MD. FATIN ISHRAQUE

PhD Student
Department of Electrical and Computer Engineering, Laval University,
Quebec City, G1V 0A6, Quebec, Canada
and
Assistant Professor (On Study Leave)
Department of Electrical, Electronic and Communication Engineering (EECE),
Pabna University of Science and Technology (PUST), Pabna 6600, Bangladesh.

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• **Present:** Apartment 6A, 3015 Neilson Boulevard, Quebec City, G1W2V3, QC, Canada

• **Permanent:** Feroza Villa, House#651/006, Ward#17, Khalifapara, Rangpur Sadar 5400, Rangpur, Bangladesh

Google Scholar · LinkedIn · ResearchGate · Scopus · ORCID: 0000-0003-0863-5169

Nationality: Bangladeshi (by Birth) **NID:** 7309839780 **Passport:** A07573386 **DOB:** 01 January, 1997 **Birth Place:** Gaibandha, Bangladesh **Marital Status:** Married

EDUCATIONAL / ACADEMIC QUALIFICATION

PhD in Electrical Engineering (Ongoing) *September 01, 2025–Present*
Department of Electrical and Computer Engineering, Faculty of Science and Engineering, Laval University, Quebec, Canada
Thesis Title (Tentative): Intelligent Modeling and Control for Stability, Power Quality and Reliability in Grid-Connected Active Distribution Networks with Fast Charging Electric Vehicles
Field of Research: Power System and AI
Research Focus: Renewable Energy, AI, Power System Control, Power Quality Improvement, Electric Vehicle
Duration: 4 years (Tentative) **Supervisor:** Prof. Dr. Innocent Kamwa

Masters of Science in Engineering (M.Sc. in Electrical & Electronic Engineering) *2022*
Department of Electrical & Electronic Engineering, Rajshahi University of Engineering & Technology (RUET), Rajshahi, Bangladesh
Thesis Title: Techno-economic Analysis of Load Dispatch Strategies for an Islanded Microgrid Connected with Renewable Energy Sources
Field of Research: Energy
Research Focus: Renewable Energy, Energy Economics, Energy Management System, Dispatch Strategy, Microgrid
CGPA: 4.00/4.00 **Duration:** 3 years **Supervisor:** Prof. Dr. Md. Sohel Rana

Bachelor of Science in Engineering (B.Sc. in Electrical & Electronic Engineering) *2018*
Department of Electrical & Electronic Engineering, Rajshahi University of Engineering & Technology (RUET), Rajshahi, Bangladesh
Thesis Title: IoT Based Pilot Wireless Differential Relay
Major Concentration: Electrical Power **Duration:** 4 Years
Research Focus: IoT in Power System
CGPA: 3.77/4.00 (80.68%; Position: 9^{th} among 101 students) **Supervisor:** Asst. Prof. Md. Mamunur Rashid

Higher Secondary Certificate (H.S.C.) *2013*
Cantonment Public School and College, Rangpur, Bangladesh Board: Dinajpur
Group: Science **GPA:** 5.00/5.00

Secondary School Certificate (S.S.C.) *2011*
Rangpur Zila School, Rangpur, Bangladesh *Board: Dinajpur*
Group: Science **GPA:** 5.00/5.00

IELTS (Test taken on 17th February, 2024):
Overall Score: **8/9** Listening: 9 Reading: 8 Speaking: 7.5 Writing: 7

EMPLOYMENT HISTORY / WORK EXPERIENCES

Assistant Professor (On Study Leave) **January 02, 2023–Present**
Department of Electrical, Electronic and Communication Engineering (EECE), Pabna University of Science and Technology (PUST), Pabna 6600, Bangladesh

Subjects Taught: Power System, Power System Protection and Switchgear, Electrical Machine, Electrical Circuit, Power Plant Engineering, Measurement and Instrumentation

Key Responsibilities:

- Conduct regular theory and laboratory courses
- Conduct research works
- Participate in any program(s) offered by the department
- Marking exam scripts, preparing course materials
- Supervising undergrad students with their project and thesis work
- Organizing exams and preparing results

Lecturer **January 02, 2021–January 01, 2023**
Department of Electrical, Electronic and Communication Engineering (EECE), Pabna University of Science and Technology (PUST), Pabna 6600, Bangladesh

Subjects Taught: Power System, Power System Protection and Switchgear, Electrical Machine, Electrical Circuit, Power Plant Engineering, Measurement and Instrumentation

Key Responsibilities:

- Conduct regular theory and laboratory courses
- Conduct research works
- Participate in any program(s) offered by the department
- Marking exam scripts, preparing course materials
- Supervising undergrad students with their projects and thesis works
- Organizing exams and preparing results

Lecturer **January 13, 2019–December 31, 2020**
Department of Electrical and Electronic Engineering (EEE), Varendra University (VU), Rajshahi, Bangladesh

Subjects Taught: Electrical Circuit II, Electronics II, Transmission and Distribution System of Electrical Power, Machine Lab, C Programming Lab

Key Responsibilities: Teaching undergraduate students, supervising undergrad students with their project work, marking exam scripts, preparing course materials.

