Shyam A B

Assistant Professor

Room No 131-B, First Floor
Department of Electrical Engineering,
IIT (ISM) Dhanbad,
Dhanbad, Jharkhand, India – 826004
+91-326-223-5024 (O)
shyamab@iitism.ac.in
https://people.iitism.ac.in/~shyamab

RESEARCH

Power Electronics • Power Electronic Converters • Wide Band Gap (WBG) based Circuits • Distributed Generation and Microgrids

EXPERIENCE

Assistant Professor • IIT (ISM) Dhanbad • Dhanbad, Jharkhand, India — Oct 2023 – Present
Project Scientist • IIT Kanpur • Kanpur, Uttar Pradesh, India — Aug 2023 – Oct 2023
Lecturer • RGUKT - R K Valley • Kadapa, Andhra Pradesh, India — Jul 2012 – Dec 2015

EDUCATION

Ph. D. • Electrical Engineering • IIT Kanpur • Kanpur, India — Dec 2012 – Jun 2023
M. E. • Electrical Engineering • IISc Bangalore • Bengaluru, India — Aug 2010 – Jul 2012
B. Tech. • Electrical & Electronics Engineering • NSS College of Engineering • Palakkad, India — Jul 2005 – Jun 2009

AWARDS & FELLOWSHIPS

Best Contributory Paper Award in track Micro-Grid and Distribution System at 9th International Conference on Power Systems (ICPS-2021), IIT Kharagpur, 2021

Student Support Grant to present paper at 2018 IEEE Innovative Smart Grid Technologies - Asia (ISGT Asia), Singapore, 2018

PROJECTS (As Principle Investigator)

2024-2026	Design and Development of Onboard Charger for Electric Vehicle By *Indian Institute of Technology (Indian School of Mines) Dhanbad*, India Funds: Rs 15.56 Lakhs

PUBLICATION SUMMARY

- **5** Journal publications, **7** publications in Conferences
- Google Scholar: **159** Citations, **5** h-index, **4** i10-index

JOURNAL PUBLICATIONS

1. A. B. Shyam, S. R. Sahoo and S. Anand, "Voltage Regulation and Load Sharing in DC Microgrid Using Single Variable Global Average Estimation," in *IEEE Journal of Emerging and Selected Topics in Industrial Electronics*, vol. 5, no. 2, pp. 336-345, April 2024, doi: 10.1109/JESTIE.2023.3317800
2. A. Das, A. Shukla, A. B. Shyam, S. Anand, J. M. Guerreo and S. R. Sahoo, "A Distributed-Controlled Harmonic Virtual Impedance Loop for AC Microgrids," in *IEEE Transactions on Industrial Electronics*, vol. 68, no. 5, pp. 3949-3961, May 2021, doi: 10.1109/TIE.2020.2987290
3. A. B. Shyam, S. Anand and S. R. Sahoo, "Effect of Communication Delay on Consensus-Based Secondary Controllers in DC Microgrid," in *IEEE Transactions on Industrial Electronics*, vol. 68, no. 4, pp. 3202-3212, April 2021, doi: 10.1109/TIE.2020.2978719
4. A. Ingle, A. B. Shyam, S. R. Sahoo and S. Anand, "Quality-Index Based Distributed Secondary Controller for a Low-Voltage DC Microgrid," in *IEEE Transactions on Industrial Electronics*, vol. 65, no. 9, pp. 7004-7014, Sept. 2018, doi: 10.1109/TIE.2018.2795524
5. Islam, S., Agarwal, S., Shyam, A. B., Ingle, A., Thomas, S., Anand, S. and Sahoo, S.R. (2018), "Ideal current-based distributed control to compensate line impedance in DC microgrid," *IET Power Electronics*, 11: 1178-1186, doi: 10.1049/iet-pel.2017.0531

CONFERENCE PUBLICATIONS

1. A. B. Shyam, A. Das, S. R. Sahoo and S. Anand, "Effect of Communication Delay on Steady State Voltage in DC Microgrids," *2022 22nd National Power Systems Conference (NPSC)*, New Delhi, India, 2022, pp. 524-529, doi: 10.1109/NPSC57038.2022.10069847
2. A. B. Shyam, S. Ranjan Sahoo and S. Anand, "Voltage Regulation Controller in DC Microgrid: Implementation Challenges and Solutions," *IECON 2022 – 48th Annual Conference of the IEEE Industrial Electronics Society*, Brussels, Belgium, 2022, pp. 1-6, doi: 10.1109/IECON49645.2022.9968717
3. A. B. Shyam, S. R. Sahoo, S. Anand and J. M. Guerrero, "Comparative Study of Various Communication Technologies for Secondary Controllers in DC Microgrid," *2021 9th IEEE International Conference on Power Systems (ICPS)*, Kharagpur, India, 2021, pp. 1-6, doi: 10.1109/ICPS52420.2021.9670303
4. V. P. Abhiram, A. B. Shyam, S. R. Sahoo and S. Anand, "Stability of DC Microgrid for Different Reduced Communication Topologies," *2019 8th International Conference on Power Systems (ICPS)*, Jaipur, India, 2019, pp. 1-6, doi: 10.1109/ICPS48983.2019.9067705
5. V. P. Abhiram, A. B. Shyam, S. R. Sahoo and S. Anand, "Communication Topology Selection for Secondary Controllers in DC Microgrid," *2019 National Power Electronics Conference (NPEC)*, Tiruchirappalli, India, 2019, pp. 1-6, doi: 10.1109/NPEC47332.2019.9034875
6. D. Dhua, A. B. Shyam, S. Anand and S. R. Sahoo, "Dynamic Overcurrent Saturation of Distributed Sources in a DC Microgrid System," *2018 20th National Power Systems Conference (NPSC)*, Tiruchirappalli, India, 2018, pp. 1-6, doi: 10.1109/NPSC.2018.8771443
7. A. B. Shyam, A. Ingle, S. R. Sahoo and S. Anand, "Performance Analysis of Reduced Communication Network in DC Microgrid," *2018 IEEE Innovative Smart Grid Technologies - Asia (ISGT Asia)*, Singapore, 2018, pp. 976-981, doi: 10.1109/ISGT-Asia.2018.8467839

LIST OF STUDENTS

No.	Name	Title of Thesis	Program	Year of completion
1	Bipin Chandra Pant	DC-DC Converter for Electric Vehicle	MTech	Ongoing
2	Niraj Sahu	PFC Converter for Electric Vehicle	MTech	Ongoing
3	Phularenu Das	Hybrid Microgrid	PhD	Ongoing

OTHER PROFESSIONAL ACTIVITIES

1. Departmental Undergraduate Committee (DUGC) member, EE, IIT (ISM) Dhanbad since Oct 2024
2. Department Faculty Coordinator for Alumni Affairs, EE, IIT (ISM) Dhanbad since Jun 2024
3. Speaker in Session 7: "Academia – Building relevant foundation for a sustainable future" at International Standards Summit 2024, Bengaluru on "Energy Sector – Ensuring Excellence, Adaptation and Transformation through Standards", 04 – 05 Jul 2024
4. Reviewer for IEEE Transactions on Power Electronics, and several international and national conferences

"**Last updated on 01 Feb 2025**"