

Curriculum Vitae



1. Current affiliation

Prof. Pravat Kumar Ray

Professor, Department of Electrical Engineering,
National Institute of Technology Rourkela

Dist: Sundergarh, Odisha, India, Pin-769008

Tel: 0661-246-2412

Email : rayp@nitrkl.ac.in, pravatkumar.ray@gmail.com

2. Academic Qualifications

- Post-Doctoral Fellow: Nanyang Technological University (NTU), Singapore, School of Electrical and Electronics Engineering, Jan. 2016 – July 2017
- Ph. D.: National Institute of Technology (NIT) Rourkela, India, Dept. of Electrical Engineering, June 2011
- Masters of Engineering: Indian Institute of Engineering, Science and Technology, Shibpur, Howrah, India, Dept. of Electrical Engineering, Jan. 2003
- Bachelor of Engineering: Indira Gandhi Institute of Technology (IGIT), Sarang, (An Autonomous Institute of Govt. of Odisha), Odisha, India, Dept. of Electrical Engineering, July 2000

3. Professional Experience

- Professor, Electrical Engineering, NIT Rourkela, India, wef 29th March 2023
- Associate Professor, Electrical Engineering, NIT Rourkela, India, 2nd Feb. 2018 – 28th March 2023
- Assistant Professor, NIT Rourkela, India, 10th Jan. 2012 - 1st Feb. 2018

- Assistant Professor, IGIT, Sarang (An Autonomous Institute of Govt. of Odisha), Odisha, India, 20th May 2009 – 9th Jan. 2012
- Lecturer, IGIT, Sarang (An Autonomous Institute of Govt. of Odisha), Odisha, India, 4th Feb. 2005 – 19th May 2009
- Lecturer, Bhadrak Institute of Engineering and Technology, Bhadrak, Odisha, India, 2nd April 2003 – 3rd Feb. 2005

4. Research Interests

- Signal processing and Soft Computing Methods applied to power system
- System Identification & Parameter Estimation
- Power System Operation & Control
- Power Quality
- Grid Integration issues of Renewable Energy Systems
- Power management system in a hybrid Micro grid
- Solar irradiance forecasting using sky images

5. Teaching Assignments

U. G / B. Tech. Level

- Electromagnetic Theory
- Power System Operation and Control
- Network Theory
- Transmission and Distribution of Electrical Power
- Switch Gear and Protective Devices
- Basic Electrical Engineering
- Electrical Machines
- *Basic Electrical Engineering Lab*
- *Electrical Engineering Lab*
- *Circuit & Network Devices Lab*
- *Electrical Machine Lab*
- *Power System Lab*

P. G. / M. Tech. Level

- Transients in Power Systems
- Power System Dynamics
- Load Flow and Optimal Power Control
- Power Quality
- *Power System Simulation Lab*
- *Power System Lab*

6. Details of Ph.D. Thesis guided

i. Guidance of Ph.D. thesis (Completed)

Sl. No.	Name of Scholar	Title of Thesis	Supervisor(s)	Year of Award
1	Pratap Sekhar Puhan	Estimation and Elimination of Power System Harmonics	P. K. Ray G. Panda	Dec. 2015
2	Satyajit Mohanty	Development of Maximum Power Extraction Algorithms for PV system with Non-Uniform Solar Irradiances	B. Subudhi P. K. Ray	June 2017
3	Soumya Mishra	Performance Analysis Of Photovoltaic Fed Distributed Static Compensator For Power Quality Improvement	P. K. Ray	Sept. 2017
4	Sushree Diptimayee Swain	Design and Experimental Realization of Robust and Adaptive Control Schemes for Hybrid Series Active Power Filter	P. K. Ray K. B. Mohanty	Dec. 2017
5	Aurobinda Bag	Development of Adaptive Controllers for Grid Integration of a Three-Phase PV System	B. Subudhi P. K. Ray	Dec. 2018
6	Santanu Kumar Dash	Performance Enhancement of Photovoltaic Integrated Unified Power Quality Conditioner for Power Quality Improvement	P. K. Ray	June 2019
7	Snehaprava Swain	Development of Strategies for Fault Ride Through Capability Improvement of a Grid Connected DFIG based Wind Energy Conversion System	P. K. Ray	June 2019
8	Maheswar Prasad Behera	Grid-Tied Photovoltaic System under Non-ideal Source Voltage with Battery Energy	P. K. Ray	Dec. 2020

		Storage		
9	Abhisek Parida	Adaptive Filtering and Control Algorithms for Grid Integration of Photovoltaic Systems	B. Subudhi P. K. Ray	June 2021
10	Malay Bhunia	Adaptive Control Design for a Three Phase Grid Connected Photovoltaic System with Experimental Analysis	B. Subudhi P. K. Ray	March 2022

ii. Guidance of Ph.D. theses (In progress)

Sl. No.	Name of Scholar	Title of Thesis	Supervisor (s)
1	Shobhit Nandkeolyar	Demand response management in a smart grid	P. K. Ray
2	Chinmaya Jagdev Jena	Supply side management in a smart grid	P. K. Ray
3	Pragnyashree Ray	Improvement of Reliability and Economic Performance of a Microgrid	P. K. Ray
4	Anindya Bhartee	Power management system in a hybrid Microgrid	P. K. Ray A. Ghosh
5	Suchismita Patel	Design of Power Electronics Converters and Control Schemes for Hybrid Microgrid with High penetration of PV and EV	A. Ghosh P. K. Ray
6	Ramesh Chandra Khamari	Improvement of Performance of Microgrid using Networked Control System.	P. K. Ray
7	Kavuru Srinivasarao	Microgrid and Smart Grid Technology	M. Pattnaik P. K. Ray
8	Bhanu Pratap Behera	Power Management System for A Hybrid Microgrid	P. K. Ray
9	Ravi Kumar Kenguva	Grid Integration of Hybrid Renewable Energy Sources	P. K. Ray A. Ghosh
10	Shyam Sundar Padhi	Energy Management In Microgrid	S. Mohanty P. K. Ray
11	Sanjay Mandal	Matrix Converter and Harmonics Mitigation	A. Ghosh P. K. Ray

7. Details of M. Tech. theses Guided

Sl. No.	Name of Scholar	Title of Thesis	Supervisor (s)	Year of Award
1	Avinash Kumar Yadav	Solar Powered Grid Integrated Charging Station	P. K. Ray	June 2023

		with Hybrid Energy Storage System		
2	Diptakantha Gogoi	Design of Electric Vehicle Charging Station Connected to PV Integrated Microgrid	P. K. Ray	June 2023
3	Shreyank Dutt Dwibedi	Energy Management and control of Grid-connected Microgrid integrated with HESS	P. K. Ray	June 2022
4	Lakavath Tejaswini	Energy Management of a DC Microgrid for its voltage and SOC regulation	P. K. Ray	June 2022
5	Kamireddy Rahul Reddy	Solar Irradiance Forecasting using Neural Network models	P. K. Ray	June 2022
6	Akash Bartwal	Load Frequency Control In Autonomous Single Microgrid and Two Interconnected Microgrids	P. K. Ray	June 2021
7	Amar Jagan	Power Management Strategy for a Hybrid AC/DC Microgrid with EV Charging Station	P. K. Ray	June 2021
8	Premananda Sahoo	Location of Grid Electric vehicle Aggregation in Grid System and SMES implanted Electric vehicle Charging system	P. K. Ray	June 2021
9	Ganji Shashank	Development of Dynamic Pricing Algorithm in Smart Grid	P. K. Ray	June 2021
10	Mallela Veeranjanyulu	Modelling and Control of Hybrid AC/DC Micro grid	P. K. Ray	June 2020
11	Abhisek Kumar	Supply side energy management in Micro grid	P. K. Ray	June 2020
12	Pankaj Pal	Design of Electric Vehicle charging system	P. K. Ray	June 2020
13	Ansh Abhay Balde	SoftMax Generative Adversarial Networks for Renewable Scenario Generation	P. K. Ray	June 2020
14	Sushree Sangeeta Sahoo	Heuristic Optimization Techniques for Demand Response Management in Smart Households	P. K. Ray	June 2019

15	Nikhil Sai Rama Valiveti	Development of Real-Time Demand Response Management Strategies for Smart Grids	P. K. Ray	June 2019
16	Suchandra Roy	Demand Response Scheduling using Unit Commitment	P. K. Ray	June 2019
17	Nitesh Kumar Yadav	Power Quality Improvement using Unified Power Quality Conditioner (UPQC)	P. K. Ray	June 2019
18	Naresh Singh	Design of active power filter for a grid integrated photovoltaic system	P. K. Ray	June 2018
19	Sourav Kumar Sahoo	Development of methods of solar irradiance forecasting	P. K. Ray	June 2018
20	Preetish Jena	A comparative analysis of control algorithms for three phase grid tied VSI interfaced with PV system	P. K. Ray	June 2018
21	Peddiraju Vamsi Krishna	A Two stage stand-alone Sloar PV system	P. K. Ray B. Subudhi	June 2016
22	Piyush Anand	Power quality improvement using Unified Power Quality Conditioner (UPQC)	P. K. Ray B. Subudhi	June 2016
23	K. Komal Praneeth	Estimation and filtering of current harmonics in Power System	P. K. Ray B. Subudhi	June 2016
24	Tapaswini Routray	Load Frequency control of two and three area system by using different optimization techniques,	P. K. Ray B. Subudhi	June 2016
25	Bibekananda Sahoo	Grid integration of Wind Energy system with power quality improvement,	P. K. Ray B. Subudhi	June 2016
26	Anshuman Pradhan	Estimation and Elimination of Power System Harmonics and Implementation of Kalman Filter Algorithm	P. K. Ray B. Subudhi	June 2016
27	Soumya Ranjan Mohapatra	Performance Enhancement of Active Power Filter using sliding mode control and feedback linearization based control	P. K. Ray	June 2015