Assistant Director, Student Advisor Office **September 01, 2022–October 08, 2024**
Pabna University of Science and Technology (PUST), Pabna 6600, Bangladesh

Key Responsibilities:

- Work for student welfare
- Work to maintain law and order within the university
- Conduct student counselling
- Organize different social and mental welfare-based programs for students

Assistant Proctor, Proctor Office **October 10, 2024–July 18, 2025**
Pabna University of Science and Technology (PUST), Pabna 6600, Bangladesh

Key Responsibilities:

- Discipline Enforcement: ensuring students follow university rules and regulations both on and off-campus
- Addressing issues like academic misconduct, campus violence, or inappropriate behavior
- Student Counseling: offering guidance to students regarding their behavior, academic challenges, and helping resolve conflicts when necessary
- Supporting the Chief Proctor and acting as a liaison between students and the chief proctor
- Assisting in investigations or inquiries related to disciplinary cases
- Monitoring Campus Security and collaborating with security personnel to ensure a safe campus environment, especially during major events or after incidents

Review Editor **May 2022–Present**
Smart Grid Technologies (specialty section of Frontiers in Smart Grids), Frontiers, Switzerland

Key Responsibilities:

- Review research articles
- Help chief editor in running special issues

TECHNICAL SKILL

- Renewable Energy System Design (Solar System and Wind Turbine) – *Advanced*
- MATLAB/Coding, MATLAB/Simulink – *Advanced*
- DIgSILENT PowerFactory: Power system and distribution network design – *Intermediate*
- PSCAD: EMT design and simulation – *Intermediate*
- Power system modeling – *Intermediate*
- HOMER: Hybrid Renewable Energy System Design, Modeling and Optimization – *Advanced*
- Arduino and microcontroller programming and embedded system design – *Advanced*
- Microsoft Office, Origin Lab, Get Data Digitizer, LaTeX (Overleaf), Endnote – *Advanced*
- Programming Language: C (*Advanced*), Python (*Intermediate*)

RESEARCH INTEREST

- Power System Control, Electric Vehicle and Artificial Intelligence
- Power system protection, power quality improvement and reliability analysis

- Hybrid Renewable Energy System Design, Modeling and Optimization
- PV and Wind based Energy Storage System, conversion and management
- Power System stability analysis
- Microgrid Operation, Optimization and Control
- Renewable energy technologies for sustainable energy
- Energy storage systems for sustainable transportation and liveable cities
- Internet of Things (IoT)

PROFESSIONAL APPOINTMENTS & SERVICES / VOLUNTEER EXPERIENCES

- UG Thesis Supervisor – total number of students supervised: 07
- Advisor, Rangpur District Students' Welfare Association, Pabna University of Science and Technology, from January 01, 2021 to till date
- Ex-IEEE Student Member, Till: February 2022
- Community Reviewer, Smart Grid Technologies (specialty section of Frontiers in Smart Grids), Frontiers, Switzerland, from May 10, 2022 to till date
- Reviewer, International Journal of Ambient Energy, Taylor & Francis
- Reviewer, IJEECS
- Reviewer, Energies, MDPI
- Reviewer, International Transactions on Electrical Energy Systems, Hindawi
- Reviewer, International Journal of Photoenergy, Hindawi
- Reviewer, IEEE Sensors Letters, IEEE
- Reviewer, IEEE Transactions on Applied Superconductivity, IEEE
- Reviewer, IET Renewable Power Generation
- Reviewer, Clean Energy, Oxford University Press
- Reviewer, IEEE Access, IEEE
- Reviewer, Electricity, MDPI
- Reviewer, Machines, MDPI

CONDUCTED COURSES

- Sessional based on Electrical Machine
- Power Plant Engineering
- Electrical Machine I
- Power System Protection and Switchgear
- Sessional based on Power System Protection and Switchgear
- Sessional based on Power System II
- Power System II
- Electrical Machine II
- Measurement and Instrumentation
- Sessional based on Measurement and Instrumentation

- Power System I
- Sessional based on Power System I
- Electrical Circuit II
- Sessional based on Electrical Circuit II

REFEREED PUBLICATIONS (BOOK CHAPTERS)

3. S. A. Shezan, **Md. Fatin Ishraque**, and G. M. Shafiullah, "Economic Assessment of Wind Energy Compared to Other Renewable Energies," *Reference Module in Earth Systems and Environmental Sciences*, Elsevier eBooks, Dec. 2023. DOI: 10.1016/b978-0-323-93940-9.00172-9

