2007 KELLY LECTURE

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"Control of Hybrid Systems: Theory, Computation and Applications"
Tuesday, March 27, 2007 at 3:30 PM in FRNY G140

"Beyond Process Control"
Wednesday, March 28, 2007 at 11:30 AM in FRNY G140

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Theory, computation and applications define the evolution of the field of control. This premise is illustrated with the emerging area of hybrid systems, which can be viewed, loosely speaking, as dynamical systems with switches. Many practical problems can be formulated in the hybrid system framework. Power electronics are hybrid systems by their very nature, systems with hard bounds and/or friction can be described in this manner and problems from other domains, as diverse as driver assistance systems, anaesthesia and active vibration control can be put in this form. We will highlight the theoretical developments and mention the extensive software that helps to bring the theory to bear on the practical examples. We will close with an outlook for hybrid systems and control more generally.

"Beyond Process Control"

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A personal account of the contributions process control has made to chemical engineering and the control field and some speculations about its future.