28	Anupam Deori	Grid Integration issues of Distributed Generations	P. K. Ray	June 2015
29	Debashish Mohapatra	Hardware Design and Development of low cost synchrophasor measurement unit	P. K. Ray	June 2015
30	Kesana Raveendra	Power quality improvement of single phase grid connected photovoltaic system	P. K. Ray	June 2015
31	Jayant Sharma	Design and Modelling of FACTS devices	P. K. Ray	June 2015
32	Rajiv Kumar Sinku	Study of Unified Power Quality Conditioner for Power Quality Improvement	P. K. Ray	June 2015
33	Bheeshma Narayan Prasad	Economic Load Dispatch in Power System using PSO	P. K. Ray	June 2014
34	Nilesh N. Sindhe	Power System Frequency Estimation using Linear and Non-linear Techniques	P. K. Ray	June 2014
35	Sushmita Ekka	Automatic Load Frequency Control of Multi area Power system	P. K. Ray	June 2014
36	Rishikesh Kumar Jaiswal	Power System Harmonics Estimation using different signal processing techniques	P. K. Ray	June 2014
37	Mahasweta Biswal	A Hybrid Recursive Least Square PSO based algorithm for Harmonics Estimation	P. K. Ray	June 2014
38	Rosy Pradhan	Algorithm for online estimation of power system parameters	P. K. Ray	June 2013
39	Niranjan Behera	Load Frequency Control of Power System	P. K. Ray	June 2013
40	Debyani Mishra	Power Quality Assessment by Frequency and Harmonics Estimation	P. K. Ray	June 2012

8. Sponsored Research Projects Funding

Sl. No.	Sponsoring Agency	Title of Project	Amount of grant (INR Lakh)	Period	Investigators	Status
---------	-------------------	------------------	----------------------------	--------	---------------	--------

1	DST (ASEAN-India)	Development of advance control on supply side and demand side management towards next generation smart grid	19.72	2019-2021	P. K. Ray (PI) C. S. Lim (Malaysia) I. N. Wahyu Satiawan (Indonesia)	Completed
2	DST (Indo-Thailand)	Development of strategies for improving reliability and economic performance of a microgrid	21.9	2019-2022	P. K. Ray (PI) B. Subudhi (Co-PI) S. K. Korkua (Thailand)	Completed
3.	DST (Indo-Srilanka)	Design and Development of a Low Power Hybrid PV-Wind Energy System	48.6	2021-2024	M. Pattanaik (PI) P. K. Ray (Co-PI) A. Ghosh (Co-PI)	In progress
4.	DST-IMPRINT	A Smart Bidirectional Electric Vehicle Charging System Connected to PV Integrated Microgrid	70	2019-2022	B. Subudhi (PI) P. K. Ray (Co-PI) A. Ghosh (Co-PI)	Completed
5.	BRNS	Development and Implementation of Different Robust Control Algorithms for Plasma Position control in a Tokamak	18.4685	2021-2023	B. Subudhi (PI) P. K. Ray (Co-PI)	In progress
6.	DST-UKIERI	Development of Control and Power Electronics Schemes for a	34.9784	2019-2021	B. Subudhi (PI) P. K. Ray	Completed

		Smart Micro Grid with high penetration of PV Generation and Electric Vehicles			(Co-PI) A. Ghosh (Co-PI)	
7.	DST-SERI	Development of Grid Integration Strategies for Photovoltaic System	111.388	2015-2018	B. Subudhi (PI) P. K. Ray (Co-PI)	Completed
8.	SERB	Development of Real-time Estimation and Filtering Algorithms with Applications to Distributed Generation		2013-2017	B. Subudhi (PI) P. K. Ray (Co-PI)	Completed
9.	NPIU	CoE on Practical Renewable Energy Systems	500	2013-2017	B. Subudhi (Coordinator & PI) P. K. Ray (PI)	Completed
10.	DST-UKIERI	Modeling and Control of Hybrid Renewable Energy Sources	17.62	2013-2015	B. Subudhi (PI) P. K. Ray (Co-PI)	Completed
11.	DST-RFBR	Development of new control strategies for autonomous underwater robots in uncertain environments	35.84	2015-2018	B. Subudhi (PI) P. K. Ray (Co-PI)	Completed

9. Research Publications

a) International Journal Publications

- [1] Anindya Bharatee, **Pravat Kumar Ray**, Arnab Ghosh and Manas Ranjan Jena "Active Power Sharing Scheme in a PV Integrated DC Microgrid with Composite Energy Storage Devices" **IEEE Transactions on Power Systems**, DOI: 10.1109/TPWRS.2023.3284556, (*Impact Factor: 6.6*)

- [2] Anindya Bharatee, **Pravat Kumar Ray** and Arnab Ghosh “Hardware Design for Implementation of Energy Management in a Solar Interfaced DC Microgrid” **IEEE Transactions on Consumer Electronics**, DOI: 10.1109/TCE.2023.3243637, 2023, (*Impact Factor: 4.3*)
- [3] Pragnyashree Ray, **Pravat Kumar Ray** and Santanu Kumar Dash “Power Quality Enhancement and Power Flow Analysis of a PV integrated UPQC system in a Distribution Network” **IEEE Transactions on Industry Applications**, vol. 58, no. 1, pp. 201-211, 2022 (*Impact Factor: 4.4*)
- [4] Santanu Kumar Dash and **Pravat Kumar Ray** “A New PV-Open-UPQC Configuration for Voltage Sensitive Loads utilizing novel Adaptive Controllers” **IEEE Transactions on Industrial Informatics**, vol. 17, no. 1, pp. 421-429, 2021 (*Impact Factor: 12.3*)
- [5] Y C C Wong, C. S. Lim, A. Cruden, M. D. Rotaru and **Pravat Kumar Ray** “A Consensus-based Adaptive Virtual Output Impedance Control Scheme for Reactive Power Sharing in Radial Microgrids” **IEEE Transactions on Industry Applications**, vol. 57, no. 1, pp. 784 – 794, 2021 (*Impact Factor: 4.4*)
- [6] Malaya Bhunia, Bidyadhar Subudhi and **Pravat Kumar Ray** “Design and Real-time implementation of Cascaded Model Reference Adaptive Controllers for a Three Phase Grid Connected PV System” **IEEE Journal of Photovoltaics**, vol. 11, no. 5, pp. 1319 – 1331, 2021 (*Impact Factor: 3*)
- [7] Aurobinda Bag, Bidyadhar Subudhi and **Pravat Kumar Ray** “An Adaptive Variable Leaky Least Mean Square Control Scheme for Grid Integration of a PV System” **IEEE Transactions on Sustainable Energy**, vol. 11, no. 3, pp. 1508 – 1515, 2020 (*Impact Factor: 8.8*)
- [8] **Pravat Kumar Ray** and Sushree Diptimayee Swain, “Performance Enhancement of Shunt Active Power Filter With the Application of an Adaptive Controller”, **IET Generation, Transmission and Distribution**, vol. 14, no. 20, pp. 4444 – 4451, 2020 (*Impact Factor: 2.503*)
- [9] Sushree Diptimayee Swain, **Pravat Kumar Ray** and Kanungo Barada Mohanty “Improvement of power quality using a robust hybrid series active power filter” **IEEE Transactions on Power Electronics**, vol. 32, no. 4, pp. 3490 – 3498, 2017 (*Impact Factor: 6.7*)
- [10] Satyajit Mohanty, Bidyadhar Subudhi and **Pravat Kumar Ray** “A Grey Wolf Assisted Perturb & Observe MPPT Algorithm for a Photovoltaic Power

- System” **IEEE Transactions on Energy Conversion**, vol. 32, no.1, pp. 340-347, 2017 (*Impact Factor: 4.9*)
- [11] Soumya Mishra and **Pravat Kumar Ray** “Power Quality Improvement Using Photovoltaic fed DSTATCOM based on JAYA Optimization” **IEEE Transactions on Sustainable Energy**, vol. 7, no. 4, pp. 1672-1680, 2016 (*Impact Factor: 8.8*)
- [12] Satyajit Mohanty, Bidyadhar Subudhi and **Pravat Kumar Ray** “A New MPPT Design using Grey Wolf Optimization Technique for Photovoltaic System” **IEEE Transactions on Sustainable Energy**, vol. 7, no. 1, pp. 181 – 188, 2016 (*Impact Factor: 8.8*)
- [13] **Pravat Kumar Ray** and Bidyadhar Subudhi “Ensemble Kalman Filter Based Power System Harmonics Estimation” **IEEE Transactions on Instrumentation and Measurement**, vol. 61, no. 12, pp. 3216-3224, 2012 (*Impact Factor: 5.6*)
- [14] K. P. Panda, R. T. Naayagi, **Pravat Kumar Ray** and Gayadhar Panda “Single-Source Switched-Capacitor Boost Nine-Level Inverter with Reduced Components” **IEEE CSEE Journal of Power and Energy Systems**, DOI: 10.17775/CSEEJPES.2022.06520, **2023**, (*Impact Factor: 7.1*)
- [15] **Pravat Kumar Ray**, Bidyadhar Subudhi, Ghanim Putrus, Mousa Marzband, and Zunaib Ali “Forecasting of Global Solar Insolation Using Ensemble Kalman Filter Based Clearness Index Model” **IEEE CSEE Journal of Power and Energy Systems**, 2022, vol. 8, no. 4, pp. 1087 -1096, 2022 (*Impact Factor: 7.1*)
- [16] Anindya Bharatee, **Pravat Kumar Ray** and Arnab Ghosh “A Power Management Scheme for Grid Connected PV Integrated Hybrid Energy Storage System” **IEEE Journal of Modern Power Systems and Clean Energy (MPCE)**, vol. 10, no. 4, pp. 954 – 963, 2022, (*Impact Factor: 6.3*)
- [17] Malaya Bhunia, Bidyadhar Subudhi and **Pravat Kumar Ray** “A Lyapunov based Adaptive Voltage Controller for a Grid Connected PV System” **IET Smart Grid**, vol. 4, no. 4, pp. 381-396, 2021, DOI: 10.1049/stg2.12045
- [18] Snehaprava Swain and **Pravat Kumar Ray**, “Autonomous group particle swarm optimisation tuned dynamic voltage restorers for improved fault-ride-through capability of DFIGs in wind energy conversion system” **IET Energy System Integration**, vol. 2, no. 4, pp. 305 – 315, 2020
- [19] Aurobinda Bag, Bidyadhar Subudhi and **Pravat Kumar Ray**, “A Combined Reinforcement Learning and Sliding Mode Control Scheme for

