https://www.ijitee.org/wp-content/uploads/papers/v9i2/B7689129219.pdf>]

[J5] S.M. Z. U. Azim, M. M. Uzzal, **A. M. Saleque** and M. A. Rahman, “Feasibility Study of Off-Grid Sustainable Energy System for Coastal Bhasan Char to Rehabilitate Rohingya Refugees,” *AIUB Journal of Science and Engineering (AJSE)*, Volume 17, Issue 03, August 2018, pp. 67–74 , ISSN 1608-3679 (print) 2520-4890 (Online)

[<http://45.64.132.67/index.php/ajse/article/view/11>]

[J4] A. Muhtadi, **A. M. Saleque** and M. A. Mannan “**Solar and Wind Energy Based Microgrid : Study of Architecture's Potential at Coastal Areas in Bangladesh**”, *AIUB Journal of Science and Engineering (AJSE)*, Volume 17, Issue 2, July-2018, ISSN 2520-4890 (Online), ISSN: 1608 – 3679 (print)

[https://ajse.aiub.edu/Portals/0/Users/Volume%2017%20Issue%202/1_AJSE_1707_Final.pdf]

[J3] M. S. Sanower, **A. M. Saleque**, “**Design and Simulation of Maximum Power Point Tracking Solar Battery Charge Controller**”, *Trends in Electrical Engineering, STM Journals*, Volume 7, Issue 2 (2017), ISSN: 2249-4774 (Online), ISSN: 2321-4260 (Print)

[<http://www.stmjournals.com/index.php?journal=TEE&page=article&op=view&path%5B%5D=8634>]

[J2] **A. M. Saleque**, S. B. Umarjkar, “**Design of a Parallel Resonant Power Converter Considering the Effects of Parasitic Components**”, *AIUB Journal of Science and Engineering (AJSE)*, Volume 15, Issue 1, August-2016, ISSN 1608-3679. [<https://orp.aiub.edu/ajse-vol-15-no-1-august-2016>]

[J1] **A. M. Saleque**, M. R. Hazari, “How To Improve Energy Management In Bangladesh”, *Journal of Energy, Environment & Carbon Credits*, Volume 4, No 2 (2014), ISSN 2249 – 8621,

[<http://stmjournals.com/>],[[http://stmjournals.com/index.php?journal=JoEECC&page=article&op=view&path\[\]=4876](http://stmjournals.com/index.php?journal=JoEECC&page=article&op=view&path[]=4876)]

Manuscript Under Consideration:

- **A. M. Saleque**, M.N.A.S. Ivan, S. Ahmed, S.U. Hani, T.I. Alam, Y.H. Tsang, Enhanced photothermal evaporation incorporating concurrent generation of energy and hydrogen: a novel waste-water-energy nexus. (*Under review*)
- **A. M. Saleque**, Y.H. Tsang, TaTe₂ Quantum Dots Decorated Reduced Graphene Oxide bio-hydrogel for Efficient Solar Steam Generation and Hydrogen Production. (*Manuscript under preparation*)

Journal Cover Page:

[JC2] A. M. Saleque, N. Nowshin, M.N.A.S. Ivan, S. Ahmed, Y.H. Tsang, Natural Porous Materials for Interfacial Solar Steam Generation toward Clean Water Production, **Sol. RRL**. (2022) 2100986. (Wiley, Impact Factor: 8.582) [<https://doi.org/10.1002/solr.202270044>]

[JC1] A. M. Saleque, S. Ma, S. Ahmed, M.I. Hossain, W. Qarony, Y.H. Tsang, Solar Evaporation: Solar Driven Interfacial Steam Generation Derived from Biodegradable Luffa Sponge (Adv. Sustainable Syst. 5/2021), Adv. Sustain. Syst. 5 (2021) 2170009. (Wiley, Impact Factor: 6.271) [<https://doi.org/10.1002/adsu.202170009>]

Book Chapter:

