

# TOPICS COVERED

## Module 1: Global Hydrogen Landscape

- Types of Hydrogen
- India's Hydrogen Potential
- Advances in Green Hydrogen
- Market Scope & End-User Supply
- Industrial Challenges & Risk Assessment

## Module 2: Hydrogen Generation Methods

- Electrochemical Testing
- Advanced Materials for Electrolyzers
- Solar-Driven Hydrogen Production
- Net-Zero Pathways
- Bio-Hydrogen & MEC (Microbial Electrochemical Cell)
- Industrial Challenges in MEC

## Module 3: Fuel Cell Fundamentals & MEA Fabrication

- Basics, Working, Types & Applications
- Catalyst Slurry Preparation & Coating
- Controlled Drying
- MEA Hot Pressing

## Module 4: Fuel Cell Assembly & Testing

- Assembly & Key Parameters
- Evaluation Methods
- Diagnostics & Polarization Curve Generation

## Module 5: Power Conditioning for Fuel Cells

- Fuel Cell Output Characteristics & Need for Conditioning
- DC-DC Converter Topologies in Renewable Systems
- Converter Selection for Fuel Cells
- Design for Low-Power Systems (10-20 W)
- Practical Implementation & Integration with FDP Stack
- Demonstration of Small-Scale Fuel Cell Application

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Dr. Rajasekar N  
Director, TIFAC

### Convenor & Resource Persons

Dr Arjun Singh K  
Assistant Professor, TIFAC  
Dr. Elangovan D  
Professor & Associate Dean, UG Research  
Dr. Kalaiselvan N  
Associate Professor, TIFAC

### Technical Support

Mr. Silambarasan R  
Development Engineer, TIFAC

## FOR CONTACT

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Visit <https://vit.ac.in/centers/tifac> to learn more about our Centre.



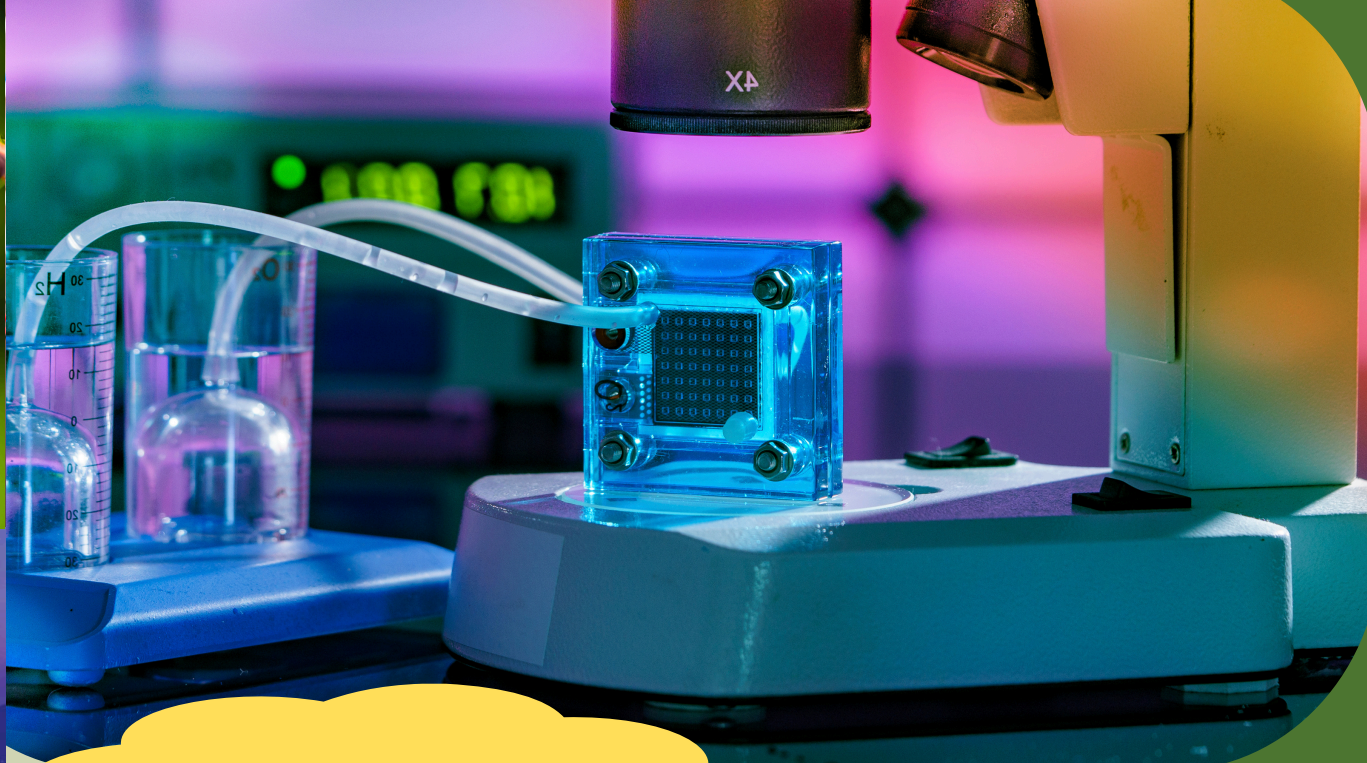
**VIT**  
Vellore Institute of Technology  
(Deemed to be University under section 3 of UGC Act, 1956)



## VALUE ADDED TRAINING PROGRAM ON VAC1925 GREEN HYDROGEN AND PEM FUEL CELL TECHNOLOGY

April 1, 2026, Onwards  
(Duration: 30 hours)

Organized by  
Technology Information Forecasting &  
Assessment Council - TIFAC  
VIT Vellore



**“An investment in knowledge pays the best interest.”**

## ABOUT TIFAC

The Centre is conducting need based training programs on cutting edge technologies for students, faculties and industry participants. Offering consultancy services for the industries and carrying out research works through the research grants received from funding agencies. The Centre has so far conducted 365 Training programs. The Centre has completed nearly 22 consultancy projects with many leading Automotive, Biomedical, Telecom and Consumer Electronics Industries. The centre has filed 55 patents (includes US patents).

## OUR VISION

- To inspire and empower a new generation of sustainable mobility innovators, bridging academia and industry for a greener future.
- Advancing global progress by promoting sustainable mobility and achieving NetZero goals, while driving technological innovation to solve societal and industrial challenges.

## Venue:

TT709- Hydrogen and Fuel Cell Technology Lab  
TIFAC CORE  
VIT Vellore

## DETAILS:

### Registration Fees:

199 INR including GST 18%  
Registration charges includes course materials in soft copy, Participation Certificate.

### Registration Link:

<https://events.vit.ac.in/>

Registration is limited to 30 participants based on first come first serve.