

# Dr. Moushumi Patowary, B.E., M.E., Ph.D.

**My research interests** include distributed generation, modeling, and control of microgrid systems, multi-level inverters, power quality assessment, reliability evaluation, artificial intelligence (AI) techniques and power electronics based applications in power systems.



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## PROFESSIONAL SUMMARY

- Possess over 12 years of experience in an inter-disciplinary field of academics and industries.
- Working as **Assistant Professor** (Under DTE) in the department of Electrical Engineering at **Jorhat Engineering College (JEC), Jorhat, Assam**.
- Worked as **Guest Faculty** in the Department of Electrical Engineering at **NIT Arunachal Pradesh (NIT AP)**
- **Ph.D. in Electrical Engineering from NIT Meghalaya (NITM) (awarded on 24 Dec' 2018)**.
- Worked as **Assistant Professor** in the Department of Electrical Engineering and, also as **Assistant Controller of Examination** at **Kaziranga University (KU), Jorhat, Assam**.
- Worked as **Assistant Professor** in the Department of Electrical Engineering at **Girijananda Chawdhury Institute of Management & Technology (GIMT), Guwahati, Assam**.
- Worked as **SAP Consultant (SCM)** at **SAP Labs India Pvt. Ltd., Bangalore**.
- Worked as **Solution Developer (GET)** at **TATA MOTORS Pvt. Ltd., Pune**.

## ACADEMICS

<b>Ph.D.</b> (Electrical Engineering)	NIT Meghalaya	Awarded (Dec' 2018)
<b>M.E.</b> (Power System)	Assam Engineering College, Assam	2012
<b>B.E.</b> (Electrical Engineering)	Jorhat Engineering College, Assam	2005

## JOURNALS

1. **Patowary, M.**, Haes Alhelou, H., Panda, G. : Performance assessment and validation of inverter control current controllers in reduced sensor maximum power point tracking based photovoltaic-grid tied system. *IET Energy Syst. Integr.* 1–13 (2022). DOI: 10.1049/esi2.12076
2. **M. Patowary**, G. Panda and B. C. Deka, "Reliability Modelling of Microgrid System using Hybrid Methods in Hot Standby Mode", *IEEE Systems Journal*, vol.13, no.3, pp. 3111-3119, 2019.

3. **M. Patowary**, G. Panda, B. R. Naidu and B. C. Deka, "ANN-based adaptive current controller for on-grid DG system to meet frequency deviation and transient load challenges with hardware implementation", *IET Renewable Power Generation*, vol.12, no.1, pp. 61-71, 2017
4. **M. Patowary**, G. Panda and B. C. Deka, "An adaptive current control-detuned harmonics elimination schemes for enhancement of power quality in RES interfaced AC-grid network", *Elsevier-Sustainable Energy Technologies and Assessments*, vol.25, pp. 11-23, 2018
5. **M. Patowary**, G. Panda and B. C. Deka, "Power Quality Enrichment using Enhanced Adaptive Control-Detuned-LC Proposal in VSC Conquered DG with Hardware Implementation", *SAGE-Institute of Measurement and Control*, vol. 41, no.9, pp. 2451-2464, 2019
6. **M. Patowary**, G. Panda and B. C. Deka, "A Comparative Study on Neural Network based Controllers used in Grid-interactive Solar System", *International Journal of Emerging Electric Power Systems*, vol. 19, no.6, 2019

### BOOKS/BOOK CHAPTERS

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1. **M. Patowary**, G. Panda and B. C. Deka, "Reliability Analysis of Microgrid System using Hybrid Approaches", *Advances in RAMS Engineering - SPRINGER*, Jan, 2020, DOI: 0.1007/978-3-030-36518-9\_20
  2. **M. Patowary** and Arvind R. Singh, "Interpreting Microgrid Reliability Using RBD-Quantitative Approaches", *Intelligent Systems, Technologies and Applications - SPRINGER*, Jan, 2020, DOI: 10.1007/978-981-15-3914-5\_1
  3. Lahon P., Kandali A.B., Panda G. and **Patowary M.**, "A Review on Control Methods Used in RES-Fed Induction Motors", book name: Sustainable Energy and Technological Advancement- SPRINGER, Singapoer, , pp: 279- 292, ISBN: 978-981-16-9032-7.

