

Personal Information

Name	Dr. Prasanta Kumar Jena
Years of Experience	Teaching: 9 Years 6 months
Email Id	prasanta.jena@bvrithyderabad.edu.in
Areas of Specialization	Cyber Security in Power Systems
CN ID	PK953



Educational Qualifications

Doctoral Degree	Ph.D.	National Institute of Technology Raipur
PG Degree	M.Tech.	Power Electronics and Drives, KIIT University, Odisha
UG Degree	B.Tech	Electrical & Electronics Engineering

Patent Granted:

1. G.Madhusudhana Rao, R.D.Patidar, Sushree Diptimayee Swain, Prasanta Kumar Jena, Solar Power Charger, Indian Design no.: 379249-001, Date: 13/02/2023.

Certifications

1. Post Graduate Diploma in Cyber Security from National Power Training Institute.

Papers Published

International Journal Publications

1. **P. K. Jena**, S. Ghosh, & E. Koley, "A Binary-Optimization-Based Coordinated Cyber-Physical Attack for Disrupting Electricity Market Operation," in IEEE Systems Journal, vol. 15, no. 2, pp. 2619-2629, 2021. [SCIE, Q1, IF=4.4]
2. B. Seshasai, E. Koley, **P. K. Jena**, and S. Ghosh, "Design of Real-Time False Data Injection Attack on Electricity Market with Limited Sensor Accessibility," in IEEE Systems Journal. [SCIE, Q1, IF=4.0].
3. **P. K. Jena**, S. Ghosh, & E. Koley, "Identification of Optimal Sensor Location Based on Trade-Off Approach to Improve Resiliency of Electricity Market in Smart Grid," in IEEE Sensors Journal, vol. 21, no. 15, pp. 17271-17281, 1 Aug.1, 2021.[SCIE, Q1, IF=4.3]
4. **P. K. Jena**, E. Koley, & S. Ghosh, "An Optimal Scheme for Installation of PMUs and IEDs to Reinforce Electricity Market Immunity Against Data Attacks in Smart Grid," in IEEE Journal of Emerging and Selected Topics in Industrial Electronics, 2022, doi: 10.1109/JESTIE.2022.3223316.
5. **P. K. Jena**, S. Ghosh, & E. Koley, "Identification of strategic sensor locations for intrusion detection and classification in smart grid networks," in International Journal of Electrical Power & Energy Systems, vol. 139, 107970, 2022.(an Elsevier Publication)[SCIE, Q1, IF=5.2]
6. **P. K. Jena**, S. Ghosh, E. Koley, D.K.Mohanta, & I. Kamwa, "Design of AC state estimation based cyberphysical attack for disrupting electricity market operation under limited sensor information," in Electric Power Systems Research, Vol. 205, 107732, 2022.(an Elsevier Publication) [SCIE, Q1, IF=3.9]
7. **P. K. Jena**, S. Ghosh, & E. Koley, "Design of a coordinated cyber-physical attack in IoT based smart grid under limited intruder accessibility," in International Journal of Critical Infrastructure Protection, vol.35, 100484, 2021.(an Elsevier Publication)[SCIE, Q1, IF=3.6]
8. **P. K. Jena**, S. Ghosh, E. Koley, & M. Manohar, "An Ensemble Classifier Based Scheme for

Detection of False Data Attacks Aiming at Disruption of ElectricityMarket Operation", in Journal of Network and Systems Management, Vol. 29, Page 1-26, 2021.(a Springer Publication)[SCIE, Q2, IF=3.6]

9. S. P.Makhija, S.P.Dubey, R. C.Bansal,& **P.K.Jena**, "Techno-Environ-Economical analysis of floating PV/Onground PV/grid extension systems for electrification of a remote area in India", in Technology and Economics of Smart Grids and Sustainable Energy, 6(1), 1-10, 2021.(Scopus,Q2, IF=2.2)

International Conference Publications:

