

Dr. Pritam Kumar Gayen

Designation: Assistant Professor in Electrical Engineering

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Subjects Taught

- [1] Basic Electrical Engineering for UG
- [2] Electric Circuit Theory for UG
- [3] Electrical Measurement for UG
- [4] Power System-I for UG
- [5] Digital Signal Processing for UG
- [6] Microprocessor & Microcontroller for UG
- [7] Sensors and Transducers for UG
- [8] Electric Drive for UG
- [9] Power Quality for PG
- [10] Flexible AC Transmission System for PG

Research Interest

- [1] Solar and Wind Energy Conversion System
- [2] Smart Grid
- [3] Electric Drive
- [4] Power Electronics
- [5] Battery Energy Storage System
- [6] Electric Vehicle

Educational Qualification

Doctorate: Ph.D. (Engineering) in Electrical Engineering from Jadavpur University, Kolkata.

Post Graduation: M. Tech. (Power System) in Electrical Engineering from IIT, Kharagpur.

Graduate: B.E. in Electrical Engineering from Bengal Engineering & Science University, Shibpur
(Presently known as IEST, Shibpur)

Memberships

- [1] Member of International Association of Engineers (IAENG), ID No. 271317.

Previous Work Experiences

[1] Aug. 2019 to Jul. 2000: Graduate Engineer Trainee (Electrical) in Development Consultants Limited, Kolkata.

[2] Jan. 2003 to Mar. 2003: Lecturer in Electrical Engineering Department, Haldia Institute of Technology, Purba Midnapur.

[3] Apr. 2003 to Nov. 2003: Lecturer in Electrical Engineering Department, Royal Bhutan Institute of Technology, Phuentsholing, Bhutan.

[4] Dec. 2003 to Dec. 2009: Assistant Engineer (Electrical) in Public Works Department (PWD), Government of West Bengal.

[5] Jan. 2010 to present: Assistant Professor in Electrical Engineering Department, Kalyani Government Engineering College, Kalyani, Nadia, West Bengal.

Other Professional Activities

Reviewer of International Journals:

1. IEEE Transactions on Industrial Electronics (TIE)
2. IEEE Transactions on Power Electronics (PEL)
3. IEEE Transactions on Energy Conversion
4. IEEE Transactions on Industrial Informatics (TII)
5. IET, Power Electronics
6. IET, Renewable Power Generation
7. Energy, Elsevier
8. Electric Power Systems Research, Elsevier
9. International Journal of Electronics, Taylor & Francis

Invited Expert/Selection Committee:

1. External Expert for Workman's Permit under WBSEDCL, West Bengal, 2012-2013.
2. External Expert for Vocational Course (Electrical) Enrolment under ITI having center at ITI, Kalyani, 2012-2013.
3. External Expert for selecting PhD candidate in EE under Swami Vivekananda University, 2021.

Invited/Visiting Lectures Delivered:

1. Classroom lectures on Instrumentation at USIC, Kalyani University, 2011-13.
2. Classroom lectures on Electrical Technology and Microprocessor at EE Dept., Jadavpur University, 2012-2015.
3. Classroom lectures on Instrumentation, Electric Field Theory at EE Dept., GCETTB, Berhampore, 2011.

Sponsored Projects Undertaken:

The R&D projects are,

1. 'Development of Cost-Effective, Efficient and Compact Solar Boost Inverter for Remote Applications' funded by Science & Technology and Biotechnology Department, Govt. of West Bengal, as Principal Investigator from 2020.
2. 'Development of Cost-Effective, Efficient and Compact SPV System for Rural Application' funded by Science & Technology and Biotechnology Department, Govt. of West Bengal, as Co-Principal Investigator from 2018-2021.

Books/Chapter Authored:

1. I. Kushary, P. K. Gayen, Chapter 16: 'Trends in EV Industry in India' in the Book 'Business Finance: The Changing Scenario' ISBN: 979-8-715-69954-1, Amazon Publishers, 14 Mar. 2021.

Other Activities:

1. Moderator, for the Tenure : 2017-2021, Narula Institute of Technology and JIS University.
2. Superintendent of VC Hostel, Kalyani Government Engineering College, 2017-2018.

