



Centre for Process Systems Engineering

The Eleventh Professor Roger W.H. Sargent Lecture

Thursday 9 December 2004, 17.30

Chemical Engineering Department's Lecture Theatre (room 250)
ACE Extension Building

From Feedback Control to Real-Time Business Decision Making in the Process Industries

by

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The process industries is forced to optimally use existing assets in a flexible and economical manner to cope with the extremely competitive business climate which is due to global market places with largely saturating demand and full cost transparency. The objective of plant management has already been evolving and will continue to evolve from decentralized control at a given nominal operating point to an economically optimal operation at any given point in time. The objective of plant operation is therefore being shifted from set-point tracking and disturbance rejection to model-based real-time optimization to assist business decision making. This talk will briefly introduce current trends in the process industries. A general operations and control problem is formulated. Various decomposition strategies are reviewed and discussed. The focus of the presentation will be on the implementation of dynamic real-time optimization in the automation hierarchy in face of unavoidable model uncertainties. Different process systems applications will serve as illustrating examples.

[Please take note of the CHANGE OF VENUE for TEA]

***TEA will be served at 16.45 in Chemical Engineering Department's
Senior Common Room 228, ACE Extension Building***