- Grid Integration of a PV System”, **IEEE CSEE Journal of Power and Energy Systems**, vol. 5, no. 4, pp. 498 – 506, 2019 (*Impact Factor: 7.1*)
- [20] Aurobinda Bag, Bidyadhar Subudhi and **Pravat Kumar Ray** “An Adaptive Sliding Mode Control Scheme for Grid Integration of a PV System” **IEEE CPSS Transactions on Power Electronics and Applications**, vol. 3, no. 4, pp. 362-371, 2018
- [21] Santanu Kumar Dash and **Pravat Kumar Ray** “Power Quality improvement utilizing PV fed Unified Power Quality Conditioner based on UV-PI and PR-R Controllers” **IEEE CPSS Transactions on Power Electronics and Applications** vol.3, no. 3, pp. 243 – 253, 2018
- [22] **Pravat Kumar Ray** “Power Quality improvement using VLLMS based adaptive shunt active filter” **IEEE CPSS Transactions on Power Electronics and Applications**, vol. 3, no. 2, pp. 154 – 162, 2018
- [23] B. Subudhi, **P. K. Ray** and S. Ghosh, “Variable Leaky LMS Algorithm Based Power System Frequency Estimation” **IET Science, Measurement & Technology**, vol.6, issue 4, pp. 288-297, 2012 (*Impact Factor: 1.517*)
- [24] **P. K. Ray** and B. Subudhi “BFO Optimized RLS algorithm for Power System Harmonics Estimation” **Applied Soft Computing, Elsevier**, vol. 12, Issue 8, pp. 1965-1977, 2012 (*Impact Factor: 8.7*)
- [25] Suchismita Patel, Arnab Ghosh and **Pravat Kumar Ray** “Improved power flow management with proposed fuzzy integrated hybrid optimized fractional order cascaded proportional derivative filter (1+ proportional integral) controller in hybrid microgrid systems” **ISA Transactions**, DOI: 10.1016/j.isatra.2022.11.005, 2023, (*Impact Factor: 7.3*)
- [26] Suchismita Patel, Arnab Ghosh and **Pravat Kumar Ray** “Optimum control of power flow management in PV, wind, and battery-integrated hybrid microgrid systems by implementing in real-time digital simulator-based platform” **Soft Computing**, DOI: 10.1007/s00500-023-07838-1, 2023 (*Impact Factor: 4.1*)
- [27] Chinmaya Jagdev Jena and **Pravat Kumar Ray** “Power Management in Three-Phase Grid-Integrated PV System with Hybrid Energy Storage System” **Energies, MDPI**, vol. 16, no. 4, article 2030, 2023, (*Impact Factor: 3.2*)
- [28] Amar Jagan, **Pravat Kumar Ray**, Bhanu Pratap Behera and Gayadhar Panda “A Fuzzy-Logic-Based Smart Power Management Strategy for Reliability Enhancement of Energy Storage System in a Hybrid AC-DC

Microgrid with EV Charging Station” **International Journal of Emerging Electric Power Systems**, 2023, DOI: 10.1515/ijeeps-2023-0128

- [29] P Shadangi, S D Swain, **Pravat Kumar Ray**, G Panda, “Experimental Validation of Non-Dual Adaptive Controller based DSTATCOM for Power Quality Enhancement” **International Journal of Emerging Electric Power Systems**, 2023, DOI: 10.1515/ijeeps-2023-0138
- [30] Shobhit Nandkeolyar and **Pravat Kumar Ray** “Multi Objective Demand Side Storage Dispatch using hybrid Extreme Learning Machine trained Neural Networks in a Smart Grid” **Journal of Energy Storage, Elsevier**, vol. 51, 104439, 2022 (*Impact Factor: 9.4*)
- [31] Shobhit Nandkeolyar and **Pravat Kumar Ray** “Identifying households with electrical vehicle for demand response participation” **Electric Power System Research, Elsevier**, vol. 208, 107909, 2022 (*Impact Factor: 3.9*)
- [32] S K Korkua, S Khongtong, **Pravat Kumar Ray**, K Thinsurat “Cleaner Potential for Natural Rubber Drying Process Using Microwave Technology Powered by Solar Energy” **Energies, MDPI**, vol. 15, no. 18, article 6564, 2022, (*Impact Factor: 3.2*)
- [33] Anindya Bharatee, **Pravat Kumar Ray**, and Arnab Ghosh “Power Management Strategies in a Hybrid Energy Storage System Integrated AC/DC Microgrid: A Review” **Energies, MDPI**, vol. 15, no. 19, article 7176, 2022, (*Impact Factor: 3.2*)
- [34] Pragnyashree Ray, Pravat Kumar Ray and Mousa Marzband “Reduced sensor based control of PV-DSTATCOM with switch current limiting scheme” **Energies, MDPI**, vol. 15, no. 22, article 8727, 2022, (*Impact Factor: 3.2*)
- [35] J. Sao, G. Panda, **Pravat Kumar Ray**, R.D. Patidar and S. D. Swain “Parameter optimization of PV integrated Shunt Active power filter with Taguchi SNR” **International Journal of Emerging Electric Power Systems**, DOI: 10.1515/ijeeps-2021-0427
- [36] P Shadangi, S D Swain, **Pravat Kumar Ray**, G Panda, “Experimental verification of DSTATCOM for various non-linear load” **International Journal of Emerging Electric Power Systems**, vol. 23, no. 5, 683- 690, 2022
- [37] Soumya Mishra, Santanu Kumar Dash, **Pravat Kumar Ray** and Pratap Sekhar Puhan “Analysis and Experimental Evaluation of Novel Hybrid Fuzzy based Sliding Mode Control strategy for performance enhancement of PV fed DSTATCOM” **International Transactions on Electrical Energy Systems, Wiley**, vol. 31, no. 10, 2021 (*Impact Factor: 2.639*)

- [38] Maheswar Prasad Behera and **Pravat Kumar Ray**, “Reactive power and harmonic compensation in a grid connected photovoltaic system using fuzzy logic controller” **International Journal of Emerging Electric Power Systems**, vol. 22, no. 2, pp. 161-175, 2021
- [39] Pratap Sekhar Puhan, **Pravat Kumar Ray**, Srikinta Pottapinjara “Performance analysis of shunt active filter for harmonic compensation under various non-linear loads” **International Journal of Emerging Electric Power Systems**, vol. 22, no. 1, pp. 21-29, 2021
- [40] **Pravat Kumar Ray**, Santanu Kumar Dash, Bidyadhar Subudhi and Suratsavadee K. Korkua “Mitigation of Power Quality Issues using UPQC” **International Journal of Emerging Electric Power Systems**, vol. 21, no. 5, 2020
- [41] Santanu Kumar Dash and **Pravat Kumar Ray** “Photovoltaic tied unified power quality conditioner topology based on a novel notch filter utilized control algorithm for power quality improvement” **Transactions of the Institute of Measurement and Control, SAGE**, vol. 41, no. 7, pp. 1912-1922, 2019, (*Impact Factor: 1.8*)
- [42] Santanu Kumar Dash and **Pravat Kumar Ray** “Performance enhancement of PV fed Unified Power Quality Conditioner for power quality improvement Using Jaya Optimized Control Philosophy” **Arabian Journal for Science and Engineering, Springer**, vol. 44, no. 9, pp. 2115-2129, 2019, DOI: 10.1007/s13369-018-3313-0 (*Impact Factor: 2.9*)
- [43] Maheswar Prasad Behera and **Pravat Kumar Ray** “Three-Phase Grid Connected Bi-Directional Charging System to Control Active and Reactive Power with Harmonic Compensation” **International Journal of Emerging Electric Power Systems**, vol. 20, no. 2, 2019, DOI: 10.1515/ijeeps-2018-0259
- [44] **Pravat Kumar Ray** and Nikhil Sai Rama Valiveti “A Real Time Price-Based Demand-Response Algorithm for Smart Grids” **International Journal of Emerging Electric Power Systems**, DOI: 10.1515/ijeeps-2019-0045
- [45] Santanu Kumar Dash and **Pravat Kumar Ray** “Design and Modeling of Single-Phase PV-UPQC scheme for Power Quality Improvement utilizing a novel notch filter-based control algorithm: An experimental approach” **Arabian Journal for Science and Engineering, Springer**, vol. 43, no. 6, pp. 3083-3102, 2018 (*Impact Factor: 2.9*)

- [46] Aurobinda Bag, Bidyadhar Subudhi and **Pravat Kumar Ray** “Comparative Analysis of Sliding Mode Controller and Hysteresis Controller for Active Power Filtering in a Grid connected PV System” **International Journal of Emerging Electric Power Systems**, vol. 19, no. 1, 2018, DOI: 10.1515/ijeeps-2017-0044
- [47] Santanu Kumar Dash and **Pravat Kumar Ray** "Novel PV tied UPQC topology based on a new Model Reference control scheme and Integral plus Sliding Mode dc-link controller" **International Transactions on Electrical Energy Systems, Wiley**, vol. 28, no. 7, 2018, DOI: 10.1002/etep.2564, (*Impact Factor: 2.639*)
- [48] Pratap Sekhar Puhan, **Pravat Kumar Ray** and Gayadhar Panda “A Comarative Analysis of Artificial Neural Network and Synchronous detection Controller to improve power quality in Single Phase System” **Int. J. Power Electronics, Inderscience**, vol. 9, no.4. pp. 385-401, 2018
- [49] Pradipta Kumar Sahoo, **Pravat Kumar Ray** and Pranati Das “A sliding mode observer design for single phase photovoltaic grid integration” **International Journal of Smart Grid and Green Communication, Inderscience**, vol. 1, No. 3, pp. 235-252, 2018
- [50] Pradipta Kumar Sahoo, **Pravat Kumar Ray** and Pranati Das “Active and Reactive power control of Three phase grid connected PV System” **International Journal of Smart Grid and Green Communication, Inderscience**, vol. 1, no. 4, pp. 275-291, 2018
- [51] Snehaprava Swain and **Pravat Kumar Ray** “Short Circuit fault analysis in a grid connected DFIG based Wind Energy System with active Crow-bar protection Circuit for ride-through capability and power quality improvement” **International Journal of Electrical Power and Energy System, Elsevier**, vol. 84, pp. 64-75, 2017 (*Impact Factor: 5.2*)
- [52] Pradipta Kumar Sahoo, **Pravat Kumar Ray** and Pranati Das “Power Quality Improvement of Single-Phase Grid Connected Photovoltaic System” **International Journal of Emerging Electric Power Systems**, vol. 18, no. 1, 2017, DOI: 10.1515/ijeeps-2016-0097
- [53] Santanu Kumar Dash and **Pravat Kumar Ray** “Platform Specific FPGA Based Hybrid Active Power Filter for Power Quality Enhancement” **International Journal of Emerging Electric Power Systems**, Vol. 18, no. 1, 2017, DOI: 10.1515/ijeeps-2016-0143
- [54] **Pravat Kumar Ray**, Pratap Sekhar Puhan and Gayadhar Panda “Real time harmonics estimation of distorted power system signal” **International**

Journal of Electrical Power and Energy System, Elsevier, vol. 75, pp. 91-98, 2016 (*Impact Factor: 5.2*)

