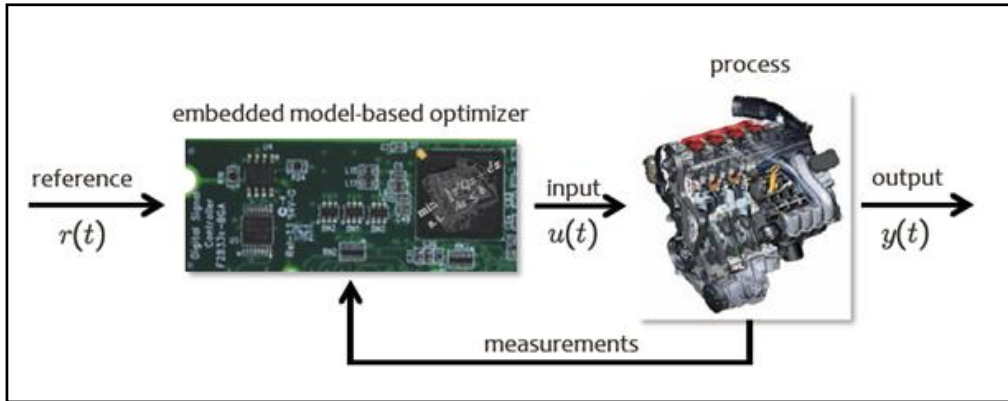




OFFICE OF RESEARCH, INOVATION AND COMMERCILAZATION CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY



4TH – 6TH APRIL, 2019

WORKSHOP ON MODEL PREDICTIVE CONTROL: ALGORITHMS, TOOLS AND APPLICATIONS

The objectives of the workshop are to present the basic introductory material, as well as more recent results, on the topics of Model Predictive Control (MPC). The workshop is intended for graduate students, researchers and practitioners, who want to learn the theory and practice of Model Predictive Control (MPC) for constrained LTI and LTV systems. Model Predictive Control is a tool to optimize a system's performance by using a model to predict the system's future trajectory. It is one of the most commonly implemented advanced control techniques in the process industries today. In recent years MPC is rapidly expanding in several other domains, such as in the automotive and aerospace industries, smart energy grids, and financial engineering. The course will make use of the MPC Toolbox for MATLAB.

Resource Person

Dr. Amir Shahzad

Registration form may be downloaded from cust.edu.pk/downloads

Registration Fee

Rs. 20,000 /
Rs. 5,000/ for bonafide University Students only

Last date of registration

3rd April, 2019

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Venue

J2, Block J

Capital University of Science & Technology
Zone 5, Near Kakpul, Sihala, Islamabad

TOPICS

- General concepts of Model Predictive Control
- Review of linear system theory
- LQR and unconstrained MPC problem
- MPC with constraints and solution of quadratic programming (QP) problem
- General stability and feasibility properties
- Set point tracking and disturbance rejection
- Linear parameter and time-varying MPC problems
- Real-time MPC and current research direction
- Selected applications of MPC in various domains, with practical demonstration in MATLAB