2. S. A. Shezan, **Md. Fatin Ishraque**, and G. M. Shafiullah, "Economic Assessment of Onshore and Offshore Wind Energy Systems," *Reference Module in Earth Systems and Environmental Sciences*, Elsevier eBooks, Jul. 2023. DOI: 10.1016/b978-0-323-93940-9.00079-7

1. S. A. Shezan and **Md. Fatin Ishraque**, "Wind Energy and Future Trends," *Reference Module in Earth Systems and Environmental Sciences*, Elsevier eBooks, Jul. 2023. DOI: 10.1016/b978-0-323-93940-9.00090-6

REFEREED PUBLICATIONS (JOURNAL ARTICLES)

43. **Md. F. Ishraque**, Md. N. Hasan, Sk. A. Shezan, I. Kamwa, and Md. S. Rahman, "Enhancing Grid Stability in Fuel Cell-Hydro Microgrid for Agri-Industry-EV Applications Using Adaptive Hybrid Droop-Resonant and Dynamic Predictive Stabilization Controllers," *IEEE Transactions on Industry Applications*, pp. 1–12, 2026.**Impact Factor: 4.5, Q1.**

42. **Ishraque, Md Fatin**, Md Iasir Arafat, Kamil Ahmad, Sk A. Shezan, Md Meheraf Hossain, Md Ruhul Amin, Innocent Kamwa, and Ali H. Alenezi, "Solar and battery-oriented grid connected microgrid for peak and off peak hour operation," *Results in Engineering*, pp. 106766–106766, Sep. 2025. **Impact Factor: 7.9, Q1.**

41. M. F. **Ishraque**, Shezan, S. A., Kamwa, I., Li, Y., Shafiullah, G. M., Ahmad, N., & Ahmad, F., "Novel intelligent model following controller and PQ droop controller operated nuclear-PV-biogas hybrid microgrid and EV charging station," *Computers and Electrical Engineering*, vol. 129, p. 110756, Jan. 2026. **Impact Factor: 4.9, Q1.**

40. M. Fatin **Ishraque**, S. A. Shezan, M. M. Ali, and M. M. Rashid, "Optimization of load dispatch strategies for an islanded microgrid connected with renewable energy sources," *Applied Energy*, vol. 292, p. 116879, Jun. 2021. **Impact Factor: 10.1, Q1.**

39. M. F. **Ishraque** et al., "Techno-Economic and Power System Optimization of a Renewable Rich Islanded Microgrid considering different Dispatch Strategies," *IEEE Access*, vol. 9, pp. 77325–77340, 2021. **Impact Factor: 3.4, Q1.**

38. **Ishraque**, M. F., Shezan, S. A., Shafiullah, G. M., Muyeen, S. M., Alharbi, T., Alenezi, A. H., & Hossen, M. D., "Operational Assessment of Solar-Wind-Biomass-Hydro-Electrolyser Hybrid Microgrid for Load Variations Using Model Predictive Deterministic Algorithm and Droop Controllers," *e-Prime – Advances in Electrical Engineering Electronics and Energy*, pp. 100745–100745, Aug. 2024. **Cite Score: 2.1, Q1.**

37. Md. F. **Ishraque**, Sk. A. Shezan, J. N. Nur, and Md. S. Islam, "Optimal Sizing and Assessment of an Islanded Photovoltaic-Battery-Diesel Generator Microgrid Applicable to a Remote School of Bangladesh," *Engineering Reports*, vol. 3, no. 1, Sep. 2020. **Impact Factor: 1.8, Q2.**

36. M. N. Hasan, M. F. **Ishraque**, Sk. A. Shezan, I. Kamwa, K. Ahmad, A. Alrwaili, M. Alruwaili, N. Amin, and N. Ahmad, "Hydrogen and fuel cells as the cornerstones of the universal energy transfer

– A comprehensive review," *International Journal of Hydrogen Energy*, vol. 209, p. 153486, Feb. 2026. **Impact Factor: 8.3, Q1.**

35. M. N. Hasan, Md. Fatin **Ishraque**, Sk.A. Shezan, Innocent Kamwa, and N. Ahmad, "Novel twin fang algorithm for advanced optimization of energy coordination in hybrid power systems," *Engineering Science and Technology an International Journal*, vol. 70, pp. 102165–102165, Sep. 2025. **Impact Factor: 5.4, Q1.**

34. S. A. Shezan, M. F. **Ishraque**, K. Ahmad, M. N. Hasan, G. Shafiullah and M. M. Rahman, "Performance Evaluation of Constant Voltage and Reactive Power Control Strategies for Renewable-Integrated Grid-Connected EV Charging Stations," *IEEE Transactions on Industry Applications*, Jun. 2025. **Impact Factor: 4.2, Q1.**

33. M. N. Hasan, Md. Fatin **Ishraque**, M. S. Ahmed, F. T. Imam, S. A. Shezan, and N. Ahmad, "An Innovative Method for Enhanced Energy Management in Hybrid Power Systems: Dual Predator Optimization (DPO)," *Arabian Journal for Science and Engineering*, May 2025. **Impact Factor: 2.6, Q1.**

