

## AACC AWARDS FOR 2005

The American Automatic Control Council presents a series of awards each year to recognize important contributions to the field. The roster of award winners this year includes *Gene F. Franklin*, the Richard E. Bellman Control Heritage Award recipient, *Shankar Sastry*, the John R. Ragazzini Award recipient, *George Meyer*, the Control Engineering Practice Award recipient, *Pablo Parrilo*, the Donald P. Eckman Award recipient, and the O. Hugo Schuck Best Paper Award recipients. These award winners, in addition to the Best Student Paper Award winner, will be recognized at the Awards Luncheon.

The 2005 AACC Award Committee Members are:

Masayoshi Tomizuka (Chair)

Michael Safonov (Richard Bellman Control Heritage Award Subcommittee Chair)

Jessy W. Grizzle (John R. Ragazzini (Education) Award Subcommittee Chair)

Kameshwar Poolla (Eckman Award Subcommittee Chair)

Stephen Yurkovich (Control Engineering Practice (CEP) Award Subcommittee Chair)

Faryar Jabbari (O. Hugo Schuck Best Paper Awards Subcommittee Chair)

### **Richard E. Bellman Control Heritage Award: *Gene F. Franklin***

The **Richard E. Bellman Control Heritage Award** is given for distinguished career contributions to the theory or applications of automatic control. It is the highest recognition of professional achievement for US control systems engineers and scientists. The recipient must have spent a significant part of his or her career in the USA.

**Citation: “For his extraordinary lifetime contributions to control theory and its engineering application.”**

*Gene F. Franklin* received the Bachelor’s degree in Electrical Engineering from Georgia Tech in 1950 the Master of Science in Electrical Engineering from MIT in 1952, and the Doctor of Engineering Science degree in Electrical Engineering from Columbia University in 1955. He was appointed Assistant Professor of Electrical Engineering at Columbia University from 1955-1957 and has been on the Faculty of Electrical Engineering at Stanford University since 1957 where he is now Professor of Electrical Engineering, Emeritus. He was Vice Chairman of the Department of Electrical Engineering from 1989-1994 and was Chairman of the Department for the 1994-1995 He was Director of the Information Systems Laboratory from its founding in 1962 until 1971 and was Associate Provost for Computing for Stanford University from 1971-1975.



He is co-author of three books: *Sampled Data Systems*, *Digital Control of Dynamic Systems* and *Feedback Control of Dynamic Systems*. The Second Edition of the last of these books received the IFAC prize as the best book in the controls area published during the period 1987-1990; the fifth edition is now in preparation. Professor Franklin has supervised the research of over 60 Ph.D. candidates in many aspects of control and systems.

He has for many years been an active member of the IEEE. He joined as a Student Member in April, 1950, and became a Life Fellow of the Institute in January, 1993. He was on the Board of Directors of the CSS from 1982 until 1988 and was Vice President for Technical Affairs for 1985 and 1986. He was General Chairman of the JACC of 1964 and General Chairman of the CDC in 1984. He received the Ragazzini Education Award of the AACC for 1985, and gave the Bode Lecture at the 1994 CDC. He is a Distinguished Member of the CSS and Franklin and Abramovitch were awarded the prize for the best paper published in the CSM in 2003 for their review of the control of disk drives.

**John R. Ragazzini (Education) Award:** *Shankar Sastry*

The **John R. Ragazzini Award** is given to recognize outstanding contributions to automatic control education in any form. These contributions can be from any source and in any media, i.e., electronic, publications, courses, etc.

**Citation: “For outstanding contributions to education in adaptive, nonlinear and hybrid control systems, and robotics through mentoring of undergraduate and graduate students, development of textbooks, course materials, and experimental laboratories.”**

*S. Shankar Sastry* is currently the Director of CITRIS (Center for Information Technology in the Interests of Society) an interdisciplinary center spanning UC Berkeley, Davis, Merced and Santa Cruz. He served as Chairman, Department of Electrical Engineering and Computer Sciences, University of California, Berkeley from January, 2001 through June 2004. In 2000, he served as Director of the Information Technology Office at DARPA. From 1996-1999, he was the Director of the Electronics Research Laboratory at Berkeley, an organized research unit on the Berkeley campus conducting research in computer sciences and all aspects of electrical engineering. He is the NEC Distinguished Professor of Electrical Engineering and Computer Sciences and a Professor of Bioengineering.



