

Online one week Short Term Course  
on

# Antenna and Microwave Fundamentals, Theory, Modeling, Test and Applications for Space, Air and Ground Systems

26<sup>th</sup> Sept - 30<sup>th</sup> Sept 2020



Coordinator  
Prof. K. R Subhashini

Organized by  
Dept. of Electrical Engineering  
National Institute of Technology  
Rourkela

Sponsored by  
TEQIP-III

## About the Institute

National Institute of Technology (NIT), Rourkela was founded as Regional Engineering College, Rourkela in 1961. It is a prestigious Institute with a reputation for excellence at both under graduate and post graduate levels, fostering the spirit of national integration among the students, a close interaction with industry and a strong emphasis on research, both basic and applied. It's been consistently ranked with in TOP 20 engineering institutes for 5 consecutive years as per MHRD's NIRF, Govt. of India. It is ranked 16 in the NIRF Rankings 2020 of Indian engineering universities.

## Dept of Electrical Engineering

Department of Electrical Engineering, NIT Rourkela was established in 1961. Since its inception, the Department is under dynamic progress and is reputed for imparting quality education both at B.Tech, M.Tech levels. The Department currently runs Four M.Tech programmes with the specializations in (i) Power Electronics and Drives, (ii) Electronic Systems and Communication, (iii) Control and Automation, (iv) Power Systems Engineering. Besides the undergraduate and postgraduate teaching, a good number of research scholars are working on different areas of Electrical Engineering towards the award of PhD degrees. The Department is identified as the host department for execution of two Centers of Excellence, namely CoE Industrial Electronics and Robotics and CoE in Renewable Energy Systems. The Department has well equipped modern laboratories such as Signal Processing & Communication, Image Processing & Computer Vision, Power Electronics & Drives, Control & Robotics, Embedded & Real Time System Lab for pursuing research in the emerging areas of Electrical Engineering.

## Course Objective and Outcome

Microwave antennas are the backbone of the wireless communications system. Basic knowledge of microwave components is essential to develop a reliable wireless communication system. This course attempts to refresh the fundamentals as well as recent developments in the field of microwave antennas and passive components. Detail design steps of the full-wave microwave antennas and passive components, starting from text book knowledge to implementation using commercial full-wave simulators in different planar printed circuit board guiding structures will be discussed. The course will include lectures sessions on the following broad topics:

- > Antenna Modeling and Simulation Techniques
- > Antenna Applications for Space, Air and Ground Systems
- > CubeSat Antennas - Mesh Reflectors and Reflect Arrays
- > Antenna Theory & Phased Arrays
- > Antenna Applications for Defense Industry
- > Theory and Design of Filters
- > Advances in Microstrip Filter technology
- > Antenna application to Health Monitoring
- > Substrate integrated waveguide
- > Low Profile Antennas on Metasurfaces
- > Microwave Integrated Circuits

## Resource Persons

Dr. Sudhakar Rao, Northrop Grumman Space Systems  
Dr. C.J. Reddy, Altair, USA  
Dr. Nacer Chahat, NASA/JPL USA  
Prof. Animesh Biswas, Director, NIT Rourkela  
Shri Rajeev Jyoti, Deputy Director, Distinguished Scientist, SAC, ISRO, Ahmedabad.  
Prof. Amalendu Patnaik, Associate Professor, IIT Roorkee  
Dr. N N S S R K Prasad, ADA Bangalore  
Dr. Vamsi Krishna Veldi, Scientist E, URSC, ISRO  
Prof. Debabrati Sen, Associate Professor, IIT Kharagpur  
Mr. B Pavan Kumar, Scientist F, URSC, ISRO  
Prof. Debolina Ghosh, Assistant Professor, IIT Bhubaneswar  
Prof. Eva Rajo Iglesias, Associate Professor, Carlos III University, Madrid, Spain  
Dr. Beenamole K S. Scientist G. Group Head, LRDE, DRDO  
Dr. Venkata Vanukuru, PMTS, IBM/GLOBALFOUNDRIES  
Dr. Gaurangi Gupta, Research Associate, IIT Kanpur

## Who should attend the course

Faculty members of University and Engineering colleges, research scholars, M.Tech final year students, practicing RF and microwave engineers, professionals and functional managers, administrators in the mobile phone, satellite communication and radar industry who would like to go through guided tour of fundamentals, design and measurement of microwave antennas and passive components.

## Registration

After paying registration fee, kindly capture an image of proof for the payment. The participants have to register for the course online through the link provided below and provide the transaction id and upload the proof of payment.

Apply here : <https://tinyurl.com/yychxzwX>

### Registration Fee :

Industry /Faculty/Academic Staff : Rs. 1000/-  
UG, PG Students and Ph.D Scholars : Rs.500/-

### Account Details :

Account Name: DIRECTOR NIT ROURKELA  
Account Number: 37537622247  
IFSC Code: SBIN0002109  
Bank: STATE BANK OF INDIA  
Branch: NIT CAMPUS ROURKELA

### Important Dates :

Last date for online registration : 23/09/2020  
Intimation to the candidates : 23/09/2020  
Course dates : 26/09/2020 - 30/09/2020

## Contacts :

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