



**AICTE-ATAL sponsored  
5 days Online FDP on**

## **Recent Advancements in Wearable Antenna for Medical Applications**

**30<sup>th</sup> November to 4<sup>th</sup> December 2020**

Organized by

**Department of  
Electronics and Communication  
Engineering**

**Karunya Institute of Technology and Sciences  
(Declared as Deemed to be University under Sec.  
3 of the UGC Act 1956)**

**AICTE Approved & NAAC Accredited  
A Christian Minority Residential Institution  
Coimbatore – 641 114**

Phone: 0422-2614393

[www.karunya.edu/ece](http://www.karunya.edu/ece)

### **ORGANISING COMMITTEE**

#### **CHIEF PATRON**

**Dr. Paul Dhinakaran,**  
Founder & Chancellor,  
Karunya Institute of Technology and Sciences  
(KITS)

#### **VICE PATRON**

**Dr. P. Mannar Jawahar,**  
Vice-Chancellor, KITS

**Dr. E. J. James,**  
Pro Vice-Chancellor, KITS

**Dr. Ridling Margaret Waller,**  
Pro Vice-Chancellor, KITS

**Dr. (Prof.) T. Lazar Mathew,**  
Pro Vice-Chancellor, KITS

#### **CO-PATRON**

**Dr. R. Elijah Blessing,**  
Registrar, KITS

**Dr. G. Prince Arulraj,**  
Dean (E&T), KITS

#### **CONVENER**

**Dr. D. Nirmal,**  
HOD-ECE, KITS

#### **COORDINATOR**

**Dr. M. Nesasudha,**  
Associate Professor,  
Department of ECE  
Karunya Institute of Technology and Sciences  
Karunya Nagar, Coimbatore – 641 114  
Tamil Nadu.  
Phone: +91-9443010445 / +91-9488175836  
Email : nesasudha@karunya.edu

### **FDP HIGHLIGHTS**

- ✓ Wearable Antenna - Introduction
- ✓ Health Hazards of Radiation and its Solution for Wearable Applications
- ✓ Metamaterial based Wearable Antenna
- ✓ Miniaturized antenna for Wireless Capsule Endoscopy System: A Make in India Approach
- ✓ Flexible Material Selection for Wearable Devices
- ✓ Designing Flexible Antennas, Complications and Solutions: Hands-on
- ✓ Role of Wearable Antennas: Diagnostics and Health Care
- ✓ Design and Research Challenges in Textile Antenna
- ✓ Research challenges of SIW antenna for Biomedical Applications



#### **Co-Coordinators**

- **Mrs. Shine Let G,**  
Assistant Professor,  
Department of ECE, KITS
- **Mr. Merlin Gilbert Raj S,**  
Assistant Professor,  
Department of ECE, KITS
- **Mr. Doondi Kumar Janapala,**  
Senior Research Fellow,  
Department of ECE, KITS

## ABOUT THE INSTITUTE

Karunya Institute of Technology and Sciences (KITS) was established in 1986 by the founders Dr. D.G.S. Dhinakaran and Dr. Paul Dhinakaran. Making rapid progress ever since, the Institute has now grown into a Institute of Technology and Sciences winning recognitions and awards on its way: Best Engineering College in Tamilnadu (1996), first-ever autonomous self-financing college (2000), and Deemed University (2004). The Institution has excellent academic, research and extra-curricular facilities effectively utilized by well- qualified and dedicated faculty and over 8500 students.

## DEPARTMENT OF ECE

It is established in the year 1986 with an intent of raising highly qualified engineers and researchers who can make substantial contribution to the field of Electronics and Communication Engineering. The department is accredited by NBA. The Department has well equipped laboratories with latest software. Karunya-IOT centre is established in the department in collaboration with Texas Instruments and INTEL. Currently, funded projects to the tune of 1.7 Crores funded by various R&D organizations, Government of India have been carried out in the programme. The objective of the department is to train students with good scientific and engineering breadth so as to comprehend, analyze, design and create novel products and solutions for the real life problems. The department actively collaborates with industries such as Texas Instruments, Salzer Pvt Ltd, Jasmin

Info Tech, Einnel Technologies and Intel Technology India Pvt.Ltd.

**Vision of the department:** Raising leaders who can make substantial contribution in the field of Electronics and Communication.

**Mission of the department:** To raise engineers and researchers with technical expertise on par with international standards, professional attitudes and ethical values with the ability to apply acquired knowledge to have a productive career and empower spiritually to serve humanity.

**PEO1:** Graduates will apply their technical knowledge in the areas of Electronics and Communication Engineering for real world applications.

**PEO2:** Graduates exhibit competence as academicians, researchers by pursuing continuous professional development.

**PEO3:** Graduates with professional ethics will contribute to the development of the society as entrepreneurs, consultants and in various other leadership positions.

## WEARABLE ANTENNA

The growth of wearable technology in recent times lead to the development of several wearable devices. These devices are useful in several applications such as, wireless body area networks (WBAN), Internet-of-Things (IoT), sports, entertainment and biomedical healthcare.

The materials and the fabrication techniques used for wearable antennas play vital role. Over the past decades efforts are being made in finding better materials and fabrication technologies with less complex and cost. Investigating the antenna performance under different wearable conditions such as stretching, flexibility, crumpling, humidity

and mitigating the human body effects are important aspects to be considered in wearable antenna research.

The WBAN antennas are either non-invasive or invasive. The wearable antennas are mostly non-invasive prepared with cloths, polymer based flexible materials to wear on cloths or incorporated into devices which can be wearable. WBAN also have invasive antennas like implantable & capsule type antennas. In medical applications these wearable antennas provide diagnostics, continuous monitoring and assistance in medication.

## ELIGIBILITY

The faculty members from the AICTE approved institutions, research scholars, participants from Government, Industry (Bureaucrats/ Technicians/ Participants from Industry etc.) and staff of host institutions is eligible to attend the program. There is NO REGISTRATION FEE to attend this online FDP.

## REGISTRATION PROCESS

Register this online FDP through the ATAL portal (<https://atalacademy.aicte-india.org/login>).

**Note:** Last date of online registration is 27/11/2020. Shortlisted candidates will be announced through email within 2-3 days of online registration.

## CERTIFICATE

The participants who have attendance more than 80% and test score greater than 60% are eligible to receive Digital Certificate issued by the ATAL Academy.