1997 IEEE International Conference on Control Applications

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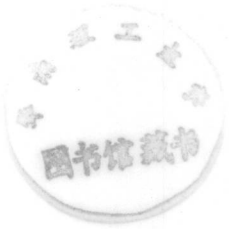
Proceedings of the 1997 IEEE International Conference on Control Applications

October 5-7, 1997



Sheraton Hartford Hotel
Hartford, Connecticut USA

IEEE Control Systems Society
ASME Dynamic Systems & Control Division

97CH36055

IEEE Catalog Number: 97CH36055
ISBN: 0-7803-3876-6 Softbound Edition
ISBN: 0-7803-3877-4 Casebound Edition
ISBN: 0-7803-3878-2 Microfiche Edition
ISSN: 1085-1992

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Foreword

On behalf of the IEEE Control System Society, the Operating and Program Committees, and other numerous volunteers who have contributed so much to the success of the 1997 IEEE International Conference on Control Applications, I would like to cordially welcome you to the 1997 CCA. I would also like to acknowledge technical cosponsorship by the ASME Dynamic Systems and Control Division – you will note that ASME volunteers are well represented on the Operating and Program Committees, as well as serving as session organizers and authors. This is especially appropriate, given the interdisciplinary flavor of the 1997 CCA theme, *active control*.

The original mandate given me more than two years ago was to organize the Sixth IEEE CCA to be "somewhere in the northeast US". One of the attractive aspects of the CCA is its more intimate nature (200-300 participants), and that gives us the latitude to pick a smaller, more comfortable city as the venue. A quite obvious choice was Hartford, Connecticut – it is centrally located, in an interesting location culturally, historically and in other respects, and relatively inexpensive (I'll bet you haven't seen a conference hotel rate of $82 per night for some time!). It also seemed opportune to take advantage of New England's spectacular Fall foliage season, given that the CCA is traditionally held in early Autumn – hence the selection of the dates of October 5^{th} through 7^{th}, which coincides with the onset of the most colorful period of the Fall.

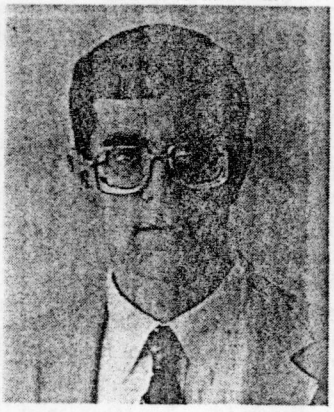
One more attraction to Hartford is that Connecticut is the headquarters of United Technologies, a company with several businesses in which active control plays an important role and a research lab with projects in this technology. Sikorsky helicopters and Pratt & Whitney aircraft engines are prime examples of this, and work in the group at United Technologies Research Center formerly headed by Carl Nett supports advancing the state of the art for these products. UT's contributions to the 1997 CCA include initial planning from Carl Nett and the technical tours plus sessions and papers in the program, mainly spearheaded by Clas Jacobson of UTRC. The three technical tours are: Tour 1, of the United Technology Research Center lab facilities; Tour 2, of the Pratt & Whitney customer training center; and Tour 3, of the Pratt & Whitney engine test facility.

As mentioned above, the 1997 CCA highlights active control, a major cross-disciplinary area that has gained prominence in recent years. A good number of contributed papers and invited sessions focus on this theme. Of course, the full gamut of traditional and novel control applications is covered as well. Three pre-conference workshops have also been organized: Sliding Control of Nonlinear Dynamic Systems: Theory and Applications by Profs. Eduardo Misawa and Karl Hedrick; Efficient Modeling of Multibody Systems with Respect to Control, by Prof. Michael Valasek; and Modern Manufacturing System Engineering, by Profs. Peter Luh and Krishna Pattipati.

Finally, we hope you will attend and enjoy the social program of the 1997 CCA, including the Opening Reception, Banquet and the sightseeing tours. The two tours include a ride, meal and entertainment on the Essex Dinner Steam Train, and the Mystic/Historical Connecticut Tour. These are premier tourist activities in Connecticut, selected to introduce you to the scenery and history of the state.

