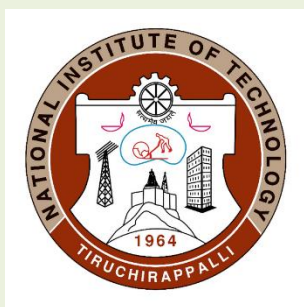




**Scheme for Promotion of Academic and
Research Collaboration (SPARC)
Sponsored One Week Workshop on**

**Advanced Fabrication Techniques
for Flexible and 3D Printed Antennas**

14th to 18th July 2025



**Organized by
Department of Electronics and
Communication Engineering
National Institute of Technology
Tiruchirappalli, Tamil Nadu-
620015, India**

COORDINATORS

Dr. R Pandeeswari

Professor, ECE

Dr. S. Deivalakshmi

Associate Professor, ECE

Dr. V. Sudha

Associate Professor, ECE

Dr. G. Thavasi Raja

Associate Professor, ECE

Dr. Bukke Chandrababu Naik

Assistant Professor, ECE

NIT Tiruchirappalli

For any queries, please contact

Ms. Swathi S Babu – 7306391504

Ms. Harshasri Kanakavalli - 9951739943

Ms. M Jeyabharathi – 9976435493

Email: sparcecenitt@gmail.com

About NIT Tiruchirappalli

National Institute of Technology Tiruchirappalli is one among the premier Institutions of India and is well known for its high standards in teaching and research. It offers 10 undergraduate and 23 Postgraduate programs in the disciplines of Engineering, Science, Architecture and Management. The Government of India under NIT Act has declared it as an Institute of National Importance. NIT Tiruchirappalli retained its No. 1 position among all NITs in the NIRF ranking. NITT has a sprawling campus of over 800 acres, and is equipped with state-of-the-art infrastructure cutting-

edge laboratories, modern learning facilities, and industry partnerships to address global challenges. The Institute has signed MoUs with various Industries and Institutions both in India as well as in abroad to promote collaborative research and consultancy.

About the Department

The Electronics and Communication Engineering (ECE) Department was established in the year 1968. The vision of the Department is to provide valuable resources for industry and society through excellence in technical education and research. The Department offers Under graduate, Post Graduate, research degrees (M.S. & Ph.D.) programs. Research in the Department focuses on various disciplines such as Communication systems, Wireless networks, Signal and Image Processing, RF MEMS, Microwave Antennas, MIC, Optical Communication, Photonics and VLSI systems.

About the Program

This workshop is being organized by NIT-Trichy, with a resource person from Carleton University, Ottawa, Canada as part of SPARC project and scheduled at Department of Electronics and Communication Engineering, NIT Trichy, Tamil Nadu. The Scheme for Promotion of Academic and Research Collaboration (SPARC) aims at improving the research ecosystem of India's Higher Educational Institutions by facilitating academic and research collaborations between Indian Institutions and the best institutions in the world from 28 selected nations to jointly solve problems of national and international relevance.

About the Workshop:

This workshop provides a clear and simple introduction to new antenna fabrication methods, focusing on microfabrication, direct printing, and additive manufacturing techniques. It helps participants understand the important materials, processes, and design steps needed to make flexible and 3D printed antennas. The course covers basic concepts of microfabrication and additive manufacturing, how to choose suitable materials for flexible antennas and shares examples of antennas already made using these methods. Special focus is given to real-life applications like antennas used in wearable devices, healthcare equipment, and indoor communication systems.

Eligibility

The programme is open to Faculty and Students (B.Tech, M.Tech and Ph.D) of AICTE/UGC approved Engineering and Technology Colleges and working professionals in government agencies. Number of participants will be limited. Certificates will be provided to the participants with minimum of 80% attendance in the workshop.

WORKSHOP CONTENTS

Day-1:

- * General overview of microfabrication, direct printing, and additive manufacturing techniques
- * A deeper dive into processes relevant to antenna fabrication

Day- 2:

- * Material selection and process considerations for flexible and 3D printed antenna manufacturing
- * Early examples of antenna designs produced using additive manufacturing
- * Discussion on benefits and limitations of additive manufacturing for antennas.

Day- 3:

- * Example applications for flexible and 3D printed antennas
- * Focus on wearables, healthcare, indoor communication, and other terrestrial communication systems

Day- 4:

- * Challenges, current state-of-the-art, and prospects for additive manufacturing and direct printing of antenna technologies
- * A deep dive into the market overview and future of flexible and additively manufactured antennas

Day 5:

- * Case studies presented from different application domains
- * Final review of the workshop content

RESOURCE PERSON

Dr. Ravi Prakash is an Associate Professor at Carleton University, Ottawa, Canada. He holds a B.Sc. from IIT Madras and M.Sc. and Ph.D. in Electrical and Computer Engineering from the University of Calgary.

His research focuses on Lab-on-Chip devices, wearable biosensors, environmental monitoring systems, and organic electronic materials. He leads the Organic Sensor and Devices Laboratory (OSDL), collaborating with industry and academic partners worldwide. Dr. Prakash has over 40 peer-reviewed publications, 3 patents, and numerous invited talks. He is a licensed Professional Engineer in Ontario and an active member of IEEE and other technical organizations.



REGISTRATION DETAILS

HYBRID MODE

No Registration Fee

Last date of registration: 13 July 2025

using link:

<https://forms.gle/8qB5E3eGXwLARF2V6>