

ABOUT INSTITUTE

The Indian Institute of Information Technology Tiruchirappalli (IIITT) was established in the year 2013-14 as the Institute with National Importance under Public Private Partnership Mode by Ministry of Human Resource Development (MHRD), Govt. of India. The Stakeholders of IIITT are Central Govt. of India, State Govt. of Tamil Nadu, and Industry partners, viz., TCS, CTS, Infosys, Ramco Systems, ELCOT, and Navitas. The main objective of IIITT is to impart world class education in Engineering and Technology to conduct research in the relevant fields, and to further advance learning and dissemination of knowledge.

The college has been conferred with autonomy in financial and administrative matters to achieve rapid development. IIIT Tiruchirappalli is operating in the temporary campus within the premises of Oxford Engineering College campus, Tiruchirappalli - 620 009, Tamil Nadu from mid-July 2020.

ABOUT DEPARTMENT

The Department of Mechanical Engineering is focused to create a professional with well-defined technical knowledge in the field of Design, Manufacturing and Industrial Engineering. It deals with interdisciplinary fields and projects that draw on fundamental sciences in pursuit of beneficial engineering solutions. The department aims to develop new, effective, and sustainable alternatives to the various applications in the field of Mechanical Engineering.

COURSE OBJECTIVES

The course is planned to provide knowledge of various products developed through Advanced/Novel materials. The FDP will give exposure to the participants about Design, Synthesis, Characterization and Applications of nanostructured materials in biomedical, automotive and electronics fields. The FDP shall also enable the participants to experience design techniques, development and implementation.

ORGANIZING COMMITTEE

Patron

Dr. N V S N Sarma

Director

Indian Institute of Information Technology
Tiruchirappalli

Chair

Dr. G. Seetharaman, Associate Professor
Dr. R. Dhanalakshmi, Associate Professor

Co-ordinator

Dr. Velmurugan C

Assistant Professor

Department of Mechanical Engineering,
Indian Institute of Information Technology
Tiruchirappalli.

IMPORTANT DATES

Last date for receipt of Registration form	20 October 2021
Intimation of selection	22 October 2021
Mode of Intimation	Through Email only

ABOUT ATAL ACADEMY

The primary objective of the ATAL Academy is to plan and help in imparting quality technical education in the country and to support technical institutions in fostering research, innovation and entrepreneurship through training. The online FDP of 2020-21 has been recognized as a **world record** by World Book of Record, London. This is also important that FDP sessions are recorded and available on portal so that anyone can learn in the future. In the backdrop of announcement of **National Education Policy** (NEP) 2020, ATAL Academy is working in the direction of NEP, keeping in view the values and morals of Indian Education System.



AICTE Training and Learning (ATAL)

Academy

Sponsored

**Online Faculty Development
Programme**

on

Novel Materials

**Design, Synthesis and
Characterization of Novel Materials**

25-29, October 2021



Department of Mechanical Engineering,
Indian Institute of Information Technology
Tiruchirappalli
(Oxford Engineering College Campus)
Tiruchirappalli-620009

www.iiitt.ac.in

ABOUT THE COURSE

Primary objective of this course is to explore the fundamental and advances in Novel materials by providing a common platform to interact with the experts of the field. The contents include introduction to advanced techniques used in development of nanostructured materials, their end applications, and recent developments. This course will be a platform to gather, provide clear cut ideas regarding functional materials and their use in biomedical, automotive and electronics to researchers who are working and planning to work in this field. The program will also motivate research ideas with practical applications by the experts in this field of research.

COURSE CONTENTS

- ◆ Introduction to Novel Materials
- ◆ Rational design of Functional materials
- ◆ High Entropy Alloys- challenges & prospects
- ◆ Phase Change Materials-selection & applications
- ◆ Design of Shape Memory Alloys
- ◆ Synthesis and Characterization of Nano electronic materials
- ◆ Challenges in Magnetic materials
- ◆ Characterization and simulation of nanostructured Composites
- ◆ Biodegradable Nanomaterials
- ◆ Practice session on Development of Ultrafuse Materials
- ◆ Practice session on Fabrication of Energetic Materials
- ◆ Applications of Novel Materials (Biomedical, automotive, electronics)

KEY POINTS

- ◆ There is **no registration fee** from any participants
- ◆ Participants will be selected on first-come first-served basis
- ◆ Selected candidates will be intimated by e-mail

PROSPECTIVE PARTICIPANTS

The faculty members of the AICTE approved institutions, Research scholars, PG Scholars, participants from Government, Industry (Bureaucrats/Technicians/Participants from Industry etc.)/School Teachers and staff of host institutions.

REGISTRATION

The interested candidates are required to register for the FDP through following link on or before the last date <https://www.aicte-india.org/atal>

The number of participants is limited to 200 and will be selected based on first come first serve basis. For any clarification, contact the FDP coordinator.

ADDRESS FOR COMMUNICATION

Dr. Velmurugan C

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(Oxford Engineering College Campus) Tiruchirappalli,
Tamil Nadu, 620009

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CERTIFICATE

The certificates shall be issued to the participants who have attended the program with minimum 80% attendance and scored minimum 60% marks in the test. The participants also have to provide compulsory online Feed-back on the last day of FDP.

RESOURCE PERSONS

Faculty from reputed Academic Institutions/ Industries/ R&D labs who are broadly working in the field of Advanced/Novel materials at research and application level will deliver lectures.

EXPECTED OUTCOME

At the end of the program the participants shall be able to understand the following key factors in the field of Novel Materials.

- Fundamental design aspects of novel materials
- Basic synthesis techniques for Novel materials
- Selection of nanostructured materials
- Mechanical and Metallurgical properties of phase change materials
- Need of novel materials in industrial applications