Dr. Sastry received his Ph.D. degree in 1981 from the University of California, Berkeley. He was on the faculty of MIT as Asst. Professor from 1980-82 and Harvard University as a chaired Gordon McKay professor in 1994. He has held visiting appointments at the Australian National University, Canberra the University of Rome, Scuola Normale and University of Pisa, the CNRS laboratory LAAS in Toulouse (poste rouge), Professor Invite at Institut National Polytechnique de Grenoble (CNRS laboratory VERIMAG), and as a Vinton Hayes Visiting fellow at the Center for Intelligent Control Systems at MIT. His areas of research are embedded and autonomous software, computer vision, computation in novel substrates such as quantum computing, nonlinear and adaptive control, robotic telesurgery, control of hybrid systems, embedded systems, network embedded systems, sensor networks and biological motor control. Most recently he has been concerned with cybersecurity and critical infrastructure protection.

His most recent book “An Invitation to 3D Vision: From Images to Models” co-authored with Y. Ma, S. Soatto, and J. Kosecka was published by Springer Verlag in November 2003.. *Nonlinear Systems: Analysis, Stability and Control* was published by Springer-Verlag in 1999. He has coauthored over 300 technical papers and 9 books, including *Adaptive Control: Stability, Convergence and Robustness* (with M. Bodson, Prentice Hall, 1989) and *A Mathematical Introduction to Robotic Manipulation* (with R. Murray and Z. Li, CRC Press, 1994). He has co-edited *Hybrid Control II*, *Hybrid Control IV* and *Hybrid Control V* (with P. Antsaklis, A. Nerode, and W. Kohn, Springer Lecture Notes in Computer Science, 1995, 1997, and 1999, respectively) and co edited *Hybrid Systems: Computation and Control* (with T. Henzinger, Springer-Verlag Lecture Notes in Computer Science, 1998) and *Essays in Mathematical Robotics* (with Baillieul and Sussmann, Springer-Verlag IMA Series). Dr. Sastry served as Associate Editor for numerous publications, including: *IEEE Transactions on Automatic Control*; *IEEE Control Magazine*; *IEEE Transactions on Circuits and Systems*; *the Journal of Mathematical Systems, Estimation and Control*; *IMA Journal of Control and Information*; *the International Journal of Adaptive Control and Signal Processing*; *Journal of Biomimetic Systems and Materials*.

Dr. Sastry was elected into the National Academy of Engineering in 2001 "for pioneering contributions to the design of hybrid and embedded systems." He was elected to the American Academy of Arts and Sciences (AAAS) in 2004. He is on the Air Force Science Board and is Chairman of the Board of the International Computer Science Institute. He is also a member of the boards of the Federation of American Scientists and ESCHER (Embedded Systems Consortium for Hybrid and Embedded Research). He also received the President of India Gold Medal in 1977, the IBM Faculty Development award for 1983-1985, the NSF Presidential Young Investigator Award in 1985 and the Eckman Award of the American Automatic Control Council in 1990, an M. A. (honoris causa) from Harvard in 1994, Fellow of the IEEE in 1994, the distinguished Alumnus Award of the Indian Institute of Technology in 1999, and the David Marr prize for the best paper at the International Conference in Computer Vision in 1999.

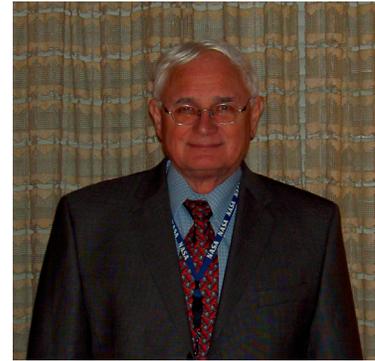
He has supervised over 50 doctoral students to completion and over 50 MS students. His students now occupy leadership roles in several locations and on the faculties of many major universities in the United States and abroad.

