AICTE Training and Learning (ATAL)

Sponsored

Faculty Development Program
On

Optoelectronics- Advanced Materials and Devices

February 01st to 05th, 2022

Organized by
Department of Applied Physics

SHRI SHANKARACHARYA TECHNICAL CAMPUS, BHILAI (C.G.)

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REGISTRATION
Access the link for registration:
https://atalacademy.aicte-india.org/signup

Please follow the instructions mentioned in the website.
There is no registration fee.

IMPORTANT DATES
Last Date of registration: 30th Dec 2021.
Confirmation to participants: 10th Jan 2022.

ABOUT CHHATTISGARH
Chhattisgarh is a heavily forested state in central India known for its temples and waterfalls. Near the capital Raipur, the town of Sirpur on the Mahanadi River is home to the red-brick Lakshmana (Laxman) Temple, decorated with carvings from Indian mythology. In the south, the city of Jagdalpur hosts the Sanjay Market on Sundays, a bartering place for local tribes. The huge Chitrakoot Falls lie to the northwest.

ABOUT INSTITUTE
Shri Shankaracharya Technical Campus, Bhilai was established in 1999, it is AICTE approved and affiliated to Chhattisgarh Swami Vivekanand Technical University (CSVTU), Bhilai, it became Autonomous in the year of 2020. The Institute is accredited by NAAC with A-Grade and ISO 9001:2000 certified. It runs all core engineering branches accredited by AICTE-NBA. The Institute is running under the banner of Shri Gangajali Education Society, Bhilai, with the goal to build a close interaction with the industry, and to give a strong emphasis on research. The institute offers four programs with courses: Eight UG engineering, Seventeen M.Tech, MBA, MCA, One B. Pharma and three M. Pharma along with PhD Programs. The Chairman of the Society, Shri I. P. Mishra is an eminent technocrat and a distinguished educationist of the state, has been instrumental in the development of state through excellence in technical education scenario of the state.

ABOUT THE DEPARTMENT
The Department Physics was established in 1999 with the introduction of Engineering Physics course in the UG level. Department is actively involved in R&D work in the fields of Optoelectronics, Materials Science, Luminescence, Nanotechnology, Solid State Ionics, Computational Physics etc. The Department has published around 80 research papers in the different fields of materials science and awarded 15 PhDs so far. The department completed DST and CCOST projects and has received one Modrob from AICTE. The department is associated with seven sponsored projects from TEQIP-III-CSVTU. These novel solutions are handed off to engineering disciplines to be refined, enhanced and used to address important societal problems. Along with all, a mobile science & technology laboratory is running to the nearby rural high schools for the promotion of science and education as a part of social outreach programs (Impact Education).

ABOUT PROGRAM
Optoelectronics is one of the new 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 optoelectronics materials and its applications such as photonic devices, sensors including nanoscaled waveguides/devices, fabrication.
Lectures will be on experimental & theoretical aspects of advanced materials viz. low-dimensional nanomaterials, polymers, solar cells magnetic materials, functional and smart materials etc. in context of their application in opto-electronics devices.

OBJECTIVE OF THE PROGRAMME
The primary objective is to provide a research platform to faculties, researchers and PG students of various departments to get the basic concepts of recent advances in Optoelectronics materials and its developments in photonic technologies. It gives an exposure to the participants about the optoelectronics field and its applications, and various methods in the field of Engineering.
Finally, this program will also provide a unique opportunity to identify and to discuss potential collaborations among young researchers, faculties, scientists, etc.

COURSE CONTENTS
Solid-state lighting and displays are becoming ubiquitous in our daily lives, finding their place in televisions, cell phones, high-powered lamps and many common consumer appliances. In the Optoelectronics Group, we investigated a range of polymeric and organic/inorganic hybrid materials for applications in solid-state light-emitting devices. We are devoted to understanding the fundamental physics of light emission in new semiconducting materials, and apply novel design principles to achieve high performance in electroluminescent devices. In this program, we included a range of advanced electrical and optical techniques, transient optical spectroscopy, time-correlated single photon counting, photoluminescence spectroscopy and transient electrical techniques, the excited-state dynamics and properties in luminescent materials.

INVITED SPEAKERS
Prof. Sanjay Tiwari PRSU, Raipur
Prof. A Mujeeb, ISPC-University of Science & Technology, Kochin
Prof. Ravindra Pandey, Prof & Chair , MTU, USA
Prof. Diwakar Rai Chowday,MU, Hyderabad
Dr. D. K. Aswal, BARC
Dr. S. K. Khijwania, IIT-Guwahati
Dr. Smita Chaturvedi, IISER-Pune
Dr. Dhriti Sunder Ghosh, IIT-Bhilai
Prof. Dinesh Kabra, IIT-Bomba
Dr. D Haranath, NIT-Warangal
Dr. Alok Shukla, NIT-Mizoram
Dr. Ayush Khare, NIT-Raipur
Dr. Mohan L. Verma, SSTC-Bhilai
Dr. B. Keshav Rao, SSTC-Bhilai

TARGET PARTICIPANTS
Faculty members of the AICTE approved institutions, Research Scholars, PG Scholars, participants from Government & Industry.