

BIO-DATA

- 1. Name of the Applicant** : Dr. Monalisa Pattnaik
- Full correspondence address** : **Associate Professor**
Department of Electrical Engineering
National Institute of Technology Rourkela,
Rourkela, Odisha, Pin: 769008.
- 2. Email(s) and contact number(s)** : pattnaikm@nitrkl.ac.in, monalisa.pattnaik@gmail.com
0661-2462423(O), 08895381976 (M)
- 3. Institution** : National Institute of Technology Rourkela
- 4. Date of Birth** : 23-08-1977
- 5. Gender (M/F/T)** : F
- 6. Category (Gen/SC/ST/OBC)** : Gen
- 7. Whether differently abled (Yes/No)** : No
- 8. Educational Qualifications (Undergraduate Onwards):**

Degree	Year	Subject	Institution / University	% of Marks
B. Tech.	1999	Electrical Engineering	CET, OUAT, Bhubaneswar	74.8 %
M. Tech.	2006	Electrical Engineering (Machine Drives and Power Electronics)	IIT Kharagpur	8.6/10 (CGPA)
Ph. D.	2013	Electrical Engineering	IIT Kharagpur	Awarded

9. Ph.D thesis title, Guide's Name, Institute/Organization/University, Year of Award

Ph. D. Thesis Title	Name of Supervisor	Institute	Year of Award
Speed Sensorless Control of a Stand-alone Variable Speed Constant Frequency Double Output Induction Generator with Nonlinear and Unbalanced Loads	Prof. D. Kasta	Indian Institute of Technology Kharagpur	2013

10. Details of employment (in chronological order)

Sl. No.	Position held	Name of the Institute	From	To
1	Lecturer (Part Time)	CET, Bhubaneswar	Oct. 1999	Nov. 2000
2	Lecturer	ITB, Bhubaneswar	Nov., 2000	Feb. 2002
3	Lecturer	COEB, Bhubaneswar	Feb. 2002	June 2002
4	Lecturer	ITER, Bhubaneswar	June 2002	July 2006
5	Sr. Lecturer	ITER, Bhubaneswar	July 2006	April 2007

6	Asst. Professor	ITER, Bhubaneswar	April 2007	July 2008
7	Asst. Professor (AGP:6000)	NIT Rourkela	July 2012	May 2013
8	Asst. Professor (AGP:7000)	NIT Rourkela	May 2013	Feb. 2018
9	Asst. Professor Grade-I	NIT Rourkela	Feb. 2018	Mar. 2023
10	Associate Professor	NIT Rourkela	Mar. 2023	Continuing

11. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received

Sl. No.	Name of Award	Awarding Agency	Year
1.	POSOCO Power System Award	POSOCO & FITT, IIT Delhi	2013
2.	Fellowship during Ph. D. program	MHRD Govt. of India	2008-2012
3.	Elevated to Senior Member IEEE	IEEE	2019
4.	Best Oral Paper Presentation Award for student paper at IEEE Conference IEMRE - 2022	IEMRE - 2022	2022
5.	Best Oral Paper Presentation Award for student paper at Conference ISSETA 2024	ISSETA-2024	2024
6.	Chair, IEEE IA & PE Joint Societies Chapter-Rourkela	IEEE IA & PE Joint Societies	2024

12. Publications (List of papers published in SCI/Scopus Journals, in year wise descending order)

Sl.No	Author(s)	Title	Name of Journal	Vol., No.	Page	Year
1.	B. Mendi, M. Pattnaik and S. Gopalakrishna	Design and Implementation of a Battery Interface Converter Integrated Variable Speed Wind Energy Conversion System with Drift Free Maximum Power Point Tracking Control for Self-Sustaining Power Supply	International Journal of Circuit Theory and Applications, Willey	Accepted	1-16	2025
2.	B. Mishra and M. Pattnaik	Precise Power Sharing among Parallel Inverters in an AC Microgrid using Decentralized Control based on Modified P-f/Q-V, and P-V/Q-f Droop Characteristics	International Journal of Circuit Theory and Applications, Willey	Early Access	1-15	2025
3.	P.K. Behera, K. Gupta, and M. Pattnaik	Hybrid energy storage unit fed motoring and regenerative braking control of electric vehicle drivetrain	Journal of Power Sources, Elsevier	626	235761	2025
4.	B. Mishra and M. Pattnaik	A Modified Droop based Decentralized Control Strategy for Accurate Power Sharing in a PV based Islanded AC Microgrid	ISA Transactions, Elsevier	153	467-481	2024