Jim Taylor, General Chair

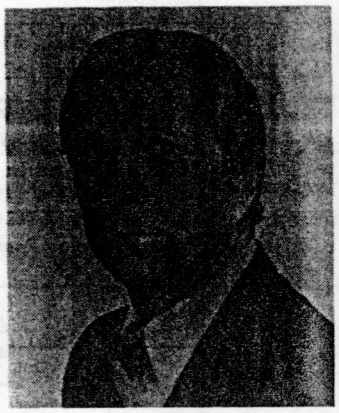
Biographies of Plenary Spakers



Dennis Bernstein has held positions in a Government laboratory, industry, and academia. After receiving the Ph.D. in Computer, Information, and Control Engineering from the University of Michigan in 1982, he joined the technical staff of Lincoln Laboratory as a member of the Control Systems Engineering Group. From 1984 to 1991 he was a Staff Engineer with Harris Corporation Government Aerospace Systems Division in the Structural Controls Group. In 1991 he joined the Aerospace Engineering Department of the University of Michigan where he is currently Professor of Aerospace Engineering. He has published more than 100 technical papers, and he has served on the editorial board of the IEEE Transactions on Automatic Control, Systems and Control Letters, and International Journal on Robust and Nonlinear Control.

Professor Bernstein's interests span all aspects of control engineering relating to aerospace applications. While his theoretical research includes topics in linear, nonlinear, robust and adaptive control, his current efforts are directed at the experimental verification of novel control techniques. He has participated in the development of control experiments for noise and vibration suppression, control of combustion, control of rotational motion, and flight control. His belief in the value of hardware experience for control engineering research is described in "Four and a Half Control Experiments and What I Learned from Them: A Personal Journey," which appears in the Proceedings of the American Control Conference, pp. 2718-2725, Albuquerque, NM, June 1997.

At the University of Michigan Professor Bernstein has taught courses on classical control, modern multivariable control, optimal control, control of structures, and flight mechanics. To stimulate the interest of undergraduates in control engineering he wrote "A Student's Guide to Classical Control," which appeared in IEEE Control Systems Magazine, Vol. 17, pp. 96-100, August, 1997.



Michael K. Masten is a TI Fellow in Corporate Research and Development at Texas Instruments. During his career at TI, Dr. Masten has worked on line-of-sight stabilization, target tracking, inertial navigation, missile autopilot-flight control systems, and real-time hardware-in-the-loop test processes. He holds five patents, has published over 50 articles, and taught numerous workshops regarding stabilization-tracking systems. Dr. Masten is currently manager of a research program directed to practical implementation of control systems using state of the art electronics. He was elected Senior Member of Technical Staff on TI's technical ladder in 1980, and promoted to rank of Texas Instruments Fellow in 1989.

Dr. Masten received electrical engineering degrees from the University of Texas in Austin; he also earned a M.B.A. from the University of Dallas. He has served as a member of the IEEE Control Systems Society Board of Governors (1991-1996) and on the Executive Committee as V.P. Member Activities (1992-1993), V.P. Financial Affairs (1994), President-Elect (1995), and Society President in 1996. Dr. Masten was a member of the Advisory Board for the "IEEE Transactions on Control System Technology" and General Chair for the 1994 IEEE Conference on Decision and Control. He is also a member of the Technical Board for the International Federation of Automatic Control (1994-99) and serves on the Editorial Board for the IFAC journal, "Control Engineering Practice".

In 1996, Dr. Masten was elected as a Division Director to the IEEE Board of Directors for 1997-98. He was elected an IEEE Fellow in 1990.

Program-at-a-Glance

Monday 10/6/97	Silas Deane	Nathan Hale S.	**Nathan Hale N.**	Mark Twain	Noah Webster
8:30 to 9:30	Plenary Presentation - Grand Ballroom **"Electronics: The Action in Active Control"** **Dr. Michael Masten, Texas Instruments**				
10:00 to 12:00	MA1 Robotic Control I	MA2 Nonlinear Systems I	**MA3 Fuzzy Control I**	MA4 Motor Control I	MA5 Process Control I
1:30 to 3:30	MM1 Robotic Control II	MM2 Nonlinear Systems II	MA3 Fuzzy Control II	MM4 Motor Control II	MM5 Process Control II
4:00 to 6:00	MP1 Robotic Control III	MP2 Nonlinear Systems III	MP3 Neural Networks	MP4 Modeling	MP5 Optimization

Tuesday 10/7/97	Silas Deane	Nathan Hale S.	Nathan Hale N.	Mark Twain	Noah Webster
8:30 to 9:30	Plenary Presentation - Grand Ballroom **"From Robust to Adaptive and Beyond:** **Liberating Control Engineering from the Tyranny of Modeling"** **Dr. Dennis Bernstein, University of Michigan at Ann Arbor**				
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1:30 to 3:30	TM1 Robust Control II	TM2 Adaptive Control	TM3 Active Control of Rotating Stall and Surge in Compressors (I)	TM4 Applied Nonlinear Control and Estimation (I)	TM5 Active Attenuation of Oscillatory Modes in Flexible Structures (I)
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K.-N. Lou — National Chung Cheng University
L.-F. Yang — Altair Engineering, Inc.

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