- [55] Soumya Mishra and **Pravat Kumar Ray** “Nonlinear Modeling and Control of a Photovoltaic fed Improved Hybrid DSTATCOM for Power Quality Improvement” **International Journal of Electrical Power and Energy System, Elsevier**, Vol. 75, pp. 245 – 254, 2016 (*Impact Factor: 5.2*)
- [56] Soumya Ranjan Mohapatra, **Pravat Kumar Ray** and Gooi Hoay Beng “A partial feedback linearization-based control design and simulation for three phase shunt active power filter” **Measurement, Elsevier**, Vol. 91, pp. 288-294, 2016 (*Impact Factor: 5.6*)
- [57] M. P. Behera and **Pravat Kumar Ray** “Three-phase series-connected photovoltaic generator for harmonic and reactive power compensation with battery energy storage device” **Transactions of the Institute of Measurement and Control, SAGE**, Vol. 39, no. 7, pp. 1071-1080, 2017 (*Impact Factor: 1.8*)
- [58] Pratap Sekhar Puan, **Pravat Kumar Ray** and Gayadhar Panda “Development of Real Time Implementation of 5/5 Rule based Fuzzy Logic Controller Shunt Active Power Filter for Power Quality Improvement” **International Journal of Emerging Electric Power Systems**, vol. 17, no. 6, pp. 609 – 618, 2016
- [59] Snehaprava Swain and **Pravat Kumar Ray** “Fault Analysis in a Grid Integrated DFIG Based Wind Energy System with NA CB_P Circuit for Ride through Capability and Power Quality Improvement” **International Journal of Emerging Electric Power Systems**, vol. 17, no. 6, pp. 619 – 630, 2016
- [60] Santanu Kumar Dash and **Pravat Kumar Ray** “Design and Analysis of grid connected Photo-voltaic fed Unified Power Quality Conditioner” **International Journal of Emerging Electric Power Systems**, vol. 17, no. 3, pp. 301-310, 2016
- [61] Sushree Diptimayee Swain, **Pravat Kumar Ray** and Kanungo Barada Mohanty “Design of Passive Power Filter for Hybrid Series Active Power Filter using Estimation, Detection and Classification method” **International Journal of Emerging Electric Power Systems**, vol. 17, no. 3, pp. 363-376, 2016
- [62] Sushree Diptimayee Swain and **Pravat Kumar Ray** “Harmonic current and voltage compensation using HSAPF based on hybrid control approach for synchronous reference frame method” **International Journal of Electrical Power and Energy System, Elsevier**, vol. 75, pp. 83-90, 2016 (*Impact Factor: 5.2*)

- [63] Santanu Kumar Dash, Gayadhar Panda, **Pravat Kumar Ray** and Sashank Sekhar Pujari “Realization of active power filter based on indirect current control algorithm using Xilinx system generator for harmonic elimination” **International Journal of Electrical Power and Energy System, Elsevier**, vol. 74, pp. 420-428, 2016 (*Impact Factor: 5.2*)
- [64] **Pravat Kumar Ray**, Pratap Sekhar Puhan and Gayadhar Panda, “Improved Recursive Newton Type Algorithm based Power System Frequency Estimation” **International Journal of Electrical Power and Energy System, Elsevier**, vol. 65, pp. 231-237, 2015 (*Impact Factor: 5.2*)
- [65] Soumya Mishra and **Pravat Kumar Ray** “Improvement of power quality using photovoltaic fed shunt power quality conditioner” **Int. J. Power Electronics, Inderscience**, vol. 7, nos. 3/4, 2015
- [66] **Pravat Kumar Ray** and Bidyadhar Subudhi “Neuro-Evolutionary Approaches to Power System Harmonics Estimation” **International Journal of Electrical Power and Energy System, Elsevier**, vol. 64, pp. 212-220, 2015 (*Impact Factor: 5.2*)
- [67] Priyabrat Garanayak, Gayadhar Panda and **Pravat Kumar Ray** “Harmonic Estimation Using RLS Algorithm and Elimination with Improved Current Control Technique Based SAPF in a Distribution Network” **International Journal of Electrical Power and Energy System, Elsevier**, vol. 73, pp. 209-217, 2015 (*Impact Factor: 5.2*)
- [68] P. S. Puhan, **Pravat Kumar Ray** and Gayadhar Panda “A comparative analysis of shunt active power filter and hybrid active power filter with different control techniques applied for harmonic elimination in a single phase system” **International Journal of Modeling, Identification and Control, Inderscience**, vol. 24, no. 1, pp. 19-28, 2015
- [69] Gayadhar Panda, **Pravat Kumar Ray** and P. S. Puhan “**Harmonic Estimation of Distorted Power System Signals Employing Two Hybrid Strategies**” **International Journal of Modeling, Identification and Control, Inderscience**, vol. 22, no. 1, 2014
- [70] Gayadhar Panda, **Pravat Kumar Ray**, P. S. Puhan and Santanu Dash “Novel schemes used for estimation of power system harmonics and their elimination in a three-phase distribution system” **International Journal of Electrical Power and Energy System, Elsevier**, vol. 53, pp.842-856, 2013 (*Impact Factor: 5.2*)
- [71] **P. K. Ray** and Gayadhar Panda “Harmonics Estimation using KF-Adaline Algorithm and Elimination with Hybrid Active Power Filter in Distorted Power System signals” **International Journal of Modeling, Identification and Control, Inderscience**, vol. 16, No.2, pp. 149-158, 2012

- [72] B. Subudhi, **P.K. Ray**, A.M.Panda, and S.R.Mohanty, “A Comparative Study on different power system frequency estimation Techniques” **Intl. Journal of Automation and Control, Inderscience**, vol.3, no. 2/3, 2009
- [73] B. Subudhi, **P. K. Ray** and A.M.Panda, “A Comparative study on Estimation Techniques with application to power signal frequency” **Archives of Control Sciences**, vol. 18, no.1, pp. 89-97, 2008 (*Impact Factor: 1.443*)

b) Conference (International) Publications

- [1] **Pravat Kumar Ray**, Shobhit Nandkeolyar, Pratap Sekhar Puhan, Gayadhar Panda and Rajat Panda “Smart Control Strategy for a DC Microgrid” IEEE Sponsored 5th International Conference on Energy, Power and Environment: Towards Clean Energy Technologies (**ICEPE 2023**), Meghalaya, India, 15-17th June 2023
- [2] Chinmaya Jagdev Jena, **Pravat Kumar Ray**, Shobhit Nandkeolyar and Gayadhar Panda “Model Predictive Control of Islanded DC Microgrid with SOC-based Power Sharing” IEEE Sponsored 5th International Conference on Energy, Power and Environment: Towards Clean Energy Technologies (**ICEPE 2023**), Meghalaya, India, 15-17th June 2023
- [3] Anindya Bharatee, Pilla Sai Abhishek and **Pravat Kumar Ray** “Design of a PV-Integrated EV Charging Station with Power Management Schemes” IEEE Sponsored 5th International Conference on Energy, Power and Environment: Towards Clean Energy Technologies (**ICEPE 2023**), Meghalaya, India, 15-17th June 2023, (**Best paper award**).
- [4] Pragnyashree Ray, M. L.Tharuth Kavinda Liyanage, **Pravat Kumar Ray** and Pratap Sekhar Puhan “Grid Following and Grid Forming Control Modes of DER Fed VSI with Transition of Operational Modes for Microgrid with Critical Load” IEEE Sponsored 5th International Conference on Energy, Power and Environment: Towards Clean Energy Technologies (**ICEPE 2023**), Meghalaya, India, 15-17th June 2023, (**Best paper award**).
- [5] Suchismita Patel, Arnab Gosh and **Pravat Kumar Ray** “Fuzzy Logic Control Based Energy Management in Hybrid Microgrid System” IEEE Sponsored 5th International Conference on Energy, Power and Environment: Towards Clean Energy Technologies (**ICEPE 2023**), Meghalaya, India, 15-17th June 2023
- [6] Anindya Bharatee, **Pravat Kumar Ray**, Arnab Ghosh and Gayadhar Panda “Implementation of Composite Storage System in a PV-Integrated DC Microgrid for Active Power Sharing” IEEE IAS Global Conference on Renewable Energy and Hydrogen Technologies (**GlobConHT**), Male City (Maldives), 11-12 March, 2023
- [7] Vikash Gurugubelli, Arnab Ghosh, Anup Kumar Panda, **Pravat Kumar Ray** and Indrajit Sarkar “Synchronization of Single-Phase Inverters using Deadzone and Hopf Oscillator based Controllers in Standalone Microgrid”

- IEEE IAS Global Conference on Renewable Energy and Hydrogen Technologies (**GlobConHT**), Male City (Maldives), 11-12 March, 2023
- [8] Anindya Bharatee, **Pravat Kumar Ray** and Pratap Sekhar Puhan “Power Management in a PV Integrated Electric Vehicle Charging System” IEEE Global Conference on Computing, Power and Communication Technologies (**GlobConPT**), New Delhi, India, 23-25 September, 2022
- [9] Pragnyashree Ray, **Pravat Kumar Ray**, Bhanu Pratap Behera and Naresh Singh “Noise Detection Based Adaptive Control of Dual Staged Grid Interfaced PV System” IEEE Global Conference on Computing, Power and Communication Technologies (**GlobConPT**), New Delhi, India, 23-25 September, 2022
- [10] **Pravat Kumar Ray**, Shobhit Nandkeolyar, Ganji Shashank and I.N.W Satiawan “Development of Dynamic Pricing Algorithm in a Smart Grid” Mandalika International Multi-conference on Science and Engineering (MIMSE), Lombok, Indonesia, 14 -15, September, 2022
- [11] **Pravat Kumar Ray**, Anindya Bharatee, Pratap Sekhar Puhan and Sourav Sahoo “Solar Irradiance forecasting using an Artificial Intelligence model” IEEE International Conference on Intelligent Controller and Computing for Smart Power (**ICICCSP-2022**), Hyderabad, India, 21st – 23rd July, 2022
- [12] Kamireddy Rahul Reddy and **Pravat Kumar Ray** “Solar Irradiance Forecasting using FFNN with MIG Feature Selection Technique” IEEE International Conference on Intelligent Controller and Computing for Smart Power (**ICICCSP-2022**), Hyderabad, India, 21st – 23rd July, 2022
- [13] Lakavath Tejaswini, **Pravat Kumar Ray** and Anindya Bharatee “Energy Management of a DC Microgrid for its Voltage and SOC Regulation” IEEE International Conference on Intelligent Controller and Computing for Smart Power (**ICICCSP-2022**), Hyderabad, India, 21st – 23rd July, 2022
- [14] Shreyank Dutt Dwibedi and **Pravat Kumar Ray** “Energy Management and control of Grid-connected Microgrid integrated with HESS” IEEE International Conference on Intelligent Controller and Computing for Smart Power (**ICICCSP-2022**), Hyderabad, India, 21st – 23rd July, 2022
- [15] Suchismita Patel, Arnab Gosh and **Pravat Kumar Ray** “Adaptive power management in PV/Battery integrated hybrid micro grid system” IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (**PESGRE 2022**), Trivandrum, Kerala, India, 02 – 05th January 2022
- [16] **Pravat Kumar Ray**, Anindya Bharatee, Samarpita Panda, I Nyoman Wahyu Satiawan “Modeling and Power Management of Electric Vehicle Charging System” IEEE International Conference on Smart-Green Technology in Electrical and Information Systems (**ICSGTEIS 2021**), Bali, Indonesia, 28-30 October 2021.

