



**VINAYAKA MISSION'S  
RESEARCH FOUNDATION**  
(Deemed to be University under section 3 of the UGC Act 1956)



**AVIT**  
AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY

## **National Conference on Recent Emerging Science, Engineering & Advanced Research in Communication and Healthcare 2022**

### **NCRESEARCH 2022**



Organized by Department of ECE & BME In association with IETE Chennai Centre

**2022 04 July 2022**



#### **ABOUT AVIT**

Aarupadai Veedu Institute of Technology (AVIT) established in the year 1988, AVIT is an ambit institution of the Vinayaka Mission's Research Foundation. It is located on OMR, the IT corridor of Chennai. Vinayaka Mission's Research Foundation is accredited by NAAC. Vinayaka Mission's Research Foundation excel in disciplines like medicine, Dentistry, Paramedical Science, Homeopathy, Engineering, Management and basic sciences and has his wings spread across Tamil Nadu and Pondicherry. AVIT offers undergraduate, postgraduate and research program in all disciplines of Engineering and technology.

The institution has adequate number of classrooms and infrastructure for labs with state of the art equipment. The Institution has a well-stocked Library with adequate textbooks, reference books, National and International journals, DVD Library and e-learning facilities in the digital library.

The Library is completely automated and it is powered by Koha (Library Automation Software), it has National Digital Library (NDA) access and installed Swayam Prabha DTH Channel facility for Swayam/NPTEL and other MOOC online courses The college has chapters of various professional societies Like IEEE, IEEE PES, IEEE CSE, IETE, ISTE, IIPe, SAE, etc., The management believes in collaborative projects and hence has established with industries and research organizations. The institution has signed Memorandum of Understanding (MoU) with Bosch, Intel, Tech Mahindra, Infosys campus connect, GSScorp Japan, Satsang Research Institute, Baba Clinical and Genomic Research Centre, Chennai, NASSCOM, ICTACT,IYF and many more. Recently, ECE & BME department have jointly established "Embedded Systems and Robotics Lab" supported by "E-yantra Lab setup Initiative" (eLSI – IIT Bombay) to induce robotic projects across all domains.

#### **ABOUT DEPARTMENT OF BIO MEDICAL ENGINEERING**

Department of Bio-medical Engineering was started in the year 2008 within Aarupadai Veedu Institute of Technology (AVIT). The program is well structured to make the students understand the recent advancements in the field of biomedical engineering. Understanding the recent advancement will enrich their skillsets and make them excel in their career as researchers and engineers. Bio-medical engineering program of Aarupadai Veedu Institute of Technology (AVIT) is designed to make students understand

#### **PATRON**

Dr. A.S. Ganesan, Hon'ble Chancellor, VMRF-DU

Dr. Anuradha Ganesan, Hon'ble Madam Chancellor, VMRF-DU

#### **CORE COMMITTEE**

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Dr. G. Selvakumar, Principal, AVIT

Prof. P. Rajasekaran, Dy. Registrar (Admin.), VMRF-DU

Dr. D. Vijendra Babu, Vice Principal (Part Time Studies), AVIT

Dr. S.P. Sangeetha, Vice-Principal (Academics), AVIT

Dr. L. Prabhu, Vice-Principal (Admin.), AVIT

#### **CONFERENCE CONVENER**

Dr. L.K. Hema, Prof. & Head, ECE & BME

#### **CONFERENCE CO-CONVENER**

Mrs. R. Mohanapriya, Associate Professor, ECE

Mr. Karthikeyan, Assistant Professor (G-II), ECE

Mr. V. Prabhakaran, Assistant Professor (G-II), BME

#### **ORGANIZING COMMITTEE**

Mr. Vijay, Assistant Professor (G-II), ECE

Mr. Rajat Kumar Dwibedi, Assistant Professor (G-II), ECE

Mrs. Vanitha, Assistant Professor (G-II), ECE

Ms. Lakshmi Shree, Assistant Professor (G-II), BME

Ms. Sandhiya, Assistant Professor (G-II), BME

## CALL FOR PAPERS

Original contributions are solicited for presentation on Emerging Trends in Hardware Security, VLSI, Signal processing, Embedded Systems & Communication, Biomedical, Biomechanics, Diagnostics and Therapeutics, Telemedicine, Biomedical Imaging.

The topics of interest include (but are not limited to) the following :

### ELECTRONICS DOMAIN

- Ad Hoc / Sensor Networks
- Antenna & Wave Propagation
- ASIC Design / FPGA Implementation
- Hardware Security
- Network Security and Cryptography
- Trusted Hardware Module
- Communication Technology
- Artificial intelligence
- Machine learning and Deep Learning

### BIOMEDICAL DOMAIN

- Biomedical Engineering
- Bio-Engineering
- Bioinformatics Engineering
- Biological Systems and Models
- Biomaterials
- Biomechanics
- Biomedical device characterization

### ROBOTICS

- Drug Delivery Techniques
- Hydrogels
- Tissue Engineering
- Sensors and instrumentation

The full paper should be in accordance with IEEE guidelines. (Not exceeding 6 pages)

## REGISTRATION FEE

Students (UG & PG) & Research Scholars : Rs. 300/-  
Faculty : Rs. 400/-  
Industrial Participants : Rs. 500/-

**\* Rs. 100 will be waived for IETE members**

*For Rs. 100/- waiver, Candidate should enclose IETE Membership details as proof*

## IMPORTANT DATES

Deadline for paper Submission : 27.06.2022  
Acceptance Notification : 29.06.2022  
Final Manuscript submission : 01.07.2022

the advancements such as Robotics based medical technologies, Sensors based diagnostics, Bio-MEMS, Medical coding and Medical equipment's. This program makes the students more unique in understanding the needs of the market in the field of medical diagnostics to provide an overall enhancement in the health care.