[B1] M. S. T. Anubhove, S.M. M. Ahmed, M. Zeyad, M. A. A. Walid, N. Ashrafi, A.M. Saleque, Tomato's Disease Identification Using Machine Learning Techniques with the Potential of AR and VR Technologies for Inclusiveness, in: 2022: pp. 93–112. (Springer) [https://doi.org/10.1007/978-981-16-7220-0_7]

Conference Papers:

[C28] A. M. Saleque, Y. H. Tsang, Solar Driven Interfacial Steam Generation Derived from Biodegradable Luffa Sponge for Efficient and Cost-effective Water Purification, 4th Edition of World Nanotechnology Conference, April 25-27, 2022, Las Vegas, USA. (**POSTER**). [<https://worldnanotechnologyconference.com/speaker/ahmed-mortuza-saleque>]

[C27] A. M. Saleque, Y. H. Tsang, Biodegradable materials for high efficiency steam generation under optimum solar irradiance, Global Conference on Biomaterials-2022, May 16-18 (2022), London, UK. (**Invited Speaker**) [<https://www.pagesconferences.com/2022/biomaterials>]

[C26] A. M. Saleque, S. Ahmed, M.N.A.S. Ivan, M.I. Hossain, W. Qarony, Y.H. Tsang, Localized surface plasmon resonance induced temperature enhancement by MWCNT-HfTe₂ van der Waals heterostructure, in: A. Majumdar, C.M. Torres, H. Deng (Eds.), 2D Photonic Mater. Devices V, SPIE, 2022: p. 39. (**ORAL**) [<https://doi.org/10.1117/12.2623411>]

[C25] S. Ahmed, J. Qiao, P.K. Cheng, A. M. Saleque, M.N.A.S. Ivan, M. Ismail Hossain, W. Qarony, Y.H. Tsang, Layer dependent second harmonic generation of two-dimensional gallium sulfide (GaS), in: A. Majumdar, C.M. Torres, H. Deng (Eds.), 2D Photonic Mater. Devices V, SPIE, 2022: p. 38. (**ORAL**) [<https://doi.org/10.1117/12.2623081>]

[C24] A. M. Saleque, S. Ahmed, M.N.A.S. Ivan, M.I. Hossain, W. Qarony, Y.H. Tsang, Biodegradable luffa sponge derived solar steam generator for efficient and cost-effective water purification, 7th Nano Today Conference, November 16-18 (2021) Guangzhou, China. (**ORAL**)

[C23] M.I. Hossain, M. Shahiduzzaman, S. Ahmed, M.R. Huqe, W. Qarony, A. M. Saleque, M. Akhtaruzzaman, D. Knipp, Y. H. Tsang, J. A. Zapien, Enhanced Optoelectronic Performance of

Perovskite Solar Cells Integrated with Front Metal Oxide Nanoholes, MRS Spring Meeting & Exhibit (Virtual), April 17-23, 2021, USA. **(POSTER)**

[C22] # **A. M. Saleque**, #M. I. Hossain, A. Safayet, I. Saidjafarzoda, N. Biyikli, W. Qarony, Y. H. Tsang, Optical Analysis of All-perovskite Planar Tandem Solar Cells, MRS Spring Meeting & Exhibition, November 28- December 4 (2020) Phoenix, Arizona, USA. [POSTER]

[C21] S M M. Ahmed, F. Ahmed, S. Ahammed, Md. N. I. Maruf, **A. M. Saleque**, M. A. Rahman, "Construction of a Parabolic Solar Cooker using Mylar Tape for Rohingya Refugee Rehabilitation Program", 6th IEEE International Energy Conference (ENERGYCon), November 2020, Gammarth, Tunis, Tunisia. [<http://dx.doi.org/10.1109/ENERGYCon48941.2020.9236526>]

