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Dr. Jitendra Kumar

Assistant Professor (EE), NIT Jamshedpur

Coordinators

Dr. Veerpratap Meena

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One-Week Online Workshop

on

Distributed Energy Resources: Transforming Grids with Renewable Technologies

(15th Jan.- 19th Jan. 2025)

Organized by

Department of Electrical Engineering

National Institute of Technology, Jamshedpur

(An Institute of National Importance)

About Workshop

Distributed Energy Resources (DERs) are shifting electricity systems from centralized to decentralized, sustainable grid architecture. DERs may now convert energy effectively, connect to the grid, and improve power quality by utilizing renewable energy technology such as solar photovoltaics, wind turbines, and power electronics. Smart grid enhancements enable real-time monitoring, intelligent regulation, and bidirectional power flow, ensuring system stability and dependability even with a high renewable energy penetration.

The Workshop deliberations will be on the following themes:

- Integration of DERs into modern power systems.
- Role of power electronics in efficient energy conversion and grid interfacing.
- Smart grid innovations enabling real-time monitoring and bidirectional power flow.
- Strategies for addressing challenges like voltage control and harmonics.
- Ensuring grid stability, reliability, and power quality in DER-integrated systems.
- Economic and environmental benefits of decentralized energy systems.
- Emerging trends in DER integration, including AI, blockchain, and energy trading.

Resource Persons

Experts from IITs/NITs/Universities/Industries

Registration

Registration link:
https://forms.gle/agFzXUpoVHVB2u5W9
Registration fee for all delegates from Academia (Faculty/UG/PG/Ph.D Scholars)

Important Dates

Registration starts	30/12/2024
Registration ends	12/01/2025
Notification to participants	13/01/2025
Registration Fee Details	
UG Students	100
Research Scholars/ PG Students	200
Faculty/ Industry participants	500

Account Details for Payment of Registration Fee:

Account Name: *Research and Consultancy NIT Jamshedpur*
Account No.: *38246478714*
IFSC: *SBIN0001882*
Branch: *SBI, Jamshedpur NIT Campus, Adityapur*
(UPI/Online payment can be made to the above account number)

About NITJSR

The National Institute of Technology Jamshedpur (NIT Jamshedpur), is an Institute of National Importance located at Jamshedpur, Jharkhand, India. Established as a Regional Institute of Technology in 1960, it was upgraded to National Institute of Technology (NIT) on 27 December 2002 with the status of Deemed University. It is one of the 31 NITs in India, and as such is directly under the control of the Ministry of Human Resource Development (MHRD). It is the third in the chain of eight NITs established as a part of the Second Five Year Plan (1956–61) by the Government of India. The Institute has twelve departments including engineering, science and humanities. The institute offers a 4-year Bachelor of Technology degree in the various streams. The institute also offers Master and Ph.D degrees in various streams. The institute is bound to the quest for academic excellence and good governance, growth of institute, admired and respected institute for students, employees and industry, innovative leader.

About, Deptt. of Electrical Engg.

The Department of Electrical Engineering was started in 1960. The Department has been consistently producing quality Engineers since its inception and is also involved in research and development activities. The alumni of the department are well placed in both public and private sectors. In addition to the UG programme the department runs PG programme in Power Systems and Power Electronics and Drives and Ph.D. program in different areas of specialization. To emerge as a front-runner for catering latest needs of Power Sector, Electrical Industries, Public Service and to improve the quality of life with high human values. Imparting quality education and skills by establishing the state-of-the-art research facilities to students that further contributes to the socio–economic growth and eventually contributing to sustainable development of the society.

Resources Persons

Prof. Saifur Rahman

Joseph R. Loring Professor of Electrical and Computer Engineering, Virginia Tech, Arlington, Virginia, USA

Topic: Integrating Renewables to The Power Grid

Date: 15th Jan, Time: 6:30 PM-7:30 PM

Prof. Frede Blaabjerg

Professor in Power Electronics, Villum Investigator, Aalborg University, Denmark

Topic: Challenge of Renewable Energy Integration in Clean Energy System

Date: 16th Jan, Time: 2 PM-3 PM

Dr. Allam Jaya Prakash

Postdoctoral Fellow

UAE University,

UAE

Topic: AI and Data-Driven Optimization for Renewable Energy Integration

Date: 16th Jan, Time: 3:30 PM-4:30 PM

Dr. Anurag K Srivastava

Professor and Chairperson, West Virginia University, Morgantown, USA

Topic: Enabling Cyber-Resilient Smart Grid with Edge Distributed Energy Resources

Date: 16th Jan, Time: 7 PM-8 PM

Dr. Vikash Kumar Saini

Postdoctoral Fellow

Khalifa University, UAE

Topic: Centralize Energy Storage in Residential Energy Community

Date: 17th Jan, Time: 3 PM-4 PM

Prof. Hadi Kanaan

Head of Department at Saint Joseph University of Beirut, Lebanon

Topic: Modern Power Electronics for Grid Connectivity Application

Date: 17th Jan, Time: 5 PM-6 PM

Dr. Mahajan Sagar Bhaskar

Renewable Energy Lab, College of Engineering, Prince Sultan University, Saudi Arabia

Topic: Power Converters Solution for Electric Vehicle Supporting Auxiliary Loads

Date: 18th Jan, Time: 2 PM-3 PM

Dr. Arun Kumar Verma

Associate Professor

IIT Jammu, India

Topic: Inverters for Grid-Tied Solar Photovoltaic and Off-Grid Solar Power Plant

Date: 18th Jan, Time: 3:15 PM – 4:15 PM

Prof. Akash Saxena

Professor, School of Engg. & Technology, Central University of Haryana, Mahendergarh, India

Topic: Market Clearing Price Forecasting in Restructured Markets: A Focus on India

Date: 18th Jan, Time: 4:30 PM-5:30 PM

Dr Anurag Sharma

Director of Postgraduate Research and Associate Professor in Electrical Power Engineering, Newcastle University, Singapore

Topic: Decarbonizing Singapore: Directions, challenges, and opportunities

Date: 18th Jan, Time: 6 PM-7 PM

Dr. Abhishek Saxena

Postdoctoral Fellow

Khalifa University, UAE

Topic: Intelligent Load Forecasting and Renewable Energy Integration for Enhanced Grid Reliability

Date: 19th Jan, Time: 3 PM-4 PM