Silicon Institute of Technology
Bhubaneswar

Pratap Ranjan Mohanty, Ph.D.

Designation : Senior Assistant Professor

Department : Department of Electrical & Electronics Engineering

(JOINED THE INSTITUTE IN 2022)

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Research Interests

Power Electronics including design of high frequency power conversion circuits and Applications of Soft Computing Techniques, Power Factor Improvement, Power quality Improvement in power system, Micro-grid/ Solar PV system, Electric vehicle

Consultancy Interests

Sizing and Design of ON/OFF- Grid roof- top Solar Plant

Academic Qualifications

- ✓ Ph. D. (Electrical Engineering), National Institute of Technology Rourkela, India
- ✓ M. Tech. (Power Electronics & Drives), National Institute of Technology Rourkela, India
- ✓ B.Tech (EEE), Jagannath Institute for Technology & Management, Paralakhemundi, India

Teaching Experience/Industrial Experience/Research Experience

- ✓ Senior Assistant Professor, Silicon Institute of Technology, Bhubaneswar, India: Jan 2023-Continue
- ✓ Assistant Professor, Silicon Institute of Technology, Bhubaneswar, India: Nov 2022-Jan 2023
- ✓ Senior Assistant Professor, Madanapalle Institute of Technology & Science, Madanapalle, India: Feb 2018-Aug 2021
- ✓ Associate Professor, Madanapalle Institute of Technology & Science, Madanapalle, India: Aug 2021-Nov 2022
- ✓ Lecturer, KMBB Collage of Engineering & Technology, Khurda, India: July 2010-July 2012
- ✓ Lecturer, Roland Institute of Technology, Berhampur, India: Sept 2009-July 2010

PUBLICATIONS

JOURNALS & CONFERENCES

Conferences

[1]. **P. R. Mohanty**, "Complex Network Theory For The Analysis of Power Grid Vulnerability," *2019 4th International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques (ICEECCOT)*, Mysuru, India, 2019.

[2]. **P. R. Mohanty**, A. K. Panda, V. Y. Kumar and T. Penthia, "Small-signal analysis for designing a stable voltage-doubler PFC system," *TENCON 2017 - 2017 IEEE Region 10 Conference*, Penang, Malaysia, 2017.

[3]. T. Penthia, A. K. Panda and **P. R. Mohanty**, "Superconducting magnetic energy storage system with an adaptive control algorithm for reducing the impact of smart power generation," *TENCON 2017 - 2017 IEEE Region 10 Conference*, Penang, Malaysia, 2017

[4]. A. K. Panda, **P. R. Mohanty**, T. Penthia and N. Patnaik, "Dual output interleaved PFC for alleviating mutual interference between loads during transients," *2016 IEEE Uttar Pradesh Section International Conference on Electrical, Computer and Electronics Engineering (UPCON)*, Varanasi, India, 2016

[5]. N. Patnaik, A. K. Panda and **P. R. Mohanty**, "Performance and comparative rating evaluation of single phase left shunt UPQC," *2016 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES)*, Trivandrum, India, 2016

[6]. **P. R. Mohanty**, A. K. Panda and D. Das, "An active PFC boost converter topology for power factor correction," *2015 Annual IEEE India Conference (INDICON)*, New Delhi, India, 2015

Journals

[1]. **Pratap Ranjan Mohanty**, “High Power Voltage Multiplier (VM) PFC Converter with Inherent ZCS Characteristics and High Step-Up Gain for Enhanced Low-Line Efficiency” *in Journal of Electrical Engineering*, vol 21, no. 3, pp. 172-179, Dec 2021. ISSN 1582-4594

[2]. Patnaik, N, Panda, AK, **Mohanty, PR**, Pandey, R. DEC fuel cell-based universal power compensator for dual PCC system. *Int Trans Electr Energ Syst*. 2021

[3]. Penthia, T, Panda, AK, **Mohanty, PR**, Patnaik, N. Superconducting magnetic energy storage system with an improved nonlinear control approach for pulsed power applications. *Int Trans Electr Energ Syst*. 2020

[4]. Penthia, Trilochan; Panda, Anup Kumar; Patnaik, Nishant; **Mohanty, Pratap Ranjan**: 'Performance of SMES system with non-linear dynamic evolution control approach for pulsed power load compensation', IET Generation, Transmission & Distribution, 2020

[5]. A. K. Panda, **P. R. Mohanty**, N. Patnaik and T. Penthia, "Closed-Loop-Controlled Cascaded Current-Controlled Dynamic Evolution Control-Based Voltage-Doubler PFC Converter for Improved Dynamic Performance," in IEEE Journal of Emerging and Selected Topics in Power Electronics, vol. 6, no. 4, pp. 1884-1891, Dec. 2018

[6]. **P. R. Mohanty** and A. K. Panda, "Fixed-Frequency Sliding-Mode Control Scheme Based on Current Control Manifold for Improved Dynamic Performance of Boost PFC Converter," *in IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 5, no. 1, pp. 576-586, March 2017

Pratap Ranjan Mohanty, Anup Kumar Panda, A nonlinear control scheme based on dynamic evolution path theory for improved dynamic performance of boost PFC converter working on nonlinear features, ISA Transactions, Volume 65, 2016, Pages 254-261.

