International Conference on
Sustainable Energy Technologies and Computational Intelligence
(SETCOM 2025)
Department of Electrical Engineering, SoET
Pandit Deendayal Energy University (PDEU), Gandhinagar, Gujarat, India |

February 21 – 23, 2025

SETCOM 2025 Special Sessions on

"Signal Processing and its Applications in Sustainable Energy"

Aims & Scope of the Session (100-200 words):

This track aims to explore innovative signal processing techniques that enhance the efficiency, reliability, and integration of sustainable energy systems. The scope of the track includes advancements in forecasting renewable energy sources, such as solar and wind, and their integration into the smart grid. Topics cover the use of signal processing for real-time monitoring, fault detection, and control in renewable energy systems, ensuring grid stability and power quality. Noise filtering, harmonic reduction, and time-frequency analysis are examined to address challenges in power systems with high renewable penetration. The track also focuses on smart metering, data analytics, and predictive maintenance using machine learning, enabling more efficient energy management and reducing system downtime. Additionally, it addresses the detection and classification of faults in photovoltaic (PV) arrays, using cutting-edge signal processing techniques. This track provides a platform for researchers and professionals to present and discuss the latest developments in signal processing that support the transition to sustainable energy.

Topics of interest include, but are not limited to:

1. Signal Processing for Renewable Energy Forecasting
2. Smart Grid Monitoring and Control using Signal Processing
3. Fault Detection in Renewable Energy Systems integrated Power System
4. Noise Filtering and Harmonic Reduction in Renewable Energy Systems
5. Smart Metering and Data Analytics for Sustainable Energy
6. Grid Stability and Control using Signal Processing
7. Machine Learning and Signal Processing for Predictive Maintenance in Sustainable Energy
8. PV array Fault detection and classification using signal processing techniques
9. Time Frequency Analysis based signal monitoring PV and Wind Integrated Power System

Special Session Organizers (names and contact emails):

1. **Dr. S Ramana Kumar Joga**, Assistant Professor, EEE Department, Dadi Institute of Engineering and Technology (Autonomous), Anakapalle, Andhra Pradesh. Email: srkjoga@diet.edu.in

2. **Dr. ASLK Gopalamma**, Associate Professor, EEE Department, Dadi Institute of Engineering and Technology (Autonomous), Anakapalle, Andhra Pradesh. Email: hodeee@diet.edu.in

Special Session Organizers (short bios with photo):

	Dr. S Ramana Kumar Joga is an experienced educator and researcher with a Ph.D. in Electrical Engineering from KIIT University, Bhubaneswar. With over Nine years of research and teaching expertise, he specializes in power systems, signal processing, artificial intelligence, and machine learning. Dr. Joga is currently an Assistant Professor at the Dadi Institute of Engineering and Technology, where he plays a pivotal role as the R&D coordinator and the Institution's Innovation Council (IIC) Coordinator, fostering innovation and entrepreneurship. He has a rich teaching background, having taught subjects such as the Internet of Things, Electric Vehicles, and Control Systems. His research contributions are notable, with publications in high-impact journals like IEEE Access and Energy Exploration & Exploitation. He is also a reviewer for leading journals and conferences.
	Dr, ASLK Gopalamma is an experienced educator and researcher with a Ph.D. in Electrical Engineering from Andhra University, Visakhapatnam. With over Eight years of research and teaching expertise, she specializes in Renewable Energy, signal processing, Sustainable Technology and machine learning. Dr. ASLK Gopalamma is currently an Associate Professor at the Dadi Institute of Engineering and Technology, where she plays a pivotal role as the Head of the Electrical and Electronics Engineering Department. Her research contributions are notable, with publications in high-impact journals and conferences like Environmental Challenges, IEEE PESGRE Conference. she is also a reviewer for leading journals and conferences.