AICTE TRAINING AND LEARNING (ATAL) ACADEMY SPONSORED ONE WEEK FACULTY DEVELOPMENT PROGRAMME

On

Devices and Circuits

For Next-Generation Computing Architectures

(25/10/2021 to 29/10/2021)

Organized by

Department of Electronics and Communication Engineering

GB Pant Institute of Engineering & Technology, Pauri Garhwal

246194 (U.K.)

www.gbpec.ac.in

Registration

The link for registration in FDP is:

https://atalacademy.aicte-india.org/ or ATAL (aicte-india.org)

2. Register as a participant → Fill in your details.

3. Select workshop:

Select State → Uttarakhand

4. Select Month → October

5. Select Thrust Area→ Engineering

6. Select mode → Online

7. Click on Institute → G. B. Pant Institute of Engineering and Technology, Pauri Garhwal

8. Application Number: 1614679876

Note-

Limited to maximum 200 seats, First Come-first served (FCFS) basis.

No fee required for the registration

E-Certificate will be awarded by AICTE for FDP is subject to 80% attendance in the 5-day long FDP program and min. of 60% marks in FDP quiz at the end of the final session. After successful completion, the certificate would be available to download from ATAL portal via participant login at ATAL academy portal.

ELIGIBILITY

Faculty members and research scholars of AICTE recognised institutes/universities and industry personnel. universities and industry personnel. Note: The mode of FDP is an online on Microsoft Teams platform after registration.

IMPORTANT DATES

LAST DATE FOR REGISTRATION

20.10.2021

INTIMATION OF SELECTION

23.10.2021

ORGANIZING COMMITTEE

Patron

Prof. Y. Singh

Director, GBPIET Pauri Garhwal, UK

Convener

Prof. A. K. Gautam

Coordinator

Dr. Balraj Singh

Co-coordinators

Dr. R. B. Yadav

Mr. Sandeep Kumar

Mr. Ajay Kumar

Orginizing Committee Members

Prof. Rajesh Kumar

Dr. M. K. Agarwal

Dr. S. Naithani

Dr. K. S. Bhatia

Mr. Manoj Kumar

Mr. Vinay Mohan

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Dept. of Electronics and Communication Engineering, G. B. Pant Institute of Engineering & Technology , Pauri- Garhwal

246194 (U.K.)

G. B. PANT INSTITUTE OF ENGINEERING & TECHNOLOGY ,GHURDAURI DIST. PAURI- GARHWAL (U.K.)

Govind Ballabh Pant Institute of Engineering & Technology, Pauri (Garhwal) is an Engineering Institute established by the State Government in 1989 for imparting Engineering Education and promoting technological environment of Garhwal region, the state and country. It started its first academic session from 1991-92. The institute aims at shaping engineers, whose number can be at par with their counter parts anywhere in the country. Our students have gone on to make a mark for themselves in top notch companies in India & abroad, while other have persuaded academics in reputed Institutes and Universities in India, America & other countries. This institute is an Autonomous Institute of the Government of Uttarakhand affiliated to the Uttarakhand Technical University, Dehradun.

ABOUT THE DEPARTMENT

The Department of Electronics & Communication Engineering is proud to be first department of the institute established in 1991 to offer Bachelor's degree in Electronics & Communication Engineering with initial intake of 20 students. Presently, B. Tech. degree program has an intake of 60 students. The Department started Master's degree program in Digital Signal Processing in 2005 with intake of 10 students. The PhD program has been offered since 2013. The department, since its inception, has kept itself well abreast with the ever changing demands of the industry and the technological developments.The laboratories are modernized to reflect the rapid changes in technology. With excellent labs and classrooms facilities, challenging and interesting course-work, integrating hands-on practical and research experience are motivating faculty and students for new innovations. Such technological strengths and pollution free peaceful environment of the Shivalik range of Himaliya, has provided unmatched opportunities for research, education, and service to society.

OBJECTIVE OF COURSE

The main focus of the course is to make the participants get familiarized with the recent advancements in nano-scale devices and circuits. This course has following major objectives/benefits

1. To introduce participants to Advanced devices, simulation methodologies and applications in the area of nano-electronics.

2. To discuss design, operation and modeling of nano-scale devices.

3. A discuss the advanced semiconductor devices for IOT and 5G/6G applications.

4. A hands-on demonstration of modeling and simulation of nanowire, multigate, spintronic devices using advanced SPICE and TCAD simulators..

COURSE CONTENTS

KEY TOPICS TO BE ADDRESSED

- Non-Classical MOSFETs for Future generations .
- Device design for 5G/6G applications
- Neuromorphic Computing: Mapping Neural Networks to Hardware.
- In-memory computing
- Security aspects in next generation processor
- Spintronic Devices
- HEMT Modelling
- GaN Transistor for 5G applications
- TCAD modeling of nano-electronic devices

SPEAKERS

1. **Prof. Satyabrata Jit, IIT, BHU, Varanasi**
2. **Prof. Shreepad Karmalkar IIT Madras**
3. **Prof. Benjamin Iniguez, Universitat Rovira i Virgili, Spain**
4. **Prof . Sudeb Dasgupta IIT Roorkee**
5. **Prof. Kamalakanta Mahapatra ,NIT Raurkela**
6. **Prof. Yogesh Singh Chauhan,IIT Kanpur**
7. **Prof. Jawar Singh, IIT Patna**
8. **Prof. Pramod Kumar Tiwari, IIT Patna**
9. **Prof. Shivam Verma ,IIT, BHU, Varanasi**
10. **Prof. Shubham Sahay , IIT Kanpur**
11. **Prof. Deepti Gola, BIT Mesra**
12. **Mr. Amit Saini , Director Cadre Design Systems**

AICTE TRAINING AND LEARNING (ATAL) ACADEMY SPONSORED FDP ON DEVICES AND CIRCUITS FOR NEXT-GENERATION COMPUTING ARCHITECTURES

25th—29th OCTOBER 2021

Date	9:30AM - 10:00 AM	10:00 AM—11:30 AM Session-1	12:00—1:30 PM Session-2	1:30 PM - 2:30 PM	2:30 PM—4:00 PM Session-3
25/10/2021 Monday	Introductory Session	Prof. Satyabrata Jit Non-classical MOSFETs for future generation	Prof. Satyabrata Jit Non-classical MOSFETs for future generation	Lunch Break	Prof. Shivam Verma Spintronic Devices
26/10/2021 Tuesday		Prof. Shubham Sahay Neuromorphic Computing	Prof. Deepti Gola Junctionless FET : A device for next generation		Prof. Benjamin Iniguez
27/10/2021 Wednesday		Prof Sudeb Dasgupta	Prof. Kamalakanta Mahapatra Security aspects in next generation processor		Prof. S. Karmalkar HEMT Modeling
28/10/2021 Thursday		Prof. Pramod Kumar Tiwari Device Design for 6G Applications	Prof. Yogesh Singh Chauhan GaN Transistor for 5G applications		Mr. Amit Saini (Director Cadre Design Systems) TCAD Modeling of Nanoelectronic Devices
29/10/2021 Friday		Prof Jawar Singh In Memory Computing	Prof Jawar Singh In Memory Computing		Valedictory/Feedback Session