32. N. Alam, Md. A. Hossain, Md. F. **Ishraque**, M. A. Rahman, and Md. R. Islam, "Cyber resilient machine learning models for estimating synchronous machine excitation current: Mitigating the impact of DoS attacks," *International Journal of Electrical Power & Energy Systems*, vol. 171, p. 111055, Aug. 2025. **Impact Factor: 5.0, Q1.**

31. R. Ahmed, N. Hasan, S. A. Shezan, Fatin **Ishraque**, B. K. Das, and H. Khan, "Assessment of a grid-connected microgrid for suburban areas and EV loads with battery storage during planned grid outages using DIgSILENT powerfactory," *Electrical Engineering*, Aug. 2025. **Impact Factor: 1.9, Q2.**

30. Tusher, Animesh Sarkar, Md Rashidul Islam, Md Arafat Hossain, Md Fatin **Ishraque**, Mehnaj Islam Maliha, Md Abdur Rahman, and Jahangir Hossain, "FALCON: A Semi-Supervised Framework for Addressing Physical and Cyber Anomalies in DGA-based Transformer Fault Diagnosis," *IEEE Transactions on Dielectrics and Electrical Insulation*, pp. 1–1, Jan. 2025. **Impact Factor: 2.9, Q1.**

29. Sk. A. Shezan, M. F. **Ishraque**, S. M. Muyeen, Ahmed Abu-Siada, R. Saidur, M. M. Ali, M. M. Rashid, "Selection of the best dispatch strategy considering techno-economic and system stability analysis with optimal sizing," *Energy Strategy Reviews*, vol. 43, p. 100923, Sep. 2022. **Impact Factor: 8.0, Q1.**

28. Sk. A. Shezan, Md. Fatin **Ishraque**, S. M. Muyeen et al., "Effective Dispatch Strategies Assortment According to the Effect of the Operation for an Islanded Hybrid Microgrid," *Energy Conversion and Management: X*, p. 100192, Feb. 2022. **Impact Factor: 7.1, Q1.**

27. S. A. Shezan, Md. Fatin **Ishraque**, G. M. Shafiullah, Innocent Kamwa, Liton Chandra Paul, S. M. Muyeen, Ramakrishna NSS, Mohammed Zeehan Saleheen, Polamarasetty P. Kumar, "Optimization and control of solar-wind islanded hybrid microgrid by using heuristic and deterministic optimization algorithms and fuzzy logic controller," *Energy Reports*, vol. 10, pp. 3272–3288, Nov. 2023. **Impact Factor: 4.7, Q2.**

26. J. Romero, Md. Fatin **Ishraque**, G. M. Shafiullah, and S. A. Shezan, "Centralized monitoring of a cost efficient PLC-SCADA based islanded microgrid considering dispatch techniques," *The Journal of Engineering*, vol. 2023, no. 8, p. e12293, Aug. 2023. **Impact Factor: 0.8, Q1.**

25. Syed Muhammad Rizvi, Ahmed Abu-Siada, Md Fatin **Ishraque**, Sk A Shezan, Innocent Kamwa, Ali H Alenezi, Md Nimul Hasan, "Active and Reactive Power Sharing Between Dispatchable Distributed Generation Units Within a Microgrid With Multiple Grid Interconnections, Using

Enhanced Interconnection Flow Controller," *International Journal of Energy Research*, vol. 2025, no. 1, Jan. 2025. **Impact Factor: 4.2, Q1.**

24. Arif Istiak Abeg, Md. Rashidul Islam, Md. Alamgir Hossain, Md. Fatin **Ishraque**, Md. Rakibul Islam, and M. J. Hossain, "Capacity and operation optimization of hybrid microgrid for economic zone using a novel meta-heuristic algorithm," *Journal of Energy Storage*, vol. 94, p. 112314, Jul. 2024. **Impact Factor: 8.9, Q1.**

23. Syed Muhammad Rizvi, A. Abu-Siada, N. Das, Md. Fatin **Ishraque**, and S. A. Shezan, "Active Power Sharing Method for Microgrids With Multiple Dispatchable Generation Units Using Modified FFC and IFC Mode Controller," *IEEE Access*, vol. 11, pp. 46229–46239, Jan. 2023. **Impact Factor: 3.4, Q1.**

22. Sarker, Subrata K. and Fahim, Shahriar Rahman and Sarker, Niloy and Tayef, Kazi Zakaria and Siddique, Abu Bakar and Datta, Dristi and Parvez Mahmud, M. A. and **Ishraque**, Md. Fatin and Das, Sajal K. and Sarker, M.R.I. and Shezan, Sk. A. and Rahman, Ziaur, "Ancillary Voltage Control Design for Adaptive Tracking Performance of Microgrid Coupled with Industrial Loads," *IEEE Access*, 2021. **Impact Factor: 3.4, Q1.**