ANY OTHER

Book / Book Chapters

[1]. **Pratap Ranjan Mohanty**, C. V. Harshavardhan Reddy, "Design and Analysis of PV-Based DSTATCOM with LCL Filter for Localized Distribution System" in Innovations in Electrical and Electronics Engineering, Springer, Singapore, pp. 357-365, Mar 2020 (Print ISBN: 978-981-15-2255-0, Online ISBN: 978-981-15-2256-7)

Conferences/Workshops/FDPs attended

Sl.No.	Title of the Conferences/Workshops/FDPs	Organisation Name	Month & Year	Duration
1	Recent Advances in Electric Vehicle and Renewable Energy Integration to the Grid: Challenges, Solutions and Opportunities	Centre's of RGIPT (Energy Institute, Bengaluru and Assam Energy Institute) and MG Motor India Private Limited, New Delhi	Jan 2023	5 days
2	Accreditation Process & NBA	National Institute of Technical Teachers' Training & Research (NITTTR), Kolkata	Jan 2023	1 week
3	All India Power Engineer's Meet (AIPEM-2022) National Workshop on Emerging Technologies in Electrical Power Engineering (NWET-2022) With focus on " Grid Modernisation…A Step forward to Green Technology	SPARK Engineers's Congress & Silicon Institute of Technology, Bhubaneswar	Nov 2022	3 days
4	Amazon Web Services	BRAINOVISION SOLUTIONS INDIA PVT.LTD, CSI & AICTE Sponsored at GMR Institute of Technology, Rajam	Aug 2022	1 week

5	"Power Electronics Converters' Applications in Microgrid and Vehicular Technology (PECAMVT-2022)	NaMPET sponsored STC at NIT Rourkela	Yuly 2022	5 days
6	Application of Renewable Energy in the Growth of Electric Vehicle (EV) Technology (AREGEVT-2021)	MITS, Madanapalle	Nov 2021	5 days
7	Recent Development in Green Technologies	ATME College of Engineering, Mysuru	Sept 2021	5 days
8	Application of Artificial Intelligence (AI) in Electrical Engineering (EE) for The Performance Improvement of Various Sectors (AAIEEPIVS-2021)	MITS, Madanapalle	Aug 2021	5 days
9	AI Solution for Optimum Utilization of Power and Energy	ATAL FDP at NIT Srinagar	July 2021	5 days
10	NBA Accreditation Process	ATAL FDP at JNTU Anantapuramu	July 2021	5 days
11	Workshop-"Powering Andhra Pradesh Energy Innovation Summit-2019"	Govt. of AP at Vijayawada	Feb 2019	2 days
12	Advances in Electrical Power & Control Systems (AEPCS)	AICTE Sponsored FDP at JITM Paralakhemundi	Dec 2009	2 weeks

Conferences/Workshops/FDPs organized

Sl.No.	Title of the Conferences/Workshops/FDPs	Organisation Name	Month & Year	Duration
1	Hands-on Program on "Electric Vehicle Powertrain"	SIT, Bhubaneswar	Dec 2022	2 days
2	Skill Devlopement Program (Workshop) on "Conventional Bike Retrofitting"	MITS, Madanapalle	Nov 2022	3 days
3	Application of Renewable Energy in	MITS, Madanapalle	Nov 2021	5 days

	the Growth of Electric Vehicle (EV) Technology (AREGEVT-2021)			
4	Application of Artificial Intelligence (AI) in Electrical Engineering (EE) for The Performance Improvement of Various Sectors (AAIEEPIVS-2021)	MITS, Madanapalle	Aug 2021	5 days

Outreach Activities:

- ✓ **Resource Person-** National Webinar (Online) on "Solar cell/module and its application" organized by Centurion University of Technology & Management, Paralakhemundi Campus, Odisha on 6th July, 2022
- ✓ **Resource Person-** National Webinar (Online) on "RECENT ADVANCEMENT IN HARVESTING SOLAR ENERGY" organized by School of Electrical Sciences, NIST, Berhampur, Odisha on 25th July, 2021
- ✓ **Resource Person-** Training Session (Online) on "Enhancement of Employability Skills-I" held at Gandhi Institute for Education & Technology, Baniatangi, Bhubaneswar, Odisha on Dt. 31.06.2021
- ✓ **Resource Person-**National Webinar (Online) on "Application of Physics In The Field of Electrical Engineering" organized by Siddhartha Degree College, Binka, Subarnapur, Odisha on 31.03.2021
- ✓ **Reviewer of Journals/Conferences:**
  - ISA Transactions
  - IEEE Journal of Emerging Selected Topics in Power Electronics
  - IEEE Transactions on Power Electronics
  - IEEE Transactions on Industrial Electronics
  - ODICON-2022, IEEE MysuruCon-2022, ICEECCOT-2019

MOOCS Course

- ✓ NPTEL-FDP- Successfully completed the 12-weeks course "Introduction to Internet of Things" during July-Oct 2022.
- ✓ NPTEL-FDP- Successfully completed the 8-weeks course "Design of Power Electronic Converters" during Feb-Apr 2022.
- ✓ NPTEL-FDP- Successfully completed the 8-weeks course "Introduction to Research" during Aug-Oct 2019.

Memberships

ISTE Life Member
IEEE member