**Control Engineering Practice Award:** *George Meyer*

The **Control Engineering Practice Award** is given to an individual or team for significant contributions to the advancement of the practice of automatic control. The primary criterion for selection is the application and implementation of innovative control concepts, methodology, and technology, for the planning, design, manufacture and operation of control systems. Achievement and usefulness will be evidenced by the benefit to society and by the degree of acceptance by those who use control as a tool. The work on which the nomination is based must have been performed while the nominated individual or at least one member of the team was a resident of the USA.

**Citation: "For outstanding achievement in the development of feedback linearization and its application to aerospace systems".**

*George Meyer* received the degrees of B.S., M.S. and Ph.D., all in Electrical Engineering, and all from the University of California at Berkeley. He has been employed by the NASA Ames Research Center since 1963. His research focused on spacecraft attitude control, aircraft flight control, and currently, on air traffic control. The research is typically done in collaboration with several universities through university research grants. He received awards from NASA and IEEE for his contributions to the nonlinear control theory. He is a Fellow of the IEEE.



**Donald P. Eckman Award:** *Pablo Parrilo*

The **Donald P. Eckman Award** recognizes an outstanding young engineer in the field of automatic control. The recipient must be younger than 35 years on January 1 in the year of the award. Contributions may be technical or scientific publications, theses, patents, inventions, or combinations of the above in the field of automatic control made while the nominee was a resident of the USA.

**Citation: “In recognition of pioneering contributions to the development of computational tools for optimization and robust control system design”**

*Pablo A. Parrilo* received an Electronics Engineering undergraduate degree from the University of Buenos Aires, and a Ph.D. in Control and Dynamical Systems from the California Institute of Technology in 1995 and 2000, respectively. He has held short-term visiting appointments at the University of California at Santa Barbara (Physics), Lund Institute of Technology (Automatic Control), and UC Berkeley (Mathematics). From October 2001 through September 2004, he was Assistant Professor of Analysis and Control Systems at the Automatic Control Laboratory of the Swiss Federal Institute of Technology (ETH Zurich). He is currently an Associate Professor at the Department of Electrical Engineering and Computer Science of the Massachusetts Institute of Technology, where he is affiliated with the Laboratory for Information and Decision Systems (LIDS) and the Operations Research Center (ORC).



Prof. Parrilo was a finalist for the Tucker Prize of the Mathematical Programming Society for the years 2000-2003. His research interests include optimization methods for engineering applications, control and identification of uncertain complex systems, robustness analysis and synthesis, and the development and application of computational tools based on convex optimization and algorithmic algebra to practically relevant problems in engineering, economics, and physics.

## **O. Hugo Schuck Best Paper Awards for 2004**

The **O. Hugo Schuck Awards** are given to recognize the best two papers presented at the previous American Control Conference. One award is for a paper emphasizing contributions to theory and the other award is for a paper emphasizing significant or innovative applications. Criteria for selection include the quality of the written and oral presentation, the technical contribution, timeliness, and practicality.

The award winning paper for theory is:

**“Output Feedback Sampled-Data Stabilization of Nonlinear Systems,” by H.K. Khalil, ACC 2004, Paper: ThA13.5.**

*Hassan K. Khalil* received the B.S. and M.S. degrees from Cairo University, Egypt, and the Ph.D. degree from the University of Illinois, Urbana-Champaign, in 1973, 1975, and 1978, respectively, all in Electrical Engineering.

Since 1978, he has been with Michigan State University, East Lansing, where he is currently a University Distinguished Professor of Electrical and Computer Engineering. He has consulted for General Motors and Delco Products.