5.	A. Rath, S. Gopalakrishna and M. Pattnaik	Improved Sensorless DPC with Constant Switching Frequency for Non-ideal Grid	IEEE Transactions on Consumer Electronics	70,3	5167 - 5176	2024
6.	P.K. Behera and M. Pattnaik	Performance Enhancement of a Modified Filtration based Control Scheme for Hybrid Energy Storage System in Low Voltage Direct Current Microgrid	Journal of Power Sources, Elsevier	610	234698	2024
7.	P.K. Behera and M. Pattnaik	Supervisory Power Management Scheme of a Laboratory Scale Wind-PV based LVDC Microgrid Integrated with Hybrid Energy Storage System	IEEE Transactions on Industry Applications	60, 3	4723-4735	2024
8.	P.K. Behera and M. Pattnaik	Hybrid Energy Storage Integrated Wind Energy fed DC Microgrid Power Distribution Control and Performance Assessment	IEEE Transactions on Sustainable Energy	15,3	1502-1514	2024
9.	P.K. Behera and M. Pattnaik	Design and Real-time Implementation of Wind-Photovoltaic Driven Low Voltage Direct Current Microgrid Integrated with Hybrid Energy Storage System	Journal of Power Sources, Elsevier	595	234028	2024
10.	B. Mendi, M. Pattnaik and S. Gopalakrishna	A single current sensor based adaptive step size MPPT control of a small scale variable speed wind energy conversion system	Applied Energy, Elsevier	357	122492	2024
11.	P.K. Behera and M. Pattnaik	Coordinated Power Management of a Laboratory Scale Wind Energy Assisted LVDC Microgrid with Hybrid Energy Storage System	IEEE Transactions on Consumer Electronics	69,3	467-477	2023
12.	B. Mendi, M. Pattnaik and S. Gopalakrishna	Design, Analysis and Adaptive MPPT Control of Small Scale Wind Turbine System	International Journal of Circuit Theory and Applications, Willey	51,7	3316-3330	2023
13.	J. Mishra, P.K. Behera, M. Pattnaik , and B. Chitti Babu	A Multi-agent Petri Net Model Power Management Strategy for Wind-Solar-Battery driven DC Microgrid	Sustainable Energy Technologies & Assessments, Elsevier	55	102859	2023
14.	J. Mishra and M. Pattnaik	On-line Assessment of Wind Turbine Emulator with Pitch Control Mechanism	Energy Systems, Springer	15, 2	673-690	2024
15.	J. Mishra, P.K. Behera, M. Pattnaik , and S. Samanta	An Efficient Supervisory Power Management Scheme for a Wind-battery Assisted Hybrid Autonomous System	IEEE Systems Journal	17,1	768-779	2022
16.	A. Rath, S. Gopalakrishna and M. Pattnaik	An advanced virtual flux integrated multifold table-based direct power control with delay	Inter. Trans. on Electrical Energy Systems	31,12	e13174	2021

