On Tuesday 25/11/2008, from 13:30 to 17:30, **Prof. Lino Oliveira Santos** (Department of Chemical Engineering, University of Coimbra, Portugal) will give a seminar (in English or French depending on the attendance) titled:

Model Predictive Control of Chemical Processes

This two-part seminar (with a coffee break in between) will take place in the Seminar room of the Department of Electronics (Boulevard Dolez 31, 7000 Mons)

Abstract

The success of Model Predictive Control (MPC) industrial applications in the 1970s lead to a wide spread of this control technology in industrial plants. This success has been a constant source of motivation for academic research in the field. In fact, MPC for both linear and nonlinear systems has seen considerable research over the past twenty years.

This seminar starts with a brief review of the main MPC concepts. A linear MPC formulation is used to illustrate these concepts. Then a mathematical formulation for nonlinear MPC based on first-principles models is described. Finally, its application is illustrated with an experimental pilot plant case-study and a simulated highly nonlinear and integrated process.

Prof. Lino Santos is an active researcher in the field of nonlinear modelling, dynamic optimization and model predictive control (NMPC) of biochemical processes. He is Associate Professor in the Department of Chemical Engineering of the University of Coimbra, where he is involved in a broad range of lectures covering chemical processes, systems dynamics, optimization and control.