

REGISTRATION FORM

Name :
 IEEE Membership No.
 (if applicable) :
 Name of the
 Institution :
 Contact Address :
 Email :
 Tel. / Cell No. :
 Details of
 Demand Draft
 DD. No. :
 Drawee Bank :

Note: The Bank DD shall be drawn in favour of
 IEEE Madras Section, payable at Chennai.

I certify that I have taught one or more courses on
 Signals and Systems.../Digital Signal Processing/
 Communications.

Signature of the Applicant

Signature of the Head of Institution

Complete Registration form along with
 demand draft to be sent to

IEEE Madras Section
 Room No. 3, ISTE Professional Centre
 Gandhi Mandapam Road, Madras 600 025

For further details please contact:
Prof. Amitava Dasgupta
 Department of Electrical Engineering
 Indian Institute of Technology Madras
 Chennai- 600 036
 Tel : 044 - 2257 4416
 Fax : 044 - 2257 4402
 Email: adg@ee.iitm.ac.in

IEEE MADRAS SECTION

Course Title:
TIME - FREQUENCY SIGNAL ANALYSIS

Date:
 7th - 12th July 2009

Venue:
 Department of Electrical Engineering
 IIT Madras, Chennai - 36

Contact Address

IEEE MADRAS SECTION
 Room no. 3, ISTE Professional Centre
 Gandhi Mandapam Road, Chennai 600 025
 Tel: +91 44 2442 3939 Cell: 93823 28776
 Fax: +91 44 2442 3939
 Email: iecemas@airtelmail.in

About the IEEE

The Institute of Electrical and Electronics Engineers Inc. (IEEE), a nonprofit organization, is the world's leading professional association for the advancement of technology.

Through its global membership, the IEEE is a leading authority on areas ranging from aerospace systems, computers and telecommunications to biomedical engineering, electric power and consumer electronics among others. The IEEE has more than 365,000 members, including 68,000 students, in over 150 countries. It publishes 128 transactions, journals and magazines and organizes more than 300 conferences worldwide each year.

To foster an interest in the engineering profession, the IEEE also serves student members in colleges and universities around the world.

IEEE Madras Section came into existence in 1978 and has crossed its silver jubilee year. It is organizing Technical Meets, Conferences and Seminars of highest standard for the benefit of its members. This section today has the highest number of student branches among the sections in the world. The section is concerned about the welfare of the students in this part of the country and wants to improve the teaching-learning process in the Engineering Colleges and Universities. With this in mind, the section is organizing Faculty Development Programme (FDP) for the teaching faculty members of engineering Colleges and Universities in Tamil Nadu.

Faculty Development Programme:

Teaching-learning is an important process in academic institutions. Transfer of knowledge takes place from the teacher to the students only when the teaching is effective. Young teachers

need orientation and training in effective teaching. As a service to the teaching community in the engineering institutions, IEEE Madras Section is organizing Faculty Development Programme (FDP) on the topics listed overleaf.

Schedule:

The course on "Time-Frequency signal analysis" is proposed to be held from July 7-July 13, 2009. The 7-day course includes more than 30 hours of lectures.

Participants:

The FDP is aimed at faculty members of engineering colleges in Tamil Nadu. Specifically, the course is meant for faculty who have taught courses such as Signals and Systems, Digital Signal Processing and Communication for at least two years. The objective of the courses is to impart the ability to communicate better with students as well as solve the drill problems given at the end of chapters in standard textbooks.

Course Fee:

The course fee is Rs.1000/- for IEEE members and for non-members the course fee is Rs.2500/-. Non-members will be refunded Rs.1500/- if they become members within one year. The number of seats is limited and the participants will be chosen on a first-come-first-served basis provided they satisfy the criterion of having taught a course in related area. The fee includes course material and lunch. Accommodation and transport will be the responsibility of the participants. Accommodation may be provided in Student hostel / Institute guest house (on payment basis) subject to availability. Specific request has to be made in advance to the IEEE office.

Details of the Course

Title: Time-Frequency signal analysis

About the Course:

Part- I: Signal Processing Basics:

- ◆ Time sampling and aliasing
- ◆ Band-pass signals and band-pass sampling
- ◆ Quadrature signals
- ◆ Computing the spectrum- too many Fourier transforms
- ◆ Pitfalls in using the DFT, frequency resolution and zero padding
- ◆ Sliding spectrum analysis

Part II: Time-Frequency Signal Analysis

- ◆ Fourier Transform
- ◆ Need for time-frequency distribution
- ◆ Fractionalization of cyclic transformations
- ◆ Short-time Fourier transform
- ◆ Wigner distribution function and its applications in optics
- ◆ Gabor's signal expansion
- ◆ Gabor transform
- ◆ Discrete Gabor transform
- ◆ Wigner-Ville distribution
- ◆ Zak transform
- ◆ Quadratic time-frequency distribution
- ◆ Cohen class (pseudo Wigner, Rihaczek).

The course instructors:

- 1) Prof. M.J. Bastiaans, Department of Electrical Engineering, Technische Universiteit Eindhoven, Eindhoven, The Netherlands
- 2) Prof. K.M.M. Prabhu, Department of Electrical Engineering, IIT Madras, Chennai - 600036, India

