**Name** – Dr. Kumari Swati

**Affiliation** – Department of Electrical Engineering, Indian Institute of Engineering Science and Technology, Shibpur

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**Education Qualification:**

* B.Tech in Electrical Engineering, from Dr. B. C. Roy Engineering College, West Bengal University of Technology (2014)
* **M.S. and Ph.D. in Electrical Engineering (specialization – High Voltage Engineering)** from **IIT Madras (2019)**

**Post PhD Experience:**

* Assistant Professor Grade II at National Institute of Technology Rourkela (July 2024 – August 2025)
* Principal Investigator for sponsored project at Jadavpur University under SERB- National Post Doctoral Fellowship (NPDF) scheme (March 2022- March 2024)
* Project Manager at IDEAS- Technology Innovation Hub at Indian Statistical Institute (ISI) Kolkata (June 2021 – March 2022)
* Post Doctoral Fellow at Khalifa University, Abu Dhabi, U.A.E. (January 2020 – January 2021)

**Research Interest:**

Development and performance analysis of solid and liquid Nanodielectrics, condition monitoring of electrical insulation system, application of high voltage in smart agriculture, performance analysis of gas insulation system and cryogenics, partial discharge studies, and dielectric response analysis.

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**Subjects Taught:**

* High Voltage Engineering and HVDC Transmission (at NIT Rourkela)
* Basic Electrical Engineering (at NIT Rourkela)
* Electrical Installation and Design (at NIT Rourkela)
* Basic Electrical Engineering Laboratory (at NIT Rourkela)
* Electrical Machines Laboratory (at NIT Rourkela)
* Electrical Engineering Materials (at Jadavpur University)

**Publications:**

Journal

1. Kumari Swati, K. Sahitya Yadav, R. Sarathi, R. Vinu, and M. G. Danikas, Understanding Corona discharge activity in titania nanoparticles dispersed in transformer oil under AC and DC voltages, IEEE Transactions on Dielectrics and Electrical Insulation, 2017, 24(4), 2325–2336.
2. Kumari Swati, Ramanujam Sarathi, and Kartik Sunil Sharma, Understanding the Surface Discharge Activity with the Nanofluid Impregnated Paper Insulating Material, International Journal on Electrical Engineering and Informatics, 2017, 9(4), 762-775.
3. Kumari Swati, R. Sarathi, K. Sahitya Yadav, Nathaniel Taylor, and Hans Edin, Corona discharge activity in nanoparticle dispersed transformer oil under composite voltages, IEEE Transactions on Dielectrics and Electrical Insulation, 2018, 25(5), 1731–1738.
4. Kumari Swati, Vishnu M., K. Arul Prakash and R. Sarathi, Investigation on Heat Transfer Characteristics of Nano Titania added Transformer Oil with Hotspot Temperature, Nano Express, 2020, 1(010051), 1-10.

Conference

1. Ramanujam Sarathi, and Kumari Swati, Understanding Corona Activity in Nanoparticles Dispersed Transformer Oil under Harmonic AC Voltages, IEEE International Symposium on Electrical Insulating Materials, 2017, 83–86, Toyohashi, Japan.
2. Kumari Swati, R. Sarathi, and Kartik S Sharma, Understanding the Surface Discharge Activity with the Nanofluid Impregnated Paper Insulating Material, IEEE International Conference on High Voltage Engineering and Power System, 2017, 18–22, Bali, Indonesia.
3. Kumari Swati, and R. Sarathi, Investigation of Partial Discharge Activity of a Conducting Particle in Nanofluid under Composite Voltages, IEEE 13th International Conference on Industrial and Information Systems (ICIIS), 2018, 358-361, IIT Ropar, India.

**Award:**

Science and Engineering Research Board – National Post Doctoral Fellowship – awarded in 2021.

**Professional Membership:**

* IEEE Membership
* IEEE Young Professionals
* IEEE Dielectrics and Electrical Insulation Society Membership
* IEEE Industry Applications Society Membership
* IEEE Power & Energy Society Membership
* IEEE Women in Engineering Membership
* IEEE Nanotechnology Council
* Patent Agent registered with The Patent Office, DPIIT, Government of India

**About:**

Dr. Kumari Swati is a researcher and academic specializing in **High Voltage Engineering and Power & Energy Systems**. She holds a **B.Tech in Electrical Engineering** from Dr. B. C. Roy Engineering College, **West Bengal University of Technology (2014),** followed by an **M.S. and Ph.D. in Electrical Engineering** from **IIT Madras (2019)**, where her doctoral work focused on electrical insulation and thermal performance of transformer systems with nanomaterial dispersions.

Before joining this institute, she served as **Assistant Professor (Grade II) at NIT Rourkela (July 2024 – August 2025)**. She was awarded the **SERB (now ANRF) National Post-Doctoral Fellowship** and worked as **Principal Investigator for that project at Jadavpur University, Kolkata (March 2022 – March 2024)**. Earlier, she was **Project Manager** at the **IDEAS–Technology Innovation Hub, ISI Kolkata (June 2021 – March 2022)** under the DST-NMICPS scheme, and a **Post-Doctoral Fellow at Khalifa University, Abu Dhabi (January 2020 – January 2021)**. She also held the position of **Institute Pre-Doctoral Fellow at IIT Madras** following her thesis submission.

Her professional affiliations include **membership in IEEE (USA),** and she has also contributed to **institutional administration** as convener of multiple committees at Technology Innovation Hub - ISI Kolkata.

Additionally, she is a **Registered Patent Agent with the Patent Office, Government of India**. At NIT Rourkela, she served as a member of the Intellectual Property Innovation Centre (academic responsibility) and as the departmental PIC for patent filing.