REGISTRATION FORM

Name :

Designation :

Organization :

Conact Adress :

Email :

Mobile no. :

Registration Fees: 1650/- (including GST)

Date of payment:

Signature of Applicant:

The scanned registration form duly signed by the participant along with the payment proof should be sent by email on or before 30th June 2019.

Email: fss2019.nitt@gmail.com

IMPORTANT DATES

Last date for registration : 30th June 2019
Intimation by email : 02nd July 2019
Date of Workshop : 06th July 2019

ORGANIZING MEMBERS

Coordinators:
Dr. S Raghavan
Sr. Professor (HAG), Dept. of ECE, NIT Trichy

Dr. Shiv Narayan
Sr. Scientist, Centre for Electromagnetics
CSIR-NAL, Banglore

Co-coordinators:
Dr. M. Bhaskar
Professor, Dept. of ECE, NIT Trichy

Dr. R. Pandeeswari
Associate Professor, Dept. of ECE, NIT Trichy

COURSE FEE

UNIVERSITY/ACADEMIC INSTITUTIONS/ INDUSTRY: There is a common course fee for all the participants from engineering/science teachers from Universities/AICTE/ UGC recognised Colleges/Academic Institutions, industry/ R&D organizations, UG, PG and research scholars. Participants will be provided with workshop kit, lunch, snacks and participation certificate.

The course registration forms should reach to course coordinators latest by 30th June 2019. The registration paymet should be through NEFT transfer only.

The Bank detauils are:

Account Name : Electronics and Communication Engineering Association
Account Number : 10023883609
IFSC Code : SBIN0001617
Branch : SBI NIT Trichy
Account type : Savings Account

For any queries please contact:

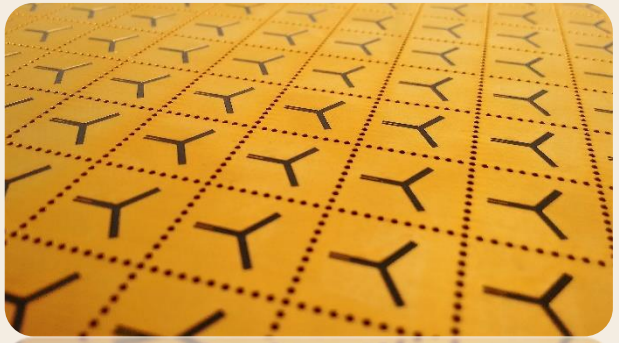
V Krushna Kanth
Research scholar
Mobile no.:+91 9502195388

M Ananda Reddy
Research scholar
Mobile no.:+91 850807700

One day workshop on Theory and Applications of Frequency Selective Surfaces (FSS)

Theory, Design, Characterizations & Applications

6th July 2019



Organized by

The Deapartment of Electronics and Communication Engineering
Natuional Institute of Technology
Tiruchirappalli
Trichy 15

RESOURSE PERSONS

Dr. S. Raghavan is the distinguished Professor (HAG) in the Electronics and Communication Engineering Department, National Institute of Technology Trichy. He has 40 years of teaching and Research experience in the field of Microwave Integrated Circuits, RF MEMS, BioMEMS, Metamaterial, SIW, Microwave Engineering, frequency selective surfaces and planar periodic structures. He is a proud research scholar of Prof. Bharathi Bhat and Prof. S K Koul, CARE, IIT Delhi.

Prof. Raghavan has established state of the art Microwave Integrated Circuit and Microwave Laboratory in NIT Trichy with the help of Govt. of India funding. He Won the Best Teacher award twice and was conferred with Honorary Fellowship of Ancient Sciences and Archaeological Society of India. He is a short time visiting Fellow in California State University, North Ridge, USA. He was conducted many tutorials in internatuional conferences and organizing chair for many international conferences. Also, conducted several state of art workshops of national importance. To his credit 150 research papers in International Journals and more than 250 national and international conferences. He guided 12 Ph.D. scholars and 6 scholars are currently working under him. He the professional member and fellow of many technical societies.

Dr. Devendra Chandra Pande currently the Dr Raja Ramanna DRDO Distinguished Fellow at LRDE, DRDO Bangalore. Since November 1981, he is with LRDE, where he is involved in design and development of Electromagnetic Interference Control Techniques for Ground based, Airborne and Ship-borne equipment and systems. He has taught the subject of EMI/ EMC/ EMP/ ESD/ HPM/ lightning allover the country both to Defence and Civilians.

Dr. Pande began his Scientific Career in 1981 with the Electronics & Radar Development Establishment (LRDE), a defence establishment under Defence Research and Development Organisation (DRDO), Ministry of Defence, India. At LRDE he is involved in the Design and Development of Electromagnetic Interference Control Techniques for ground based, airborne and ship-borne equipment and systems. He is one of the pioneer scientists who started research activities in the field of Nuclear Electromagnetic Pulse (NEMP) and High Power Electromagnetics (HPEM) in India. In addition, he is involved in the electromagnetic design of various radar systems, combat aircraft and other combat vehicles of the country. He is also involved in the design, development and evaluation of various types of antennas for all radar programs of DRDO.

He was the principal Scientist who designed the EMP hardened C4I facilities in India. He was a member of Study Group `A' at DRDO on nuclear effects and a member for the Department of Electronics Committee for "Evolving National Standards Regarding Electromagnetic Emissions." Presently he is an Outstanding Scientist and Director (Technology) in LRDE.