- [17] INW Satiawan, IBF Citarsa, IMB Suksmadana, **Pravat Kumar Ray** “Carrier Based PWM Methods of Dual Cascaded Inverter for Solar Power Plant Solid State Transformer” IEEE International Conference on Smart-Green Technology in Electrical and Information Systems (**ICSGTEIS 2021**), Bali, Indonesia, 28-30 October 2021.
- [18] **Pravat Kumar Ray**, A Bartwal, PS Puhan “Intelligent Load Frequency Control of an Isolated Microgrid” IEEE International Symposium on Intelligent Robotics & Industrial Automation (**IRIA2021**), IIT Goa, India, 20-22 Sept. 2021.
- [19] **Pravat Kumar Ray**, PS Puhan, B Behera “Development of Controllers for Active Power Sharing in a Microgrid” IEEE International Symposium on Intelligent Robotics & Industrial Automation (**IRIA2021**), IIT Goa, India, 20-22 Sept. 2021, (**Best paper award**).
- [20] M Bhunia, B Subudhi, **Pravat Kumar Ray** “Self-tuned Adaptation Rate Lyapunov based Voltage Controller for a Grid Connected PV System” IEEE International Symposium on Intelligent Robotics & Industrial Automation (**IRIA2021**), IIT Goa, India, 20-22 Sept. 2021 (**Best paper award**).
- [21] A Parida, B Subudhi, **Pravat Kumar Ray** “A Sigmoid Least Mean Fourth based Control Scheme for a Single-Stage Grid-Tied PV System” IEEE International Symposium on Intelligent Robotics & Industrial Automation (**IRIA2021**), IIT Goa, India, 20-22 Sept. 2021.
- [22] Harshita Tiwari, Arnab Ghosh, **Pravat Kumar Ray**, Bidyadhar Subudhi, Ghanim Putrus and Mousa Marzband, “Direct Power Control of a Three-phase AC-DC Converter for Grid-connected Solar Photovoltaic System” IEEE International Symposium on Intelligent Robotics & Industrial Automation (**IRIA2021**), IIT Goa, India, 20-22 Sept. 2021, (**Best paper award**).
- [23] Rajendra Prasad Upputuri, Bidyadhar Subudhi, **Pravat Kumar Ray**, Arnab Ghosh, Ghanim Putrus and Mousa Marzband “Design and Dynamic Performance Analysis of a Snubber-less LLC Converter Using Variable Frequency Control for Electric Vehicle Industry”, IEEE International Symposium on Intelligent Robotics & Industrial Automation (**IRIA2021**), IIT Goa, India, 20-22 Sept. 2021.
- [24] Zunaib Ali, Ghanim Putrus, Mousa Marzband, Mahsa Bagheri Tookanlou, Komal Saleem, **Pravat Kumar Ray**, Bidyadhar Subudhi, “Online Sensorless Solar Forecasting for Microgrid Control and Automation”, IEEE International Symposium on Intelligent Robotics & Industrial Automation (**IRIA2021**), IIT Goa, India, 20-22 Sept. 2021.
- [25] Z Ali, G Putrus, M Marzband, MB Tookanlou, K Saleem, **Pravat Kumar Ray**, B Subudhi “Heuristic Multi-Agent Control for Energy Management of Microgrids with Distributed Energy Sources” 56th International Universities Power Engineering Conference (UPEC), 7-10 Sept., 2021

- [26] Pragnyashree Ray and **Pravat Kumar Ray** “Design and Control of PV-UPQC Using Variable Leaky LMS Based Algorithm for Power Quality Enhancement” IEEE Sponsored 3rd International Conference on Energy, Power and Environment: Towards Clean Energy Technologies (**ICEPE 2020**), Meghalaya, India, 05-07th March 2021, (**Best paper award**).
- [27] **Pravat Kumar Ray**, Pratap Sekhar Puhan and Priyanka Priyadarshini “Automatic Load Frequency Control of Distributed Generations in a Microgrid” IEEE Sponsored 3rd International Conference on Energy, Power and Environment: Towards Clean Energy Technologies (**ICEPE 2020**), Meghalaya, India, 05-07th March 2021
- [28] Maheswar Prasad Behera, Omkar Tripathy and **Pravat Kumar Ray** “UPQC based grid-connected photovoltaic system with Fuzzy Logic Controller” IEEE Sponsored 3rd International Conference on Energy, Power and Environment: Towards Clean Energy Technologies (**ICEPE 2020**), Meghalaya, India, 05-07th March 2021
- [29] Pushpanjali Sadangi, Sushree Diptimayee Swain and **Pravat Kumar Ray** “Experimental realisation of DSTATCOM for Power Quality Enhancement Under Various Load Perturbations” IEEE Sponsored 3rd International Conference on Energy, Power and Environment: Towards Clean Energy Technologies (**ICEPE 2020**), Meghalaya, India, 05-07th March 2021
- [30] P. R. Bana, K. P. Panda, **Pravat Kumar Ray**, R. T. Naayagi and G. Panda “A Novel Nine-Level Boost Type Multilevel Inverter With Inductive Ability for Photovoltaic System” **IEEE IAS General meeting**, Detroit, USA, 10th-16th October, 2020
- [31] Malay Bhunia, Bidyadhar Subudhi and **Pravat Kumar Ray** “An Adaptive PV Voltage Controller for a Grid Connected PV System” Michael Faraday IET International Summit 2020 (**MFIS 2020**), Kolkata, West Bengal, India, 03-04 Oct. 2020
- [32] Santanu Kumar Dash, **Pravat Kumar Ray**, Suratsavadee K. Korkua, Soumya Mishra and Pratap Sekhar Puhan “Development of PV tied UPQC using PSO based PI tuning Controller based on SOI-QSG PLL” IEEE International Conference on Smart Technologies for Power, Energy and Control (**STPEC 2020**), VNIT, Nagpur, India, 25th -26th September, 2020
- [33] **Pravat Kumar Ray** and Chinmaya Jagdev Jena, Security-Constrained Unit Commitment for Demand Response Provider-A Stochastic Approach, IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (**PESGRE2020**), Cochin, Kerala, India, 02-04 January 2020
- [34] **Pravat Kumar Ray**, Shobhit Nandkeolyar, Chee Shen Lim and I N W Satiawan, Demand Response Management using Non-Dominated Sorting Genetic Algorithm II, IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (**PESGRE2020**), Cochin, Kerala, India, 02-04 January 2020

- [35] Suchismita Patel, Arnab Ghosh and **Pravat Kumar Ray**, Design of Fractional Order Controller Integrated with Renewable Resource in Multi Area Islanded Microgrid, IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (**PESGRE2020**), Cochin, Kerala, India, 02-04 January 2020
- [36] Yi Chyn Cassandra Wong, Chee Shen Lim, Andrew J. Cruden, Mihai D. Rotaru and **Pravat Kumar Ray**, A Consensus-based Adaptive Virtual Output Impedance Control Scheme for Reactive Power Sharing for Meshed Microgrids, IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (**PESGRE2020**), Cochin, Kerala, India, 02-04 January 2020
- [37] **Pravat Kumar Ray**, Shobhit Nandkeolyar, Bidyadhar Subudhi and Suratsavadee K. Korkua, Multi-Objective Optimization for Demand Response Management, IEEE International Conference on Information Technology (**ICIT 2019**), Bhubaneswar, India, pp. 121 – 126, 19 – 21 December, 2019
- [38] **Pravat Kumar Ray**, Chinmaya Jagdev Jena, Bidyadhar Subudhi and Suratsavadee K Korkua, Scheduling Generation and Reserve by Lagrangian Relaxation Unit Commitment Considering Demand Response Provider, IEEE International Conference on Information Technology (**ICIT 2019**), Bhubaneswar, India, pp. 127 – 132, 19 – 21 December, 2019
- [39] Shobhit Nandkeolyar and **Pravat Kumar Ray**, Enhancement of Power Flow and Frequency Response Using Droop-Controlled Inverters in Microgrid Operation, IEEE International Conference on Information Technology (**ICIT 2019**), Bhubaneswar, India, pp. 99 – 102, 19 – 21 December, 2019
- [40] Debashish Mohapatra, Bidyadhar Subudhi, **Pravat Kumar Ray** and Subhransu Padhee, Real-Time Data Acquisition, Measurement and Monitoring Module for Electric Power Network, IEEE International Conference on Information Technology (**ICIT 2019**), Bhubaneswar, India, pp. 76 – 81, 19 – 21 December, 2019
- [41] Shyama Sundar Padhi, PB Krishna, **Pravat Kumar Ray** and Sanjeeb Mohanty, A Low Voltage Ride Enhancement Technique for Wind Energy System, IEEE National Power Electronics Conference (**NPEC 2019**), Tiruchirappalli, India, 13 -15 December, 2019
- [42] Santanu Kumar Dash and **Pravat Kumar Ray**, Investigation on the Performance of PV-UPQC under distorted current and voltage conditions, **IEEE 5th International Conference on Renewable Energy: Generation and Applications (ICREGA 2018)**, UAE, 26 - 28 February, 2018.
- [43] Soumya Mishra, **Pravat Kumar Ray** and Asini Kumar Baliarsingh, A Modified Indirect Current Control Algorithm for Power Quality Improvement Using a New Hybrid PV-DSTATCOM, IEEE International Conference on

Recent Innovations in Electrical, Electronics & Communication Engineering (**ICRIEECE 2018**), Bhubaneswar, India, 27 – 28 July, 2018

