Dr. Devesh Umesh Sarkar

Post Doctoral Fellow (PDF) from Indian Institute of Technology (IIT Palakkad), Ph.D from VIT Vellore, M.Tech (Integrated Power System) from G H Raisoni College of Engineering, Nagpur & B.E. (Electrical Engineering) from SSCET Chandrapur.

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📍 Nagpur

🧠 E D U C A T I O N

Doctor of Philosophy (Ph.D) in Design & Development of efficient controllers for Power oscillation Damping, VIT UNIVERSITY, VELLORE,   (Year-2021-2024)

Masters of Technology (M.Tech.) in Integrated Power System, (CGPA=7.89) RTM Nagpur University, (Year-2015-17)

Bachelors of Engineering (B.E.)   in Electrical Engineering, (64.88%) RTM Nagpur University, (Year-2009-2013)

🖥 C O R E   S K I L L S

- MATLAB
- PYTHON
- KEIL SOFTWARE
- PSCAD
- ORCAD PSPICE
- OPAL-RT OP5700
- PSS/E
- LaTeX

👤 O B J E C T I V E

To obtain an Assistant Professor position in Electrical Engineering at your esteemed institution, where I can use my expertise in the areas of power system stability, optimization, deep neural networks, and power system oscillation damping; other than these, I can use my 4 years of working experience where I taught different electrical engineering subjects, such as Microprocessor 8085, Computer Science, Renewable Energy Sources, Power system. I also worked in NAAC Criteria no. 4, 7, NBA criteria no. 4, and played a key role by setting up a solar laboratory, conducted many workshops, and STTP to contribute to the success of the department and the institution. Capable of working independently with minimum supervision and committed to providing high quality service to every work, with a focus on teamwork.

💼 E X P E R I E N C E

Total Experience: 8+ Years (Academic + Research)

Research Experience: 3+ Years

Indian Institute of Technology (IIT Palakkad), Palakkad, India (Present)

Post Doctoral Fellow (PDF): Estimation of Power system inertia.

Vellore Institute of Technology (VIT), Vellore, India (An Autonomous Institution, NIRF ranking 8th (2023), NAAC A++) (Mar-2021 to May-2024)

PhD Research Area Interest: Power system stability, Power system dynamics and control, Application of Artificial Intelligence, Artificial Neural Network, Deep Neural Network, Optimization Techniques, Renewable Energy Sources, Electrical Vehicles (EVs), Energy Management in Microgrid, Breast Cancer Detection Technique using advanced Deep Neural Network.

Highlight of my PhD research work done: Designed novel power system stabilizers to mitigate the electromagnetic low-frequency oscillation from the power system network. At the duration of my research work, I have

I T   S K I L L S

MS Office, (DOC, PPT, XLS) ★★★★★

C Language, C++ ★★★★★

S O F T   S K I L L S

Researcher and Complex thinker ★★★★★

published Four work papers in reputed **IEEE Transactions on Power System** and **SCIE indexed peer reviewed journal.** Moreover, two conference papers in IEEE conference and presented it in **IIT Delhi** and **NIT Delhi** and some of my research work papers are in communication with reputed SCIE indexed peer-reviewed journals.

Assistant Professor: 4.5 Years

S. B. Jain Institute of Technology, Management & Research, Nagpur, India (An Autonomous Institution, NAAC A) (Feb-2024 to Present)

I am teaching power systems, and non-conventional energy sources.

G H Raisoni Institute of Engineering and Technology, Nagpur, India (An Autonomous Institution, NAAC A+) (Jun-2017 to Jul-2021)

I have taught network theory, power systems, and non-conventional energy sources. I worked as the solar lab in-charge as I set up the solar laboratory in this institute and handled some of the important portfolios related to training and placement, NBA criteria no. 4, in-charge, and NAAC criteria no. 4, and 7 members. Moreover, I conducted many workshops and STTPs for students and faculty members, and delivered guest lectures outside the institute.

A W A R D S   A N D   H O N O U R S

- ❖ **Dr. APJ ABDUL KALAM AWARD** for the month of march 2023, issued for the Review Article entitled "**A Recent Review on Approaches to Design Power System Stabilizers: Status, Challenges and Future Scope**" by Devesh Sarkar., Prakash T., for their Publication in Scopus Indexed Journal in the month of March 2023.

- ❖ **RAMAN RESEARCH AWARD** for the month of August 2023, issued for the Research Publication entitled "**Recurrent neural network based design of fractional order power system stabilizer for effective damping of power oscillations in multimachine system**" by Devesh Sarkar., Prakash T., for their Publication in Scopus Indexed Journal in the month of August 2023.

- ❖ **RAMAN RESEARCH AWARD** for the month of August 2023, issued for the Research Publication entitled "**LSTM based deep neural network model of power system stabilizer for power oscillation damping in multimachine system**" by Devesh Sarkar., Prakash T., for their Publication in Scopus Indexed Journal in the month of August 2023.

