



Department of Automatic Control & Systems Engineering
would like to announce the following seminar:

Sparse Regularization - Analyzing Design Sensitivity

Speaker: **Dr Martin Brown**

**Control System Centre
University of Manchester**

**Wednesday 31 May 2006
at 14:10**

Location: Sir Henry Stephenson Building LT2

Coffee and Biscuits will be served afterwards.

ABSTRACT

In many system identification and controller design problems, there is a need to trade-off various criteria such as apparent performance and system simplicity, robustness etc. This is at the heart of multi-objective optimization problems. In this talk, a special class of sparse regularization problems for both modelling and classification will be investigated. Sparseness is measured as a 1-norm on the parameter vector and this allows the complete, globally optimal parameter locus to be calculated. Design sensitivity can then be explicitly examined and visualized. The talk will consider how this work can be extended for non-linear modelling and classification, how alternative, non-convex sparse parameter measures could be used and also describe its use for biological pathway modelling.