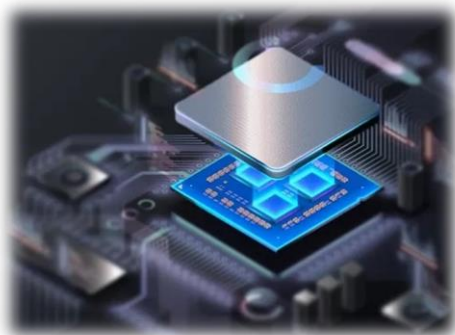


## About the Course

The FDP mainly focuses on **Emerging VLSI Technology and Nano Scale Device Modeling**: This program places a significant emphasis on two crucial aspects of modern electronics and semiconductor technology: VLSI technology and Nano Scale Device Modeling. **Integration of Machine Learning Algorithms**: Machine learning algorithms have found applications in various fields, including VLSI technology. In this program, machine learning algorithms are used to enhance the design and optimization of nano scale devices and VLSI circuits. **Transistor Scaling and Device Modeling**: Transistor scaling refers to the continuous reduction in the size of transistors on integrated circuits. **Schematic and Layout using EDA Tools**: Electronic Design Automation (EDA) tools are software tools used in the design and verification of electronic systems and integrated circuits. This program may provide hands-on training using EDA tools for creating schematic designs and layout for VLSI circuits, ensuring that participants are equipped with practical skills for their work in the semiconductor industry. **Community and Knowledge Sharing**: The program aims to bring together experts, researchers, and professionals in the field of machine learning, VLSI technology, and nano scale device modeling. **Research and Industry Applications**: The program also encourages participants to engage in research activities and offers insights into how the knowledge gained can be applied in real-world industrial settings.



## Eligibility

This course is open to all faculty members and research scholars of AICTE approved engineering colleges. Certificates will be issued upon successful completion of 6 days FDP followed by an assessment.

## Selection Criteria

The number of seats is limited to 50. ATAL FDPs are completely free for participants.

Selection of the participants will be based on first come first serve and based on their area of research work.

## Details of Registration

Registration has to be done only through <https://atalacademy.aicte-india.org/signup>

Kindly visit <https://atalacademy.aicteindia.org/FAQs> for more information.

**FREE REGISTRATION for all participants**

## Offline Platform

The entire programme will be conducted through offline mode. The details of offline programme will be communicated to the selected candidates through their registered e-mail. Assessment test will also be conducted at the end of the programme. Minimum 80% attendance and 60% marks in the test are required to obtain the certificate.

## Address for correspondence:

**Dr. N B Balamurugan,**  
Professor, Department of ECE, TCE.  
Madurai-625015.  
Email: [nbbalamurugan@tce.edu](mailto:nbbalamurugan@tce.edu)  
Phone no: 9894346320

**Dr. D Gracia Nirmala Rani,**  
Associate Professor, Department of ECE, TCE.  
Madurai-625015.  
Email: [gracia@tce.edu](mailto:gracia@tce.edu)  
Phone no: 9715613458



**THIAGARAJAR COLLEGE  
OF ENGINEERING**

(A Govt. Aided Autonomous Institution affiliated to Anna University)

Madurai – 625015



**AICTE Training and Learning  
(ATAL) Academy**

**Faculty Development Programme  
On**

***“From Code to Conductor: Enhancing  
Semiconductor Device Models through  
Machine Learning”***

**18<sup>th</sup> December 2023 to 23<sup>th</sup> December 2023**



**66**

**YEARS (1957-2023)**  
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**Organized by  
Department of Electronics and  
Communication Engineering**

**Convener**

**Dr. S. Rajaram**  
Professor & Head, ECE Department

**Coordinators**

**Dr. N.B. Balamurugan**  
Professor, ECE Department  
**Dr. D. Gracia Nirmala Rani**  
Associate Professor, ECE Department

## **AICTE Training and Learning (ATAL) Academy**

The Government of India in association with AICTE launched the ATAL academy in 2018. The vision of ATAL academy is to empower faculty to achieve goals of Higher Education such as access, equity and quality.