- [44] **Pravat Kumar Ray**, Soumya Mishra, Gooi Hoay Beng and Sathish Kumar Kollimalla, Improvement of Power Quality using an Average Model of a New Hybrid PV-DSTATCOM, **IEEE ICIT 2017, March 22-25, Toronto, Canada**
- [45] Pratap Sekhar Puan, **Pravat Kumar Ray** and Gayadhar Panda, Performance Improvement of Shunt Active Power Filter with combined control technique, **IEEE ICEI-2017, Feb. 3-5, Pune, India**
- [46] Maheswar Prasad Behera, **Pravat Kumar Ray** and Gooi Hoay Beng, Three-phase shunt connected photovoltaic generator for harmonic and reactive power compensation with battery energy storage device, **IEEE IECON 2016, Oct. 24-27, Florence, Italy**
- [47] Soumya Ranjan Mohapatra, **Pravat Kumar Ray** and Gooi Hoay Beng, A Partial Feedback Linearization based Approach to Shunt Active Power Filter Design, **IEEE TENCON 2016, Nov. 22-25, Singapore**
- [48] Maheswar Prasad Behera and **Pravat Kumar Ray** and Gooi Hoay Beng, Single-phase grid-tied photovoltaic inverter to control active and reactive power with battery energy storage device, **IEEE TENCON 2016, Nov. 22-25, Singapore**
- [49] Santanu Kumar Dash, **Pravat Kumar Ray** and Gayadhar Panda, DS1103 Real-time Operation and Control of Photovoltaic fed Unified Power Quality Conditioner, **IEEE TENCON 2016, Nov. 22-25, Singapore**
- [50] Snehaprava Swain and **Pravat Kumar Ray**, Fault Ridethrough and Power Quality Improvement of Doubly-Fed Induction Generator based Wind Turbine System During Grid Fault with Novel Active Crowbar Protection Design, **IEEE TENCON 2016, Nov. 22-25, Singapore**
- [51] Santanu Kumar Dash, Soumya Mishra and **Pravat Kumar Ray**, Photovoltaic tied unified power quality conditioner for mitigation of voltage distortions, IEEE International Conference on Computer, Electrical & Communication Engineering (**ICCECE 2016**), Kolkata, India, 16 – 17 December, 2016
- [52] Soumya Mishra, Santanu Kumar Dash and **Pravat Kumar Ray**, Performance Analysis of L-type PV-DSTATCOM under Ideal and Distorted Supply Voltage, **IEEE TechSym 2016, 30 September- 02 October, Kharagpur, India**
- [53] Satyajit Mohanty, Bidyadhar Subudhi and **Pravat Kumar Ray**, A Grey Wolf Optimization Based MPPT for PV System under Changing Insolation level, **IEEE TechSym 2016, 30 September- 02 October, Kharagpur, India**
- [54] **Pravat Kumar Ray**, Santanu Kumar Dash, Soumya Mishra and Gooi Hoay Beng, UPQC-PV Solving Power Quality Issues based on System Generator FPGA controller, **IEEE, ICPEICES, 4th-6th July 2016, New Delhi**

- [55] Soumya Mishra, **Pravat Kumar Ray** and Santanu Kumar Dash, A TLBO Optimized Photovoltaic Fed DSTATCOM For Power Quality Improvement, **IEEE, ICPEICES , 4th-6th July 2016, New Delhi**
- [56] Sushree Diptimayee Swain, **Pravat Kumar Ray** and Kanungo Barada Mohanty, A real time study of hybrid series active filter for power quality improvement, **IEEE, ICPEICES , 4th-6th July 2016, New Delhi**
- [57] S. Swain, **P.K.Ray**, Ride Through Capability Improvement of a Grid Integrated DFIG based Wind Turbine System using a New Protection Design, in **6th IEEE International Conference on Power Systems (ICPS 2016)**, Indian Institute of Technology Delhi and India Habitat Centre, New Delhi, India, 4th – 6th March 2016
- [58] S. Swain, **P.K. Ray**, New Control Strategy with CB-P for Improved FRT Capability of Grid-Integrated DFIG based Wind Energy System, in **3rd International Conference on Electrical Energy Systems (ICEES-2016)**, SSN College of Engineering, Chennai, India, 17th -19th March 2016.
- [59] A.Bag, B.Subudhi, and **P.K.Ray**, Grid Integration of PV System with Active Power Filtering, **2nd International Conference on Control, Instrumentation, Energy and Communication (CIEC-2016)**, Kolkata, India, 28th – 30th January 2016
- [60] Maheswar Prasad Behera and **Pravat Kumar Ray**, Single phase Grid Integrated photovoltaic Inverter for Harmonic and Reactive power components, **IEEE INDICON, Dec. 17-20, 2015, New Delhi, India**
- [61] Sushree Diptimayee Swain, **Pravat Kumar Ray** and Kanungo Barada Mohanty, Space vector modulated Hybrid Series Active Filter for Harmonic Compensation, **IEEE INDICON, Dec. 17-20, 2015, New Delhi, India**
- [62] Soumya Mishra and **Pravat Kumar Ray**, Power Quality Improvement with shunt active filter under various mains voltage using Teaching Learning based optimization, **2nd IEEE International Conference on Recent Advances in Engineering and Computational Sciences (RAECS), Dec. 21-22, 2015, Punjab, India**
- [63] **Pravat Kumar Ray**, Gayadhar Panda and Sourav Bengani, Estimation of Power System Frequency using a Modified Non-Linear Least Square Technique, **IEEE PES General Meeting, July 26-30, 2015, Denver, Colorado, USA**
- [64] Santanu Dash, **Pravat Kumar Ray** and Gayadhar Panda, Estimation and Mitigation of Current Harmonics using Improved control schemes, **IEEE International Conference on Energy, Power and Environment (ICEPE), 2015, Shilong, 12-13 June 2015**

- [65] Priyabrata Garanayak, Gayadhar Panda and **Pravat Kumar Ray**, Power System Harmonic Parameters Estimation using ADALINE-VLLMS Algorithm, **IEEE International Conference on Energy, Power and Environment (ICEPE), 2015, Shilong, 12-13 June 2015**
- [66] Rosy Pradhan, **Pravat Kumar Ray**, Experimental Analysis for online estimation of Power System Parameters, **IEEE International Conference on Energy, Power and Environment (ICEPE), 2015, Shilong, 12-13 June 2015**
- [67] Soumya Ranajn Mohapatra and **Pravat Kumar Ray**, A Fixed Switching Frequency Adaptive Sliding Mode Controller for Shunt Active Power Filter System, **IEEE Conference TENCON 2014, Bangkok, Thailand, Oct. 22-25, 2014**
- [68] **Pravat Kumar Ray**, Gayadhar Panda and Pratap Sekhar Puan, Fuzzy Logic based intelligent Shunt hybrid filter Applied to Single phase system, **IEEE Conference INDICON 2013, IIT Bombay, Dec. 13-15, 2013**
- [69] S.D. Swain, **P.K.Ray** and K.B.Mohanty, Voltage Compensation and Stability Analysis of Hybrid Series Active Filter for Harmonic Components, **IEEE Conference INDICON 2013, , IIT Bombay, Dec. 13-15, 2013**
- [70] **P. K. Ray** and B. Subudhi, A VLLMS based Harmonic Estimation of Distorted Power System Signals and Hybrid Active Power Filter Design, **IEEE Conference PEDS 2013 , 22nd-25th April,2013, Kitakyushu, Japan**
- [71] R. Pradhan, B. Subudhi and **P. K. Ray**, A Real-time Linearized Maximum Power Point Tracker for Photovoltaic System, **IEEE Conference PEDS 2013, 22nd-25th April, 2013, Kitakyushu, Japan**
- [72] G. Panda, S. K. Dash, **P. K. Ray** and P. S. Puan, Performance Improvement of Hysteresis Current Controller Based Three-Phase Shunt Active Power Filter for Harmonics Elimination in a Distribution System, **International Conf. ICAC3-2013, 18-19 Jan. 2013, Mumbai**
- [73] B. Subudhi and P. K. Ray, A Hybrid Adaline Bacterial Foraging Approach for Power System Harmonics Estimation, **IEEE Sponsored International Conference on Industrial Electronics, Control and Robotics, Dec. 28-30, 2010, Rourkela**
- [74] B. Subudhi, **P.K.Ray**, & A.M.Panda, Estimation of Power System Harmonics using Hybrid RLS-Adaline and KF-Adaline Algorithms, **IEEE Conference, TENCON-09, 23rd-26th Nov. 2009, Singapore**
- [75] B.Subudhi and **P.K.Ray**, A Comparative Study on Estimation of Power System Harmonics, **7th International R & D Conference, , 4th-6th February 2009, Bhubaneswar**

- [76] B. Subudhi, **P.K.Ray**, S.R.Mohanty & A.M.Panda, Parameter Estimation Techniques applied to Power Networks, **IEEE Conference, TENCON-08, 18th-21st Nov. 2008, Hyderabad**
- [77] B. Subudhi, **P.K.Ray**, S.R.Mohanty & A.M.Panda, Estimation of Power System Parameters Using Extended Least Square Techniques, Proceeding of IEEE Sponsored Intl. Conference on Power System Analysis, Control and Optimization (**PSACO 2008**), pp.964 - 967, 13th-15th March 2008, **Andhra University, Visakhapatnam**

c) Conference (National) Publications

- [1] P.S.Puhan, **P.K.Ray**, G.Panda and S.Bhuyan, Fault Detection of Induction Motor With Back-Propagation and RBF Analysis, **National Conference on Recent advances in Modern Power Systems, 30th Dec-2012, VSSUT Burla**
- [2] P.S.Puhan, S.K.Dash G.Panda and **P.K.Ray**, A Comparative analysis between Hysteresis and Hysteresis-fuzzy Combined Control Technique applied to Single-Phase Shunt Active filter (SPSHPF) For Improvement Of Power quality, **National Conference on Recent advances in Modern Power Systems, 30th Dec-2012, VSSUT Burla**
- [3] G.Panda, P.S.Puhan, **P.K.Ray**, Performance Improvement Of Hybrid active Power filter in Three-phase system Using Fuzzy logic Controller, **Theme Meeting on Fuzzy and Interval based uncertainty Modeling” 18-20 July-2013, NIT Rourkela, BRNS and DAE Mumbai**
- [4] **P.K.Ray**, G.Panda, P.S.Puhan, Improved Recursive Newton type Algorithm based power system frequency estimation, **All India seminar on Recent Advances in Power, Energy and Control, 23-24 Nov. 2013, NIT Rourkela**
- [5] Sushmita Ekka and Pravat Kumar Ray “ Automatic Load Frequency Control of Multi Area Power System” **All India seminar on Recent Advances in Power, Energy and Control, 23-24 Nov. 2013, NIT Rourkela**
- [6] Satyajit Mohanty, Bidyadhar Subudhi and Pravat Kumar Ray “Modeling and Simulation of PV Module Using MATLAB” **All India seminar on Recent Advances in Power, Energy and Control, 23-24 Nov. 2013, NIT Rourkela**
- [7] Pradipta Sahoo, Pranati Das and **Pravat Kumar Ray** “MATLAB Based Solar Photovoltaic Cell Modelling and Analysis” **All India seminar on Recent Advances in Power, Energy and Control, 23-24 Nov. 2013, NIT Rourkela**
- [8] G.Panda, **P.K.Ray**, P.S.Puhan, Enhancement of power quality in three-phase system using active power filter with soft computing Tools, **All India seminar on Recent Advances in Power, Energy and Control, 23-24 Nov. 2013, NIT Rourkela**