1. S.P. Tiwari, **P.K.Jena**, A.K.Tiwari, & R. Verma, "A Protection Scheme for Fault Identification in AC Microgrid Using LDA-Based Algorithms," 2024 International Conference on Computational Intelligence for Green and Sustainable Technologies, Vijayawada, India, 2024.
2. **P.K.Jena**, S. Ghosh, & E. Koley, "Identification of Malicious Data Attacks in a Smart Grid Network Using Spectral Clustering," 2023 IEEE 3rd International Conference on Sustainable Energy and Future Electric transportation (SEFET) 2023, Bhubaneswar, India, 2023.
3. **P.K.Jena**, S. Ghosh, & E. Koley, "An Optimal PMU Placement Scheme for Detection of Malicious Attacks in Smart Grid," 2021 4th Biennial International Conference on Nascent Technologies in Engineering (ICNTE), Navi Mumbai, India, 2021, pp. 1-6, doi: 10.1109/ICNTE51185.2021.9487666.
4. S. T. Rayabagi, **P.K.Jena**, & S. Ghosh, "Design of False Data Injection Attack for Automatic Generation Control," 2020 IEEE First International Conference on Smart Technologies for Power, Energy and Control (STPEC), Nagpur, India, 2020, pp. 1-5, doi: 10.1109/STPEC49749.2020.9297723.
5. B. L. Prasanna, G. Madhusudhana Rao, S. Kaushaley, S. Nakka, & **P.K.Jena**, "Automatic Bottle Filling and Capping Machine using SCADA with the Internet of Things," 2022 OPJU International Technology Conference on Emerging Technologies for Sustainable Development (OTCON), Raigarh, Chhattisgarh, India, 2023, pp. 1-6, doi: 10.1109/OTCON56053.2023.10114011.
6. Y. Kishor, R. N. Patel, L. K. Sahu, V. H. Kumar, **P.K.Jena**, & A. K. Tiwari, "A High Gain Z-Source Converter with Reduced Device Count for Distributed PV System," 2022 IEEE 10th Power India International Conference (PIICON), New Delhi, India, 2022, pp. 1-6, doi: 10.1109/PIICON56320.2022.10045253.
7. S. Srikanth, **P. K. Jena**, A. Tiwari, & K. Goswami, "An interval arithmetic based computation of losses and payback period in high voltage distribution system," 2017 4th IEEE Uttar Pradesh Section International Conference on Electrical, Computer and Electronics (UPCON), Mathura, India, 2017, pp. 124-129, doi: 10.1109/UPCON.2017.8251034.
8. **P. K. Jena**, A. Mohapatra, Srikanth, & P. Choudhary, "Comparative study of solar PV MPPT by Perturbation and Observation and Fuzzy method," 2016 IEEE Uttar Pradesh Section International Conference on Electrical, Computer and Electronics Engineering (UPCON), Varanasi, India, 2016, pp. 515-518, doi: 10.1109/UPCON.2016.7894707.

Book Chapters:

1. **Jena, P. K.**, Ghosh, S., & Koley, E. (2024). Strategic deployment of advanced measuring instruments to enhance robustness of state estimation in smart grid against cyberattacks. In Smart Metering (pp. 169-185). Elsevier.
2. Makhija, S. P., Shrivastava, **P. K.**, **Jena**, P. K., Dubey, S. P., & Singh, P. (2024). Techno-Economic Comparative Analysis of On-Ground and Floating PV Systems: A Case Study at

Gangrel Dam, India. Photovoltaic Systems Technology, 191-210.

FDP's Organized:

1. Organised an international five-day online workshop on "Power Electronics and its Applications Using OPAL-RT" from 18.02.2023 to 24.02.2023.

