

## MODE OF PAYMENT

All remittances must be paid online through NEFT/GooglePay to the following Account

**A/C Name – Thapar Institute of Engineering and Technology**

**A/C No – 0267104000092579**

**Bank Name – IDBI Bank**

**IFS Code – IBKL0000267**

(Candidates shall be selected on the first come first register basis). Kindly fill-up the google-form for the registration with transaction details mentioned in the form (link given below).

### Organizer:

**“WORKSHOP DDWABA 2023”**

**TIET-VT CENTER OF  
EXCELLENCE IN EMERGING  
MATERIALS**

**Thapar Institute of Engineering  
and Technology**

**PATIALA – 147004 PUNJAB**

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## ABOUT TIET-VT CEEMS

Thapar Institute of Engineering & Technology, formerly, Thapar University (Deemed to be University) is one of the pioneer technical institutes of India. It was founded in 1956 and is currently imparting UG, PG and Doctoral programmes in all major disciplines of Engineering, Technology, Management, Humanities, and Sciences. It is accredited A+ by NAAC and ranked 28th amongst the top engineering institutes of India by NIRF 2022. Eligible programs offered by the institute are accredited by NBA and ABET. In the global rankings, it is ranked in the 601-800 bracket by Times Higher Education World Rankings and 127th in Asia rankings. TIET, in its endeavor to continuously improve, upgraded its academic and research infrastructure benchmarking with the leading International and National Institutions. TIET Strategic plan envisages creating Centers of Excellence in a few selected areas— CEEMS is one of them. Virginia Tech is selected as one of the universities for collaboration in this area based on Virginia Tech’s strength and reputation . **Professor Roop Mahajan** is selected as the first inaugural Chair Professor, and **Prof. Rajeev Mehta** as the first Coordinator of CEEMS. The main aim of TIET-VT CEEMS is to provide opportunities for interdisciplinary research in the three main areas of Synthesis of Graphene and derivatives from diff. precursors, Cancer detection and treatment and Sustainable construction

### For further details please contact:

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Department of Electronics & Communication Engineering  
Thapar Institute of Engineering & Technology  
PATIALA -147001 PUNJAB

## **2 Days Hands-on Workshop ON**

**“Design and Development of  
Wearable Antennas for  
Biomedical Applications”  
in  
Hybrid mode (Online  
through Zoom Platform)**

**(February 16 – 17, 2023)**

**Chairman: Dr. Roop Mahajan**

**Dy. Chairman: Dr. Rajeev Mehta**

### Course Coordinators:

**Dr. Amanpreet Kaur**

**Dr. Ashima Singh**

**Dr. Arnab Pattanayak**



### Organized by:

**TIET-VIRGINIA TECH. CENTER OF  
EXCELLENCE IN EMERGING  
MATERIALS**

**THAPAR INSTITUTE OF  
ENGINEERING & TECHNOLOGY  
PATIALA –147004 (PUNJAB)**

## INTRODUCTION

Antennas are inevitable components for any wireless communication system. Additionally, antennas are also deployed in bio-medical applications, thanks to the amazing advancements in the field of miniaturization! Wearable/ implanted antennas have proven to be extremely effective for various applications, such as sensing, health monitoring, imaging, and hyperthermia. These antennas can be attached outside of the body-part to sense/monitor/image tissue for non-invasive applications. The design and analysis of such RF devices needs careful procedures. The safety of these devices for human exposure is monitored through parameters like SAR (Specific Absorption Rate), penetration depth depending upon inhomogeneity of the body-part.

Therefore, the main aim of this workshop is to acquaint the participants with a comprehensive understanding of design, development, and implementation of such RF devices for bio-medical applications of interest. Hands-on the advanced optimization procedure using Machine Learning would also be carried out. The participants would develop an in-depth understanding of the tools used for this purpose like CST Microwave Studio, MATLAB & Python.

## COURSE CONTENTS

1. Basics of Biomedical Devices employing Antennas and Metasurfaces.
2. Wearable Microstrip Antennas and related design parameters.
3. Hands-On Antenna Design for Biomedical Applications.
4. Hands-On Metasurface Design for improving the wearable antenna performance.
5. AI for Optimization techniques.
6. Practical Implementation by Experts and Industry Professionals.

## WHO CAN ATTEND

The faculty belonging to the ECE/CSE departments of any Engineering institutions, Research scholars doing PhD in this area, TA/JRF/SRF/Post-graduate students aspiring to do thesis in this area, Under-graduate students of Engineering Colleges from the streams of Electrical, Electronics & Communication, Electronics (Instrumentation & Control) and Computer Engineering.

## COURSES FEES

The course fee is Rs. 1500/- (online) and Rs. 2000/- (in physical mode) per participant.

**Boarding & lodging arrangement:** Hostel facility will be provided on extra payment basis for those participants only

who will get themselves registered on or before **1<sup>st</sup> February 2023**. The timing of the workshop will be from 10:00 A.M. to 5.00 PM. Kindly fill the registration form on the link provided .

## 2 Days Workshop ON

### *“Design and Development of Wearable Antennas for Biomedical Applications”*

*(February 16 – 17, 2023)*

## REGISTRATION FORM (last date :1<sup>st</sup> Feb 2023)

**Name and Designation:** -----

**Institute Name:** -----

**Preference of mode of attending the  
workshop:** -----

**E-Mail:** -----

**Transaction ID:** -----

**Amount:** -----

Place:

Signature of the applicant

Google form link for registration:

<https://forms.gle/EhMwV42vAqXLt1hWA>