- [9] Maheswar Prasad Behera and **Pravat Kumar Ray** “Modelling of Solar Photo-Voltaic Module using MATLAB/SIMULINK” **All India seminar on Recent Advances in Power, Energy and Control, 23-24 Nov. 2013, NIT Rourkela**
- [10] Soumya Ranjan Mohapatra and **Pravat Kumar Ray** “Design of an Analog Low Cost Current Mode Controller for Single Phase Active Power Filter” **All India seminar on Recent Advances in Power, Energy and Control, 23-24 Nov. 2013, NIT Rourkela**
- [11] Soumya Mishra and **Pravat Kumar Ray** “Power Quality Improvement Using IRP Based Three Phase Shunt Active Power Filter” **All India seminar on Recent Advances in Power, Energy and Control, 23-24 Nov. 2013, NIT Rourkela**
- [12] S.D.Swain, **P. K. Ray** and K. B. Mohanty, Harmonic compensation using Hybrid series active power filter, **All India seminar on Recent Advances in Power, Energy and Control, 23-24 Nov. 2013, NIT Rourkela**
- [13] S. Mohanty, B. Subudhi and **P. K Ray**, An Experimental Study on Effect of Shading Conditions in PV Power Generation, **All India seminar on Recent Advances in Power, Energy and Control (RAPEC- 2013), 23-24 November 2013, NIT Rourkela**
- [14] **P.K. Ray**, B. Subudhi and A.M. Panda, Hybrid Signal Processing and Soft Computing approaches to Power System Frequency Estimation, **Advances in Instrumentation Measurement & Automation, 23-24, February, 2011, DRIEMS Cuttack**
- [15] **P.K.Ray**, R. Mohanty, R. Patra and P. Mohanty, Estimation of Power System Harmonics Using Adaptive Linear Neural Network, **National Conference on Future Perspectives of Renewable Energy Sources, 12 Dec. 2009, KIIT University, Bhubaneswar**
- [16] B. Subudhi, **P.K.Ray**, S.R.Mohanty & A.M.Panda, Power System Control and Automation Using Different Parameter Estimation Techniques, Proceeding of **IEEE Sponsored Conference on Computational Intelligence, Control and Computer Vision in Robotics & Automation (CICCRA), pp.234-237 (10th-11th March) 2008, NIT, Rourkela**
- [17] B.Subudhi, **P.K.Ray**, S.R. Mohanty and A.M.Panda, Estimation of Power System Frequency Using RLS Technique, **Proc. Seminar, Energy Environment and Economics, 3-4, Nov 2007, Rourkela**

10. Book Chapters Publication

- [1] **Pravat Kumar Ray** and Hoay Beng Gooi “Short-term Solar Irradiance Forecasting using Ground-based Sky Images” *Microgrid Cyberphysical*

- System: Renewable Energies and Plug-in Vehicles Integration*, **Elsevier**, **2022**, pp. 67 – 88, DOI: 10.1016/B978-0-323-99910-6.00009-8
- [2] Jitendra Kumar Sao, **Pravat Kumar Ray**, R.D. Patidar and Sushree Diptimayee Swain “Adaptive Controller Based Shunt Active Power Filter For Power Quality Enhancement in Grid Integrated PV Systems” *Microgrid Cyberphysical System: Renewable Energies and Plug-in Vehicles Integration*, **Elsevier**, **2022**, pp. 203 – 232, DOI: 10.1016/B978-0-323-99910-6.00010-4
- [3] **Pravat Kumar Ray**, Shobhit Nandkeolyar and Nikhil Sai Rama Valiveti “Demand Response Management in a Smart Grid with Multiple Users and Utility Companies” *Sustainable Energy and Technological Advancements*, Advances in Sustainability Science and Technology, **Springer Nature Singapore Pte Ltd. 2022**, ISBN 978-981-16-9032-7, DOI: 10.1007/978-981-16-9033-4_26
- [4] Shobhit Nandkeolyar and **Pravat Kumar Ray** “Multi-area Load Frequency Control Using a Novel PID-Based Sliding Mode Controller” *Sustainable Energy and Technological Advancements*, Advances in Sustainability Science and Technology, **Springer Nature Singapore Pte Ltd. 2022**, ISBN 978-981-16-9032-7, DOI: 10.1007/978-981-16-9033-4_34
- [5] **Pravat Kumar Ray**, Pratap Sekhar Puhan, and Ashish Kumar “Control of Grid-Connected Photovoltaic System Using Enhanced PLL (EPLL) Technique” *Sustainable Energy and Technological Advancements*, Advances in Sustainability Science and Technology, **Springer Nature Singapore Pte Ltd. 2022**, ISBN 978-981-16-9032-7, DOI: 10.1007/978-981-16-9033-4_30
- [6] **Pravat Kumar Ray**, Pratap Sekhar Puhan, and Premananda Sahoo “Location Estimation of Grid Electric Vehicle Aggregator in the Grid System Using Optimization Technique” *Sustainable Energy and Technological Advancements*, Advances in Sustainability Science and Technology, **Springer Nature Singapore Pte Ltd. 2022**, ISBN 978-981-16-9032-7, DOI: 10.1007/978-981-16-9033-4_49
- [7] **Pravat Kumar Ray**, Pratap Sekhar Puhan, Arun K. Das, D. Pradhan, L.Meher “Comparative analysis of Different Control techniques implementation in UPQC for Power Quality Improvement” *Sustainable Energy and Technological Advancements*, Advances in Sustainability Science and Technology, **Springer Nature Singapore Pte Ltd. 2022**, ISBN 978-981-16-9032-7, DOI: 10.1007/978-981-16-9033-4_12
- [8] Pratap Sekhar Puhan and Pravat Kumar Ray “Power System Parameter Estimation Using Signal Processing Techniques” *Sustainable Energy and Technological Advancements*, Advances in Sustainability Science and Technology, **Springer Nature Singapore Pte Ltd. 2022**, ISBN 978-981-16-9032-7, DOI: 10.1007/978-981-16-9033-4_56

- [9] Pratap Sekhar Puhan, Santanu Kumar Dash, **Pravat Kumar Ray**, Gayadhar Panda, Manidra pothauri “Instantaneous reactive combined loss component power theory-based hybrid filter for power quality improvement in distribution system” *Sustainable Energy and Technological Advancements*, Advances in Sustainability Science and Technology, **Springer Nature Singapore Pte Ltd. 2022**, ISBN 978-981-16-9032-7, DOI: 10.1007/978-981-16-9033-4_15
- [10] **Pravat Kumar Ray** and Sushree Diptimayee Swain, Soft Computing Based DC-Link Voltage Control Technique for SAPF in Harmonic and Reactive Power Compensation, *Artificial Intelligence Applications in Electrical Transmission and Distribution Systems Protection*, **CRC Press, 2021**, eBook ISBN: 9780367552374, DOI: <https://doi.org/10.1201/9780367552374>
- [11] Pushpanjali Shadangi, Sushree Diptimayee Swain and **Pravat Kumar Ray**, Power Quality Improvement by Using PV Integrated DSTATCOM, Book chapter in *Linear and Nonlinear System Modelling*, **Wiley, Scrivener Publishing** (In press)
- [12] **Pravat Kumar Ray** and Sushmita Ekka, BFO optimized automatic load frequency control of a multi area power system, Book chapter in *Handbook of Research on Computational Intelligence Applications in Bioinformatics*, **IGI Global**, ISBN13: 9781522504276, DOI: 10.4018/978-1-5225-0427-6, 2016
- [13] G. Panda, S.K. Dash, **P. K. Ray** and P. S. Puhan, Performance improvement of Hysteresis current controller based three phase shunt active power filter for harmonics elimination in a distribution system, Book chapter in *Advances in Computing, Communication and Control*, **Springer Berlin Heidelberg 2013**, ISBN: 978-3-642-36320-7, vol. 361, pp. 682-692, 2013

11. Professional Activities / Assignments

i. Assignments abroad

- 21st - 26th April 2013, Kitakyushu, Japan, To present papers in IEEE Conference PEDS 2013
- 25th Nov. - 8 Dec. 2013, Queen Mary Univ. of London, UK, Research Exchange visit under DST-UKIERI Scheme
- 8th- 21st May 2014, Queen Mary Univ. of London, UK, Research Exchange visit under DST-UKIERI Scheme
- 21st - 26th October, 2014, Thailand, Bangkok, To chair a session and present a paper in IEEE Conference TENCON 2014