## ABOUT DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

The department was established to excel in education and research in Electronics and Communication Engineering (ECE) from the year 1998-it conglomerates academic rigor with a vibrant campus life. The department offers undergraduate, post graduate and Ph.D. programmes that provide students with the knowledge and tools to meet the growing technological demands. The broad of courses are taught by the group of highly experienced faculties, who are also researchers in their own areas. The ECE department has well equipped laboratories coupled with extensive practical work which ensures the students receive a well-rounded education. Keeping this in mind the department has focused on industry defined problems from various Public Sector Units for their student research work. The ECE department is research intensive which has adequate infrastructure to engage in cutting edge-research activities and projects funded by DRDO-SAG, MHRD-UBA, TNSCST are carried out.

## ABOUT CONFERENCE

The aim of the conference is to provide a national forum of academicians, researchers, industrialists and students engaged in areas of technology to discuss critical issues concerning intricacies of communication engineering and healthcare that impact the society and also to share and explore new areas of research , development and to discuss emerging issues as well as novel methods. This conference will also provide opportunities for networking and collaboration among the professionals from different disciplines across the country. This conference also facilitates many key note lectures by industry / academia experts across various domains.

## PAYMENT DETAILS

Bank Name : ICICI BANK LTD  
Bank Account Name : Aarupadai Veedu  
Institute of Technology  
Bank Account Number : 027805003561  
Bank IFSC Code : ICIC0000278  
Branch : Chennai Kilpauk

## **ADVISORY COMMITTEE**

**Dr. V. Thanikaiselvan**, Assistant Director - Quality Assurance and Accreditation, Associate Professor (Senior), School of Electronics Engineering, Vellore Institute of Technology (VIT), Vellore.

**Dr. V. Chandrasekaran**, Professor & Head, Medical Electronics, Vellalar College of Engineering & Technology, Erode.

**Dr. R. Vijaya Arjunan**, Associate Professor, Department of Computer Science Engineering, Manipal Institute of Technology, Karnataka

**Dr. V. Sakthivel**, Assistant Professor, Department of Electronics and Communication Engineering, NIT Calicut.

**Dr. Venkatraman**, Managing Director, Biovision Medical Systems, Pvt.Ltd Chennai.

**Dr. S. Ravikumar**, Professor & Head, Department of Biomedical Sciences, School of Biological Sciences, Alagappa University, Karaikudi.

**Mr. Ganesh Balasubramanian**, Senior Deputy Director of Engineering at Amphenol Antenna Solutions, Inc.

**Dr. Sapthagirivasan**, Manager, RnD (Medical Devices), Capegemini.

**Dr. T. Ganeshkumar**, Associate Professor, School of Computing Science & Engineering Galgotias University

**Dr. R. Devika**, Prof. & Head, Biotech, AVIT

**Dr. R. Divahar**, Assoc. Prof. & Head, Civil Engg., AVIT

**Dr. S. Rajaprakash**, Assoc. Prof. & Head, CSE, AVIT

**Dr. L. Chitra**, Prof. & Head, EEE, AVIT

**Dr. L. Prabhu**, VP(Admin), Prof. & Head, Mech, AVIT

**Dr. Jenifer G Joseph**, Prof. & Head, H&S, AVIT

**Dr. Praba Sheela B**, Prof. & Head, Pharma, AVIT

deemed unacceptable will be rejected/ withdrawn.

Authors are requested to kindly refrain from plagiarism in any form and submit their original and unpublished research work not under consideration for publication elsewhere. As per copyright transfer agreement, authors are deemed to be individually and collectively responsible for the content of manuscripts published by them.

## **“NC-Research” Conference will be conducted as “Hybrid Mode” [Online & Offline]**

### For Contact

The Convenor, NCRESEARCH2022  
Aarupadai Veedu Institute of Technology,  
Vinayaka Mission’s Research Foundation - DU  
Vinayaka Nagar, Rajiv Gandhi Salai (OMR), Paiyanoor-603 104

E Mail : [events.ecebme@avit.ac.in](mailto:events.ecebme@avit.ac.in)  
Website : [avit.ac.in/ncresearch2022](http://avit.ac.in/ncresearch2022)  
Cell : 98845 77189  
99621 69292  
98846 34252

## **OBJECTIVE OF THE CONFERENCE**

To bring together researchers, young faculty and practitioners working in multi-disciplinary fields to discuss and deliberate on challenges, opportunities and strategies involved for communication engineering and healthcare technology.

This conference will provide a platform to academic researchers and practitioners to discuss critical issues concerning latest technologies.

## **PAPER FORMAT**

Calls for papers - Prospective authors are invited to submit manuscripts reporting original, unpublished research and recent developments in the topics related to the conference. Submissions must include title, abstract, author affiliation with the email address and keywords. Submitted papers should be maximum of 6 pages in length in standard IEEE conference format. Literature reviews / survey papers will only be considered if they present a new perspective or benefit the field. The proceedings of the conference will be published with ISBN number.

## **PUBLICATION**

- All the accepted papers will be published in the “Conference Proceedings” with registered ISBN number.
- Selected papers will be supported for getting published in “SCOPUS” indexed journal with the consent of corresponding author(s).
- The maximum authors on the stipulated paper are restricted to 4 members.

## **PLAGIARISM POLICY**

All submitted papers will be subjected to a “similarity test” under registered plagiarism Software. Papers achieving a minimal similarity index i.e., less than 15% will be examined, and those are