Report of the IEEE CSS TC on CACSD

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Here is a summary of the activities of the TC
during the first semester of 2009.

*** Restructuring the TC on CACSD ***

I will step down from my position of Chair of the TC on CACSD following the MSC 2010 in Japan. I am happy to propose the name of Fabrizio Dabbene (Politecnico di Torino, Italy) for the position of Vice-Chair of the TC, with the objective of ensuring a smooth transition: Fabrizio is expected to take over the position of Chair of the TC on CACSD during the MSC 2010. With Fabrizio we are currently thinking about restructuring the TC, also in collaboration with Graziano Chesi (Univ. Hong Kong) who is simultaneously proposing a new TC on Systems with Uncertainty. Written joint proposals have been submitted to the CSS board, and they will be discussed during the next American Control Conference. The proposals include the idea of joining forces in creating a novel event (symposium) inside the MSC.

*** Publications ***

A column on activities of the TC on CACSD, edited by Sam Ge (CSS VP for Technical Activities), has been submitted for publication in the IEEE Control Systems Magazine.

A special issue of the IEEE Transactions on Automatic Control on Positive Polynomials in Control, edited by G. Chesi and myself, is scheduled to appear soon.

*** Software ***

A new version 2.0 of the package HIFOO for H-infinity fixed-order optimization will be posted soon at
http://www.cs.nyu.edu/overton/software/hifoo/
This update, developed by Marc Millstone (New York Univ.) and Suat Gumussoy (Kath. Univ. Leuven) jointly with Michael Overton (New York Univ.) and myself, deals with multiobjective control problems including simultaneous stabilization and strong stabilization, the main feature being the possibility of designing a controller of order fixed from the outset. I will present HIFOO 2.0 during the IFAC Symposium on Robust Control Design, Haifa, Israel in June 2009.

Vasile Sima informed me that the Subroutine Library for Control Theory (SLICOT) has been updated with routines for solving Hamiltonian eigenproblems, exploiting the structure, and with complex versions for calculations of poles and zeros of linear multivariable systems. Several improvements have also been performed. Moreover, executables for MATLAB 2008a, 2008b, and 2009a have been added.

*** Next meeting ***

I am planning a meeting of the TC during the European Control Conference,
23-26 August 2009, Budapest, Hungary