IEEE Past President Joel B. Snyder presents the IEEE Control Systems Award to Prof. Pravin Varaiya, University of California at Berkeley. This award recognized "outstanding contributions to stochastic and adaptive control and the unification of concepts from control and computer science."

of attention. Top researchers in control made presentations to a large group of bright and interested students. The presenters were then grilled with a barrage of insightful questions. It was fun to watch them sweat! Both attendees and presenters seemed to be enjoying themselves. Hopefully, the Society will follow up to see if the students exposed to control are more inclined to pursue control engineering, engineering in general, or at least have positive, lasting impressions of the event.

- *Authors' breakfasts*. Formal breakfasts were abolished. Instead, a coffee-break style service was provided. This led to a substantial savings, which allowed us to provide cookies in the afternoon breaks and more food at the Farewell Reception.
- *Fully Web-based registration.* This was a great success, which helped not just registration itself but finances too. Thanks to Pradeep Misra for implementing this important feature.

Some Statistics

There were 916 total registrants including 512 CSS members and 243 students. The United States had 470 registrants followed by Italy at 61; France, 59; Japan, 54; Australia, 30; Sweden, 26; The Netherlands, 25; Canada, 25; Mexico, 20; U.K., 19; Israel, 14; Taiwan, 13; and Germany, 12. In all, 37 different countries were represented. There were 15 exhibitors.

Thanks

The 41st IEEE CDC, as any conference this size, is the result of much hard work by many individuals. As the General Chair, I would like to thank everybody in the Operating and Program Committees, especially Molly Shor, Hitay Özbay, and Woosoon Yim for continuing, unwavering support and help and Program Chair Ken Loparo for making sure no program-related problems reached my doorstep. Special thanks also go to the extra help provided by individuals who are not listed as CDC 2002 officials: Ted Djaferis for continuing advice, Linda Bushnell for input on all activities related to CSS, Yaodong Pan for handling communication issues with students and overseas participants, and Pradeep Misra for all his work on computerization of the CDC operation. I would also like to thank the National Science Foundation and Kishan Baheti for providing funds for student travel and Faryar Jabbari for handling the organization

A technical conference is only as good as the content of all the papers presented. Program Chair Ken Loparo and I would like to recognize all the authors, plenary speakers, workshop and session organizers, and session chairs.

—Umit Ozguner
CDC 2002 General Chair

Workshop Honors Anthony N. Michel

On 5 April 2003, the University of Notre Dame hosted a workshop in honor of Anthony N. Michel on the occasion of his retirement (see the workshop Web site at http://liu.ece.uic.edu/workshop). The workshop provided a venue for researchers, colleagues, friends, and students to pay tribute to Tony's significant contributions to the systems and control community; at the same time it also served as a forum to explore topics and applications related to the stability and control of dynamical systems.

In a distinguished career spanning over 40 years, Tony Michel has made seminal contributions in the qualitative studies of dynamical systems, with an emphasis on stability theory. Specific areas in which he has contributed include finite-time and practical stability, Lyapunov stability of interconnected and large-scale dynamical systems, input-output properties of interconnected and large-scale systems, artificial neural networks with applications to associative memories, robust stability analysis, stability-preserving mapping theory, and stability theory for hybrid and discontinuous dynamical systems. He has demonstrated the significance of his work with specific applications to signal processing, power systems, artificial neural networks, digital control systems, and systems with state saturation constraints. His scholarly work has been made public in eight books, 30 contributed chapters in books, 166 journal papers, and 250 conference papers. (A complete list of Tony's publications can be found at http://liu.ece.uic.edu/workshop.) Tony served as mentor to many outstanding graduate students: 13 Ph.D. students graduated from Iowa Sate University and 11 from the University of Notre Dame.

Tony, a native of Romania from a German background, spent his childhood in Romania and Austria. He emigrated with his mother to the United States in 1952, settling in Milwaukee, Wisconsin. After finishing high school in Milwaukee, he studied electrical engineering at Marquette University, and after graduation he spent one year with the U.S. Army Corps of Engineers and six years in the aerospace industry at AC Electronics, a Division of General Motors, in Milwaukee. He also worked at Marquette toward an M.S. degree in mathematics while at AC Electronics and later toward a Ph.D. degree in electrical engineering under an NSF Fellowship. After receiving his Ph.D. in 1968, he joined the electrical engineering faculty at Iowa State University. In 1972-1973, while on sabbatical, he worked under the direction of Prof. Wolfgang Hahn at the Technical University of Graz, Austria, where he received the D.Sc. degree in applied mathematics in 1973. In 1984 he joined the faculty of electrical engineering at the University of Notre Dame as department chair and professor. In 1987 he was named Frank M. Freimann Professor of Engineering, and in 1988, he was appointed Matthew H. McCloskey Dean of Engineering. He served two terms as the dean, from 1988 to 1998. Since 1 January 2003, he has been Frank M. Freimann Professor of Engineering Emeritus and Matthew H. McCloskey Dean of Engineering Emeritus.