21. M. V. G. Varaprasad, N. S. S. Ramakrishna, Innocent Kamwa, M. Venkatesan, Dasari Manikanta Swamy, S. M. Muyeen, Sk. A. Shezan, Md. Fatin **Ishraque**, "Design and analysis of PV fed high-voltage gain DC-DC converter using PI and NN controllers," *Ain Shams Engineering Journal*, p. 102061, Dec. 2022. **Impact Factor: 6.0, Q1.**

20. S. K. Sarker, Md. S. Uddin, M. T. Tania, S. K. Das, Md. F. **Ishraque**, and Sk. A. Shezan, "A new decentralized two-stage multi-objective control of secondary network driven hybrid microgrid under variable generation and load conditions," *Energy Reports*, vol. 8, pp. 14154–14169, Nov. 2022. **Impact Factor: 4.7, Q2.**

19. M. N. Hasan, M. A. Rahman, M. F. **Ishraque**, K. Ahmad, S. A. Shezan, M. S. Ahmed, N. Ahmad, and F. Ahmad, "An Improved Energy Management Strategy for Hybrid Power Systems using Dual Predator Optimization," *J. Sustain. Dev. Energy Water Environ. Syst.*, vol. 13, p. 1130586, Jul. 2025. **Impact Factor: 2.74, Q2.**

18. Md Masudur Rahman, Roman Shults, Surya Prakash Tiwari, Arfan Arshad, Muhammad Usman, Asif Raihan, Md Fatin **Ishraque**, "Review on sea water quality (SWQ) monitoring using satellite remote sensing techniques (SRST)," *Marine Pollution Bulletin*, vol. 217, p. 118108, Aug. 2025. **Impact Factor: 5.3, Q1.**

17. Shezan, Sk. A, Innocent Kamwa, Md. Fatin **Ishraque**, S. M. Muyeen, K. N. Hasan, R. Saidur, S. M. Rizvi, Md. Shafiullah and F. A. Al-Sulaiman, "Evaluation of Different Optimization Techniques and Control Strategies of Hybrid Microgrid: A Review," *Energies*, vol. 16, no. 4, p. 1792, 2023. **Impact Factor: 3.0, Q1.**

16. **Ishraque**, Md. Fatin; Rahman, A.; Shezan, S.A.; Shafiullah, G.M.; Alenezi, A.H.; Hossen, M.D.; Bintu, N.E.N., "Design Optimization of a Grid-Tied Hybrid System for a Department at a University with a Dispatch Strategy-Based Assessment," *Sustainability*, vol. 16, no. 7, p. 2642, 2024. **Impact Factor: 3.3, Q2.**

15. **Ishraque**, Md. Fatin, S. A. Shezan, M. S. Rana, S. M. Muyeen, A. Rahman, L. C. Paul, M. S. Islam, "Optimal Sizing and Assessment of a Renewable Rich Standalone Hybrid Microgrid Considering Conventional Dispatch Methodologies," *Sustainability*, vol. 13, no. 22, p. 12734, 2021. **Impact Factor: 3.3, Q2.**

14. M. D. Hossen, M. F. Islam, M. F. **Ishraque**, Sk. A. Shezan, and S. M. Arifuzzaman, "Design and Implementation of a Hybrid Solar-Wind-Biomass Renewable Energy System considering Meteo-

rological Conditions with the Power System Performances," *International Journal of Photoenergy*, vol. 2022, pp. 1–17, Aug. 2022. **Impact Factor: 2.1, Q3.**

13. **Ishraque**, Md. Fatin, A. Rahman, Shezan, Sk. A, and S. M. Muyeen, "Grid Connected Microgrid Optimization and Control for a Coastal Island in the Indian Ocean," *Sustainability*, vol. 14, no. 24, p. 16697, Dec. 2022. **Impact Factor: 3.3, Q2.**

12. Md. F. **Ishraque**, A. Rahman, Sk. A. Shezan, and G. Shafiullah, "Operation and Assessment of a Microgrid for Maldives: Islanded and Grid-Tied Mode," *Sustainability*, vol. 14, no. 23, p. 15504, Nov. 2022. **Impact Factor: 3.3, Q2.**

11. **Ishraque**, Md Fatin, Akhlaqur Rahman, Kamil Ahmad, Sk A. Shezan, Md Meheraf Hossain, Sheikh Rashel Al Ahmed, Md Iasir Arafat, and Noor E. Nahid Bintu, "Derivative Free and Dispatch Algorithm-Based Optimization and Power System Assessment of a Biomass-PV-Hydrogen Storage-Grid Hybrid Renewable Microgrid for Agricultural Applications," *Energy Engineering*, vol. 122, no. 8, pp. 3347–3375, Jul. 2025. **Cite Score: 0.9, Q4.**