[C20] A. Arshad, A. T. Khan, S. Chowdhury, **A. M. Saleque**, "Design and Analysis of a Grid Connected Hybrid Energy Generation System for Parkey Beach, Bangladesh" 6th IEEE International Energy Conference (ENERGYCon), November 2020, Gammarth, Tunis, Tunisia. [<http://dx.doi.org/10.1109/ENERGYCon48941.2020.9236602>]

[C19] M. I. Hossain, J. Anowar, S. Ahmed, **A. M. Saleque**, A. Rahman, W. Qarony, Y. H. Tsang*, Optics of Perovskite-based Highly Efficient Tandem Solar Cells, IEEE TENSYP 2020, June 5-7 (2020) Dhaka, Bangladesh. [<http://dx.doi.org/10.1109/TENSYP50017.2020.9230870>]

[C18] M. I. Hossain, S. Ahmed, M. Shahiduzzaman, W. Qarony, **A. M. Saleque**, D. Knipp*, Y. H. Tsang*, Influence of the TiO₂ Compact Electron Transport Layer on the Planar Perovskite Solar Cell Performance, 47th IEEE Photovoltaic Specialists Conference (PVSC-47), June 15 – August 21 (2020), Calgary, Canada. [<http://dx.doi.org/10.1109/PVSC45281.2020.9300875>]

[C17] M. I. Hossain, W. Qarony, S. Ahmed, **A. M. Saleque**, J. A. Zapien, D. Knipp*, Y. H. Tsang*, Photon Management in Perovskite Solar Cells by Nanohole Front Contact, SPIE. Optics + Photonics, Digital Forum, August 24 – 28 (2020) San Diego, USA. [ORAL] [<https://doi.org/10.1117/12.2579343>]

[C16] M. S. T. Anubhove, N. Ashrafi, **A. M. Saleque**, M. Akter, and S. U. Saif, "Machine Learning Algorithm based Disease Detection in Tomato with Automated Image Telemetry for Vertical Farming," in 2020 International Conference on Computational Performance Evaluation (ComPE), 2020, no. September, pp. 250–254. [<http://dx.doi.org/10.1109/ComPE49325.2020.9200129>]

[C15] S. Saha, F. H. Shakal, **A. M. Saleque**, and J. J. Trisha, "Vision Maker: An Audio Visual And Navigation Aid For Visually Impaired Person," in 2020 International Conference on Intelligent Engineering and Management (ICIEM), 2020, no. June, pp. 266–271. [<http://dx.doi.org/10.1109/ICIEM48762.2020.9160169>]

[C14] S. Jahan, S. Talukdar, M. M. Islam, M. M. Azmir, and **A. M. Saleque**, "Development of Smart Cooking Stove: Harvesting Energy from the Heat, Gas Leakage Detection and IoT Based Notification System," in 2019 International Conference on Robotics, Electrical and Signal Processing Techniques (ICREST), 2019, pp. 117–120. [<http://dx.doi.org/10.1109/ICREST.2019.8644117>]

[C13] S. M. Masum Ahmed, M. R. Al-Amin, S. Ahammed, F. Ahmed, **A. M. Saleque**, and M. A. Rahman, "Performance analysis of parabolic solar cooker with different reflective materials," in 1st International Conference on Robotics, Electrical and Signal Processing Techniques, ICREST 2019, 2019. [<http://dx.doi.org/10.1109/ICREST.2019.8644328>]

[C12] A. M. A. Khan, S. H. Khan and **A. M. Saleque**, "H-Bridge Driven Propulsion System for a Light Weight Electric Vehicle using DC Link Voltage Controller", 2017 2nd International Conference on Electrical & Electronic Engineering (ICEEE), 27-29 December, 2017, Rajshahi, Bangladesh [<http://dx.doi.org/10.1109/CEEE.2017.8412920>]

[C11] A. Muhtadi, **A. M. Saleque**, "A Performance Study based on Comparative Analysis between SCIG and DFIG based Wind Energy Conversion System in a Microgrid at St. Martin's Island", 4th

