

About the Institutes

GMRIT: GMR Institute of Technology (GMRIT) was established in the year 1997 by GMR Varalakshmi Foundation – the corporate social responsibility arm of GMR Group. GMRIT offers aspiring engineers' high quality technical education. It is currently placed among the top 50 colleges in the country and among the top 5 colleges in the state of Andhra Pradesh. GMRIT provides its learning community state-of-the-art facilities, infrastructure, and a competent faculty. The Institute encourages collaborative learning between industry and academia as a means of reinforcing its curriculum with practical and real-world experiences. It offers Eight UG and Five PG programs. All B.Tech programs are accredited by NBA under Tier-1 complying with Washington Accord and the college is accredited as an 'A' grade institution by NAAC for the three consecutive cycles. In the NIRF-ranking GMRIT was placed in the band of 201-300 for the year 2024.

ANDHRA UNIVERSITY: Andhra University (AU) located in Visakhapatnam, Andhra Pradesh, is one of the oldest and most prestigious universities in India. Established in 1926, it was the first residential and teaching-cum-affiliating university in Andhra Pradesh. Over nearly a century, AU has emerged as a centre of excellence in higher learning with a strong focus on interdisciplinary education and research. It is especially known for the Andhra University College of Engineering, which is one of the oldest engineering colleges in the state and has produced many distinguished alumni. AU continues to play a pivotal role in advancing knowledge and creating skilled professionals, who contribute to industry and society.

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Topic: Enhanced Validation of Intelligent Control Algorithms in AC Microgrids

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Topic: A Novel Multilevel Inverters with Reduced Circuit Components for Renewable Energy Applications in a microgrid

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Topic: Economic Distributed Generation for Optimal Operation of Active Distribution System

Dr. Manohar Mishra, SoA University, Bhubaneswar

Topic: Recent trends in Power system Protection



GMR Institute of Technology

Conducting One-Week Online Faculty
Development Program in collaboration with
Andhra University

Titled

**Emerging Trends in Renewable
Energy Integration with Smart and
Micro-Grid Technologies for
Sustainable Power Systems**

17th to 21st December 2024

Organized by

Department of Electrical & Electronics Engineering

&

Trans Disciplinary Research Hub, AU, Vizag, A.P.



Visit us at: <https://www.gmr.it.edu.in/>

<https://www.andhrauniversity.edu.in/>

About the Departments

Department of Electrical and Electronics Engineering of GMRIT was established in 1997. The department is accredited by NBA under Tier-1 and admits 120 students annually. Strong foundation in EEE fundamentals, emphasizing mathematical, scientific principles, cultivating meritorious and self-disciplined engineers is the motto of this department. Moreover, highly qualified faculty and vibrant academic atmosphere nurture the students' innate skills to achieve the department's goals. Industry internships, extra-curricular and co-curricular activities bridge the gap between class room theories and real-world applications, eventually transforming the student potentially ready for industry. In addition, the state-of-the-art research facilities encourage students to develop research competencies and enable them to broaden their horizons.

The AU Trans-Disciplinary Research Hub (A.U. TDR-HUB) embodies a transformative approach, integrating inter and intra-departmental knowledge to address global challenges by merging traditionally siloed disciplines. By encouraging trans-disciplinary methodologies, the hub moves beyond discipline-specific boundaries to create novel conceptual, theoretical, and methodological innovations. It identifies key Trans-disciplinary Research Areas (TRAs) for advancing research and education at Andhra University, uniting outstanding researchers across faculties to tackle pressing scientific, technological, and social issues. The cross-disciplinary engagement nurtures new ecologies of knowledge, addressing sustainability and fostering individual and collective transformation. Through its pioneering framework, A.U. TDR-HUB provides a robust platform for innovative research that redefines traditional academic boundaries.

About the FDP

The Faculty Development Program (FDP) on "Emerging Trends in Renewable Energy Integration with Smart and Micro-Grid Technologies for Sustainable Power Systems" delves into the transformative role of micro-grids in the evolving landscape of energy systems. As the world shifts towards sustainable energy solutions, this program focuses on the critical integration of renewable energy sources into existing grid infrastructures, addressing both technical and operational challenges. Participants will explore the foundational concepts of microgrid technology, including its architecture, control mechanisms, and benefits for enhancing grid resilience and reliability. The program highlights the importance of renewable energy integration, emphasizing solar, wind, and other distributed energy resources as key components in modern grid systems.

Topics Covered

- Introduction to Renewable Energy Integration
- Fundamentals of Smart Grids
- Micro-Grids: Concept and Role in Renewable Energy Integration
- Design and Optimization of Integrated Renewable Energy Systems
- Advanced Multilevel Inverter Designs for Renewable Energy Applications
- Control Strategies for Parallel Inverters in Renewable Energy-Based
- Smart Grid Integration for Renewable Energy Systems
- Energy Storage Solutions in Integrated Renewable Energy Systems
- Emerging Technologies and Future Directions in Sustainable Power Systems

Contact Persons

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Eligibility

All interested Faculty, Research Scholars, PG Students, and Industry Personnel

Registration Details

Faculty, Research Scholars, PG Students	: Rs. 300/-
Industry Participants	: Rs. 500/-

Bank Account Details for Payment

Account	:	Pilla Ramana
Account number	:	183610100001972
Bank Name	:	Union Bank of India
Branch	:	GMR Nagar, Rajam
IFSC Code	:	UBIN0818364
Phonepe/Google Pay	:	9491569956

(Please copy the payment transaction ID and place it in the registration link given below)

Registration Link

<https://forms.gle/kAkBgJr1UDcj2CbMA>

Certificate

The link for the different sessions will be emailed to the registered participants. The certificate will be issued for those participants who have attended the program with minimum 80% attendance.