10. P. P. Kumar, Akhlaqur Rahman, Ramakrishna S. S. Nuvvula, Ilhami Colak, S. M. Muyeen, Sk. A. Shezan, G. M. Shafiullah, Md. Fatin **Ishraque**, Md. Alamgir Hossain, Faisal Alsaif and Rajvikram Madurai Elavarasan, "Using Energy Conservation-Based Demand-Side Management to Optimize an Off-Grid Integrated Renewable Energy System Using Different Battery Technologies," *Sustainability*, vol. 15, no. 13, p. 10137, Jun 2023. **Impact Factor: 3.3, Q2.**

9. R. Muppidi, N. Ramakrishna, S. M. Muyeen, Shezan, Sk. A, and **Ishraque**, Md. Fatin, "Optimization of a Fuel Cost and Enrichment of Line Loadability for a Transmission System by Using Rapid Voltage Stability Index and Grey Wolf Algorithm Technique," *Sustainability*, vol. 14, no. 7, p. 4347, 2022. **Impact Factor: 3.3, Q2.**

8. Haque, M. A., Zakariya, M. A., Singh, N. S. S., Paul, L. C., & **Ishraque**, M. F., "Investigation of coupling loss caused by misalignment in optical fiber," *Bulletin of Electrical Engineering and Informatics*, vol. 12, no. 3, pp. 1560–1569, 2023. **Cite Score: 3.6, Q3.**

7. Rana, M. M.; Rahman, A.; Uddin, M.; Sarkar, M. R.; Shezan, S. A.; Reza, C. M. F. S.; **Ishraque**, M. F.; Hossain, M. B., "Efficient Energy Distribution for Smart Household Applications," *Energies*, vol. 15, no. 6, p. 2100, Mar. 2022. **Impact Factor: 3.0, Q1.**

6. M. M. Rana, Rahman, A.; Uddin, M.; Sarkar, M. R.; Shezan, S. A.; **Ishraque**, M. F.; Rafin, S. M. S. H., "A Comparative Analysis of Peak Load Shaving Strategies for Isolated Microgrid Using Actual Data," *Energies*, vol. 15, no. 1, p. 330, 2022. **Impact Factor: 3.0, Q1.**

5. Liton Chandra Paul, Md. Tanvir Rahman Jim, Tithi Rani, S. M. Muyeen, Muharrem Karaaslan, Sk. A. Shezan, Md. Fatin **Ishraque** & Volkan Akdogan, "A low-profile antenna with parasitic elements and a DGS-based partial ground plane for 5G/WMAN applications," *Discover Applied Sciences*, vol. 6, no. 1, pp. 1–15, 2024. **Impact Factor: 2.8, Q2.**

4. L. Chandra Paul, S. Chandra Das, T. Rani, S. M. Muyeen, Sk. A. Shezan, and Md. F. **Ishraque**, "A slotted plus-shaped antenna with a DGS for 5G Sub-6 GHz/WiMAX applications," *Heliyon*, p. e12040, Dec. 2022. **Impact Factor: 3.4, Q1.**

3. Punitha, K., Akhlaqur Rahman, A. S. Radhamani, Ramakrishna SS Nuvvula, Sk A. Shezan, Syed Riyaz Ahammed, Polamarasetty P Kumar, and Md Fatin **Ishraque**, "An Optimization Algorithm for Embedded Raspberry Pi Pico Controllers for Solar Tree Systems," *Sustainability*, vol. 16, no. 9, pp. 3788–3788, Apr. 2024. **Impact Factor: 3.3, Q2.**

2. Sk. A. Shezan, **Ishraque**, M. F. et al., "Assortment of Dispatch Strategies with the Optimization of an Islanded Hybrid Microgrid," *MIST International Journal of Science and Technology*, vol. 10, pp. 15–24, Jun. 2022.

1. Md. Abu Rayhan, Mahmidul Hasan Bhuiyan, Sk A Shezan, Fatin **Ishraque**, Altab Hossain, Siam Iqbal, Mehedi Hasan, Sharmin Akter Asha, "Design and implementation of an off-grid hybrid microgrid for Chittagong and Faridpur," *Thermal Science and Engineering*, vol. 6, no. 2, pp. 2292–2292, Oct. 2023.

REFEREED PUBLICATIONS (CONFERENCE ARTICLES)

14. M. N. Hasan, M. F. **Ishraque**, S. A. Shezan, G. Shafiullah and M. Uddin, "Power System Assessment of a Solar-Geothermal-Hydro Microgrid under Dynamic Load Conditions using different Control Strategies," *2025 IEEE International Conference on Energy Technologies for Future Grids (ETFG)*, Wollongong, Australia, 2025, pp. 1–6.