International Conference on Advances in Electrical Engineering (ICAEE), 28-30 September, 2017, Dhaka, Bangladesh [<http://dx.doi.org/10.1109/ICAEE.2017.8255396>]

[C10] **A. M. Saleque**, A. M. A. Khan, S. H. Khan, S. Hoque, "Drivetrain Design and Feasibility Analysis of Electric Three-Wheeler Powered by Renewable Energy Sources", 4th International Conference on Advances in Electrical Engineering (ICAEE), 28-30 September, 2017, Dhaka, Bangladesh [<http://dx.doi.org/10.1109/ICAEE.2017.8255395>]

[C9] A. Muhtadi, **A. M. Saleque**, "Modeling and Simulation of a Microgrid consisting Solar PV & DFIG based Wind Energy Conversion System for St. Martin's Island", IEEE 3rd International Conference on Electrical Technologies & Social Sciences (ICETSS), 7-8 August, 2017, AIT, Bangkok, Thailand. [<https://doi.org/10.1109/ICETSS.2017.8324152>]

[C8] **A. M. Saleque**, A. M. A. Khan, S. H. Khan, E. Islam, M. N. Chowdhury, "Variable Speed PMSM Drive with DC Link Voltage Controller for Light Weight Electric Vehicle", *International Conference on Electrical, Computer & Communication Engineering*, 16-18 February 2017. [<https://doi.org/10.1109/ECACE.2017.7912896>]

[C7] M. R. Hazari, E. Jahan, M. E. Siraj, M. T. I. Khan, **A. M. Saleque**, "Design of a Brushless DC (BLDC) motor controller", *International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT)*, 2014. [<https://doi.org/10.1109/ICEEICT.2014.6919048>]

[C6] I. M. Hossain, SM Ferdous, S. Salehin, **A. M. Saleque**, T. Jamal, "Pump-as-turbine (PAT) for small scale power generation: A comparative analysis", *3rd International Conference on Developments in Renewable Energy Technology (ICDRET)*, 2014. [<https://doi.org/10.1109/ICDRET.2014.6861698>]

[C5] S.M. Ferdous, M. A. Mohammad, F. Nasrullah, **A. M. Saleque** and A.Z.M.Shahriar Muttalib "Design and Simulation of an Open Voltage Algorithm based Maximum Power Point Tracker for Battery Charging PV System", 7th International Conference on Electrical and Computer Engineering (ICECE 2012), Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh, 20-22 December, 2012. [<https://doi.org/10.1109/ICECE.2012.6471698>]

[C4] A.Z.M.S. Muttalib, S.M.Ferdous, **A. M. Saleque**, M. M. Chowdhury, N. M. A. Hasan, "Design and Simulation of an Inverter with High Frequency Sinusoidal PWM Switching Technique for Harmonic Reduction in a Standalone/ Utility Grid Synchronized Photovoltaic System", proceedings of *International Conference on Informatics, Electronics & Vision (ICIEV)*, 18-19 May, 2012. [<https://doi.org/10.1109/ICIEV.2012.6317533>]

[C3] **A. M. Saleque**, S.M. Ferdous, M. S. A. Hossain, M. M. Chowdhury, T. Shahid, "[An artificial neural network based flux estimator for sensorless field oriented control of interior permanent magnet synchronous motor](#)", Proceedings of *THIRTEENTH INTERNATIONAL CONFERENCE ON ELECTRICAL MACHINES, DRIVES AND POWER SYSTEMS*, 21-23 October 2011, Varna, BULGARIA.

[C2] **A. M. Saleque**, S.M. Ferdous, M. S. A. Hossain, T. Shahid, S. M. K. Bari, M. N. Hasan, "[Characterization and performance analysis of a sensorless interior permanent magnet synchronous motor controlled by an artificial neural network based algorithm](#)", Proceedings of *THIRTEENTH INTERNATIONAL CONFERENCE ON ELECTRICAL MACHINES, DRIVES AND POWER SYSTEMS*, 21-23 October 2011, Varna, BULGARIA.

