About IIT Jammu

IIT Jammu is an Institute of National Importance funded by the Government of India. It was inaugurated on 6th August, 2016. Currently, IIT Jammu has two operational campuses; one at Paloura and another one at Jagti, Nagrota. The Institute provides cutting-edge academic and research infrastructure for the growth of its students and faculty. At present, IIT Jammu is offering B.Tech. degree in six major disciplines viz. Mechanical Engineering, Electrical Engineering, Computer Science, Chemical Engineering, Material Engineering and Ph.D. in major relevant areas (including Physics, chemistry, mathematics). IIT Jammu is in the process of establishing highly dedicated central research facilities along with advanced teaching laboratories. IIT Jammu's goal is to become internationally recognised for the quality of its research and creative endeavours and their applicability to improving quality of life.

Department of Electrical Engineering

The department of Electrical Engineering (EE) offers B.Tech. in electrical engineering, M.Tech. in Communications and Signal Processing, and Ph.D. to cater to the ever-challenging needs of technical excellence in all areas of electrical engineering such as microelectronics and VLSI, communications, signal processing, microwave, and Power systems. The vision of the department is to provide quality technical education to prepare globally competent and ethically strong electrical engineers with power of innovation to contribute the knowledge for the betterment of society. We are aiming in developing state of the art laboratories that not only cater to the undergraduate curriculum but also foster research in various specialised and interdisciplinary areas.

How to reach IIT Jammu

The city of Jammu is well connected by road, rail and air with all the important cities of India. Jammu Airport at Satwari is around 15 km away from the Jagti campus. Regular flights are there from major cities. Jammu is a railway hub connected to many cities through trains. It is about 13 km away from the IIT Jammu Jagti campus. Jammu bus stand is about 12 km away. From Bus Stand, you can take a bus going to Katra which will drop you in front of the IIT Jammu Jagti Campus.

For any details, please contact

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One Week Online AICTE Training and Learning (ATAL) Academy
Faculty Development Program (FDP)

on

Reliability and Security of VLSI Circuits & Systems for IoT
Thrust Area: Internet of Things (IoT)

02nd to 06th August 2021

विद्याधनं सर्वधन प्रधानम्

Organized by
Department of Electrical Engineering
Indian Institute of Technology Jammu

Co-ordinator
Dr. Ambika Prasad Shah

Objective of ATAL FDP Scheme

The objective of ATAL scheme 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 in various emerging fields".

Who should attend?

The Faculty Members of the AICTE approved institutions, research scholars, PG Scholars, participants from Government, Industry and staff of host institution can attend the FDP.

Guidelines

- Eligible participants will be selected based on first come first serve basis and will be intimated by e-mail only.
- On the last day of the program an assessment test will be conducted for all participants.
- E-certificate will be awarded only to those participants having minimum 80% attendance and scored minimum 60 % marks in the test conducted by the coordinator on the last day.

Registration Details

- There is no registration fee.
- The last day of registration is July 25, 2021.

Link for the registration: Participants are requested to register compulsorily in the following link:

https://www.aicte-india.org/atal

OR

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

After registration in the above link submit the scanned copy of the registration form to **ambika.shah@iitjammu.ac.in** latest by **25-07-2021**.

Scope and Objective of FDP

Internet-of-Things (IoT) systems are used in a wide range of applications, including energy, medicine, transportation, and smart homes. The availability of inexpensive very-large-scale integration (VLSI) devices is key to the success of IoT. There are several key challenges for IoT systems relevant to VLSI devices, including low power operation, machine learning at the edge, reliability and security, and shared tenancy.

The globalization of Integrated Circuits (ICs) supply chain has raised security concerns on how to ensure the integrity and the trustworthiness of fabricated circuits. Although reliability issues should be suppressed for the sake of performance in both CMOS and post-CMOS devices, researchers have leveraged them for a variety of applications and unique primitives for hardware-oriented security. Reliability and security are the two important aspects of integrated circuits and systems under the umbrella of resilience. Reliability and security both play vital roles for IoT applications and must be treated in a comprehensive manner.

Contents of the course

The FDP will cover the following major domains:
- Ultra-low power VLSI design for IoT
- Emerging technologies for IoT nodes
- Design methodologies for IoT-oriented circuit and system design
- Integrated system testing and reliability
- Safety and security of IoT devices
- Hardware designs for security in ultra-low-power IoT systems
- Radiation effects and Radiation Hardening
- Challenges and Opportunities in VLSI IoT Devices
- Defect and Fault Modeling
- Hardware Cyber-Security for DSP and Image Processing Applications

Possible Speakers

The sessions of the FDP will be conducted by the domain experts from different IITs, and relevant industries and research organisations in India and abroad. Possible speakers for FDP are:

- Prof. Patrick Girard, LIRMM France
- Prof. Virendra Singh, IIT Bombay
- Dr. Michael Waltl, TU Wien
- Dr. Shailesh Singh Chouhan, LUT Sweden
- Dr. Anirban Sengupta, IIT Indore
- Dr. Santosh K. Vishvakarma, IIT Indore
- Dr. Krishna Kanth, AMS Semiconductors, Hyderabad
- Dr. Jai Gopal Pandey, CEERI Pilani
- Dr. Ambika Prasad Shah, IIT Jammu
- Dr. Satyadev Ahlawat, IIT Jammu
- Mr. H. S. Jatana, SCL Mohali
- Mr. Puneet Mittal, VLSI Expert Pvt. Ltd.

Organising committee

The following committee will look after the FDP:

Patron
Prof. Manoj Singh Gaur
Director, IIT Jammu

Coordinator
Dr. Ambika Prasad Shah
Assistant Professor, EE Department, IIT Jammu