



Department of Electronics and Communication Engineering  
**National Institute of Technology**  
**Andhra Pradesh, Tadepalligudem.**



ACCELERATE  
**वैद्यन**



Sponsored by

**CONDUCTS A HIGH-END WORKSHOP ON**

**KARYASHALA - SCIENCE AND ENGINEERING RESEARCH BOARD**

**(SERB - DST) GOVERNMENT OF INDIA**

**APPLICATIONS OF ARTIFICIAL INTELLIGENCE  
AND MACHINE LEARNING TOOLS IN  
MICROWAVE AND RADAR SIGNAL PROCESSING**

**18<sup>TH</sup> – 24<sup>TH</sup> JULY 2022**

## **Organizing**

### **PATRON**

**Prof. Pramod M. Padole**  
Director (In-Charge)  
NIT Andhra Pradesh,  
Director, VNIT Nagpur.

### **CO-PATRON**

**Dr. Dinesh P. Shankar Reddy**  
Registrar (In-Charge)  
NIT Andhra Pradesh.

### **CONVENOR**

**Dr. Kiran Kumar Gurrala**  
Asst. Prof. & HoD,  
Dept. of ECE.

### **COORDINATORS**

**Dr. S. Yuvaraj**  
Asst. Prof., Dept. of ECE.

**Dr. Puli Kishore Kumar**  
Asst. Prof., Dept. of ECE.

**ABOUT NIT ANDHRA PRADESH:** NIT Andhra Pradesh is the 31st institution among the chain of NITs started by the Government of India and is established in the academic year 2015 – 2016. The construction works of Phase 1A and 1B, which includes the academic & laboratory complexes, central library, hostels, faculty and staff quarters along with full-fledged recreation & students amenities center is completed within the short time span of three years and is constructed in 172.6 acres of land adjacent to Chennai-Kolkata Highway (NH-16) in the air-strip lands of Tadepalligudem, West Godavari Dist., Andhra Pradesh. At present the Institute is offering B.Tech., M.Tech., Ph.D. and MS programmes in eight engineering departments along with Ph.D. in pure sciences and management.

**ABOUT DEPT. OF ECE:** ECE department is one of the pioneer departments of NIT Andhra Pradesh which offers courses in B.Tech, M.Tech, and Ph.D. with the current UG intake of 150 students. The department has qualified, dedicated, experienced faculty with deep sense of commitment toward the students and institution. Faculty proficiency in thrust areas like Resource Allocation in Wireless Networks, VLSI, Radar, Array, Signal Processing, Data fusion in IoT, Information Theory, UAV, Microwave circuits etc., motivates the students to participate in research activities and skill development programs. The department has an external funding research projects worth 50 lakhs and exercises a very good placement record.

**ABOUT WORKSHOP:** The main objective of this one-week workshop is to acquaint the participants with the probable applications of artificial intelligence and machine learning in the areas of microwave and radar signal processing. Speakers will cover various research progress in the areas of microwave circuit design, computational electromagnetics and Radar signal processing, and the usage of various AI and ML techniques in these domains. The workshop will be helpful for the researchers working in the areas of Antennas, Microwave/Millimeter-wave circuits, Radar signal and image processing.

TENTATIVE SCHEDULE		
Date	Forenoon Session (10:00 am - 12:00 noon)	Afternoon Session (2:30 pm - 4:30 pm)
18/07/2022	Inauguration	Advances in Computational Electromagnetics Prof. M. V. Kartikeyan
19/07/2022	RF power amplifier design and Optimization Dr. Sukwinder Singh	Synthetic Aperture Radar (SAR) Image Processing: Applications and Advancements Dr. Himanshu Maurya
20/07/2022	AI & ML in Radar Signal Processing Dr. Tapas Chakravarthy	AI & ML in Array Processing Dr. A. Anil Kumar
21/07/2022	Recent Advancements in AI and ML with Applications Prof. T. Kishore Kumar	ML applications of Radar Signal Processing Dr. Puli Kishore Kumar
22/07/2022	Radar Signal processing Prof. N. V. S. N. Sarma	Advances in Antenna design for 5G and beyond Dr. S. S Kartikeyan
23/07/2022	Optimization of Microwave Sensor Design for various dielectric characterization Dr. Yuvaraj S	Demonstration of on VNA
24/07/2022	Report Writing using LATEX - Demo	Valediction

## Tentative List of Speakers

Prof. N. V. S. N. Sarma  
Director, IIIT Trichy,  
Professor, NIT Warangal.