		compensation for active front-end rectifiers				
17.	J. Mishra, S. Das, D. Kumar, and M. Pattnaik	A Novel Auto-tuned Adaptive Frequency and Adaptive Step-size Incremental Conductance MPPT Algorithm for Photovoltaic System	Inter. Trans. on Electrical Energy Systems	31,10	e12813	2021
18.	A.Rath, A. Kumar, S. Gopalakrishna and M. Pattnaik	Power Quality Improvement using 18 sector Algorithm based Direct Power Control	Inter. Trans. on Electrical Energy Systems	31,10	e12784	2021
19.	P. K. Behera, M. Balaji, S. K. Sarangi, and M. Pattnaik	Robust wind turbine emulator design using sliding mode controller	Renewable Energy Focus, Elsevier	36	79-88	2021
20.	J. Mishra, M. Pattnaik , and S. Samanta	Drift Free Perturb and Observe MPPT Algorithm with Improved Performance for SEIG based Stand-alone Wind Energy Generation System	IEEE Trans. on Power Electronics	35,6	5842-5849	2019
21.	D. Verma, J.Mishra, and M. Pattnaik	Output voltage based adaptive step size MPPT controller with improved dynamics for stand-alone photovoltaic system	Journal of Renewable and Sustainable Energy-AIP	10,4	043505 - 1-13	2018
22.	M. Pattnaik , D. Kastha	Harmonic compensation with zero sequence load voltage control in a speed sensorless DFIG based stand-alone VSCF generating system	IEEE Trans. on Industrial Electronics	60,12	5506-5514	2013
23.	M. Pattnaik , D. Kastha	Unbalance and harmonic voltage compensation for a stand-alone variable speed constant frequency double-output induction generator supplying non-linear and unbalanced loads	IET Eclectic Power Applications	7,1	27-38	2013
24.	M. Pattnaik , D. Kastha	Adaptive speed observer for a stand-alone doubly fed induction generator feeding nonlinear and unbalanced loads	IEEE Trans. on Energy Conversion	27, 4	1018-1026	2012

13. Detail of patents: N.A.

14. Books/Reports/Chapters/General articles etc.:

➤ Book Chapters:

Sl. No.	Title	Author's Name	Publisher	Year of Publication
1.	Design and Control of DC–DC Converters in a PV-based LVDC Microgrid	P.K. Behera, M. Pattnaik	Springer, Singapore	2022
2.	Design and Analysis of DC–DC Buck Converter with Drift-Free MPPT Algorithm for a SEIG-	J. Mishra, M. Pattnaik	Springer, Singapore	2022

	Based Wind Energy Generation System			
3.	Modeling and MPPT Control of a PMSG-based Wind Turbine System	Mendi Balaji, Monalisa Pattnaik , and Gopalakrishna Srungavarapu	CRC PRESS, Taylor & Francis Group	2023
4.	A Modified Droop based Decentralized Control Strategy for an Islanded AC Microgrid	B. Mishra, and M. Pattnaik	CRC PRESS, Taylor & Francis Group	2023
5.	Optimizing Reliability of PV based Microgrid by Integrating Fuel Cell	R.R. Swain, P.K. Behera, I. Sarkar and M. Pattnaik	Springer, Singapore	2024

15. Research Grants received and Projects executed

15.1. Details of Ongoing Projects:

Sl. No	Title	Cost in Lakh	Start Date	End Date	Role as PI/Co-PI	Agency
1	Droop based Co-ordinated Control of a Triple Active Bridge Interlinking Converter for Hybrid Microgrid with EV Charging Facility	41.376 Lakhs	07 Dec, 2022	06 Dec. 2025	PI	SERB, DST (CRG Scheme)
2	Development of a High-frequency Inductor based Power Module to Improve the eBike Battery Life – A low cost and reliable solution	9.9825 Lakhs	01 Oct. 2024	01 Oct. 2025	PI	I-Hub, IIIT Hyderabad

15.2 Details of Projects completed

Sl. No	Title	Cost in Lakh	Start Date	End Date	Role as PI/Co-PI	Agency
1	Design and Development of a Low Power Hybrid PV-Wind Energy System	24.54 Lakhs	12 Oct. 2021	11 Oct. 2024	PI	DST (Indo-Sri Lanka Joint Research Program)

16. Details of Ph.D. Thesis guided as Main Supervisor:

Sl. No	Ph. D Thesis Title	Name of Student	Role as Supervisor/ Co-Supervisor	Year of Award
1.	Design and Development of a Wind-Solar-Battery Hybrid Autonomous System	Jyotismita Mishra	Supervisor	2019
2.	Low Complexity Direct Power Control Methods for	Abinash Rath	Co-Supervisor	2023

