



**AICTE Training and Learning Academy (ATAL)**  
**Faculty Development Program**

On

**“Advances in Energy Technologies for Climate Change Mitigation”**

**25<sup>th</sup> November 2024 to 30<sup>th</sup> November 2024**

## **PROGRAM OVERVIEW**

The Faculty Development Program (FDP) on "Advances in Energy Technologies for Effective Climate Change Mitigation" is designed for engineering faculty. It covers the latest advancements in renewable energy, energy storage, and efficiency improvements through interactive sessions and hands-on workshops led by experts. The FDP aims to foster interdisciplinary collaboration and equip educators with knowledge to integrate cutting-edge energy solutions for climate change mitigation.

Given the direct link between greenhouse gases and global temperatures, reducing emissions and CO<sub>2</sub> concentration is crucial. The power sector, the largest emitter, must transform to meet the Paris Agreement's climate neutrality goals, making emerging decarbonization technologies vital.

## **PROGRAM OBJECTIVE**

The aim of the FDP is to provide faculty and scholars with comprehensive knowledge about the latest energy technologies for climate change mitigation. The program aims to:

1. Improve participants' understanding of new renewable energy technologies, carbon capture, green hydrogen, electric vehicles, energy storage, and efficiency, focusing on sustainable and innovative solutions.
2. Encourage interdisciplinary teaching, research, and professional practices.
3. Help faculty integrate sustainable energy practices and innovations into their curriculum.
4. Promote collaborative research and partnerships with industry on climate change mitigation.
5. Enhance participants' ability to contribute to climate change mitigation with innovative energy solutions and apply these solutions in academic and professional environment.

## TOPICS TO BE COVERED

Subject experts from IITs, NITs, scientists/officers from central and state government departments, and industry leaders have been invited to ensure that participants are exposed to advanced scientific methods and technologies critical for addressing climate challenges. The FDP will cover the following content in detail;

- Renewable Energy Technologies
- Low Carbon Science and Technology
- Carbon Capture Utilization and Sequestration Technologies
- Negative Emissions Technologies
- Green Hydrogen, Fuel Cell
- Energy Storage Technology
- E-Mobility and Energy Transition,
- Climate Science, Dynamics and Modeling
- Energy, Environment and Sustainable Development,
- Energy Efficiency, Energy and Carbon Market

## PROGRAMME OUTCOME

By the end of the FDP, participants will be able to:

- Gain in-depth knowledge of the latest energy technologies for climate change mitigation.
- Develop and carry out research projects on innovative energy solutions.
- Use interdisciplinary methods in teaching and research, applying energy technology advancements across engineering fields.
- Implement sustainable energy practices in both academic and professional settings.
- Collaborate with academic and industry experts.
- Address social issues related to energy, the environment, and sustainable development

## PARTICIPANTS

- AICTE approved Institution's Faculty members, Research scholars, PG scholars, and participants from Government, relevant Industry are eligible.
- **TA to Outstation Participants** @Rs. 1600/- (lump sum) per external participants payable only for those with  $\geq 90\%$  attendance.
- **Accommodation** to outstation participants on request shall be provided at the RGPV Guest House on chargeable basis (**subject to availability**).

## DETAILS

- The mode of the FDP is **OFFLINE ( One Week)**
- There is **No Registration Fee**.
- Maximum 50 participants.
- Selection of eligible participants on a first come first serve basis.
- Preference will be given to new participants.

## REGISTRATION

Participants can register for this program on AICTE-ATAL portal using following link:-

<https://atalacademy.aicte-india.org/signup>

**LAST DATE OF REGISTRATION: 15<sup>th</sup> November 2024**

**Continuous Comprehensive Assessment of candidates shall be carried out and Candidates would be eligible to receive a certificate up on achieving at least 70% cumulated weightage in the following aspects in the weightage mentioned.**

- Attendance—minimum 80% attendance essential. 100% attendance - (individual) - weightage 20%
- One assessment, - combination of MCQs/short answer type/reasoning based, etc- (Individual) – weightage10%
- 2 Page Article Summary/per Team - (Team & Individual) - weightage30%
- Output of practical sessions -(Individual) - weightage15 %
- Report/outcome of Industrial visit- (Team) at the last session - weightage10%
- Reflection Journal - (Individual) - at the last session – weightage 15%

## RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL



The Rajiv Gandhi Proudhyogiki Vishwavidyalaya, Bhopal has been established by the Government of Madhya Pradesh vide act no. 13 of 1998 of the Legislative Assembly. Over a sprawling Campus of about 247 acres, the Rajiv Gandhi Proudhyogiki Vishwavidyalaya is marching towards development into a centre of excellence in the arena of Technical Education, Research, and Innovations. Under its umbrella, there are 05 UTD's, 200 affiliated Engineering Colleges, 98 Pharmacy Colleges, 95 MCA Colleges and 04 Architecture Colleges imparting Graduate level instructions running around 17 under graduate-level courses, 85 Polytechnic institutions offering diploma courses in emerging and conventional disciplines.