13. M. N. Hasan, S. A. Shezan, M. F. **Ishraque**, S. Muyeen and I. Kamwa, "Power System and Reliability Analysis of Geothermal and Hydrogen Storage-Orientated Grid-Connected Smart Grid for Mining and Agricultural Application: A Global Perspective," *2025 7th International Conference on Smart Power & Internet Energy Systems (SPIES)*, Shanghai, China, 2025, pp. 292–297.

12. M. F. **Ishraque**, M. M. Ali, S. Arefin, M. R. Islam, H. Masrur and M. M. Rahman, "Dispatch Strategy Based Optimized Design of an Offgrid Hybrid Microgrid Using Renewable Sources," *2021 31st Australasian Universities Power Engineering Conference (AUPEC)*, 2021, pp. 1–6.

11. Md. Fatin **Ishraque**, S. A. Shezan, and G. M. Shafiullah, "Different Droop Control-Based PV-Wind-Hydro Grid-Connected Microgrid Under Different Load Variations and EV Charging Point Using Different Dispatch Technique and Derivative-Free Algorithm," *2023 International Conference on Sustainable Technology and Engineering (i-COSTE)*, Nadi, Fiji, 2023, pp. 1–6.

10. S. A. Shezan, Md. Fatin **Ishraque**, G. M. Shafiullah, and Md Moktadir Rahman, "Comparative Assessment of Constant V and Q controlled Renewable Rich Grid Connected Electric Vehicle Charging Station," *2023 IEEE International Conference on Energy Technologies for Future Grids (ETFG)*, Wollongong, Australia, 3–6 Dec. 2023.

9. Karim Roni, Md. Hassanul and Emran Haque Emal, Yafes and Solayman, Saad and Ritu, Surain Jannath and Fazla Rabby, Md. and **Ishraque**, Md. Fatin and Sohel Rana, Md., "Optimizing LQG Controller for a Single-Phase Power Inverter in an AC Microgrid System," *2022 4th International Conference on Sustainable Technologies for Industry 4.0 (STI)*, Dhaka, Bangladesh, 2022, pp. 1–5.

8. Md. F. **Ishraque**, Md. S. Hussain, Md. S. Rana, Md. H. Karim Roni, and Sk. A. Shezan, "Design and Assessment of a Standalone Hybrid Mode Microgrid for the Rohingya Refugees Using Load Following Dispatch Strategy," *2021 6th International Conference on Development in Renewable Energy Technology (ICDRET)*, Dec. 2021.

7. L. C. Paul, G. A. Shaki, M. F. **Ishraque**, P. K. Paul and M. Samsuzzaman, "An Omni-directional Novel-shaped Patch Antenna with a Parasitic Element for 5G Communication," *2021 24th International Conference on Computer and Information Technology (ICCIT)*, 2021, pp. 1–5.

6. L. C. Paul, S. C. Das, N. Sarker, R. Azim, M. F. **Ishraque** and S. A. Shezan, "A Wideband Microstrip Patch Antenna with Slotted Ground Plane for 5G Application," *2021 International Conference on Science & Contemporary Technologies (ICSCT)*, 2021, pp. 1–5.

5. L. C. Paul, S. C. Das, N. Sarker, M. F. **Ishraque**, R. Azim and M. Z. Mahmud, "A Low Profile Microstrip Patch Antenna with DGS for 5G Application," *2021 International Conference on Science & Contemporary Technologies (ICSCT)*, 2021, pp. 1–5.

4. **Ishraque**, M. F.; Ali, M. M., "Optimized Design of a Hybrid Microgrid using Renewable Resources Considering Different Dispatch Strategies," *2021 International Conference on Automation, Control and Mechatronics for Industry 4.0 (ACMI)*, 8–9 July 2021, pp. 1–6.

3. S. R. Fahim, Y. Sarker, O. K. Islam, S. K. Sarker, M. F. **Ishraque**, and S. K. Das, "An Intelligent Approach of Fault Classification and Localization of a Power Transmission Line," *2019 IEEE International Conference on Power, Electrical, and Electronics and Industrial Applications (PEEIACON)*, 2019, pp. 53–56.

2. S. A. Shezan and M. F. **Ishraque**, "Assessment of a Micro-grid Hybrid Wind-Diesel-Battery Alternative Energy System Applicable for Offshore Islands," *2019 5th International Conference on Advances in Electrical Engineering (ICAEE)*, 2019, pp. 457–462.

1. M. F. **Ishraque**, M. M. Rashid, and S. A. Shezan, "IoT Based Pilot Wireless Differential Relay," *2019 5th International Conference on Advances in Electrical Engineering (ICAEE)*, 2019, pp. 286–289.