	Active Front-End Rectifier and Applications			
3.	Development of Efficient MPPT Techniques For a Small-Scale Standalone PMSG based Wind Energy Conversion System with Energy Storage Integration	Mendi Balaji	Supervisor	2024

17. Details of Short Term Course Organized

#	Type	Title of the Program	Sponsoring Agency/ Self-financed	From Date	To Date	Your Role
1.	FDP & STC	Sustainable Technologies & Energy Management of Hybrid Microgrid (STEMM-2023)	Self-financed	12/07/2023	12/07/2023	Course Coordinator
2.	FDP & STC	Power Converters for Green Energy and EV Integration(PCGEEI-2024)	Self-financed	13/03/2024	17/03/2024	Course Coordinator
3.	FDP & STC	Application of AI & ML on Renewable Energy and EV Technologies (AAMREET -2024)	Self-financed	08/06/2024	12/06/2024	Course Coordinator

18. Details of GIAN/ Other National Program Like GIAN Organized :

#	Type	Title of the Program	Sponsoring Agency/ Self-financed	From Date	To Date	Your Role
1.	GIAN	Mini-hydro Power Plant Design and Integration with DC Microgrid	Ministry of Education (MOE)	18/11/2024	22/11/2024	Course Coordinator
2.	GIAN	Power Converters for Green Energy and EV Integration(PCGEEI-2024)	Ministry of Education (MOE)	26/12/2024	30/12/2024	Course Coordinator

19. Details of Conference Organized

#	Type	Title of the Program	Sponsoring Agency/ Self-financed	From Date	To Date	Your Role
1.	International	1 st IEEE International Conference on Smart Power Control and Renewable Energy (ICSPCRE-2024)	IEEE	19/07/2024	21/07/2024	Organizing secretary

➤ Any other Information

➤ International Conference Publications

- [1] R.R. Swain, I. Sarkar and **M. Pattnaik**, “Techno Economic Assessment and Sizing Analysis of PV, Fuel cell and battery Microgrid using HOMER Pro”, accepted in *2025 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCCE 2025)*, pp.1-5, July, 2025.
- [2] M. Abhivarma and **M. Pattnaik**, “Performance Improvement of Current Controlled BLDC Drive during Motoring and Regenerative Braking Operations”, accepted in *2025 IEEE International Conference on Power Electronics Converters in Transportation and Energy Application (PECTEA-2025)*, pp.1-6, June, 2025

