



FACULTY DEVELOPMENT PROGRAMME

ON

RECENT TRENDS AND ADVANCES IN PHOTONIC INTEGRATED CIRCUITS AND ITS APPLICATIONS

4th October -8th October, 2021

Sponsored by

AICTE Training And Learning (ATAL) Academy



Co-ordinator

Dr. Tarun Sharma

Organized by



Department of

Electronics and Communication Engineering
University Institute of Technology
(UIT)

Himachal Pradesh University, Shimla
NAAC Accredited 'A' Grade University

Venue : UIT Campus (online)

ABOUT THE UNIVERSITY

The Himachal Pradesh University (HPU) was founded on July 22, 1970. It is located at Summer Hill which is at a distance of 5 km from the main town, Shimla. The University is nestled amidst tall and lush green trees of deodars, oaks, pines, and rhododendrons. The location of the University presents a panoramic natural view among the woods, settled around Summer Hill. One half of the campus bathes in the fresh sun towards the east and another half in the grandeur of unique sunset on the West. Overlooking snow peaked Majestic Mountain ranges add to the lofty ideals and vision of the university. Its calmness presents congenial atmosphere to pursue higher studies. The University campus occupies an area of 200 acres and has been designed to possess a distinctive architectural style. Himachal Pradesh University is the multi-faculty and affiliating University in the state.

ABOUT UNIVERSITY INSTITUTE OF TECHNOLOGY

University Institute of Technology (UIT), earlier known as University Institute of Information Technology, is an Integral part of HPU dedicated to impart the quality technical education to its students. The Institute is located in the Summer Hill, Shimla campus of HPU and has the approval of All India Council for Technical Education (AICTE). The Institute came to existence in year 2000-01 with B. Tech. (IT) program with an intake of 40 students. At present, the Institute is offering B. Tech program in CSE, IT, Civil Engineering, Electrical Engineering, and Electronics & Communication Engineering. The Institute offers an excellent learning environment amid the state-of-the-art labs facilities with a unique blend of distinguished faculty, brilliant students, and strong industry collaborations. Its new building "SILVER WOODS ESTATE" is situated amid rich flora and fauna, has been aesthetically planned and designed with excellent infrastructural facilities to offer a congenial environment for the students. The Institute so far has achieved up to 100% placements in various National and International companies operating both in India and abroad.

ABOUT THE PROGRAMME

Silicon photonic devices used in the photonics industry over the past three decades have helped in realizing large-scale photonic integrated circuits. Photonics integrated circuits is one of the promising fields of science and engineering including physical phenomena and technologies associated with generation, transmission, manipulation, detection and utilization of light. It integrates lasers, optics and electronics to develop applications in industries such as telecommunications, information technology, entertainment and displays, precision manufacturing, biology and medicine, environmental sensing, defense, aerospace etc. The program aims at expanding various kinds of photonic materials and its applications such as photonic devices, sensors including Nanoscale waveguides/devices, fabrication aspects, 5G photonics communications and various challenges.

OBJECTIVE OF THE PROGRAMME:

The primary objective of this program is to provide a online platform to get the basic concepts of recent advances in photonic materials and its developments in photonic technologies to the faculty members of engineering colleges and research community associated in various departments. This program can give an exposure to the participants about new fields such as plasmonics, high power laser applications and various computational methods in the field of Engineering. Finally, this program will provide a unique opportunity to identify and to discuss potential collaborations among young researchers, faculties, scientists, etc.

CHIEF PATRON

Prof. Sikander Kumar

Vice-Chancellor HP University, Shimla

PATRON

Prof. Nagesh Thakur

Dean, Faculty of Engineering & Technology

Prof. P. L. Sharma

Director, UIT, HP University, Shimla

NATIONAL ADVISORY COMMITTEE

Prof. Anil D. Sahasrabudhe, Chairman, AICTE, New Delhi

Dr. M. P. Poonia, Vice-Chairman, AICTE, New Delhi

Prof. Rajive Kumar, Member Secretary AICTE, New Delhi

Dr. R. K. Soni, Coordinator, ATAL Cell, AICTE, New Delhi &

Director, NWRO-AICTE, Chandigarh

Co-ordinator

Dr. Tarun Sharma

Assistant. Professor

Electronics and Communication
Engineering,

UIT, HP University-Shimla

ORGANIZING COMMITTEE

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COURSE CONTENT

Selected topics to be covered are:

- Nanophotonics
- Integrated Optics and optoelectronic devices
- Optical sources, detectors and related devices
- Photonics IC and their future applications
- Photonic Devices
- Plasmonics
- On-Chip photonic devices
- Fibre optics devices and sensors
- Biophotonics
- Optical Interconnects
- Neuromerotonics
- Machine learning in photonic systems

RESOURCE PERSONS

1. Prof. Kyoungsik Yu, KAIST, South Korea
2. Prof. M.Z. Alam, Queen's University, Canada
3. Prof. Zhenzhou Cheng, Tianjin University, China
4. Prof. Jehyung Kim, UNIST, South Korea
5. Prof. Mukesh Kumar, IIT, Indore
6. Prof. T. Srinivas, IISc, Bengaluru
7. Prof. S. K. Selvaraja, IISc, Bengaluru
8. Prof. Brajesh Kumar Kaushik, IIT Roorkee
9. Prof. Rajesh Kumar, IIT Roorkee
10. Dr. Umesh Tiwari, CSIO, Chandigarh
11. Prof. R.S. Kaler, Thapar University
12. Prof. R.K. Aggarwal, NIT Kurukshetra
13. Prof. Yashashchandra Dwivedi, NIT Kurukshetra
14. Prof. Vijay Chatterjee, CEERI, CSIR, PILANI

WHO CAN REGISTER

- a. Faculty members of the AICTE approved institutions, research scholars, P.G scholars, participants from government, Industry (Bureaucrats/Technicians/participants from industry etc) and staff of host institutes.
- b. Not more than 30% from Host Institution
- c. One participant can apply for maximum 2-FDPs

HOW TO REGISTER

Registration of participants will be done through the link

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

MODE OF CONDUCTION: Online