He has published several papers on singular perturbation methods, decentralized control, robustness, nonlinear control, and adaptive control. He is author of the book *Nonlinear Systems* (Macmillan, 1992; Prentice Hall, 1996 and 2002), coauthor, with P. Kokotovic and J. O'Reilly, of the book *Singular Perturbation Methods in Control: Analysis and Design* (Academic Press, 1986; SIAM 1999), and coeditor, with P. Kokotovic, of the book *Singular Perturbation in Systems and Control* (IEEE Press, 1986). He was the recipient of the 1983 Michigan State University Teacher Scholar Award, the 1989 George S. Axelby Outstanding Paper Award of the IEEE Transactions on Automatic Control, the 1994 Michigan State University Withrow Distinguished Scholar Award, the 1995 Michigan State University Distinguished Faculty Award, the 2000 American Automatic Control Council Ragazzini Education Award, and the 2002 IFAC Control Engineering Textbook Prize. He has been an IEEE Fellow since 1989 and was named University Distinguished Professor in 2003.

Dr. Khalil served as Associate Editor of IEEE Transactions on Automatic Control, 1984 - 1985; Registration Chairman of the IEEE-CDC Conference, 1984; Finance Chairman of the 1987 American Control Conference (ACC); Program Chairman of the 1988 ACC; General Chair of the 1994 ACC; Associate Editor of *Automatica*, 1992-1999; Action Editor of *Neural Networks*, 1998-1999; and Member of the IEEE-CSS Board of Governors, 1999-2002. Since 1999, he has been serving as Editor of *Automatica* for nonlinear systems and control.



The award winning paper for applications is:

**“Mixture Kalman Filter Based Highway Congestion Mode and Vehicle Density Estimator and its Application,”** by *X. Sun, L. Munoz and R. Horowitz*, ACC 2004, Paper: ThA05.1.

*Xiaotian Sun* was born in Shaoxing, China, in 1975. He received his B.S. degree in Electronics Science and Engineering from Nanjing University, China, in 1997, his M.A. degree in Mathematics in 2003, and his Ph.D. degree in Mechanical Engineering in 2005, both from the University of California at Berkeley. His research interests include intelligent control, matrix computation, mathematical optimization, and statistical learning, with applications to control of freeway and other complex networks, micro-electromechanical system (MEMS), and intelligent vehicle and highway systems (IVHS). He is a student member of the IEEE.



*Laura Matiana Muñoz* received her B.S. in Engineering and Applied Science from the California Institute of Technology in 1997. In 2004, she completed her Ph.D. in Mechanical Engineering at the University of California, Berkeley. She is currently a post-doctoral researcher in the Department of Mechanical Engineering at Berkeley. Her research interests include analysis and design of control systems, nonlinear control, traffic flow modeling, mechatronics, and hybrid systems.



Roberto Horowitz was born in Caracas, Venezuela in 1955. He received a B.S. degree with highest honors in 1978 and a Ph.D. degree in 1983 in Mechanical Engineering from the University of California at Berkeley. In 1982 he joined the Department of Mechanical Engineering at the University of California at Berkeley, where he is currently a Professor. Dr. Horowitz teaches and conducts research in the areas of adaptive, learning, nonlinear and optimal control, with applications to Micro-Electromechanical Systems (MEMS), computer disk file systems, robotics, mechatronics and Intelligent Vehicle and Highway Systems (IVHS). He is a member of IEEE and ASME.



## **2006 AACC Awards – Nominations Due December 1, 2005**

Nominations for the five AACC awards for 2006 are now being solicited. Each award consists of a certificate and an honorarium and will be presented at the Awards Banquet during the 2006 ACC in Minneapolis, Minnesota. Nomination packages should be prepared in accordance with the AACC Award Nomination Form (which can be obtained from the AACC web site at **[www.a2c2.org/awards](http://www.a2c2.org/awards)** or from the AACC Secretary, Pradeep Misra) and include the following: biographical information, a statement identifying and evaluating the accomplishments on which the nomination is based (not to exceed two double-spaced pages), a minimum of three and maximum of five reference letters, a current list of publications and patents, and any additional supporting material that could have a bearing on the award. All materials should be collected in a single package and the original together with six (6) copies should be submitted at the same time. The nomination package is due by December 1, 2005, and should be sent to:

Dr. Pradeep Misra  
Department of Electrical Engineering  
Wright State University  
3640 Colonel Glenn Highway  
Dayton, OH 45435-0001

Tel: (937) 775-5037  
Fax: (937) 775-3936  
Email: [pmisra@cs.wright.edu](mailto:pmisra@cs.wright.edu)