- [3] P. K. Behera, M. Verma, and **M. Pattnaik**, “Self-Sustaining Photovoltaic Power System with High-Gain Boost Converter for DC Nanogrid Equipped with Hybrid Storage Unit”, 2024 *IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES 2024)*, pp.1-5, 2024.
- [4] P. K. Behera, and **M. Pattnaik**, “Battery-Ultracapacitor fed Parallel Active Interleaved Bidirectional Converter Controlled BLDC Motor for E-Bike Application”, 2024 *IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES 2024)*, pp.1-5, 2024.
- [5] Srinivasarao Kavuru, P. K. Behera, **M. Pattnaik**, P. K. Ray, and A. Wijayapala “PV System Dynamic Performance Maximization using a Novel Drift-Free MPPT Method”, 2024 *IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES 2024)*, pp.1-5, 2024.
- [6] A. Singh, and **M. Pattnaik**, “Design and Analysis of Multi-Receiver Dynamic Wireless Charging System for Electric Vehicles”, accepted in 2024 *IEEE International Conference on Smart Power Control and Renewable Energy (ICSPCRE-2024)*, pp.1-6, 2024.
- [7] P. Singh, P. K. Behera, and **M. Pattnaik**, “Interleaved Converter Controlled BLDC Motor Drive Application”, accepted in 2024 *IEEE International Conference on Smart Power Control and Renewable Energy (ICSPCRE-2024)*, pp.1-6, 2024.
- [8] R. Kumar, K. Vikash Varma, and **M. Pattnaik**, “Constant Current Battery Charging Application using DAB Converter with Dual Phase Shift Control”, accepted in 2024 *IEEE International Conference on Smart Power Control and Renewable Energy (ICSPCRE-2024)*, pp.1-6, 2024.
- [9] K. Vikash Varma, **M. Pattnaik** and I. Sarkar, “Constant Current Charging of EV Battery with Zero Back-Flow Power EPS Control using DAB Converter” accepted in 2024 *IEEE 4th International Conference on Sustainable Energy and Future Electric Transportation (IEEE SeFeT 2024)*, pp.1-6, 2024.
- [10] Srinivasarao Kavuru, G. Kumar, **M. Pattnaik**, “Solar Power Optimizer Design and MPPT Control using Flyback Converter”, 2nd *International Conference on Smart Technologies for Power and Renewable Energy (SPECon 2024)* , pp.1-6, 2024.
- [11] B. Mendi, **M. Pattnaik** and S. Gopalakrishna, “Modified MPPT Control of a PMSG-based Standalone Wind Energy Conversion System using Single Voltage Sensor”, 2023 *IEEE 7th International Conference on Computer Applications in Electrical Engineering-Recent Advances (CERA)*, pp.1-6, 2023.
- [12] P. K. Behera, D. C. Pandey, and **M. Pattnaik**, “Steady-State Analysis of Dual Active Bridge Converter with Single Phase Shift and Dual Phase Shift Modulation”, 3rd *IEEE International Conference on Smart Technologies for Power, Energy and Control (STPEC 2023)*, pp.1-6, 2023.
- [13] P. K. Behera, R. Kumar, and **M. Pattnaik**, “Stability Analysis and Implementation of Interleaved Bidirectional Converter as a High Current Interface in LVDC Microgrid”, 3rd *IEEE International Conference on Smart Technologies for Power, Energy and Control (STPEC 2023)*, pp.1-5, 2023.
- [14] B. Mishra and **M. Pattnaik**, “Enhancement of Power Sharing in an Islanded AC Microgrid Using Modified Reverse Droop Control Strategy”, 3rd *IEEE International Conference on Smart Technologies for Power, Energy and Control (STPEC 2023)*, pp.1-6, 2023.
- [15] K. Vikash Varma, **M. Pattnaik** and I. Sarkar, “Dual Active Bridge Converter Control and Power Management of PV-Battery fed DC Microgrid for EV Battery Charging System” 3rd *IEEE International Conference on Smart Technologies for Power, Energy and Control (STPEC 2023)*, pp.1-6, 2023.
- [16] D. C. Pandey, P. K. Behera, and **M. Pattnaik**, “Steady-State Analysis of Dual Active Bridge Converter with Single Phase Shift and Dual Phase Shift Modulation”, 2023 *IEEE International Students' Conference on Electrical, Electronics and Computer Science (SCEECS)*, pp.1-6, 2023.
- [17] R. Kumar, P. K. Behera, and **M. Pattnaik**, “A Comparative Analysis of Two-phase and Three-phase Interleaved Bidirectional DC-DC Converter”, 2023 *IEEE International Students' Conference on Electrical, Electronics and Computer Science (SCEECS)*, pp.1-5, 2023.