Prof. M. V. Kartikeyan,  
Dept. of EE, IIT Tirupati.

Prof. T. Kishore Kumar  
Dept. of ECE, NIT Warangal.

Dr. S. S. Karthikeyan,  
Dept. of ECE, NIT Trichy.

Dr Sukwinder Singh  
Dept. of ECE, NIT Jalandhar.

Dr Himanshu Maurya,  
Dept. of ECE, IIIT Allahabad.

Dr. Tapas Chakravarthy,  
TCS Principal Scientist, Bengaluru.

Dr. A. Anil Kumar,  
TCS Senior Scientist, Bengaluru.

Dr. Puli Kishore Kumar  
Dept. of ECE, NIT Andhra Pradesh.

Dr. Yuvaraj S  
Dept. of ECE, NIT Andhra Pradesh

## ABOUT KARYASHALA

Science and Engineering Research Board (SERB) is a statutory body under the Department of Science and Technology. The government of India has inaugurated an Inter-Ministerial Initiative 'Accelerate Vigyan (AV) Scheme' to provide a big push to high-end scientific research and prepare scientific manpower which can venture into research careers and a knowledge-based economy. AV aims to expand the research base in the country, with three broad goals- consolidation/aggregation of all scientific training programs, initiating high-end Orientation Workshops, and creating opportunities for Research Internships. AV scheme is an attempt to boost Research & Development in the country by enabling and grooming potential PG and Ph.D. level students by developing dedicated research skills in selected areas/disciplines/fields through High-End orientation workshops 'KARYASHALA'. This will be especially important for those researchers who have limited opportunities to access such learning capacities/ facilities /infrastructure.

**Eligibility:** The course is intended only for the students pursuing PG/Ph.D., who are interested to do research in the domain of Microwave and Radar Signal Processing. **Mode of workshop:** Offline. The participants need to attend all the sessions of the workshop physically. **Travel allowances, and hostel accommodation will be provided for the participants as per the SERB norms.**

**REGISTRATION AND OTHER DETAILS:** There is no registration fee for this workshop and the participants who meet the eligibility criteria will be selected on first come first serve basis and the number of participants is limited to 25 only. Participants can apply for this workshop using the link <https://forms.gle/rMsfo4qQAiNvUQin7> and should submit the scanned copy of the duly signed Mandatory Registration Form (attached with this brochure) while doing the registration. Last date for the registration is 08.07.2022 and the selected participants will be notified by 09.07.2022.

### CONTACT DETAILS:

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**18<sup>th</sup> – 24<sup>th</sup> July, 2022.**



**ORGANIZED BY**  
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
NATIONAL INSTITUTE OF TECHNOLOGY ANDHRA PRADESH, TADEPALLI, GUDDEM

Sponsored by  
KARYASHALA - SCIENCE AND ENGINEERING RESEARCH BOARD  
(SERB - DST) GOVERNMENT OF INDIA

**MANDATORY REGISTRATION FORM**

1. Name: \_\_\_\_\_
2. Designation: M.E/M.Tech/PhD
3. Institution: \_\_\_\_\_
4. Address for correspondence with e-mail: \_\_\_\_\_  
\_\_\_\_\_
5. Telephone / Mobile No: \_\_\_\_\_
6. Research area: \_\_\_\_\_

Place:

Date:

**Signature of the Applicant**

**Approval from supervisor/Head of the department of the applicant**

The applicant is a M.E/M.Tech/PhD Scholar of our department and will be permitted to participate in the above program for seven days in physical mode, if selected.

**Signature and the Seal of Head of the**  
**Institution/Department/Section**