C E R T I F I C A T I O N S

- ❖ Attended a One-day FDP by Industrial experts on 'Recent Challenges and Opportunities of Power Grids through Industrial Perspective' organized by School of Electrical Engineering, Vellore Institute of Technology, Vellore, India on 26th June 2023.

- ❖ Three-day Hands-on FDP on Opal–RT OP5700 & OP4200 RCP/HIL FPGA–based Real Time Simulator, organized by the School of Electrical Engineering, Vellore Institute of Technology, Vellore from 29th to 31st March 2023.

- ❖ One Day Training Program on "OrCAD PCB Design Tools" organized by the Department of Instrumentation, School of Electrical Engineering, Vellore Institute of Technology, Vellore on 17th March, 2023.

- ❖ International online 5-day faculty development programme on "Real-time Application of Opal-RT for Smart Grids" organized by the Centre for Smart Grid Technologies and School of Electrical Engineering from November 17th to November 21st, 2022, at Vellore Institute of Technology, Chennai.

- ❖ A Hands-on Workshop on Technical Writing with LaTeX held at Vellore Institute of Technology, Vellore on 7 September, 2022.

- ❖ 9 weeks, Short Term Training Program in "Machine Learning" by Associate Professor, Andrew Ng Computer Science Department Stanford University, platform: Coursera (Feb-April 2022).

- ❖ "WhatsApp Outcome Based Education Faculty Development Program, D Y Patil College of Engineering, Akurdi, Pune Programme Topics: CO, PO & PSO, NBA- OBE Processes: 21 Days (March 24 to April 14, 2020).

- ❖ Participated in 'One day Workshop on Linux' held at G H Raisoni College of Engineering on 23 August 2019. This training was organised by the Teaching Learning Centre, ICT at IIT Bombay, funded by the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT), MHRD, Govt. of India

- ❖ Attended a workshop on "Moodle Learning Management System" held at the G H Raisoni Institute of Engineering and Technology, Nagpur and organized by IIT Bombay on 15 March 2019.

- ❖ "Short Term Training Program, St. Vincent Palloti College of Engineering & Technology, Nagpur, 2019 Programme Title: Renewable Energy Sources; Duration: 7 Days.

- ❖ IIT Bombay Workshop (Host Institution : GHRIET, Nagpur), Programme Title: IIT Bombay Moodle Workshop : One Day, Date: 15/03/2019.

- ❖ "Short Term Training Program, National Institute of Technical Teachers Training and Research (NITTTR), Bhopal Programme, 2018, Title: Wind & Solar Power; Duration: 7 Days.

- ❖ One day training programme on "Introduction to Indian Patenting Procedure" jointly conducted by G H Raisoni Institute of Engineering & Technology, Nagpur & Rajiv Gandhi National Institute of Intellectual Property Management, Nagpur on 20th February, 2018.

- ❖ AICTE Sponsored Two Week Faculty Development Programme on "The Multidisciplinary Nature of Environment, Environmental Ethics & Issues" organized by Department of Electrical Engineering, G H Raisoni Institute of Engineering & Technology, Nagpur from 7st November to 16th November, 2017.

💼 P R O F E S S I O N A L   M E M B E R S H I P

- ❖ Graduate student membership, Institute of Electrical and Electronics Engineers (IEEE), Madras Section, Membership ID: 94421049, valid through December 31, 2024.
- ❖ Lifetime membership, The Indian Society for Technical Education (ISTE).

💼 U G   &   P G   P R O J E C T

- ❖ **Ph.D Project**: "Design & Development of efficient controller for Power oscillation Damping".
- ❖ **PG Project: "**Analysis of Voltage Stability Using Solar PV system Connected to the Grid".
- ❖ **UG Project:** "Solar tracking system by using dual axis with Microcontroller".

📁 C O P Y R I G H T S

❖ Copyright Poster, Parameters of Solar PV Installation, Diary Number: 6196/2018-CO/L, Copyright New Delhi corporate office, Government of India (Registered).

❖ Copyright Poster, Simulation of the system of Solar PV with source feeding supply to 3 phase induction motor, Diary Number: L-78725/2018, Copyright New Delhi corporate office, Government of India (Registered).

📁 G U E S T   L E C T U R E   &   I N D U S T R I A L   V I S I T

❖ Visited **SRLDC Grid India, Bangalore** to understanding the functioning of Power System Stabilizer (PSS) in industry.

❖ Delivered Guest lecture, Fundamentals of Solar PV System, Electrical Department, G H Raisoni Polytechnic College Nagpur on 11th March 2018.

❖ Solar PV Technology, Electrical Department, Shri sai college of Engineering & Technology, Lonare on 1st September 2018.

❖ Taken Industrial Visit in 172.5KW Solar Plant Visit for G H Raisoni Polytechnic Student on 5th November 2020.