Awards and Honours

- [1] GATE-2001: Qualified with percentile score of 98.17 (All India Rank -103).
- [2] Awarding of Second Prize in the subject category of fourth year during B. E. course.

Career Development Program/Seminar Attended

Some of these are,

- [1] AICTE approved FDP, eight weeks Annual Refresher Programme in Teaching (ARPIT) Course 'Big Data Analytics For Smart Grid', Swayam online course, Sep.-Oct. 2019.
- [2] AICTE approved FDP, four weeks Course 'Electric Vehicles - Part 1', Swayam online course, 24th Feb. - 20th Mar. 2020.
- [3] AICTE approved FDP, eight weeks ARPIT Course 'Components and Applications of Internet Of Things', Swayam online course, Feb. - Mar. 2021.
- [4] IEEE INDICON 2015, New Delhi.
- [5] One week STTP on: Power Generation from Energy Resources, NITTTR, Kolkata, Dec. 2019.
- [6] National Webinar on 'Implementation of National Educational Policy 2020 (NEP 2020)' at CEM, Kolaghat on 12.05.2021.

M. Tech Projects Supervised

Some theses (M. Tech.) are,

- [1] Study on DC-Link Neutral Point Voltage Balancing Problem of Three-phase Three-level Neutral-point Diode-clamped Inverter, 2021.
- [2] Study on Modeling and Control of DC Micro-Grid, 2020.
- [3] Study on Various Pulse Width Modulation Techniques for Modular Multilevel Converter, 2019.
- [4] Study on Power Quality and Energy Management of Grid Connected Solar System, 2019.
- [5] Modeling and Control of ASC-qZSI Based Grid Connected Solar Energy Conversion System with Battery Storage Unit, 2019.
- [6] Hardware Implementation of Various Power Electronics Converters with Control Logic, 2018.
etc.

International Journal Publications

Top six (6) publications:

- [1] P. K. Gayen, "An Enhanced Rotor Position/Speed Estimation Technique for Doubly-fed Induction Generator using Stator-side Reactive Current Variable in Model Reference Adaptive System", IEEE Transactions on Industrial Electronics, Early Access, Jun. 2021.
- [2] P. K. Gayen, "Stator Flux Producing Current-Based Promoted Rotor Angle Estimator of Doubly-Fed Induction Generator for Encoderless Operations," in IEEE Sensors Journal, vol. 21, no. 13, pp. 15133-15141, Jul. 2021, doi: 10.1109/JSEN.2021.3072396.
- [3] P. K. Gayen, " Novel control approach for enhancing multi-performance of two-stage converter during power transfer from solar photo-voltaic array to AC grid," in Sustainable Energy Technologies and Assessments, Elsevier, vol. 45, pp. 101132, Jun. 2021.
- [4] P. K. Gayen, " An enhanced high-boost active-switched quasi Z-Source inverter having shorter range of shoot-through duty ratio for solar energy conversion applications," in AEU-International Journal of Electronics and Communications, Elsevier, vol. 137, pp. 153822, Jul. 2021.

[5] P. K. Gayen, PR Chowdhury, PK Dhara" An improved dynamic performance of bidirectional SEPIC-Zeta converter based battery energy storage system using adaptive sliding mode control technique," in Electric Power Systems Research, Elsevier, vol. 160, pp. 348-361, Jul. 2018.

[6] P. K. Gayen, A Jana" An ANFIS based improved control action for single phase utility or micro-grid connected battery energy storage system," in Journal of Cleaner Production, Elsevier, vol. 164, pp. 1034-1049, Oct. 2017.

38 more publications in International Journals/ Conferences, National Conferences.

Patent Publication

[1] Das, Dhar, Biswas, Gayen, et al. SOLAR POWERED IOT BASED THERMAL SCREENING SMART SECURITY SYSTEM. India Patent No. 202031050082 A. Patent Office Intellectual Property Building, Salt Lake City, Kolkata-91, Intellectual Property India,15 Dec. 2020.

Research Scholar

Supervising 4 PhD scholars (enrolled/ registered)