FDP's Attended:

1. Participated in FDP on Sustainable Energy Solutions in Electric Vehicles using Artificial Intelligence & Machine Learning from 6-10 January 2024 at GRIET, Hyderabad.
2. Participated in PDP on Smart Mobility: The Future of Autonomous Electric Vehicles from 11-16 November 2024 at BVRIT Hyderabad College of Engineering for Women.
3. Participated in FDP on A Deep Dive into Artificial Intelligence and its Application workflows using MATLAB from 15-19 July 2024 at Bharati Vidyapeeth.
4. Participated the Five-Day Faculty Development Program on "Advancing Power Grid Operations: Integrating Renewable Sources and EVs at scale" organized by the Center for Emerging Energy Technologies from 20th May 2024 to 24th May 2024.
5. Participated in 5-day short course on the "Smart Grid and Electricity Market" organized by IEEE Rajasthan section from 03rd to 7th February 2021.
6. Participated in short term course on "Future trends in wide-area based power systems control and protection" organized by Motilal Nehru National Institute of Technology Allahabad, Prayagraj from 13.10.2020 to 17.10.2020.
7. Participated in five-day short term training program on "Recent advances in modern power technologies" organized by National Institute of Technology Raipur, during 12.01.2019 to 16.01.2019.

Professional Memberships:

- ❖ Member of ACM (No: 9597149)

Invited Talks/ Session Chair/ Guest Lecture:

1. Delivered expert lecture on "cyber security in smart grid" at the STTP titled Power System and Power Electronics Research, Applications and Real-Time Simulation (PSPERARTS), Conducted by National Institute of Technology Raipur on 25th December 2024.
2. Served as a as a SESSION CHAIR in a technical session of the 2024 Sixth IEEE Sponsored International Conference on Electrical, Computer and Communication Technologies (IEEE ICECCT 2024) held at Chhattisgarh Swami Vivekanand Technical University (CSVTU), Bhilai, Chhattisgarh, India during 26 - 28, June 2024.
3. Delivered lectures on Maintenance and Testing of Electrical Machines in the Swayam platform, an initiative by the Government of India aimed at providing quality education online.
4. Served as a session chair for the IEEE conference, ICCIGST 2024, organised by Velagapudi Ramakrishna Siddhartha Engineering College (VRSEC), Andhra Pradesh, India, during July 18 – 19, 2024.

5. Delivered expert lecture during a Lecture series for a research seminar on "A Masterclass in Technical Writing", organized by O.P. Jindal University from 4th to 8th March 2024.
6. Delivered lectures on "Energy Monitoring and Auditing" in the Swayam platform, an initiative by the Government of India aimed at providing quality education online.
7. Reviewed lectures delivered on several topics for the Swayam platform, an initiative by the Government of India aimed at providing quality education online.
8. Delivered expert lecture during two-day faculty development program on "Recent trends in power electronics and their application in power systems", organized by Sandeep University on 24th and 25th March 2023.
9. Delivered expert lecture on synchronous machines at Jindal Power Limited, Tamnar on 31.08.2022.
10. Served as a session chair for the IEEE conference, ICIDEA 2022, organised by KIIT University on 16.10.2022.

Webinars Attended:

1. Attended Webinar on "“**Overview of Intellectual Property Rights**” during 07-02-2022 to 09-02-2022 by National Institute of Technology Raipur.

Awards and Recognitions:

1. Received Best Paper Award for the paper titled " A Protection Scheme for Fault Identification in AC Microgrid Using LDA-Based Algorithms" in the conference 2024 International Conference on Computational Intelligence for Green and Sustainable Technologies, Vijayawada, India.
2. Best Innovation Award, Received best innovation award for presenting research paper at the conference ERSEM 2023.
3. K SHANKAR AWARD IEEE BS 2020, The research article titled" A Binary-optimization based coordinated cyber-physical attack for disrupting electricity market operation" is awarded in the Professional (Doctoral) Journal category for K SHANKAR IEEE BS 2020 Meritorious Paper Award 2020.
4. MHRD Scholarship, Selected under MHRD scholarship for full-time PhD in NIT Raipur.
5. IEEE UPP mini project scholarship, Guided students for the UPP mini project titled "Automatic Gate System For Railways" and received a grant of Rs 15000 for 8th semester B Tech students.

Active Reviewer:

1. Active reviewer of IEEE Transactions on Industrial Informatics, IEEE.
2. Active reviewer of IEEE Transactions on Power Systems, IEEE.
3. Active reviewer of IEEE Transactions on Instrumentation and Measurement, IEEE.
4. Active reviewer of Electric Power System Research, EPSR.
5. Active reviewer of International Journal of Electrical Power and Energy Systems, Elsevier.