

Akanksha Shukla, Ph.D.

Assistant Professor, Department of Electrical Engineering, SVNIT Surat, Gujarat – 395007, INDIA

Mobile: +91-9772131431, Email: ashukla@eed.svnit.ac.in, shukla.akanksha19@gmail.com

AREA OF RESEARCH

Data driven based modelling and management of distribution system with low-carbon distributed technologies (renewable, storage, EVs), charging infrastructure planning, uncertainty modelling, artificial intelligence and machine learning applications to Power system

EDUCATION

Ph.D. , MNIT Jaipur, Electrical Engineering	2015-2019
M.Tech. , MNIT Jaipur, Electrical Engineering (Power Systems)	2013-2015
B.Tech. , HBTU (Formerly-HBTI) Kanpur, Electrical Engineering	2009-2013

EXPERIENCE

Assistant Professor , Department of Electrical Engineering, SVNIT Surat	May 2021-till date
Temporary Faculty , Department of Electrical Engineering, NIT Hamirpur	Feb. 2021-April 2021
Assistant Professor , Department of Electrical Engineering, SVNIT Surat	July 2019-July 2020

SPONSORED RESEARCH PROJECT(S)

Title of the Project: Development of impact assessment and voltage regulation approach for active distribution system embedded with EVs.

Budget: 9,96,181 INR

Funding Agency: SVNIT Surat

Role: PI

Duration: Feb. 2022-24

U.G./P.G./PH.D. SUPERVISION

Ph.D.

1. Mr. Suresh Tejavath on **Planning of EV Charging Station in Active Distribution Network**, Year 2021 (Ongoing).
2. Mr. Vikash Kumar Verma on **Improving Situational Awareness of Power Distribution Network**, Year 2021 (Ongoing).

P.G.

1. Mr. Pratik Hemantbhai Kataria on **Optimal Planning Electric Vehicle Charging Station in Active Distribution Network**, Year 2023.
2. Mr. Sudipta Baidya on **Battery charging strategy of Electric Vehicle using dual-active bridge converter**, Year 2023.
3. Mr. Imran Mohammed on **FPPT-based Hybrid Operating Strategy for Standalone DC Microgrid**, Year 2022.

U.G.

1. Global horizon irradiance and energy prediction using artificial intelligence, Year 2023.
2. Electric Load Forecasting based on Micrometeorological Data using CNN, Year 2022.
3. Simulation and implementation of automatic phase supply changer, Year 2020.

COURSES TAUGHT**U.G.**

Electrical Measurement and Measuring Instruments, Basic Electrical Engineering, Electrical Technology, Electric Circuits, Network Analysis and Synthesis, Power Plant Engineering, Power System Operation and Control

P.G.

Optimization Techniques

WORKSHOP/STTPS/EXPERT TALKS/CONFERENCE ORGANIZED

- Coordinator, STTP on **Emerging Trends in Electric Vehicles (EVs) and Renewables (ETER- 2022)** at SVNIT Surat, India from 26-09-2022 to 30-09-2022.
- Coordinator, STTP on **Sustainable Development and Recent Advances in Electrical Engineering (SDRAEE)** at SVNIT Surat, India from 26-09-2022 to 30-09-2022.
- **Technical Program Committee Member** of 2nd Electric Power and Renewable Energy Conference (EPREC 2020) at NIT Jamshedpur, India from 28-05-2021 to 30-05-2021.
- **Execution Committee Member** of International Conference on “Sustainable Technology and Advanced Computing in Electrical Engineering” at SVNIT Surat from 11-11-2021 to 12-11-2021.
- **Program Committee Member** of Electric Power and Renewable Energy Conference (EPREC 2020) at NIT Jamshedpur, India from 29-05-2020 to 30-05-2020.
- **Organizing Committee Member** of IEEE International Conference on Power Electronics & IoT Applications in Renewable Energy and its Control (PARC 2020) at GLA University, Mathura from 28-02-2020 to 29-02-2020.

EXPERT LECTURES/TALKS DELIVERED IN CEP/ QIP/STTP/ SPECIAL LECTURES

Sr. No.	Title	Event	Schedule	Organizer and Venue
1.	EV Infrastructure Planning: A multidimensional approach	One-Week STTP on Emerging Trends in Electric Vehicles (EVs) and Renewables (ETER- 2022)	12-12-2022	SVNIT Surat
2.	EV Analytics: A Power system perspective	(STTP) on Sustainable Development and Recent Advances in Electrical Engineering (SDRAEE)	29-09-2022	SVNIT Surat
3.	Charging Infrastructure to Enable Electrified Transportation	Expert Lecture for UG Students	05-02-2022	SKIT M&G, Jaipur, Rajasthan
4.	Planning of EV Fast Charging Infrastructure: Case Study	Faculty Development Program on Emerging Trends in Electric Vehicles and Infrastructure Development	14-07-2021	RIT, Rajaramnagar, Sangli, Maharashtra
5.	Planning of EV Fast Charging Infrastructure	AICTE-ISTE Sponsored One Week - Online Induction Programme on “Microgrid Scenario & Control”	25/05/2021	RIET Jaipur, Rajasthan