❖ Delivered Webinar on topics: Solar cell circuit for AC & DC supply and Calculation of Solar system in online foundation course of 40 Hours duration scheduled during 25/05/20 to 16/06/20 organized by G H Raisoni University in association with The Hitavada.

📁 P U B L I C A T I O N S

❖ Devesh Umesh Sarkar, Tapan Prakash and S. N. Singh, "Fractional Order PID-PSS Design using Hybrid Deep Learning Approach for Damping Power System Oscillations," in **IEEE Transactions on Power Systems**, DOI: 10.1109/TPWRS.2024.3416753. **(SCIE, Q1, IF: 7.326)**

❖ Devesh Umesh Sarkar, Tapan Prakash, "A Convolutional Neural Network Framework to Design Power System Stabilizer for Damping Oscillations in Multi-machine Power System" **Neural Computing and Applications (NCAA) (2023), Springer Nature**, pp. 1-17,
DOI: https://doi.org/10.1007/s00521-023-09323-0 **(SCIE, Q1, IF: 6)**

❖ Devesh Umesh Sarkar, Tapan Prakash, "Recurrent neural network-based design of fractional order power system stabilizer for effective damping of power oscillations in multimachine system" **Engineering Applications of Artificial Intelligence, Elsevier,** Volume 126, Part B, 2023, 106922, ISSN 0952-1976, DOI: https://doi.org/10.1016/j.engappai.2023.106922. **(SCIE, Q1, IF: 8)**

❖ Devesh Umesh Sarkar, and Tapan Prakash, "LSTM based deep neural network model of power system stabilizer for power oscillation damping in multimachine system." **International Journal of**

Numerical Modelling: Electronic Networks, Devices and Fields, **John Wiley & Sons,** Volume 37, Issue 2, e3158. DOI: https://doi.org/10.1002/jnm.3158. **(SCIE, Q2, IF: 1.6)**

❖ Devesh Umesh Sarkar, and Tapan Prakash, "A Recent Review on Approaches to Design Power System Stabilizers: Status, Challenges and Future Scope," in **IEEE Access**, vol. 11, pp. 34044-34061, 2023. DOI: 10.1109/ACCESS.2023.3244687 **(SCIE, Q1, IF: 3.9)**

❖ D. U. Sarkar and T. Prakash, "A Neural Network Approach to Design Power System Stabilizer for Damping Power Oscillations," *2022 22nd National Power Systems Conference (NPSC)* ***at IIT Delhi***, New Delhi, India, 2022, pp. 837-842, doi: 10.1109/NPSC57038.2022.10070020.

❖ D. U. Sarkar and T. Prakash, "A Novel Design of Power System Stabilizer via GWO-tuned Radial-basis Function Neural Network for Damping Power Oscillations," *2022 IEEE 10th Power India International Conference (PIICON)* ***at NIT Delhi***, New Delhi, India, 2022, pp. 1-6, doi: 10.1109/PIICON56320.2022.10045259.

❖ Sarkar, D.U., Katira, M.J. (2019). Solar Power Plant at Shradha Park and Optimal Solution to Improve the Advancement in Technology—A Case Study. Smart Technologies for Energy, Environment and Sustainable Development. Lecture Notes on Multidisciplinary Industrial Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-13-6148-7_1.

❖ D. U. Sarkar and H. S. Dalvi, "Modeling and designing of solar photovoltaic system with 3 phase grid connected inverter," *2017 2nd International Conference for Convergence in Technology (I2CT)*, Mumbai, India, 2017, pp. 1018-1023, DOI: 10.1109/I2CT.2017.8226283.

❖ D. U. Sarkar and T. Prakash, "Observation of TCSU: Travel Cold Storage Unit Operated by SPV Technology," Intelligent and Soft Computing Systems for Green Energy," in John Wiley & Sons, Inc., pp. 335-343, 2023 DOI: 10.1002/9781394167524.ch25

❖ Devesh Sarkar & Harshit Dalvi, "Microcontroller based conversion of solar PV module dc voltage to ac using optocoupler driving the gate current of 3 phase inverter" International Journal of Latest Trends in Engineering and Technology, Vol. (8), Issue (2), March 2017, pp.367-375, DOI: http://dx.doi.org/10.21172/1.82.050, e-ISSN:2278-621X.

PERSONAL INFORMATION

Father's Name:	Late Umesh Sarkar
Date of Birth:	04th July 1991
Gender:	Male
Nationality:	Indian
Language Known:	English, Hindi, Marathi & Bengoli
Hobbies:	Reading research articles, Playing with codings, Music, Sketching, cricket, and many more

📍 **D E C L A R A T I O N**

I hereby declare that the information given above is true to the best of my knowledge.

Date: **D.O.B**   : 04/07/1991
Place: Nagpur   **Signature:**