[C1] A.Z.M. S. Muttalib, S.M. Ferdous, K. N. Murshed, M. M. Chowdhury, **A. M. Saleque**, "[A cost benefit analysis of introduction and practical implementation of super conducting fault current limiter in thames water ltd. \(UK\)](#)", Proceedings of *THIRTEENTH INTERNATIONAL CONFERENCE ON ELECTRICAL MACHINES, DRIVES AND POWER SYSTEMS*, 21-23 October 2011, Varna, BULGARIA.

Awards

Aug 2021	Best Presentation Award of the Year 2021 <ul style="list-style-type: none"> • Annual Ph.D. Research Presentation Competition among 84 other Ph.D. students in the Department of Applied Physics, The Hong Kong Polytechnic University, Hong Kong. • Every year only one student was awarded in the department based on presentation skills and research work.
Sep 19 – Aug 22	Hong Kong Ph.D. Fellowship Scheme (HKPFS) by Hong Kong, SAR Govt. for conducting Ph.D. at The Hong Kong Polytechnic University, Hong Kong <ul style="list-style-type: none"> • Awarded based on academic excellence, research and publication, and related job experiences, competition was open to all globally • Only 250 Ph.D. students in all disciplines at all universities in Hong Kong have received this fellowship award per year.
Sep 13 – Aug 15	Erasmus Mundus Scholarship for Master Course in Sustainable Transportation and Electrical Power Systems (EMMC STEPS) funded by European Union (Full tuition + Stipend 1000 Euro/month + Relocation fees 8000 Euro) <ul style="list-style-type: none"> • Awarded based on academic excellence, statement of purpose, and related job experiences, competition was open to all globally • Per year only 100 engineering students from all over the globe received this award
May 12	Awarded Summa Cum Laude in Master of Engineering in Telecommunications, American International University-Bangladesh. <ul style="list-style-type: none"> • Top 2-5% students are awarded. To achieve this award a student has to abide by following policies: No grade below B, minimum CGPA 3.90/4.00, No dropping of courses or semester.
April 11 – May 12	100% tuition fee waiver for graduate studies at American International University-Bangladesh [www.aiub.edu] <ul style="list-style-type: none"> • Awarded for the research and academic excellence throughout the bachelor program • Only top 5% students are awarded full tuition fee waiver. To maintain the given scholarship a student has to abide by following policies: No grade below B, minimum CGPA 3.75/4.00, No dropping of courses or semester.

- Dec 13** Awarded **Summa Cum Laude** in Bachelor of Science in Electrical and Electronic Engineering, American International University-Bangladesh.
- **Top 2-5%** students are awarded. To achieve this award a student has to abide by following policies: No grade below B, minimum CGPA 3.90/4.00, No dropping of courses or semester.
- Jan 07– Sept 10** **Full tuition fee waiver** for undergraduate studies at American International University-Bangladesh [www.aiub.edu]
- **Top 10%** students are awarded. To maintain the given scholarship a student has to abide by following policies: No grade below B, minimum CGPA 3.75/4.00, No dropping of courses or semester.
- Jan 99 – Dec 04** Board Merit Scholarship from the Ministry of Education of the Government of Bangladesh
- Awarded based on a written exams on three subjects, namely mathematics, general science and English. All the students from standard 8 class in Bangladesh participate these exams.
 - Only **top 10%** students are awarded

Other Awards

- March 2021** Awarded with certificate for participating in the month-long training course on “**Machine Learning: Using user-friendly GUI tool without coding**” webinar held on March 2021 organized by Information Technology Services Office, The Hong Kong Polytechnic University, Hong Kong.
- October 2018** Awarded with a crest and certificate of appreciation for the outstanding contribution as an **organizing committee member**, “AIUB Engineering Jubilation-2018”, AIUB held on 27th October to 1st November, 2018.
- April 2018** Awarded with certificate for supervising project and thesis group that secured third place in the **poster competition** among 42 groups in Fall 2017-18 semester.
- December 2017** Awarded with certificate for supervising project and thesis group that secured third place in the **poster competition** among 70 groups in Spring 2017-18 semester.
- February 2017** Awarded with certificate for participating in the **Skill Development Workshop** titled “**Developing & Writing Course-Level Learning Outcomes for Engineering**” held on 23rd February 2017 organized by Institutional Quality Assurance Cell (IQAC), AIUB.