ADMINISTRATIVE ACTIVITIES**Departmental**

- Lab In Charge, Electrotechniques lab, SVNIT Surat 03/09/2021-till date
- Lab In Charge, PG Project lab, SVNIT Surat 03/09/2021-till date
- Class Advisor, B.Tech. I Year, GLA University Mathura Jan 2020-June 2020

- Convener Faculty Meeting, GLA University Mathura Aug. 2019- July 2020
- Student Activity In Charge, GLA University Mathura Aug. 2019- July 2020

Institute

- Member, Strategic Planning Committee for implementation of New Education Policy (NEP) at SVNIT Surat 03-03-2022-till date

OUTREACH ACTIVITIES

- **Ph.D. Thesis Examiner** in Gujarat Technical University, Manipal Jaipur, Graphic Era University Dehradun.
- **Session Chair** in “4th Electric Power and Renewable Energy Conference” (EPREC 2023) at NIT Jamshedpur.
- **Session Chair** in “2023 IEEE Renewable Energy and Sustainable E-Mobility Conference” (RESEM 2023) at MANIT Bhopal.
- **Session Chair** in “10th IEEE International Conference on Power Electronics, Drives and Energy Systems” (PEDES 2022) at MNIT Jaipur.
- **Session Chair** in “10th IEEE Power India International Conference” (PIICON 2022) at NIT Delhi.
- **Session Chair** in “IEEE International Conference on Power Electronics & IoT Applications in Renewable Energy and its Control” (PARC 2022) at GLA University, Mathura.
- **Session Chair** in “Electric Power and Renewable Energy Conference” (EPREC 2021) at NIT Jamshedpur.
- **Session Chair** in “IEEE International Conference on Power Electronics & IoT Applications in Renewable Energy and its Control” (PARC 2020) at GLA University, Mathura.

PUBLICATIONS

Journals

1. Akanksha Shukla, Kusum Verma, and Rajesh Kumar, “Multi-Objective Synergistic Planning of EV Fast Charging Stations in Distribution System Coupled with Transportation Network”, IET Generation, Transmission & Distribution, 2019, vol. 13, no. 15, 3421 – 3432.
2. Akanksha Shukla, Kusum Verma, and Rajesh Kumar, “Impact of EV fast charging station on distribution system embedded with wind generation”, The Journal of Engineering (IET), 2019, vol. 2019, no. 18, pp. 4692-4697.
3. Mitul Gamit, Akanksha Shukla, Kusum Verma, and Rajesh Kumar, “Supplementary frequency control in power systems via decentralized V2G/G2V support”, The Journal of Engineering (IET), 2019, vol. 2019, no. 18, pp. 5287-5291.
4. Akanksha Shukla, Kusum Verma, and Rajesh Kumar, “Voltage-dependent modelling of fast charging electric vehicle load considering battery characteristics”, IET Electrical Systems in Transportation, 2018, vol. 8, no. 4, pp. 221-230.

Conferences

1. Sudipta Baidya¹ and Akanksha Shukla, “Comprehensive Analyses of Control Techniques in Dual Active Bridge DC-DC Converter for G2V Operations” in 4th Electric Power and Renewable Energy Conference (EPREC-2023), Jamshedpur, 25-27 May, 2023.
2. Deep Rodge, Janavi Popat, and Akanksha Shukla, “Global Horizontal Irradiance Prediction using Clustering and Artificial Neural Network” in 4th Electric Power and Renewable Energy Conference (EPREC-2023), Jamshedpur, 25-27 May, 2023.
3. Akanksha Shukla, Abhilash Kumar Gupta, “Electric Load Forecasting through CNN: A Deep Learning