### CONFERENCES

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1. **Moushumi Patowary**, Gayadhar Panda and Bimal C. Deka, "Relative Influence of Intelligent Current Controllers on Power Quality in Grid-interactive Solar Inverter System", *IEEE Conference on Energy, Power and Environment (ICEPE)*, June 1-2,2018, NIT Meghalaya, Shillong, Meghalaya.
  2. Vulisi Narendra Kumar, **Moushumi Patowary**, Gayadhar Panda, "Dynamic Power Management Controller to the Self-Sustained Wind-Solar DC microgrid in the Transport Applications", *2018 3rd IEEE Conference for Convergence in Technology (I2CT)*, April 6-8, Pune, India, pp. 1-6, 2018.
  3. Vulisi Narendra Kumar, **Moushumi Patowary**, Gayadhar Panda, "Solar Plant Integration with Utility Grid for Improved Power Quality by using Rnn-Hebbian-Lms Current Controller", *2018 IEEE PES Innovative Smart Grid Technologies Asia (ISGT Asia)*, May 22-25, Singapore, pp. 546-551, 2018.
  4. M. Das, SK Chauhan, N. Wakheth, C. Marging, W. Suyang and **M. Patowary**, "Reliability Evaluation of Large-Scale Microgrid Systems using RBD Techniques", *National Conference on Emerging Trends of Electrical Engineering System*, Assam Engineering College (AEC), Guwahati, Assam, India, 29-30, March 2019.
  5. Satyavarta Kumar Prince, Kaibalya Prasad Panda, **Moushumi Patowary** and Gayadhar Panda, "FPA tuned Extended Kalman Filter for Power Quality Enhancement in PV integrated Shunt Active Power Filter", *IEEE CONFERENCE ON COMPUTING, POWER AND COMMUNICATION TECHNOLOGIES (GUCON 2019)*, Sept 27-29, 2019, Greater Noida, NCR, New Delhi, India
  6. Arvind R. Singh and **M. Patowary**, "Interpreting Microgrid Reliability Using RBD-quantitative Approaches", *5th International Symposium on Intelligent Systems Technologies and Applications (ISTA'19)*, Trivandrum, Kerala, India.
  7. P. Lahon, A.B. Kandali and **M. Patowary**, "A Review on Control Methods used in RES fed Induction Motors", *1st International Symposium on Sustainable Energy and Technological Advancements (ISSETA 2021)*, NIT Meghalaya, Sept. 24-25, 2021.
  8. AP. Hussain and **M. Patowary**, "A Relative Study on Various Control Strategies used in Induction Motor Applications", *6th (IEEE) International Conference on Intelligent Computing and Control Strategies (ICICCS 2022)*, Madurai, India, organized by Vaigai College of Engineering, May 25-27, 2022

### FDP/SEMINAR/SHORT TERM COURSE

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1. Short Term course attended on, "Off Grid Solar Energy Technologies", sponsored by MNRE and conducted by NPTI, NE Region, Guwahati organized by Department of Electrical Engineering, NIT Meghalaya during 20<sup>th</sup>-22<sup>nd</sup> Feb'2017.
  2. Short Term course attended on, "Power Electronic Interface for Solar PV Integration", organized by Department of Electrical Engineering, IIT Bombay during 26<sup>th</sup>-28<sup>th</sup> April'2017.
  3. Short Term course attended on, "Signal Processing Applications in Power & Control Systems (SPAPCS

- 2016)", organized by Department of Electrical Engineering, NIT Meghalaya from 30<sup>th</sup> May to 4<sup>th</sup> June, 2016.
4. Short Term course attended on, "Trends and Challenges in Emerging Power Systems (TCEPS)" organized by Department of Electrical Engineering, MNIT, Jaipur, Rajasthan, India on 19<sup>th</sup>-23<sup>rd</sup> Oct'2015.
  5. Short Term course attended on, "Distributed Generation and Power Quality", organized by Department of Electrical Engineering, VNIT, Nagpur on 15<sup>th</sup>-16<sup>th</sup> Dec'2015.
  6. Seminar attended on, "Awareness Program on Prime Minister's Fellowship Scheme for Doctoral Research", organized by IIT, Guwahati, Assam, India on 31st Aug'2015.
  7. Short Term course attended on, "Recent Advances on Power, Control & Energy" organized by Department of Electrical Engineering, NIT Meghalaya, Shillong.
  8. Co-ordinated National Level seminar on, "Instrumentation, Operation & Control of Electrical Power System", organized by the Department of EE & AEI, GIMT, Guwahati, Assam on 28<sup>th</sup>-29<sup>th</sup> April' 2011
  9. Short Term course attended on, "Counseling Skills for Students", organized by Kaziranga University, Jorhat, Assam, India.
  10. Short Term course attended on, "Faculty Induction Programme for Engineering College Teachers of NE Region", conducted by NITTR, Guwahati, Assam, India.

### AS A REVIEWER: JOURNALS/CONFERENCES

1. IET Generation Transmission Distribution
2. IET Renewable Power Generation
3. Elsevier - ISA Transactions
4. IEEE ICEPE 2018 organized by NIT Meghalaya, India
5. IEEE GUCON 2019 organized by Galgotia University, Greater Noida, NCR, New Delhi, India
6. ISSETA 2021, NIT Meghalaya, India.

### PROJECTS

➤ **B.Tech guided:**

Name of Students	Roll Nos.	Project Name	Year
Bhargab Singha	180710003011	Reliability Evaluation of IEEE 14 Bus based Microgrid System using Conventional and Hybrid Reliability Evaluation Techniques	2022 outgoing
Ice Sarkar	180710003025		
Jamal Ali	180710003027		
Jusmita Mahanta	180710003029		
Sreeya Dutta	180710003060		
Arabinda Borah	180710003006	Design and Comparative Analysis of PI and ADALINE LMS based PLL used in Microgrid System	2022 outgoing
Bhargov Tamuly	180710003013		
Binoy Bhushan Saikia	180710003016		
Sagardeep Handique	180710003052		

### DECLARATION

I hereby declare that the above-mentioned information is true to the best of my knowledge and belief.

**Date:**

**(Dr. Moushumi Patowary)**