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| February 2017 | Awarded with certificate for participating in the Skill Development Workshop titled “ Preparatory Workshop for Implementation of Outcome Based Education (OBE) ” held on 16 th February 2017 organized by Institutional Quality Assurance Cell (IQAC), AIUB. |
| December 2016 | Awarded with certificate for participating in the Skill Development Workshop titled “ Renewable, Power and Power Electronics System design using MATLAB & SIMULINK ” held on 8 th December 2016 organized by Institutional Quality Assurance Cell (IQAC), AIUB. |
| December 2016 | Awarded with certificate for participating in the Skill Development Workshop titled “ Outcome Based Education (OBE) ” held on 29 th December 2016 organized by Institutional Quality Assurance Cell (IQAC), AIUB. |
| July 2016 | Awarded with a crest and certificate of appreciation for the outstanding contribution as an organizing committee member , “AIUB Engineering Jubilation-2016”, AIUB held on 17 th July to 21 st July, 2016. |
| July 2016 | Awarded with a crest and certificate of appreciation for the enthusiastic support as an instructor in workshop on Simulation of Renewable Energy Based System using MATLAB, SIMULINK, RETScreen & Homer, Conducted by IEEE Student Branch, Bangladesh on July 20, 2016. |
| January 2016 | Awarded with a crest and certificate of appreciation for the enthusiastic support as an instructor in workshop on Electrical Circuits26 Simulation using PSIM, Conducted by ESAB Student Branch, Bangladesh on January 26, 2016. |

Affiliation ---

Sept 13 – Present Associate Member
Institute of Engineers, Bangladesh (IEB)

Leadership Skills/Community Services ---

- **Sponsorship Co-Chair** for International Conference on Robotics, Electrical and Signal Processing Techniques (ICREST), co-sponsored by IEEE BDS and IEEE Computer Society (Bangladesh chapter) [<http://icrest.aiub.edu/index.php/about-icrest/>]
 - Managed USD 60,000 fund from the sponsors for organizing the conference
- **Adviser of AIUB Robotic Crew** for URC Mars Rover Competition organized by Mars Society and NASA.
- **Developed Outcome Based Education Assessor and Student’s Data Achieving software** using MATLAB and Python; Faculty of Engineering, American International University-Bangladesh (AIUB) is using this software successfully since January 2018.

- **Developed the online application, allocation and file submission system for the undergraduate Capstone Project** of the Faculty of Engineering at American International University-Bangladesh (AIUB).
- **Mentor of Hult Prize Competition** at American International University-Bangladesh on Class of 2017-2018
- **Jury Member** for the competition entitled “Simulation Contest” during AIUB Engineering Jubilation held on July 21, 2016
- **Instructor of a workshop on Simulation of Renewable Energy Based System using MATLAB, SIMULINK, RETScreen & Homer** to about 80 students in the EEE department with the help of IEEE AIUB student branch on July 20, 2016.
- **Arranged a seminar titled “Electric Vehicle Technologies: A pathway for the future transportation system”** for undergraduate students at the American International University-Bangladesh to more than 100 participants on March 17, 2016.
- **Organized a workshop on PSIM** and demonstrated to more than 100 participants from different universities in Dhaka with the help of IEEE AIUB student branch on January 26, 2016.
- **Arranged an industrial tour to Walton Energy Park** initiated by the EEE department for two groups of around 40 postgraduate students on November, 19, 2015.
- **Raised funds** from different government and private organizations and educational institutions by leading 13 more friends for the flood affected people in the north of Bangladesh in 2015.
- **Organized a study tour to Siddhirganj Power Plant** initiated by the EEE department of around 80 undergraduate students on 25th April, 2012.
- **Volunteering activities** for organizing different functions such as convocation ceremony, Engineering Jubilation, International Mother Language Day, Independence Day etc. at AIUB.