HONORS AND AWARDS

- **"Outstanding Researcher Award 2023"** for outstanding research performance (Ranked 2nd) in academic year 2022–23, Pabna University of Science and Technology (PUST).
- **Best Paper Award** for the paper entitled "An Intelligent Approach of Fault Classification and Localization of a Power Transmission Line", *2019 IEEE International Conference on Power, Electrical and Electronics and Industrial Applications (PEEIACON 2019).*
- Education Board Primary Scholarship (Talent pool) from Rajshahi Education Board in 2005 (1st Place in Lalmonirhat District).
- Education Board Junior Scholarship (General) from Dinajpur Education Board in 2008.
- Education Board Scholarship in SSC exam (Talent pool) from Dinajpur Education Board in 2011.
- Education Board Scholarship in HSC exam (General) from Dinajpur Education Board in 2013.

SPECIAL RESEARCH PROJECTS

- "Validation and Step Response Improvement of GFM and GFL Inverter-Based BESS: A NERC Functional Test Approach Using PSCAD EMT Simulation on IEEE 39-Bus System", Under special research grant from **Prof. Dr. Innocent Kamwa** for 2025–2026. **Funding Amount: 6,000 CAD.**
- "Dynamic Stability and Operational Performance Assessment of Grid-Connected Renewable Energy Systems in Saudi Arabia with Increasing Penetration of Solar-Wind, EV Charging Infrastructure, and Variable Load Profiles Using DIgSILENT PowerFactory", Under special research grant from **Dr. Shezan Arefin** for 2024–2025. **Funding Amount: 2,50,000 BDT.**
- "Optimal Sizing and Techno-Economic Analysis of a Grid-Connected Solar-Battery Microgrid with Comparative Evaluation of Grid-Forming vs. Grid-Following Inverters and Power Factor Control Strategies Using MATLAB/Simulink", Under special research grant from **Dr. Shezan Arefin** for 2024–2025. **Funding Amount: 2,50,000 BDT.**

FUNDING AND PROJECTS

- "Stabilization of a traditional power system network against dynamic loading", Under **UGC (University Grants Commission)** grant for FY 2024–25. **Funding Amount: 1,90,000 BDT.**
- "Derivative free and dispatch algorithm-based optimization and power system assessment of a Biomass-PV-hydrogen storage-Grid hybrid renewable microgrid for Agricultural applications", Un-

der special research grant from **Ministry of Science and Technology (MOST)** for FY 2023–2024. **Funding Amount: 2,50,000 BDT.**

- "Solar and battery oriented grid connected microgrid for peak and off peak hour operation", Under **UGC (University Grants Commission)** grant for FY 2023–24. **Funding Amount: 2,00,000 BDT.**
- "Feasibility Study of a Grid Isolated PV/Wind/DG/Battery Hybrid Charging Station for EV with Dispatch Control", Under **UGC (University Grants Commission)** grant for FY 2022–23. **Funding Amount: 1,30,000 BDT.**
- "Optimal Design and Assessment of a Grid Connected solar PV/Wind Hybrid Microgrid for Dept. of EECE, PUST Considering Dispatch Strategies", Under **UGC (University Grants Commission)** grant for FY 2021–22. **Funding Amount: 1,08,000 BDT.**

POLICY DEVELOPMENT

- Member, Development of Syllabus and OBE (Outcome Based Education) Curriculum for the Department of Electrical, Electronic and Communication Engineering, Pabna University of Science and Technology (PUST).

SHORT COURSE / SEMINAR / CONFERENCE / TRAINING

- Attended various webinars on Renewable Energy system and Microgrid managements.
- Attended various international seminars and conferences.
- *2021 6th International Conference on Development in Renewable Energy Technology (ICDRET)*, Dec. 2021, GUB, Dhaka, Bangladesh (Virtual).
- *2021 31st Australasian Universities Power Engineering Conference (AUPEC)*, 2021, Australia (Virtual).
- *2021 International Conference on Automation, Control and Mechatronics for Industry 4.0 (ACMI)*, 8–9 July 2021, RUET, Rajshahi, Bangladesh (Virtual).
- *2019 5th International Conference on Advances in Electrical Engineering (ICAEE)*, 2019, IUB, Dhaka, Bangladesh.
- Completed a professional development workshop on **"Effective Teaching and Faculty Development"**, organized by Varendra University, Rajshahi, Bangladesh in 2019.
- Attended workshop titled 'EndNote: An Efficient Assistant for Paper Publication' held at RUET auditorium on 13 January 2017, organized by IEEE RUET Student Branch.
- Successfully completed a 9-day industrial training at **Dhaka Northern Power Generations Ltd.** as a requirement of B.Sc. degree in 2017.
- Attended the workshop on 'Presentation Facts & Strategies' held at RUET Campus on 26th July 2016, organized by IEEE RUET Student Branch.
- Participated in the 'Workshop on MATLAB/Simulink & PLC' held at RUET Campus on 15 April 2016, organized by IEEE RUET IAS Student Branch Chapter.
- Participated and completed the course on Android Studyjam intended to inspire students to app development.

REFEREE

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