MALAVIYA MISSION TEACHER TRAINING CENTRE

jointly with

Department of Mechanical Engineering

Coimbatore Institute of Technology, Coimbatore – 641014, Tamil Nadu

SIX-DAY ONLINE REFRESHER COURSE PROGRAMME

Materials & Energy Technologies: Computational and Experimental Approaches

DURATION	TIMING	MODE	REGISTRATION
21–26 Sep 2026	9:30 AM – 5:30 PM	Online	NO REGISTRATION FEE

FORMAT	ELIGIBILITY	RESOURCE PERSONS	CREDIT
6 Days · Live Online	HEI Faculty & Research Scholars	Industry & Academia	Counted under CAS

1 Programme Overview

This Six-Day Online Refresher Course on "Computational Methods for Materials and Energy Systems" equips educators, researchers, and engineers to master the convergence of computational modeling, advanced materials, and artificial intelligence. The programme bridges core mechanical principles with industry-standard simulation platforms like ANSYS and COMSOL to tackle complex challenges in experimental modal analysis, polymer composite characterization, tissue engineering bioprinting, and next-generation energy storage. Beyond technical simulation, the curriculum addresses the holistic needs of today's academic professional by integrating practical training on leveraging AI tools for enhanced teaching and technical writing, alongside actionable insights from Industrial Psychology to foster highly effective research and learning environments.

2 Programme Objectives

- **Execute Simulations:** Independently set up, solve, and interpret structural and fluid dynamics problems using ANSYS and COMSOL.
- **Innovate in Materials:** Apply computational and experimental insights toward the development of structural composites, biocomposites, and biological tissue scaffolds.
- **Evaluate Energy Solutions:** Design and assess the efficiency of energy storage devices using predictive computational modeling.
- **Enhance Academic Productivity:** Seamlessly utilize AI-driven tools to streamline technical writing, course preparation, and instructional delivery.
- **Bridge Theory and Practice:** Effectively correlate theoretical FEA models with physical behavior through experimental modal data.
- **Foster Productive Environments:** Apply organizational psychology principles to manage engineering teams effectively.

3 What You Will Gain

- **Execute simulations** — independently solve structural and fluid dynamics problems using ANSYS and COMSOL.
- **Innovate in materials** — develop advanced structural composites and biological tissue scaffolds.
- **Evaluate energy solutions** — design and assess energy storage devices using predictive modeling.
- **Enhance productivity** — utilize AI tools to streamline teaching and technical writing.
- **Bridge theory & practice** — correlate theoretical FEA models with real-world experimental modal data.
- **Foster productive environments** — apply industrial psychology principles to manage engineering teams effectively.

Eligibility, Registration & Guidelines

4 Eligibility & Prerequisites

WHO SHOULD ATTEND

Higher Education Institution (HEI) faculty and research scholars working anywhere in India are eligible to register for the programme.

PREREQUISITES FOR HANDS-ON SESSIONS

- Functional laptop/desktop with MATLAB / ANSYS student or trial versions installed
- Stable internet connectivity
- Working webcam and microphone

5 How to Apply

NO REGISTRATION FEE

Register on or before 18 September 2026

MMTTC Portal: mmc.ugc.ac.in

G-Form: https://forms.gle/NCwNG3kNYZmPeFPz9

6 Guidelines & Certification

- Number of participants is limited to 40–50.
- Selected participants will be intimated through e-mail.
- Participants should upload the permission letter, duly signed by the Head of the Institution / Director.
- All lectures will be delivered online.
- There will be an assessment test consisting of multiple-choice questions (MCQs).
- Only participants who successfully complete the six-day programme and pass the evaluation test will be eligible to receive the certificate.

7 About CIT & MMTTC

Coimbatore Institute of Technology (CIT), started in 1956 by Sri V. Rangasamy Naidu, is reckoned for its academic excellence in Engineering and Technology. CIT is a Government-Aided Autonomous Institution affiliated to Anna University, Chennai. The institute has a reputation for its service of competent, well-qualified faculty and dynamic management that sets the highest standards in engineering research and development. CIT offers undergraduate, postgraduate, and Ph.D. programmes with a global-standard curriculum that promotes students to compete internationally. Coimbatore Institute of Technology has been granted the Teaching Learning Centre (TLC) under the scheme of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT), Department of Higher Education, Ministry of Human Resource Development (MHRD), in December 2017. In 2023, the Teaching Learning Centre was renamed as “Malaviya Mission Teacher Training Centre”.

8 Programme Leadership & Contacts

Institute Administration

Mr. R. Santossh — Managing Trustee / Chairman, CIT

Dr. A. Rajeswari — Principal, CIT

Contact Details

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Department of Mechanical Engineering

Dr. Rajesh Ranganathan Ph.D. (UK) — Professor & Head

Coordinators

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