



## Mr. Buddhadeva Sahoo - Ph.D. Contd.

**Name** : Buddhadeva Sahoo  
**Designation** : Assistant Professor  
**Department** : Electrical Engineering  
(Joined the institute in 2021)  
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### AREAS OF INTEREST

Multi-level Inverter Design, Solar and Wind System Integration, Active Power Filter Design, Robust Controller Design, Power Quality, Power Reliability, Stability, MPPT controller, Voltage and Frequency control, Grid-connected operation, Islanded operation, Hybrid Microgrid System, Electric Vehicle Application

### ACADEMIC QUALIFICATIONS

- Ph. D. (Electrical Engineering)- Council of Scientific and Industrial Research Fellowship under Siksha O Anusandhan Deemed University
- M. Tech. (Power Electronics and Drives) Center for advanced PG studied, Bijupatanaik University and Technology, Odisha, India
- B.Tech (Electrical Engineering)- Bijupatanaik University and Technology, Odisha, India

### TEACHING /INDUSTRIAL/RESEARCH EXPERIENCE

<b>2021 - Present</b>	Assistant Professor of Electrical Engineering Silicon Institute of Technology, Sambalpur
<b>July. 2016 – Jan. 2017</b>	Assistant Professor of Electrical Engineering (Guest Faculty) SKDAV polytechnic, Rourkela, Odisha
<b>July. 2016 – Jan. 2017</b>	Assistant Professor of Electrical Engineering (Guest Faculty) Government College of Engineering, Keonjhar, Odisha

### ADDITIONAL TEACHING EXPERIENCE

- Teaching assistant for the post graduate level course “Distribution Generation and Smart Grid” taught by Prof. Pravat Kumar Rout during AUG to Dec 2019 at SOA University, Bhubaneswar, India
- Teaching assistant for the graduate level course “Power electronic and drives” taught by Prof. Sangram Keshari Routray during AUG to Dec 2018 at SOA University, Bhubaneswar, India

**JOURNAL:**

1. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "Advanced speed-and-current control approach for dynamic electric car modelling." IET Electrical Systems in Transportation (2021). (IET) INSPEC/SCI/Scopus/IET
2. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "Integration of wind power generation through an enhanced instantaneous power theory." IET Energy Systems Integration (2020). (IET) INSPEC/IET
3. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Rout. "A Robust Control Approach for the Integration of DC-grid based Wind Energy Conversion System." IET Energy Systems Integration (2020). (IET) INSPEC/IET
4. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "Enhancement of power quality in solar-battery based microgrid" IET Energy Systems Integration (2020). (IET) INSPEC/IET
5. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "Execution of advanced solar-shunt active filter for renewable power application." Energy Conversion and Economics (2021). (IET) INSPEC/IET
6. Sahoo, buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "Execution of robust dynamic sliding mode control for smart photovoltaic application." Sustainable energy technologies and assessments 45 (2021): 101150. (Elsevier) SCI/SCOPUS-IF:5.7.
7. Sahoo, buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "Repetitive control and cascaded multilevel inverter with integrated hybrid active filter capability for wind energy conversion system." Engineering science and technology, an international journal (2019). (Elsevier) SCI/SCOPUS-IF:3.219.
8. Sahoo, buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "A new topology with the repetitive controller of a reduced switch seven-level cascaded inverter for a solar pv-battery based microgrid." Engineering science and technology, an international journal (2018). (Elsevier) SCI/SCOPUS-IF:3.219.
9. Sahoo, buddhadeva, Sangram Keshari routray, Pravat kumar rout, and mohammed M. Alhaider. "Mathematical morphology-based artificial technique for renewable power application. "Computer materials and continua. (2021) (Tech science) (Accepted) SCI/SCOPUS-IF:4.8.
10. Sahoo, buddhadeva, Sangram Keshari Routray, Pravat kumar rout, and Mohammed M. Alhaider. "Neural network and fuzzy control based 11-level cascaded inverter operation. (2021) (Tech science) (Accepted) SCI/SCOPUS-IF:4.8.
11. Sahoo, buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "A novel sensorless current shaping control approach for SVPWM inverter with voltage disturbance rejection in a dc grid-based wind power generation system." Wind energy 23.4 (2020): 986-1005. (Willey) SCI/SCOPUS-IF:2.646
12. Sahoo, buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "Application of mathematical morphology for power quality improvement in microgrid." International transactions on electrical energy systems 30.5 (2020): e12329. (Willey) SCI/SCOPUS-IF:1.692
13. Sahoo, Buddhadeva, Routray, S.K. and Rout, P.K., 2020. Robust control approach for stability and power quality improvement in electric car. International Transactions on Electrical Energy Systems, DOI:10.1002/2050-7038.12628. (Willey) SCI/SCOPUS-IF:1.692
14. Sahoo, Buddhadeva, Routray, S.K. and Rout, P.K., 2020. AC, DC and Hybrid Control Strategies for Smart Microgrid Application: A review. International Transactions on Electrical Energy Systems, (Willey) SCI/SCOPUS-IF:1.692
15. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "A novel centralized energy management approach for power quality improvement." International Transactions on Electrical Energy Systems (2020): e12582. (Willey) SCI/SCOPUS-IF:1.692

16. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "Artificial neural network-based PI-controlled reduced switch cascaded multilevel inverter operation in wind energy conversion system with solid-state transformer." Iranian Journal of Science and Technology, Transactions of Electrical Engineering 43.4 (2019): 1053-1073. (Springer) **SCI/SCOPUS-IF:0.657**
17. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "A novel control strategy based on hybrid instantaneous theory decoupled approach for PQ improvement in PV systems with energy storage devices and cascaded multi-level inverter." Sādhanā 45.1 (2020): 1-13. (Springer) **SCI/SCOPUS-IF:0.849**
18. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "Modified Sliding Mode Control for Universal Active Filter based Solar Microgrid System" International Journal of Automation and Control. (2020) (Inderscience) **(ACCEPTED) SCOPUS/ESCI**
19. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Rout. "Fuzzy logic-based hybrid active filter for compensating harmonic and reactive power in distributed generation" International Journal of Power electronics. (2020) (Inderscience) **(ACCEPTED) SCOPUS**

#### **BOOK CHAPTERS:**

1. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Rout. "Robust Control and Inverter Approach for Power Quality Improvement" Green Technology for Smart City and Society, (2020) (Springer) **SCOPUS (Best Paper award)**
2. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "Execution of Adaptive Transverse Filter for Power Quality Improvement." Advances in Intelligent Computing and Communication. Springer, Singapore, 2021. 409-421. (Springer) **SCOPUS (Best Paper award)**
3. Routray, Sangram Keshari, Buddhadeva Sahoo, and Sudhansu Sekhar Dash. "A Novel Control Approach for Multi-level Inverter-Based Microgrid." Advances in Electrical Control and Signal Systems. Springer, Singapore, 2020. 983-996. (Springer) **SCOPUS**

#### **INTERNATIONAL CONFERENCE:**

1. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "Advanced Control Technique based Neutral Clamped Inverter Operation." 2021 1st Odisha International Conference on Electrical Power Engineering, Communication and Computing Technology (ODICON). IEEE, 2021. (IEEE) **SCOPUS (Best Paper award)**
2. Sahoo, Buddhadeva, Sangram Keshari Routray, and Pravat Kumar Rout. "A Modified Least Mean Square Technique for Harmonic Elimination." 2021 1st Odisha International Conference on Electrical Power Engineering, Communication and Computing Technology (ODICON). IEEE, 2021. (IEEE) **SCOPUS**

ANY OTHER

#### **FDP AND WEBINAR ATTENDED:**

1. Faculty Development Programme titled 'Present Trends and Research in Electric Vehicles' organised by RIT-IEEE Student Branch-27.05.2020 to 31.05.2020
2. Faculty Development Programme titled 'Recent Strategies on Micro- and Smart-Grid Technologies' organised by GMR Institute of Technology, Rajam-13.07.2020 to 14.07.2020
3. Faculty Development Programme titled 'Artificial Intelligence in Future Microgrid Control' organised by Silicon Institute of Technology-17.06.2020 to 20.06.2020.
4. Faculty Development Programme titled 'Renewable Energy Application in Smart Grid, Micro Grid and EVs (REASGMGEV-2020)' organised by GMR Institute of Technology, Rajam. 13.07.2020 to 14.07.2020

5. Faculty Development Programme titled 'Renewable power generation, control and grid integration 2020' organised by Indira Gandhi Institute of Technology, Sarang-10.08.2020 to 14.08.2020
6. Webinar titled 'Energy audit and its Management' organised by Karpagam Academy of Higher Education, Coimbatore, 22.08.2020
7. Webinar titled 'Dynamic Modeling for Analysis of Wind Farm and Grid Integration' organised by Imperial College London, UK association with IEEE-Bhubaneswar, 22.08.2020.
8. Webinar titled 'Challenges in Integration of Large-Scale Renewables in Indian Power System' BIT Sindri, Dhanbad Jharkhand, 27.08.2020
9. Webinar titled 'Application of Solar PV System in Remote Areas' Rite Bhubaneswar, 09.09.2020

#### **AWARD/ACHIEVEMENT:**

1. Council of scientific and industrial research (CSIR), Government of India, Senior Research Fellowship under the acknowledgment number 143460/2K19/1 (File no: 09/969(11117)/2021-EMR-I).
2. Conférence presentation and best paper award- Green Technology for Smart City and Society (GTSCS) 2020- (Springer)- 13.08.2020 to 14.08.2020
3. IEEE paper presentation and best paper award (IEEE-2021) - 1<sup>st</sup> Odisha International Conference on 'Electrical Power Engineering, Communication and Computing Technology (ODICON) 2021'-08.01.2021 to 09.01.2021
4. TOP 10 Most downloaded article (ITES-Wiley)- International Transaction on Electrical Energy system-14.01.2021
5. Reviewer Recognition Certificate- (Elsevier)- Renewable Energy Journal-13.09.2020
6. Reviewer Recognition Certificate- (Elsevier)- Sustainable Energy technologies and assessment-15.03.2021
7. Appreciation Certificate-(Siddharth Institute of Engineering and Technology)- 07.02.2020

#### **LINKS:**

1. [Buddhadeva Sahoo - Google Scholar](#)
2. [Buddhadeva Sahoo \(researchgate.net\)](#)
3. [Buddhadeva Sahoo | Publons](#)
4. <https://orcid.org/0000-0002-5601-1513>