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IMPORTANCE AND SCOPE

Current microwave systems for transmission and radiation of electromagnetic waves have to meet the competing requirements of enhanced functionality, low loss, reduced size and weight and low cost. It is important to appreciate that many of the design goals in modern efficient and miniaturized systems are self conflicting. For example, incorporation of multiband or broadband characteristics involves increase in physical size, which may have to be carefully optimized in handheld and wireless systems where space is at a premium. Similarly, development of low-loss devices are crucial for successful operation at the Ka and Ku-bands and beyond. It might be mentioned that traditional technologies like the microstrip are prohibitively lossy at 20-30 GHz frequencies and beyond. The rectangular waveguide based designs, though satisfying the loss requirements, are comparatively bulky and difficult to effectively integrate with planar components.

Keeping the above in view, the design and analysis of efficient modern systems will be addressed with particular emphasis on low-loss guided structures and antennas. Reconfigurable antennas for mobile and wireless communication and current antenna miniaturization techniques for the realization of sub-wavelength radiating structures would be discussed.

In addition, metamaterials and their role in the design of systems with enhanced performance would be addressed. These include the design and realization of metamaterials, the design of electrically small antennas based on metamaterials and miniaturization of radiating structures based on the zeroth order resonance.

Resource Person

The course will be covered by the faculty members of IIT Kharagpur and experts from the industry/ other reputed Institutes.

KEY TOPICS TO BE ADDRESSED

- Basic electromagnetic theory
- Low loss antennas and guided structures
- Green's function analysis of antennas
- Metamaterials
- Antenna miniaturization
- Reconfigurable antennas
- Microwave components
- Radar and communication
- EMI/EMC

TENTATIVE SPEAKERS

- Prof. Binay Kumar Sarkar, IIT Kharagpur
- Prof. Bratin Ghosh, IIT Kharagpur
- Prof. Amitabha Bhattacharya, IIT Kharagpur
- Prof. Arijit De, IIT Kharagpur
- Prof. Asok De, NIT Patna
- Prof. Ajay Chakraborty, IIT Kharagpur
- Prof. Akhilesh Mohan, IIT Kharagpur

Important Dates

Last date for receiving application: May 15th, 2014
Intimation to the applicants: May 16th, 2014
Course duration: June 9 to June 21, 2014

QIP Sponsored Short Term Course on Current Trends in the Design and Analysis of Microwave Antennas and Guided Systems

June 9 -21, 2014

Registration Form

Name: _____

Designation: _____

Sex (M/F): _____

ORGANISATION _____

Highest academic Qualification _____

Address: _____

Phone / Fax: _____

Email (Compulsory): _____

Accommodation required yes/No _____

Details of bank draft: Amount Rs _____

Draft No. _____ Dated: _____

Issuing Bank: _____

.Date:

Signature of Participant

Place:

The applicant is a permanent faculty of our organization. He/she is recommended for the Course and will be released upon selection

Signature with seal of the
Head of the Organisation

General Information

Situated at a distance of 116 Km from Kolkata, Kharagpur welcomes you with its green, calm and quiet campus, away from the din and bustle of city life. Historically, IIT Kharagpur started its journey in the "Hijli Detention camp". Presently it houses a science and technological Museum known as the Nehru Museum of Science and Technology. Also, the scenic township of Digha on the sea beach is only 120 km away from Kharagpur.

Connectivity:

Kharagpur is an important railway junction and is well connected to all parts of the country by rail service (SER). Numerous local & express trains are available from Howrah. The Institute is approximately 5 Kms from the Kharagpur railway station with the bus stand adjacent to the railway station. Rickshaws (Rs. 60), auto-rickshaws (Rs. 80) and taxis (Rs.120) are available from the railway station.

COURSE COORDINATOR

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Communication Engineering,
Indian Institute of Technology,
Kharagpur – 721 302

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Mobile No. +91-9831064495

Registration

There is no registration fee. However, a Demand Draft of Rs.1,000/- (drawn in Favour of "CEP – STC, IIT Kharagpur") should be enclosed with the application form which will be refunded to the participants attending the course.

Travel and Accommodation

As per the institute norms, to and fro travel cost (Up to A/C 3-Tier rail fare only) by the shortest route between the place of work and the venue of the Course will be reimbursed to the participants. All the participants will also be provided suitable shared-basis accommodation in the institute guest house.

How to apply:

Interested persons may apply in the form given herewith alongwith the demand draft drawn in favour of 'CEP-STC, IIT Kharagpur', payable at **Kharagpur. The application should be sent to the mailing address given below latest by May 15th, 2014.** The total number of seats in this course is limited to 30. In view of the limited seats, selection will be made on first come first serve basis.

Certificate :

A Certificate of Participation will be issued to all the participants from the Office of "Dean, Continuing Education, IIT Kharagpur".

Who can attend?

Faculty members of AICTE approved degree level Engineering Colleges as recommended by the Head of the respective Institute/Department. Total participants limited to 30. Selection of participants is on first come first serve basis only.

Mailing address:

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*A Continuing Education Programme of
Indian Institute of Technology
Kharagpur
Prof. Bratin Ghosh*



Organized by
Electronics and Electrical Communication
Engineering Department
Indian Institute of Technology
Kharagpur – 721 302, India