## **SCHOOL OF ENERGY & ENVIRONMENT MANAGEMENT, UTD, RGPV**



**School of Energy & Environment Management (SoEEM)** is an autonomous university teaching department of Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal. SoEEM has been set up with a target of developing a talent pool of Post Graduates engrossed in research and engaged in cutting edge R&D, innovation for the major thrust in National Missions like Renewable Energy mission, National mission on Bio-fuels and Biodiesel, Green, Carbon Capture & Sequestration, Swachh Bharat Mission, etc. The Institute Labs, Energy Park has the latest Research Facilities installed for hands on experience on Solar PV, Solar Thermal, Wind, Biomass, Biodiesel, CCS, Hybrid Electric Vehicle.

The Institute has National & International MoU's/Collaborations as well as department is committed to conduct International Conference every year. National & State Level Training Programs are conducted regularly viz.:

- AICTE, TEQIP Sponsored FDP's,
- AICTE-RGPV Joint Teachers Training Programs
- STTP's & Skill Development Workshops for Students
- Capacity Building Programs
- Solar Rooftop Training for Engineers by National Institute of Solar Energy(NISE), Delhi
- Training & Awareness Programs under Unnat Bharat Abhiyan in adopted villages for social, techno-economic development.

**Chief Patron**

**Prof. Rajeev Tripathi**  
Vice Chancellor, RGPV, Bhopal

**Patron**

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**Organized By**

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(An Autonomous University Teaching Department)  
**Rajiv Gandhi Proudyogiki Vishwavidyalaya, M.P.**  
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**ATAL BASIC FDP - A Detailed Session Planning**

**Offline Mode (9:30 AM – 5:30 PM)**

<b>Day 1</b>	<b>Day 2</b>	<b>Day 3</b>	<b>Day 4</b>	<b>Day 5</b>	<b>Day 6</b>
<b>9:00 – 9:30 Inauguration</b>					
<b>9:30 – 12:00 Session 1</b> “Introduction: Low Carbon Science and Technology“	<b>9:30 – 12:00 Session 3</b> “Renewable Energy Technologies”	<b>9:30 – 12:00 Session 5</b> “Hydrogen Energy”	<b>9:30 – 12:00 Session 7</b> “Energy Efficiency”	<b>9:00 – 1:00 Industrial visit</b>	<b>9:30 – 12:00 Session 10</b> “Energy, Sustainable Technologies: Policy, Research Scope”
<b>12:00 – 1:00 Article Discussion</b>	<b>12:00 – 1:00 Article Discussion</b>	<b>12:00 – 1:00 Article Discussion</b>	<b>12:00 – 1:00 Article Discussion</b>		<b>12:00 – 1:00 Article Summary</b>
<b>1:00 – 2:00 Lunch</b>	<b>1:00 – 2:00 Lunch</b>	<b>1:00 – 2:00 Lunch</b>	<b>1:00 – 2:00 Lunch</b>	<b>1:00 – 2:00 Lunch</b>	<b>1:00 – 2:00 Lunch</b>
<b>2:00 – 4:30 Session 2</b> “Carbon Capture Utilization & Sequestration Technologies“	<b>2:00 – 4:30 Session 4</b> “Battery Storage System “	<b>2:00 – 4:30 Session 6</b> “Electric Vehicles and Energy Transition“	<b>2:00 – 4:30 Session 8</b> “Climate Science & Modeling”	<b>2:00 – 4:30 Session 9</b> “Life Skills”	<b>2:00 – 4:00</b> MCQ & Reflection Journal
<b>4:30 – 5:30</b> Hands on training /Labs	<b>4:30 – 5:30</b> Hands on training /Labs	<b>4:30 – 5:30</b> Hands on training /Labs	<b>4:30 – 5:30</b> Hands on training /Labs	<b>4:30 – 5:30</b> Hands on training /Labs	<b>4:00 – 5:00</b> Valedictory Session