- [18] V. Gullipall, P. K. Behera, and **M. Pattnaik**, "PV-Grid Assisted Uninterruptible Power Supply System for a BLDC Motor Drive", *International Conference on Power Electronics and Energy (ICPEE-2023)*, pp.1-6, 2023.
- [19] P. K. Behera, Prince Kumar Piyush and **M. Pattnaik**, "Design, Sizing and Implementation of a Parallel Active Battery-Supercapacitor based Hybrid Energy Storage System", "*International Conference on Power Electronics and Energy (ICPEE-2023)*", pp.1-5, 2023.
- [20] P. K. Mishra, P. K. Behera, and **M. Pattnaik**, "Comparative Evaluation and Analysis of Different Switching Schemes for a Three-Phase Symmetrical Multilevel Inverter with Reduced Switch Count", *9th IEEE UP Section International Conference on Electrical, Electronics and Computer Engineering (UPCON-2022)*, pp.1-6, 2022.
- [21] B. Mishra, R. Pradhan, and **M. Pattnaik**, "A Simple and Novel Tuning Technique for Load Frequency Control in a Multi-Area Microgrid System", *IEEE International Symposium on Sustainable Energy, Signal Processing and Cyber Security, (ICPEE-2022)* pp.1-5, 2022.
- [22] P. K. Behera, and **M. Pattnaik**, "Power Management of a Laboratory Scale Wind-PV-Battery based LVDC Microgrid", *IEEE IAS Global Conference on Emerging Technologies (GlobConET)*, pp.1-6, 2022.
- [23] B. Mendi, **M. Pattnaik** and S. Gopalakrishna, "A Speed Sensorless Modified Perturb and Observe MPPT Scheme for Stand-alone PMSG based Wind Turbine System", *IEEE IAS Global Conference on Emerging Technologies (GlobConET)*, pp.1-5, 2022.
- [24] P. K. Behera, B. Mishra, and **M. Pattnaik**, "Geometrical Interpretation of Incremental Conductance MPPT Algorithm for a Stand-Alone Photovoltaic System," *2021 Innovations in Power and Advanced Computing Technologies (i-PACT)*, pp.1-6, 2021.
- [25] P. K. Behera, A. Satpathy, and **M. Pattnaik**, " Design and Implementation of a Single-Band Hysteresis Current Controlled H-Bridge Inverter," *IEEE Sponsored 3rd International Conference on Energy, Power and Environment (ICEPE)*, pp.1-6, 2020.
- [26] P. K. Behera, S. Das, and **M. Pattnaik**, "Performance comparison between bipolar and unipolar switching scheme for a single-phase inverter based stand-alone photovoltaic system," *2019 IEEE 16th India Council International Conference (INDICON)*, pp. 1-4, 2019.
- [27] K. Nageswara Rao, D. Kumar, and **M. Pattnaik**, "Analysis and Experimental Study of Self-Excited Slip-Ring Induction Generator with Variable Capacitance and Rotor Resistance", *2019 Innovations in Power and Advanced Computing Technologies (i-PACT)*, pp.1-4, 2019.
- [28] J. Mishra, S. Das, D. Kumar, and **M. Pattnaik**, "Performance Comparison of P&O and INC MPPT Algorithm for a Stand-alone PV System", *2019 Innovations in Power and Advanced Computing Technologies (i-PACT)*, pp.1-5, 2019.
- [29] K. Pal and **M. Pattnaik**, "Performance of a Synchronous Buck Converter for a Standalone PV System: An Experimental Study", *2019 1st IEEE International Conference on Energy, Systems and Information Processing, (ICESIP 2019)*, pp.1-6, 2019.
- [30] M. Balaji, S. K. Sarangi, and **M. Pattnaik**, "Design of a DC Motor based Wind Turbine Emulator using Sliding Mode Approach", *2019 1st IEEE International Conference on Energy, Systems and Information Processing, (ICESIP 2019)*, pp.1-5, 2019.
- [31] **M. Pattnaik**, N. Kumar, "Optimum Mode Operation and Implementation of Class-E Resonant Inverter for Wireless Power Transfer Application", *International Conference on Innovative Smart Grid Technologies (ISGT Asia 2018)*, pp.1-5, 2018.
- [32] J. Mishra, **M. Pattnaik**, and S. Samanta, "Power Management Scheme for a Wind-Photovoltaic Hybrid Autonomous System with Battery Storage", *2018 IEEE 4th Southern Power Electronics Conference (SPEC)*, pp. 1-5, 2018.