Language and Computer Skills/Competences

Language:

- Bengali (Native)
- English (Proficient) **IELTS overall band score 7 (in 2012, Academic)**
- Hindi: Proficiency in speaking, listening
- Spanish: Basic in listening, reading, speaking, writing

Technical Skills:

- **Language:** C/C++, Python, MATLAB Programming, VHDL
- **General Software:** MS-office, MS-Excel, MS-Power Point, MS-Access.
- **Materials Characterization and Device Fabrication Instruments**
 - Probe sonicator (Scientz - 1200E)
 - Spin Coater (KW-4B)
 - XRD (Rigaku SmartLab 9 kW-Advance)
 - Raman spectroscopy (WITec Confocal Raman system, 532 nm and 630 nm laser)

- Field-emission TEM (JEOL Model JEM- 2100F)
- Scanning electron microscope (SEM) (Tescan VEGA3)
- Field Emission Scanning Electron Microscopy, (FESEM)(TESCAN MAIA3)
- Atomic force microscopy, (AFM) (Asylum MFP-3D Infinity)
- UV-vis-NIR spectrometry (PerkinElmer UV-vis-NIR spectrometer)
- BRUKER_Fourier Transform Infrared Spectroscopy
- SHIMADZU UV-vis spectrometer
- NEWPORT Solar Simulator
- Cryogenic Probe Stations from Lake Shore Cryotronics
- PixDro LP50 Inkjet printer
- SUSS MA6 Mask Aligner
- OAI MBA800 Mask Aligner
- Denton Explorer 14 Sputtering System
- Denton Explorer E-beam Deposition System
- **Engineering Software Package:** MATLAB, PSIM, HOMER, RETScreen, PSCAD, EMTP, PSpice, LTSPICE, Xilinx and Altera Design Suite, Active HDL, Synopsis, Precision RTL, AutoCAD, Micro-wind.
- **Hardware:** Texas Instrument Board, Arduino, Raspberry pi, 8051 Microcontroller, ATMega32, Intel 8086 Kits,
- **CPLD Board:** COOLRUNNER II STARTED BOARD WITH COOLRUNNER II 256 (XILINX) CPLD
- **FPGA Board:**
 - ATLYS Board (DIGILENT) WITH SPARTAN-6 LX45 (XILINX) FPGA
 - NEXYS3 BOARD (DIGILENT) WITH SPARTAN-6 LX16 (XILINX) FPGA
 - S3 STARTER BOARD (DIGILENT) WITH SPARTAN-3 200 (XILINX) FPGA
 - PEGASUS BOARD (DIGILENT) WITH SPARTAN-2 50 (XILINX) FPGA

Mathematical Skills/Competences

- Differential calculus, integral calculus, Analytic Geometry and differential Equations.
- **Finite-difference techniques:** Laplace equation, the wave equation, finite-difference time-domain (FDTD), eigenvalue problems and mode solutions. Finite-element method (FEM): element equations, mesh generation, solutions.
- **Basic numerical techniques:** numerical integration, Monte-Carlo analysis, solutions of simultaneous equations. Method-of-moments: Green's functions, expansion and weighting functions, surface and volume methods.
- **Variational methods:** variational calculus, functional, weighted residual method.
- Complex variable, Laplace Transformation and Z-transformation. Statistics and Probability.
- Linear Algebra, Vector and Fourier analysis, Mathematical Methods of Engineering.

Ongoing Research Works

- 2D/2D NbTe₂/MXene membrane for synergistic water desalination and nanofluidic osmotic energy conversion.
- Ti₃C₂T_x MXene and MWCNT based antifouling solar evaporator for highly efficient water desalination

Referees

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