### **Objectives of ATAL Academy**

- To set up an Academy which will plan and help in imparting quality technical education in the country.
- To support technical institutions in fostering research, innovation and entrepreneurship through training.
- To stress upon empowering technical teachers & technicians using information and communication technology.
- To utilize SWAYAM platform and other resources for the delivery of training.
- To provide a variety of opportunities for training and exchange of experiences such as workshops, orientations, learning communities, peer mentoring and other faculty development programmes.
- To support policy makers for incorporating training as per requirements.

### **About the College**

Thiagarajar College of Engineering (TCE), Madurai affiliated to Anna University is one among the several educational and philanthropic institutions founded by the Philanthropist and Industrialist, Late. Shri. Karumuttu Thiagarajan Chettiar. It was established in the year 1957 and granted Autonomy in the year 1987. TCE is funded by Central, State Governments and the Management. TCE offers eight UG Programmes, fourteen PG Programmes and Doctoral Programmes in Engineering, Sciences and Architecture.

The courses offered in TCE are approved by the All India Council for Technical Education, New Delhi. TCE campuses are designed with world class academic and research facilities, state-of-the-art laboratories & library which foster innovative teaching and learning and provide personal care to students. TCE is an approved QIP center from 2012 onwards. TCE has secured 101-150 rank band in the National Institutional Ranking Framework (NIRF-2023) of MHRD, Government of India.

### **About the Department**

Department of Electronics and Communication Engineering offers a UG programme in Electronics and Communication Engineering and a PG programme on Communication Systems. The department was started in the year 1978. Both UG and PG programmes are accredited by National Board of Accreditation (NBA). The department has been awarded for the Best Industry-Linked Electronics and Communication Engineering Institute by AICTE-CII in 2014.

### **Topics Covered**

#### **Main theme:**

- Semiconductor Device Modeling
- Electronic Design Automation
- Machine Learning in VLSI

#### **Sub theme:**

- Paradigms of Machine Learning
- Machine Learning algorithms in VLSI
- Semiconductor device Modeling
- Beyond CMOS Devices and ML Modeling
- Auto ML for EDA: Automating Model Design
- Quantum Device Modeling and ML Techniques
- Uncertainty Estimation in Semiconductor Device Modeling
- ML for Accelerating Materials Discovery in Semiconductor Devices
- Real-time Analysis and ML Deployment in EDA

## **Resource Persons**

### **Dr. Rakesh Vaid**

Professor, Department of Electronics  
University of Jammu

### **Dr. Sudeb Das Gupta**

Professor, Department of ECE  
Indian Institute of Technology, Roorkee

### **Dr. Sriram Kumar**

Professor, Department of ECE  
National Institute of Technology, Trichy

### **Dr. Veera Kumar**

Associate Professor, Department of ECE  
National Institute of Technology, Goa

### **Dr. M. Surendar**

Associate Professor, Department of ECE  
National Institute of Technology, Karaikal

### **Dr. S. Moorthy**

Associate Dean, Department of EEE  
National Institute of Technology, Trichy

### **Mr. T. Sundarrajan**

Analog Design Engineer, Texas Instruments

### **Mr. Rajiv**

Software Engineer, Microchip Technology

### **Dr. S. Rajaram**

Professor and Head, Department of ECE  
TCE, Madurai

### **Dr. N. B. Balamurugan**

Professor, Department of ECE  
TCE, Madurai

### **Dr. D. Gracia Nirmala Rani**

Associate Professor, Department of ECE  
TCE, Madurai

### **Dr. V. R. Venkata Subramani**

Associate Professor, Department of ECE  
TCE, Madurai

### **Dr. V. Vinoth Thyagarajan**

Associate Professor, Department of ECE  
TCE, Madurai