ATAL ACADEMY CELL, NEW DELHI

SPONSORED

FACULTY DEVELOPMENT PROGRAM

(Online Mode)

on

"Photonics and its Applications"

20th – 24th December, 2021

Coordinators

Dr. Piyush N. Patel
Dr. Abhilash Mandloi

Organized by

Department of Electronics Engineering,
Sardar Vallabhbhai National Institute of Technology,
Surat - 395007, Gujarat, INDIA

About Surat:

Surat is a top ranking industrial city of the country with clean wide roads and over bridges. It is well known worldwide for textiles, zari, embroidery, and diamond industries. Several large scale industries are located in the city. Surat is situated on the main western railway route between Vadodara and Mumbai and connected to all part of the country through rail network. The institute is located at Ichchhanath on Surat-Dumas road at a distance of about 10 Km from Surat railway station and airport.

About the Institute:

The institute was initially established as Sardar Vallabhbhai Regional College of Engineering & Technology in 1961. It was later upgraded as a National Institute of Technology in 2002. It has been accorded the status of institute of national importance. SVNIT is one of the pioneering engineering institutions of the country which has nurtured many outstanding engineers in India & abroad. At present, the institute runs seven UG programs, eighteen PG programs and a Ph.D. program in all disciplines of engineering and applied sciences. The institute has an excellent placement record with a number of top ranking companies visiting the campus every year.

About the Department:

Established in 1982, Department of Electronics Engineering, SVNIT, Surat is progressing at a rapid pace with the development in terms of infrastructure facilities, upgraded syllabi and learned faculty. Department offers 3 programmes viz: B. Tech. (Electronics & communication), M. Tech. (Communication Systems) and M. Tech. (VLSI & Embedded Systems). Around 100 research scholars are enrolled in the department for doctoral work in the field of VLSI Design, Embedded Systems, Semiconductor Devices and Technology, Sensors, Wearable/ IoT based Devices, Digital Signal/ Image/ Video Processing, Optical Devices/ Communication/ Networking, Wireless Communication, RF and Microwave Antennas and Design, etc. Department is equipped with ultra-modern academic and research laboratories in all aforesaid fields. Many research projects funded by eminent agencies like DST, MeitY, DRDO, GUJCOST, ISRO, etc. are executed in the department.

Objectives of AICTE 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 & Communication Technology
- To utilize SWAYAM platform and other resource for the delivery of trainings
- To provide a variety of opportunities for training and exchange of experiences such as workshops, Orientations, learning communities/peer mentoring and other faculty development programs.
- To support policy makers for incorporating training as per requirements.

About the Program:

The photonics applications in the world are very broad in scope with applications ranging from photonic devices, telecommunications, fiber optic links to cancer treatments. Applications of photonics are ubiquitous. Included are all areas from everyday life to the most advanced science, e.g. light detection, telecommunications, information processing, lighting, metrology, spectroscopy, holography, medicine (surgery, vision correction, endoscopy, health monitoring), military technology, laser material processing, visual art, Bio photonics, agriculture, and robotics. Photonics is the technology of generating and harnessing light and other forms of radiant energy whose quantum unit is the photon. Photonics involves cutting-edge uses of lasers, optics, fiber-optics, and electro-optical devices in numerous and diverse fields of technology, alternate energy, manufacturing, health care, telecommunication,

environmental monitoring, homeland security, aerospace, solid state lighting, and many others. Photonics is the domain of science and engineering associating the physical phenomena and technologies for the generation, transmission, detection, and utilization of light-wave. In comparison with conventional communication schemes, Photonics Communication offers a large numbers of advantages. For the exponentially increasing demand of data transmission capacity and security, Photonics/Optical Fiber Communication and related devices/sensors are highly capable to accommodate these requirements with high degree of measurements and accuracies. The course is intended to cover the traditional as well as advanced topics of photonics and its applications.

The aim of this program is to provide an exposure of recent trends in Photonics Communications and applications. During this program our focus is to develop the state of-the-art in basics of Photonics communications, Photonic Crystal fibers, optical waveguides/sensors/ devices, along with the role of Photonics in communication backhaul and for better understanding of different phenomena and challenges of photonics technology.

This program can serve as an excellent platform to get the concepts of both basics and recent developments in photonics technologies, to the teaching and research community associated with the departments of Electronics, Electrical technology and Physics etc.

Major Course content:

- Semiconductor laser: Facets engineering and light coupling.
- Optic and Light management in solar PV
- Next generation optical technologies enabled by Nano photonics
- WDM Optical Networks and Fibre optic Networks in General
- IR spectroscopy and imaging
- Photonics packaging.
- Optics sensors and devices
- Free Space Optical Networks
- Photonic Integrated Circuits

The certificates shall be issued to those participants who have attended the program with minimum 80% attendance and scored minimum 60% marks in the test.

Program Faculty:

The resource persons for the program shall include faculty from SVNIT, Surat and other nearby IITs/NITs/Research Organizations/Industries.

Eligibility for Participation:

Faculty member/ research scholars/ PG scholars from academic institutes approved by the AICTE/ UGC/ MHRD working in Private/ Public/ Government organizations, B.Sc and M.Sc students can attend the course

Registration Fee:

There is no registration fee for faculty/ research scholars/ PG scholars/students from academic institutes.

Last Date of Registration:

One can register for the course as per the specified process of AICTE Training and Learning (ATAL) Academy. Participants interested to attend this program should register online in the below mentioned link: https://atalacademy.aicte-india.org/login on or before **12/12/2021.**.

REGISTRATION FORM

ATAL ACADEMY CELL SPONSORED
FACULTY DEVELOPMENT PROGRAM (online mode)
on
"Photonics and its Applications"
Organized by Department of Electronics Engineering,
SVNIT, Surat – 395007 (20th -24th December, 2021)

Full Name (in BLOCK letters)

Gender_____

Designation & Department: _____

Institute: _____

Highest qualification: _____

Experience: **Teaching:** _____ **Industry:** _____

Address for correspondence:

_____

_____

Mobile: _____ **Email ID:** _____

_____
Signature of applicant

This is to certify that Dr./Mr./Ms. _____ is a faculty/research scholar/student* of our institution and is hereby sponsored/allowed to attend, for ATAL ACADAMY CELL Sponsored FDP on "Photonics and its Applications" organised by Department of Electronics Engineering, SVNIT, Surat. He/she will be permitted to attend the program during 20th-24th December, 2021, if selected.

Date:

Place:

Signature & Stamp of Head of Dept. / Institute

*Copy of identity card must be attached

Address for correspondence

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