

## 2<sup>nd</sup> Workshop on Control of Uncertain Systems: Modelling, Approximation and Design

A workshop to mark the contributions of Keith Glover to the control field

### PROGRAMME

Sunday 22 September 2013

18:30-20:30 Opening Reception

**Clare College**

Monday 23 September 2013

**Lectures will be held in Lecture Room 2, Department of Engineering, Trumpington St**

**09:15** Registration & coffee, LR4

**09:50** Welcome

Prof Steve Young, Pro-Vice-Chancellor

Chair: Richard Vinter (Imperial College)

**10:00** **Brian Anderson**

(Australian National University)

*Formation Control: Uncertain Distances and Nonrobust Behaviour*

**10:25** **James Sefton**

(Imperial College London)

*Managing Transaction Costs in a Dynamic Trading Strategy*

**10:50** **Munther Dahleh**

(MIT)

*Resilience of Dynamical Transportation Networks*

11:15 COFFEE

Chair: Roy Smith (ETH Zürich)

**11:45** **Anders Rantzer**

(Lund University)

*Scalable Robustness Analysis Using Integral Quadratic Constraints*

**12:10** **Michael Cantoni**

(University of Melbourne)

*Robust Stability Analysis for Feedback Interconnections of Open-loop Unstable Systems*

**12:35** **Manfred Morari**

(ETH Zürich)

*Fast Model Predictive Control*

13:00 LUNCH – LR4

CHAIR: David Mayne (Imperial College)

**14:15** **Rodolphe Sepulchre**

(University of Cambridge)

*Loop shaping, localised behaviors, and multi-resolution feedback systems*

**14:40** **Sanjoy Mitter**

(MIT)

*Stochastic Dissipative Systems*

**15:05** **Sanjay Lall**

(Stanford University)

*Stochastic Control of Multi-player Systems*

15:30 TEA

CHAIR: Bart De Moor (KU Leuven)

**16:00** **Pablo Iglesias**

(The Johns Hopkins University)

*Control Motifs in the Hypoxic Response of Cells*

**16:25** **Glenn Vinnicombe**

(University of Cambridge)

*Information Processing and Control in Biological Systems: Some Fundamental Limits*

**16:50** **Richard Murray**

(California Institute of Technology)

*Feedback and Control in Biological Circuit Design*

**17:15** CLOSE

Group photograph

**19:00** Pre-dinner drinks

**Trinity College**

**19:30** Banquet

Tuesday 24 September 2013

09:30 Coffee

CHAIR: Duncan McFarlane (University of Cambridge)

10:00 **Karl Aström** *Loop Shaping from Bode to Glover*  
(Lund University)

10:25 **Rick Hyde** *The VAAC Harrier and H-infinity Loop Shaping –  
What Did We Learn?*  
(The MathWorks Ltd)

10:50 **Gary Balas** *Closing the GAP Between Models and Data: A  
Flight Control Application*  
(University of Minnesota)

11:15 COFFEE

CHAIR: Ian Postlethwaite (Northumbria University)

11:45 **Pascal Gahinet** *Robust Control Meets Nonsmooth Optimization*  
(The Mathworks Ltd)

12:10 **Geir Dullerud** *Automata-switched systems: Centralized Control  
and Team Games*  
(University of Illinois)

12:35 **John Doyle** *Universal Laws and Architectures in Networks:  
What Would Keith Do?*  
(California Institute of Technology)

13:00 LUNCH – LR4

CHAIR: Sarah Spurgeon (University of Kent)

14:15 **Lennart Ljung** *Will Machine Learning Change the System  
Identification Paradigm?*  
(Linköping University)

14:40 **Michel Gevers** *Closed-loop Optimal Experiment Design: Solution  
Via Moment Extension*  
(University of Louvain)

15:05 **Dariusz Cieslar** *IC Engine Control – the Challenge of Downsizing*  
(dSPACE Ltd)

15:30 TEA

CHAIR: Jan Maciejowski (University of Cambridge)

16:00 **Mathukumalli Vidyasagar** *Near Ideal Behaviour of a Modified Elastic Net  
Algorithm in Compressed Sensing*  
(University of Texas)

16:25 **Kemin Zhou** *A System Approach to Investing in Uncertain  
Markets*  
(Louisiana State University)

16:50 **Bruce Francis** *When Physics and Control Theory Collide*  
(University of Toronto)

17:15 CLOSE

18:30-20.30 Closing Reception

**Sidney Sussex College**