Dr. Shiv Narayan obtained the Ph.D. degree in Electronics Engineering from Indian Institute of Technology (IIT-BHU), Banaras Hindu University, Varanasi, India in August 2006. He is associated with the Centre for Electromagnetics (CEM) of CSIR-National Aerospace Laboratories (CSIR-NAL), Bangalore, India since May 2008. Currently, He is holding the position of Senior Scientist at CEM, CSIR-NAL. Earlier, he held the position of Scientist-B in SAMEER (Society for Applied Microwave Electronics Engineering and Research), Kolkata, India, during the period March 2007-May 2008, where he was actively involved in the pattern synthesis of planar phased array antennas. His research interests are broadly in the field of Electromagnetic applications and the topics include: Frequency selective surfaces (FSS), RAS, Radome, metamaterials, numerical methods in electromagnetics, antennas, pattern synthesis of antenna array, and EM material characterizations. Particularly, he is working on the design and analysis of FSS structures based on advanced numerical techniques (i.e. MM-GSM, TLTMM, and FDTD method) for aerospace applications for the last eight years.

Dr Shiv is the author/ co-author of over 70 technical documents including peer reviewed journal and conference papers. He has published Technical Briefs with Springer on various topic such as '*FSS Technology' and FDTD modeling inside Microwave Cavities*. Recently, Dr Narayan was awarded with "**Excellence Award in Research"** from CSIR-NAL for his significant contributions to the *EM Design and Development of FSS structures for Airborne Applications such as radomes, RAS, and antennas*. He is a life member of ISAMPE, India.

INTRODUCTION

An one day dedicated workshop on the Theory and Applications of Frequency Selective Surfaces will be conducted on 6th July 2019 by the Department of Electronics and Communication Engineering, National Instititute of Technology, Trichy at NIT Trichy premises. The program will be useful to researchers/ academicians/ Engineers who are dealing with microwave & millimeter wave applications of spatial filters, planar periodic reflecting surfaces, radiating structures, shielding structures, and absorbers (RAS), working in R&D organizations, academic institutions, and industries. In this program, NIT Trichy's, DRDO's, and NAL's recognized expertise is being used to enhance the knowledge-base of participants and their awareness to the importance of "FSS Science and Technology" in the current scenario (Defence/ Industry). The course is planned to cater to the needs of faculty from Science & Engineering Institutions, scientists from R & D Labs and practicing engineers/ research scholars from industry and academia. It aims to equip the participants with an essential knowledge of the area so as to enable them to start working with frequency selective surfaces and planar periodic arrays in their research & applications.

OBJECTIVES

Frequency selective surfaces have captured the interest of microwave researchers due to the exceptionally attractive applications from past 3 decades that were claimed for them, such as electromagnetic reflectors, antennas, absorbers, radomes, shielding structures for the differenrt frequency spectrum of the frequency bands. This technique can miniaturize the antennas with enhanced performance charecteristics. In the Indian context, reasonable number of researchers from Science and Engineering Colleges, IITs, NITs etc. are now inclining into this area. Government units such as CSIR-NAL, ISRO, DRDO, BEL have recently begun several programmes towards the development of strategic applications involving Frequency selective surfaces and FSS based metamaterials. The industry, however, has lagged behind in the use of this concepts. In this one day workshop, emphasis will be placed on understanding the basic physical principles and developing applications. The course will give an exposure to the computational design and simulations of FSS and metasurfaces. The primary objective of imparting working knowledge in the above mentioned areas will be achieved through lectures, tutorials demonstrations of computer simulations (hands-on training).

COURSE CONTENTS

Lectures and tutorials will be delivered by renouned experts working at NIT Trichy, CSIR-NAL, DRDO and other reputed institutions on:

- *Introduction to Frequency Selective Surfaces*
- *Theory and Design of FSSs*
- *High Performance FSS design based on Substarete Integrated Waveguide (SIW) Cavity Technology & metamaterial-elements*
- *Applications of FSS structures including aerospace for;*
  - *High Performance antenna*
  - *Broadband Radar absorbing strucutres*
  - *High performance radome*
- *Hands-on session on Modeling of planar periodic structures using computer simulations.*
- *Fabrication and charecterization of planar arrays*

Mr. V. Krushna Kanth received the B.Tech. degree from Jawaharlal Nehru Technological University Anantapur, Anantapur, India, in 2012, and the M.Tech. degree in electronics engineering from Pondicherry University, Puducherry, India, in 2015. He was with the Centre for Electromagnetics, CSIR-National Aerospace Laboratories (CSIR-NAL), Bangaluru, India, for a period of one year. He is currently a Research Scholar with the Department of Electronics and Communication Engineering, National Institute of Technology, Tiruchirappalli, India. He has co-authored one Springer brief and 20 technical papers. His current research interests include microwave integrated circuits, frequency selective surfaces (FSSs), radome, RAS/RAM, radar cross section (RCS) field computation, and substrate-integrated waveguide cavity technology. Mr. Krushna Kanth is a IEEE Student Member, Student Member of European Microwave Association, Member of IEEE Microwave Theory and Techniques Society, Antenna Propagation Society, Electromagnetic Compatibility Society, Electronics Packaging Society, IEEE Instrumentation and Measurement Society & Signal Processing Society and Corresponding Member of URSI.