- [33] J. Mishra, **M. Pattnaik**, and S. Samanta, “Load Voltage based MPPT Algorithm for a Stand-alone Wind Generation System”, *15th Edition of the IEEE India Council International Conference INDICON 2018*, pp. 1-4, 2018.
- [34] J. Mishra, **M. Pattnaik**, S. Samanta, “Speed sensorless MPPT control of stand-alone SEIG based wind-battery hybrid system”, *6th International Conference on Computer Applications in Electrical Engineering Recent Advances 2017 (CERA17)*, IIT Roorkee, India, Oct. 2017.
- [35] M. Kumar, **M. Pattnaik**, J. Mishra, “An improved ZVS-PWM buck converter with ZCS auxiliary circuit”, *IEEE TENCON 2017*, Penang, Malaysia, pp.1-6, Nov. 2017.
- [36] J. Mishra, **M. Pattnaik**, S. Samanta, “Performance Evaluation of a Self-Excited Induction Generator for Stand-alone Wind Energy Conversion System” *IEEE Power, Communication and Information Technology Conference (PCITC-2015)*, SOA, Bhubaneswar, India, pp.1-5, Oct. 2015.
- [37] **M. Pattnaik** and D. Kastha, “Power quality improvement in a speed sensorless stand-alone DFIG feeding general unbalanced non-linear loads,” *IET 3rd Renewable Power Generation 2014*, Naples, Italy, pp.1-6, Sept. 2014.
- [38] **M. Pattnaik** and D. Kastha, “Adaptive speed observer for a stand-alone doubly fed induction generator feeding nonlinear and unbalanced loads,” *IEEE PES General Meeting 2013*, Vancouver, BC, Canada, pp. 1-8, Jul.2013.
- [39] **M. Pattnaik** and D. Kastha, “Comparison of MRAS based speed estimation methods for a stand-alone doubly fed induction generator,” *ICEAS-2011*, ITER Bhubaneswar, India, pp.1-6, Dec. 2011.
- [40] **M. Pattnaik** and D. Kastha, “Control of double output induction machine based stand-alone variable speed constant frequency generator with nonlinear and unbalanced loads,” *IEEE PES General Meeting 2010*, Minneapolis, Minnesota, USA, pp.1-8, Jul. 2010.
- [41] **M. Pattnaik** and D. Kastha, “Reactive power based MRAS observer for speed sensorless control of double output induction generator,” *ICIS-2010*, NIT Surathkal, India, pp.556-561, Jul./Aug. 2010.

➤ **Invited Lectures:**

1. Joined as a project consultant to setup a prototype for “**Hybrid Energy Storage based Stand-alone Photovoltaic Power System**”, related to a DST sponsored project, during 29th April to 3rd May 2019 in the Electronics & Instrumentation Engineering Dept. of NIT Silchar.
2. Delivered invited lecture “**Overview of Stand-alone Wind Energy Conversion System and Its MPPT Control**” on 3rd Dec. 2019 in the Short Term Course “*Applications of Soft Computing in Power System (ASCPS)*” organized during 2nd -7th December 2019 in the Dept. of EE & EEE, VSSUT, Burla, Odisha.
3. Delivered invited lecture “**Power Converter Topologies in Wind Energy Conversion System and its MPPT Control**” & **Design of Wind Turbine Emulator using DC Motor for Stand-alone WECS**” on 21st and 22nd Feb. 2020 in a 5 days National Workshop on “*Modelling and Simulation of Power Electronics Converters for Renewable Energy using MATLAB & Simulink*” from 18th -22nd Feb. 2020 in the Dept. of Electrical Engineering, University College of Engineering & Technology, Bikaner.
4. Delivered invited lecture “**Hardware Implementation of Direct Power Control Scheme on RT-Lab Platform**” on 18th June 2020 in “*OPAL-RT’s 12th Conference on Real-Time Simulation (RT-2020)*” online mode.
5. Delivered invited lecture “**An Overview of Power Electronic Converters for Hybrid Renewable Energy System**” on 30th Sept. 2020 in the AICTE Training and Learning (ATAL) Academy FDP “*Energy Storage for Sustainable Development*” organized during 26th -30th September 2020 in the Electronics & Instrumentation Engineering Dept. of NIT Silchar, Online mode.
6. Delivered invited lecture “**Design and Development of Hybrid Renewable Energy System**” on 24th Nov. 2021 for Program on “*Energy Storage for Sustainable Development*” organized by BHEL India, Online mode.