- 21st - 28th October 2016, Florence, Italy, To chair a session and present a paper in IEEE Conference IECON 2016
- 22nd - 25th November, 2016 Singapore, To chair a session and present two papers in IEEE Conference TENCON 2016
- 4th January, 2016 - 30th June 2017 , Nanyang Technological University, Singapore, Post-Doctoral Fellowship
- 26th - 28th February, 2018, Al Ain, UAE, To present papers in IEEE Conference ICREGA 2018
- 05th-12th October 2019, Univ. of Southampton, Malaysia, Research Exchange visit under DST (ASEAN-India) Scheme
- 03rd – 11th December 2019, University of Mataram, Indonesia, Research Exchange visit under DST (ASEAN-India) Scheme
- 19th – 26th December 2019, Walailak University, Thailand, Research Exchange visit under DST (Indo - Thailand) Scheme

ii. Editor of Books/Journals

- Editor of book entitled “**Microgrid Cyberphysical Systems Renewable Energy and Plug-in Vehicle Integration**”, Paperback ISBN: 9780323999106, Publisher: Elsevier, 2022
- Editor of book entitled “**Proceedings of First Mandalika International Multi-Conference on Science and Engineering (Mechanical and Electrical)**” ISBN: 9789464630787, Publisher: Atlantis Press, 2022
- Associate Editor, **IEEE CSEE Journal of Power and Energy System**
- Guest Editor of a special issue entitled “**Advances in Control of Photovoltaic and Microgrid Systems**”, Journal: Energies, Publisher: MDPI

iii. Reviewer of International Journals

- IEEE Transactions on Sustainable Energy
- IEEE Trans. on Instrumentation and Measurement
- IEEE Transactions on Power Delivery
- IEEE Transactions on Power Systems
- IEEE Transactions on Energy Conversion
- IEEE Transactions on Industrial Electronics
- IEEE Transactions on Industrial Informatics
- CSEE Journal of Power and Energy Systems
- IEEE Access
- Electrical Power and Energy System (Elsevier)
- International Journal of Emerging Electric Power Systems
- Electrical Power Component and Systems (Taylor's and Francis)

12. Invited Seminars delivered

- i. Sustainable Technologies and Energy Management of Hybrid Microgrid (STEMM – 2023), 12th July 2023, NIT Rourkela
- i. Latest Advances and Challenges in Power System (LACPS – 2023), 11th June 2023, NIT Rourkela, India
- ii. Building a Sustainable Tomorrow: The Role of Energy and Transportation in Green Future”, 23rd May 2023, VIT Vellore, India
- iii. Recent Trends in Microgrid: Advancements and Challenges, 20th May 2023, VIT Vellore, India
- iv. Condition Assessment of Power System Equipments, 12th April 2023, NIT Rourkela, India
- v. PQ improvement and power flow analysis in grid connected PV system, 15th March 2023, VIT Vellore, India
- vi. Recent advancement in Smart grid and Renewable Energy, 22 December, 2022, Dr. B. C. Roy Engg. College, Durgapur, India

- vii.** Performance Enhancement of Microgrid using Forecasting and Power Quality Improvement Methods, 15th November 2022, O P Jindal University, Raigarh, Chhattisgarh, India
- viii.** Power Quality Enhancement and Power Flow Control of a PV integrated UPQC system, 23rd July 2022, Plenary session talk, IEEE International Conference ICICCSP-2022 (July 21st -23rd), 2022, Hyderabad, India
- ix.** Development of Real-time Estimation and Filtering Algorithms with Applications to Distributed Generation, 23rd May 2022, DST-STUTI training program, NIT Rourkela
- x.** Development of Grid Integration Strategies for Photovoltaic System, 24th May 2022, DST-STUTI training program, NIT Rourkela
- xi.** Development of strategies for improving reliability and economic performance of a microgrid, 28th May 2022, DST-STUTI training program, NIT Rourkela
- xii.** Power Quality Improvement in a PV fed UPQC System, 15th November 2021, Northumbria University, Newcastle upon Tyne, UK
- xiii.** Emerging Trends in Smart Grid and Sustainable Energy Technology, 06th September 2021, NIT Meghalaya
- xiv.** Application of Artificial Intelligence (AI) in Electrical Engineering (EE) for The Performance Improvement of Various Sectors, 25th August 2021, MITS, Madanapalle, A.P., India
- xv.** Improving Reliability of Microgrid using Solar Irradiance Forecasting, 21st May 2021, Northumbria University, Newcastle upon Tyne, UK
- xvi.** Recent Trends in Power Electronics and Soft Computing 04th March 2021, Seemanta Engineering College, Mayurbhanja, India
- xvii.** Smart Micro Grid and its Future Trends, 19th Nov. 2020, Lendi Institute of Engineering & Technology, Vizianagaram, A.P., India
- xviii.** Power Electronic Applications for Smart Grid, Electric Vehicles and Renewable Energy, 18th November 2020, JSS Academy of Technical Education, Noida, India

- xix.** Advanced Control and Wireless Sensors for Smart Distribution Network with Renewable Energy Integration, 11th November 2020, NIT Meghalaya, India
- xx.** Power Electronics and Renewable Energy Integration in Smart Grid, Electric Vehicle, 24th and 26th Sept. 2020, NIT Rourkela, India
- xxi.** Research perspectives of power electronics converter for Renewable energy applications, 1st March 2019, SIET Dhenkanal, India
- xxii.** Power Electronics and Control Aspects of Micro grid Systems, 30th Dec. 2018, NIT Rourkela, India
- xxiii.** Recent Advances in Distributed Generation and Power Quality, 8th Dec. 2017, SNIT Hyderabad, India
- xxiv.** Application of Advanced Signal Processing for Operation, Control and Protection of Modern Power System with Integration of Large Scale Sustainable Energy Sources, 5th Dec. 2017, IGIT Sarang, India
- xxv.** Recent Development in Renewable Energy Systems, 4th Dec. 2015, OPJU Chhatisgarh, India
- xxvi.** Recent trends in Renewable Energy Systems, 08th Nov. 2013, Trident Academy of Technology Bhubaneswar, India
- xxvii.** Modern Trends in the operation of Power System, 26th February 2011, SIET Dhenkanal, India

13. Short Courses Organized

- i.** Sustainable Technologies and Energy Management of Hybrid Microgrid (STEMM – 2023), 12th – 16th July 2023, NIT Rourkela
- ii.** Developing Skills and Knowledge for Civil and Electrical and Electrical Engineering Researchers through Access to Cutting Edge Technology, 23rd -29th May, 2022, DST, Govt. of India sponsored, NIT Rourkela
- iii.** Renewable Energies and Plug-in Vehicles Integration in Microgrid (REPVIM-2021), 26th - 30th Nov. 2021, NIT Rourkela
- iv.** Power Electronics and Renewable Energy Integration in Smart Grid, Electric Vehicle, 23rd -27th Sept. 2020, TEQIP-III sponsored, NIT Rourkela

- v. Design and Control of Photovoltaic Systems, 2nd – 6th July 2018, NIT Rourkela
- vi. Estimation and Filtering with applications, 20th – 22nd February 2015, NIT Rourkela
- vii. Control of Renewable Power Generation Systems, 07th-11th July 2014, NIT Rourkela, CoE, Renewable Energy Systems sponsored, NIT Rourkela
- viii. Modelling and Control of Renewable Energy Sources, 04th-08th June 2012, TEQIP-II sponsored, NIT Rourkela
- ix. Advances in Power System, Power Electronics, Industrial Motor Drives and Control (APPIDC). 28th-10th July 2010, AICTE, India sponsored, IGIT Sarang, Odisha, India

14. Conferences/Special Session/Panel Discussion Organized

- i. Special Session Executive Chair in IEEE Sponsored 5th International Conference on Energy, Power and Environment (**ICEPE 2023**), Meghalaya, India, 15-17th June 2023
- ii. Technical Session on “Advanced Signal Processing and Control Approaches to Microgrid System” IEEE Sponsored 5th International Conference on Energy, Power and Environment (**ICEPE 2023**), Meghalaya, India, 15-17th June 2023
- iii. Panel Discussion on “EV charging infrastructure for Resilient Microgrid”, IEEE Sponsored 5th International Conference on Energy, Power and Environment (**ICEPE 2023**), Meghalaya, India, 15-17th June 2023
- iv. Special session on Emerging Power System Technologies, IEEE International Conference ICICCSP-2022 (July 21st -23rd), 2022, Hyderabad, India
- v. Topical-Vertical Session on IoT applications in Energy Sectors, **IEEE 5G World Forum**, Virtual + Montreal, Canada, 13-15 October 2021

- vi. Panel Discussion on “Integration of EVs and Renewables using Automotive Industry in Smart Grid”, IEEE International Symposium on Intelligent Robotics & Industrial Automation (**IRIA2021**), IIT Goa, India, 20th - 22nd Sept. 2021
- vii. Special Session on Soft Computing Application in Active Distribution Grid, IEEE sponsored International Conference on Energy, Power and Environment: Towards Clean Energy Technologies (**ICEPE 2020**), 05th -07th March 2021, NIT Meghalaya
- viii. All India Seminar on Recent Advances in Power, Energy and Control (**RAPEC**), Institution of Engineers (I), Rourkela Local Centre sponsored, 23rd -24th Nov. 2013, NIT Rourkela

15. Membership of reputed Professional Bodies / Organization.

- Senior Member, IEEE, No. 93927501
- Life Member, ISTE, No. LM 81178
- Life Member, IE (I), No. M-147277-6

16. Awards and Fellowships

- Excellent research paper award of IEEE CSEE Journal of Power and Energy System in 2021
- Post-Doctoral Research Fellowship, School of Electrical and Electronic Engineering, NTU Singapore, Jan. 2016 – June 2017
- MHRD, Govt. of India fellowship for pursuing Post-Graduate studies, Department of Electrical Engineering, IEST, Shibpur, Howrah, India

17. Administration Experience

- Associate Dean (AIIR), July 2020 – June 2022
- Professor in Charge (Curriculum Development), EE Department (UG), 2018 - 2024
- Member (Institute Accreditation & Curriculum development committee, 2019 - 2024)

- Member, Institute Research Program Evaluation Committee (RPEC), (2023 - 2025)
- Member (Seed grant project sanction committee, 2020)
- Member (Standing Audit committee,2020)
- Nodal officer Finance (CoE- Practical Renewable Energy Systems)
- Faculty Advisor, M. Tech (Power System, 2020 Admission batch)
- Faculty Advisor, B.Tech. (EE, 2017 Admission batch)
- Member (Departmental Academic Committee (DAC), 2018 - 2020,2021-2024)
- Member (Departmental Academic Programme Oversight Committee (DAPOC), 2018, 2019, 2021,2023, 2024)
- Member (Programs assessment and quality improvement committee- NBA, EE Dept., 2018, 2019)
- Faculty Library Representative (Central Library, 2017, 2018)
- Chairman, Purchase Committee (Estate Maintenance), 2015
- Professor in Charge, Electrical Construction, 2015
- Superintendent of a Hostel, 2009-2012 (IGIT Sarang)
- Member, Summer Internship Programme, 2012,2013
- Faculty Advisor, M. Tech (IE), B. Tech (EE, 2013 Admission batch)
- Co-ordinator, Summer Course, EE, 2013
- Information Officer, EE Dept., 2013, 2014
- Member, Dept. TimeTable Committee, 2013, 2014, PIC B.Tech. project, 2013, 2014
- Course Curriculum Development, M. Tech (Power System)