



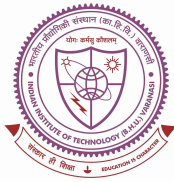
SERB Sponsored Workshop

on

Recent Advances in Millimeter Wave & THz Devices and their Applications

under
Scientific Social Responsibility (SSR) Policy (CRG/2020/001192)

January 25, 2024



Organized by

**Department of Electronics Engineering,
IIT (BHU), Varanasi - 221005**



Workshop Coordinator

Dr. M. Thottappan
Principal Investigator,
Department of Electronics Engineering
IIT (BHU), Varanasi-221005.
Uttar Pradesh State.

About the Course

Microwaves cover an important window (~ 300MHz to ~ 300GHz) of the spectrum of electromagnetic waves. Since its advent for defence sectors, material processing, spectroscopy, communication, etc. for many decades ago, it has grown rapidly in all aspects of the associated technology spanning sources, amplifiers, couplers, antennas, detectors, etc. These advances have led to compact active and passive microwave/millimeter wave devices being deployed in a wide range of environments – from space-borne communication systems to personal mobiles! Creating new designs, simulating the performance, fabricating the devices, and testing are challenges that need to be addressed. The objective of this course is to introduce the fundamentals of electromagnetic theory and recent advances in millimeter wave and THz technologies for defence, communication, industrial and scientific applications, etc. Further, the modeling issues of /millimeter wave and THz high power sources and amplifiers including antennas, meta-surfaces, frequency selective surfaces, photonic bandgap structures, etc., will be addressed to the young faculty members of various technical institutions.

Course Content

The tentative topics to be covered in this course are:

- ✓ Introduction to Electromagnetic Theory
- ✓ High Power Microwaves & its Applications
- ✓ Millimeter Waves & their Applications
- ✓ Microwave Active & Passive Devices
- ✓ Antenna Systems & Meta-surfaces

Who can attend

Faculty members (nearby colleges) working in the area of Electromagnetic Fields and its Applications including Microwave, Millimeter Wave and THz Devices and Systems.

Application Form for the Workshop

on

Recent Advances in Millimeter Wave & THz Devices and their Applications

January 25, 2024

- 1. Name (block letters):**
- 2. Designation & pay scale:**
- 3. Organization:**
- 4. Address for communication with pin code:**

Mobile No.:

e-mail:

- 5. Highest Academic Qualification:**
- 6. Specialization:**
- 7. Experience (in years):**
(a) Teaching: (b) Industrial:

Please register me for the course on “**Recent Advances in Millimeter Wave & THz Devices and their Applications**” to be held at IIT (BHU) Varanasi during **January 25, 2024**.

Place:

Date:

Signature of the applicant

Sponsorship

Prof./Dr./Mr./Ms./Mrs./_____ is an employee of our institute and his/her application is hereby sponsored. The applicant will be permitted to attend the workshop on **Recent Advances in Millimeter Wave & THz Devices and their Applications** at IIT (BHU) Varanasi during **January 25, 2024**, if selected.

Date: _____
Designation: _____
Signature of Sponsoring Authority
(Official Seal)

Date: _____
Signature of the Applicant

Participation Certificate

Certificate of participation will be issued to all the participants only after completion of the course.

Important Dates

Last date for receiving the Registration form through email

January 10, 2024

Confirmation of Participation

January 12, 2024

Note: The *selected participants are required to arrange their own accommodation and NO TA/DA will be paid for attending the workshop.*

Contact Details

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About the Institute

The foundation of the Indian Institute of Technology (Banaras Hindu University) can be attributed to Mahamana Pandit Madan Mohan Malviya, Bharat Ratna, who established the Banaras Hindu University, the first residential university in modern India. In 1968, the three engineering colleges of BHU, namely BENCO, MINMET, and TECHNO, were merged to create the Institute of Technology (IT-BHU) with the aim of providing a comprehensive educational platform. In recognition of its excellence, IT-BHU was renamed IIT (BHU) on June 29, 2012, through an Act of Parliament. IIT (BHU) Varanasi has been highly regarded in national rankings. The institute offers a four-year Bachelor of Technology program, five-year Integrated Dual Degree programs, and various postgraduate programs.

About the Department

The Department of Electronics Engineering of IIT (BHU) came into existence as an offshoot of Electrical Engineering Department in 1971 in the erstwhile Institute of Technology, Banaras Hindu University. The Department offers Bachelor, Master and Doctoral programs in Electronics Engineering with the major thrust areas of Microelectronics, Microwave Engineering, Digital Techniques & Instrumentations and Communication Systems. The intake every year of the Department is 130 in the B.Tech. level and 47 in the M.Tech. level. Besides teaching students of our own discipline (Electronics Engineering), the basic courses in Electronics Engineering are offered to almost all the Departments of the Institute and advanced-level courses are taught to the students of Electrical Engineering and Computer Engineering Departments. The Department has been actively



engaged in research since its inception as evidenced by the research publications. The first major financial support from the Department of Electronics (DoE), Govt. of India in the tune of Rs.1.0 Crore was received by the Department in 1980 to carry out research for development of High-Power Microwave Tubes. In addition to this, the Department has been actively pursuing manpower training and collaborative research programs in specialized areas to meet the national manpower requirements in R&D laboratories, academic institutions and industries. The Department has a close interaction with many reputed national R&D laboratories including DRDO, CSIR, Bharat Electronics, leading software industries, and foreign Universities.

How to Reach

The city of Varanasi is well connected by road, rail and air with all the important places of India. Regular flights are there from Varanasi to Delhi, Mumbai, Chennai, Kolkata, Bangalore, Hyderabad, and Lucknow. IIT (BHU) campus is only 5 km from Banaras (formally known as Manduadih) Railway Station, 10 km from Varanasi Cantonment Railway Station, 20 km from Pt. Deen Dayal Upadhyaya Railway Station (formally known as Mughalsarai) and 35 km from the Lal Bahadur Shastri International Airport, Babatpur, Varanasi. Pre-paid taxis and auto-rickshaws can be hired from the airport and rail way stations.