Pre-requisites & Schedule

Basic knowledge of Probability & Statistics, Linear Algebra, Signal Processing, Random Processes and Process Control System. The following topics will be discussed in this 1-week course:

- Overview of soft sensing and state & parameter estimation schemes and their applications in Process Systems Engineering
- State and parameter estimation scheme for linear systems – Introduction to Bayesian State Estimation
- State and parameter estimation scheme for linear systems – Kalman Filter
- State and parameter estimation scheme for linear systems – Unscented Kalman Filter
- State and parameter estimation scheme for linear systems – Gaussian-sum filters
- Introduction to Particle Filters
- Gaussian-sum filters
- Ensemble Kalman filter
- Overview of soft sensing and state & parameter estimation schemes and their applications in Process Systems Engineering
- State and parameter estimation scheme for linear systems – Extended Kalman Filter
- State and parameter estimation scheme for linear systems – Unscented Kalman Filter
- State and parameter estimation scheme for linear systems – Gaussian-sum filters
- Introduction to Particle Filters
- Gaussian-sum filters
- Ensemble Kalman filter
- Overview of soft sensing and state & parameter estimation schemes and their applications in Process Systems Engineering
- State and parameter estimation scheme for linear systems – Extended Kalman Filter
- State and parameter estimation scheme for linear systems – Unscented Kalman Filter
- State and parameter estimation scheme for linear systems – Gaussian-sum filters
- Introduction to Particle Filters
- Gaussian-sum filters
- Ensemble Kalman filter

Course Registration

Procedure to be followed to register for the "Soft Sensor Development using State & Parameter Estimation Techniques and their Applications" course:

Step 1: The registration for this course is only possible through the GIAN web portal. GIAC course registration fee is Rs. 500/- (One time payment need to register the participant details under GIAN and makes the participant eligible to register for any course/sessions listed in GIAN). 


Step 3: The course coordinator will shortlist the participants based on the merits of the application and will send separate e-mails to the shortlisted candidates.

Step 4: On receiving the email, the Participants should send the completed registration form (registration format will be shared in mail) with DD to the course coordinator. The course registration fee is as follows:

- Student (UG/PG/Research Scholars) : Rs. 1000/-
- Faculty Members : Rs. 2000/-
- Industry/Research Organization : Rs. 3000/-

The above fee is towards participation in the course, and the course material.

Step 5: The registration fee would be collected in the form of Demand Draft (DD) drawn in favour of "The Director CTD, Anna University" payable at chennai.