7. Delivered invited lecture “**Design, Development and Power Management of a Laboratory Scale Hybrid Renewable Energy System**” on 24th May, 2022 for Program on “*Synergistic Training Program Utilizing Scientific and Technological Infrastructure (STUTI)*” in the Dept. of Electrical Engineering, NIT Rourkela, organized by NIT Rourkela in collaboration with Amity University, supported by DST, Government of India.
 8. Received minor research grant for the proposal entitled “**Design and implementation of a PMSG based standalone wind generation system with battery storage**” for funding under TEQIP-III.
 9. Served as Session Chair in “**International Conference on Power Electronics and Energy (ICPEE-2023)**, 3rd -5th January 2023”, on 4th Jan, 2023.
 10. Delivered invited lecture “**Power Electronic Converters for Hybrid Renewable Energy Systems and Electric Vehicle Applications**” on 17th Mar. 2023 for Program on “*Five Day National Workshop on Recent Trends in Electric Vehicle: Challenges and Opportunities*” organized by Vignan’s Institute of Information Technology (A), Visakhapatnam. (Online mode)
 11. Delivered invited lecture “**Design and Real-Time Implementation of a Wind-PV-Battery based Hybrid Renewable Energy System**” in the short-term course on “*Condition, Assessment of Power System Equipment (CAPSE-2023)*” held during April 11-15, 2023 in the Dept. of Electrical Engineering, NIT Rourkela, organized by NIT Rourkela.
 12. Invited as **Expert Member** for selection of Management Trainees (Electrical) of the **OPTCL Selection Committee** on 20/07/2023.
 13. Invited as distinguished guest and delivered invited lecture “**Design, Development and Coordinated Power Management of a Wind Energy Driven LVDC Microgrid**” on 24th July 2023 in a SERB and CDAC sponsored five days Symposium on “*Recent Trends in Renewable Energy Systems (RTRES-2023)*” from 24th – 28th July 2023, organized at Electronics & Instrumentation Engineering Dept. of NIT Silchar.
 14. Delivered invited tutorial lecture “**Power Electronic Converters for Electric Vehicle Applications and Hybrid Energy Storage Systems**” in the IEEE 7th International Conference on Computer Application in Electrical Engineering - Recent Advances (**CERA 23**), organized by the Department of Electrical Engineering, IIT Roorkee, India held during October 27-29, 2023. (Online mode)
 15. Collaborative research visit to University of Moratuwa, Sri Lanka during 17th -23rd December 2023 and delivered a talk on “**Design and Development of a Low Power Hybrid PV-Wind Energy System**” on 19th Dec. 2023.
 16. Serving as **Chair**, *IEEE Kolkata Section Industry Applications & Power & Energy Joint Societies Chapter-Rourkela*, Nov. 2023-till date.
 17. Delivered invited lecture “**Power management in wind-PV based LVDC microgrid**” on 23rd Jan. 2025 in the *AICTE Training and Learning (ATAL) Basic FDP “Recent Advances in Microgrids”* organized during 20th -25th January 2025 in the Dept. of Electrical Engineering, DRIEMS University.
- **Professional Activities / Assignments**
- i. **Assignments abroad:**
 - 22nd-25th May, 2018, Singapore, to present paper in International Conference **IEEE PES ISGT ASIA 2018**.
 - 5th -8th Nov. 2017, Penang, Malaysia, to present paper in International Conference **IEEE TENCON 2017**.
 - 24th - 25th Sept. 2014, Naples, Italy, to present paper in International Conference **IET RPG 2014**.
 - 21th-25th July 2013, Vancouver, Canada, to present paper in International Conference **IEEE PES GM 2013**.
 - **Reviewer** of IEEE Transactions on Energy Conversion, IEEE Transactions on Industrial Electronics, IEEE Transactions on Power Electronics, IEEE Transactions on Sustainable Energy, Journal of Power Sources, Elsevier, International Journal of Energy Research, John Wiley & Sons, Electric Power Components and Systems, Taylor’s and Francis, Several IEEE Conferences
 - **Examiner (PhD Thesis, Master, UG Project etc.) outside NITR**
 - **Professional Association:**
 - Senior Member of IEEE- SM-92125882
 - Member of Institution of Engineers (IETE, India)- M-502912