



This 3-day course is specially designed to give a complete coverage of fundamentals of different estimation and filtering techniques and their applications to different engineering systems such as control, power system, power Electronics & Drives, Signal Processing and communication.

It is expected that this course will be suitable for engineering professionals from academia, R&D organizations as well as industries.

Key Speakers

Prof. BidyadharSubudhi, NIT Rourkela
Prof. Pravat Kumar Ray, NIT Rourkela
Prof. SandipGhosh, NIT Rourkela
Prof. A.K. Deb, IIT Kharagpur
Prof. S.K.Patra, NIT Rourkela
Prof. D.Patra, NIT Rourkela

Registration Form

1. Name: _____
2. Designation: _____
3. Specialization: _____
4. Department: _____
5. Organization: _____
6. Research/Teaching/IndustryExperience: _____

7. Mailing Address: _____

- Phone: _____
- Email: _____
8. Accommodation required: YES / NO
9. Payment of Course Fee:
DD No. _____
Date: _____ for Rupees _____
On Bank _____
10. Signature: _____
11. Place and Date: _____

NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA

announces
a
Short Term Course

On

ESTIMATION AND FILTERING WITH APPLICATIONS

20 – 22 Feb, 2015



Co-ordinators

Prof. BidyadharSubudhi
Prof. Pravat Kumar Ray
Prof. SandipGhosh

Organized by

*Centre of Excellence on
Practical Renewable Energy Systems*

DEPT. OF ELECTRICAL ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769008, ODISHA



Introduction

Estimation of parameters of a signal is useful to find models of dynamic systems from experimental data, but it will typically be used in combination with a physical model. Hence the obtained parameters should represent certain physical properties of the system being examined. The models may be linear as well as non-linear. We will deal mostly with dynamic systems, which mean that the time dependency of the signals plays an important role. It also means that the models describing the systems will include differential equations in which time derivatives (or their discrete time equivalent differences) are present.

The course focuses on a series of classes covering both the fundamentals and recent advances in Parameter estimation techniques and its application to different areas of Engineering. One of the interesting features of the course is to provide hands-on sessions on how to successfully model and simulate using MATLAB and also in Hardware. Thus, these will supplement the theory sessions covered in the class room sessions.

Course Coverage

- Introduction to Estimation and Filtering of Signal.
- Parameter Estimation: Least Square, Generalized and Recursive Least Square.
- Estimator properties including error bounds and convergence, MES, ML and MAP estimators.
- Nonlinear Least Squares. Model Structures and Predictors.
- Recursive Identification of Linear dynamic systems: RLS, ELS, IV, RML, Stochastic Approximation, Extended Kalman Filter.
- Generalized prediction error framework and its application to ARMA and state models, convergence analysis.
- Estimation and Filtering of Power System.
- Estimations and Filtering of Distributed Generations.

Venue

The course will be organized at the National Institute of Technology (NIT), Rourkela. It is one of the premier national level institutions for technical education in the country and is funded by the Government of India. It is situated at the eastern end of Rourkela steel city, beyond Sector-1 over an area of 262 hectares of land. NIT Rourkela has twenty one academic departments which offer B.Tech, M.Tech and PhD programs in various areas of engineering and technology. It has six centers of Excellence including two centers hosted by the Department of Electrical Engineering namely Centre of Excellence on Industrial Electronics & Robotics and Renewable Energy Systems. The Institute is a participant of the Technical Education Quality Improvement programme of Government of India.

Registration

The course fees given below in the form of demand draft drawn in favour of “Continuing Education, Rourkela” payable at SBI, NIT Branch, Rourkela (code - 2109) to be sent to the coordinator on or before 31st January, 2015. The course fee will cover expenses towards registration kit and lecture notes only. The number of seats is limited to 50. Therefore, interested faculty members should apply well within the scheduled time frame i.e. 31st January 2015.

Category	Registration Fee in INR
Faculty Members from Engineering Institutes	5000
Engineers from Industry	6000
Scientists from R&D Organizations	6000
Research Scholars	4000

Accommodation

Accommodation and food for participants shall be arranged in the Institute's Guest House. The expenses towards these will be paid by the participant directly to the guest house.

Contact Us

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Coordinator

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