- Approach Considering Weather data”, in 2022 IEEE 10th Power India International Conference, PIICON, Delhi, 25-27 Nov. 2022.
4. Akanksha Shukla, Abhilash Kumar Gupta, “Damping enhancement of DFIG integrated power system by coordinated controllers tuning using Marine Predators Algorithm”, in Electric Power and Renewable Energy Conference 2020 (EPREC-2020), Springer, Jamshedpur, 29-30 May 2020.
 5. Abhilash Kumar Gupta, Akanksha Shukla, Kusum Verma and K. R. Niazi, “Dynamic Impact Analysis of Wind Integration on Small Signal Stability of Power System”, in IEEE International Conference on Power Electronics & IoT Applications in Renewable Energy and its Control (PARC 2020), Mathura, 28-29 Feb. 2020.
 6. Akanksha Shukla, Kusum Verma, and Rajesh Kumar, “Planning of EV fast charging stations for distribution system coupled with transportation network”, in 2019 IEEE Power and Energy Society General Meeting, Atlanta GA, USA, 4-8 Aug. 2019.
 7. Akanksha Shukla, Kusum Verma, and Rajesh Kumar, “Planning of fast charging stations in distribution system coupled with transportation network for capturing EV flow”, in IICPE 2018, 8th IEEE India International Conference on Power Electronics, Jaipur, 13-15 Dec. 2018.
 8. Mitul Gamit, Akanksha Shukla, Kusum Verma, and Rajesh Kumar, “Decentralized PEVs energy management scheme for supplementary frequency regulation considbehaviorility behaviour”, in IICPE 2018, 8th IEEE India International Conference on Power Electronics, Jaipur, 13-15 Dec. 2018.
 9. Akanksha Shukla, Kusum Verma, and Rajesh Kumar, “Multi-stage voltage dependent load modelling of fast charging electric vehicle” in IEEE 6th International Conference on Computer Applications in Electrical Engineering-Recent Advances (CERA 17), Roorkee, 5-7 Oct. 2017.
 10. Akanksha Shukla, Kusum Verma, and Rajesh Kumar. "Consumer perspective based placement of electric vehicle charging stations by clustering techniques", in IEEE 19th National Power Systems Conference (NPSC 2016), Bhubaneswar, 19-21 Dec. 2016.
 11. Akanksha Shukla, Kusum Verma, and Shahbaz A. Siddiqui, “Voltage stability improvement of distribution networks by enhancing DGs impacts”, in IEEE 1st International Conference on Power Electronics, Intelligent Control and Energy systems (ICPEICES 2016), DTU Delhi, 4-6 July 2016.
 12. Akanksha Shukla, Kusum Verma, and Rajesh Kumar, “Online voltage stability monitoring of distribution system using optimized Support Vector Machine”, in IEEE 6th International Conference on Power Systems (ICPS 2016), Delhi, 4-6 March, 2016.
 13. Akanksha Shukla, Kusum Verma, and Shahbaz A. Siddiqui, “Optimal voltage regulation of a distribution network by output power management of DGs”, in 2015 Annual IEEE India Conference (INDICON 2015), Delhi, 17-20 Dec. 2015.

Book Chapters

1. Abhilash Kumar Gupta, Akanksha Shukla, Kusum Verma and K. R. Niazi, “Impact Analysis and Robust Coordinated Control of low frequency oscillations in wind integrated power system”, in: Wide Area Power Systems Stability, Protection, and Security, Power Systems, H. Haes Alhelou, Almoataz Y. Abdelaziz, Pierluigi Siano (eds.), Springer, Cham., pp. 273-292, 2021. (https://doi.org/10.1007/978-3-030-54275-7_10).
2. Akanksha Shukla, Abhilash Kumar Gupta, “Damping enhancement of DFIG integrated power system by coordinated controllers tuning using Marine Predators Algorithm”, In: Singh A.K., Tripathy M. (eds) Control Applications in Modern Power System. Lecture Notes in Electrical Engineering, vol 710. Springer, Singapore, 2021. (https://doi.org/10.1007/978-981-15-8815-0_15).

REVIEWER

- IEEE Transactions on Power Systems
- IEEE Access
- Power Engineering Letters

- IET Generation Transmission & Distribution
- Energy, Elsevier
- Energy Reports, Elsevier
- International Transactions on Electrical Energy Systems, Wiley
- IEEE Transactions on Intelligent Transportation Systems
- Concurrency and Computation: Practice and Experience, Wiley
- IEEE Transactions on Transportation Electrification
- Electric Power and Renewable Energy Conference 2020, 2021, 2023
- IEEE International Conference on Power Electronics & IoT Applications in Renewable Energy and its Control” 2020, 2022

HONOURS AND AWARDS

- MHRD Scholarship -Govt. of India for Ph.D. and M.Tech. studies.
- Recipient of TEQIP Travel grant MNIT Jaipur for presenting research paper at IET RPG 2018, 7th International Conference on Renewable Power Generation, Denmark, 26-27 Sept. 2018.
- Best Paper Award in a session for 4th Electric Power and Renewable Energy Conference” (EPREC 2023) at NIT Jamshedpur.

PROFESSIONAL AFFILIATION

- Member of IEEE (2015 to till date), IEEE Industry Applications Society (2021 to till date), IEEE Power & Energy Society (2021 to till date).
- Member IET (2019-2020)

REFERENCES

Dr. Kusum Verma

Associate Professor, Department of Electrical Engineering, MNIT Jaipur
Tel: +91-9549657314
Email: kverma.ee@mnit.ac.in

Dr. Rajesh Kumar

Professor, Department of Electrical Engineering, MNIT Jaipur
Tel: +91-9549654481
Email: rkumar.ee@mnit.ac.in