Tony Michel has served the systems and control community as the editor for *IEEE Transactions on Circuits and Systems* from 1981 to 1983, associate editor at large for *IEEE Transactions on Automatic Control* from 1991 to 2000, program chair for the IEEE Conference on Decision and Control in 1985, president of the IEEE Circuits and Systems Society in 1989, cogeneral chair for the IEEE Symposium on Circuits and Systems in 1990, vice president of Technical Affairs of the IEEE Control Systems Society in 1994 and 1995, vice president of Conference Activities of the IEEE Control Systems Society in 1996 and 1997, distinguished lecturer of the IEEE Circuits and Systems Society from 1995 to 1997, and general chair for the IEEE Conference on Decision and Control in 1997. He received several lifetime career awards, including the Best Transactions Paper Award of the IEEE Control Systems Society (with R.D. Rasmussen) in 1978, the Guillemin-Cauer Prize Paper Award of the IEEE Circuits and Systems Society (with R.K. Miller and B.H. Nam) in 1984, the Myril B. Reed Outstanding Paper Award of the IEEE Circuits and Systems Society (with K. Wang) in 1993, a Technical Achievement Award of the IEEE Circuits and Systems Society in 1995, an Alexander von Humboldt Research Award for Senior U.S. Scientists in 1997, a Distinguished Member Award of the IEEE Control Systems Society in 1998, and a Golden Jubilee Medal of the IEEE Circuits and Systems Society in 1999. He was an IEEE Centennial Medalist (1984), a Fulbright Scholar (1992), and an IEEE Third Millennium Medalist (2000). He was elected Fellow of the IEEE in 1982 and Foreign Member of the Russian Academy of Engineering in 1992.

The workshop featured two keynote addresses delivered by Irwin W. Sandberg (University of Texas, Austin) on "Approximation of Input-Output Maps Using Gaussian Radial Basis Functions" and Alfred Fettweis (Ruhr-Universitaet Bochum, Germany) on "Wave-Digital Concepts and Relativity Theory." There were 16 technical presentations given by nine of Tony's friends and colleagues and by seven of Tony's former Ph.D. students. Tony's friends and colleagues gave the following presentations: Panos J. Antsaklis (University of Notre Dame), "Robust Regulation of Polytopic Uncertain Linear Hybrid Systems with Applications"; Lyubomir T. Gruyitch (University of Technology Belfort-Montbeliard, France), "Time, Systems and Control: Qualitative Properties and Methods"; N. Harris McClamroch (University of Michigan), "Asymptotic Stability of Multibody Attitude Systems"; M. Anantha Pai (University of Illinois at Urbana-Champaign), "Trajectory Sensitivity Theory in Nonlinear Dynamical Systems: Power System Applications"; Kevin M. Passino (Ohio State University), "Stable Cooperative Resource Allocation"; Richard E. Saeks (Accurate Automation Corporation), "The Adaptive Dynamic Programming Theorem"; Michael K. Sain (University of Notre Dame), "The Cosmology of Zeros"; Fathi M. Salem (Michigan State University), "Neural Architectures with Learning Mechanisms in Integrated CMOS Chips"; and

Anjan Bose and Kevin Passino present Tony with a gift from the workshop—a "Lyapunov bowl."

Tony Michel, center, and a few of his friends.

Vijay Vittal (Iowa State University), "Emergency Control and Special Protection Systems in Large Electric Power Systems." Presentations by Tony's former Ph.D. students included: Anjan Bose (Washington State University), "Power Systems Stability: New Opportunities for Control"; Kelvin T. Erickson (University of Missouri-Rolla), "Reliability of Supervisory Control and Data Acquisition Systems in Offshore Oil and Gas Platforms"; Jay Farrell (University of California, Riverside), "Chemical Plume Tracing with Autonomous Underwater Vehicles"; Derong Liu (University of Illinois at Chicago), "Power Control and Call Admission Control for DS-CDMA Cellular Networks"; David W. Porter (Johns Hopkins University Applied Physics Laboratory), "Data Fusion Modeling for Groundwater Systems Using Generalized Kalman Filtering"; Jennie Si (Arizona State University), "Direct Neural Dynamic Programming"; and Gary G. Yen (Oklahoma State University), "Evolutionary Multiobjective Optimization: Qualitative Analysis and Design Implementation."

From the 24 Ph.D. students that Tony has graduated thus far, 14 of them came to the workshop. The 18 presentations of the workshop were organized into two keynote sessions and four technical sessions that were chaired/cochaired by Peter Bauer (University of Notre Dame), Daniel J. Costello (University of Notre Dame), Robert L. Gutmann (Zipper Interactive, Inc.), Charles Herget (Herget Associates), Yih-Fang Huang (University of Notre Dame), Andrew Li (Acuson Corporation), Richard K. Miller (Iowa Sate University), James Peterson (Montana State University), Michael P. Polis (Oakland University), Wolfgang Porod (University of Notre Dame), Joachim Rosenthal (University of Notre Dame), and Henry H. Ye (Lucent Technologies). Timothy O'Meara (University of Notre Dame) delivered the opening remarks for the workshop, and Tony Michel addressed the audience with his closing remarks for the workshop.

In addition to these speakers and session chairs, participants of the workshop from outside of the University of Notre Dame included Raymond A. DeCarlo (Purdue University), Donald Gray (Purdue University Calumet), Ling Hou (St. Cloud State University), and Bo Hu (Synopsys, Inc.). The workshop proceedings has been published as a book in the Birkhäuser's Control Engineering series: *Stability and Control of Dynamical Systems with Applications: A Tribute to Anthony N. Michel,* edited by D. Liu and P.J. Antsaklis. This book is thematically organized into three areas related to Tony's work. Part 1 contains seven chapters examining issues in stability analysis of dynamical systems; Part 2 includes six chapters dealing with artificial neural networks and signal processing; Part 3 contains eight chapters treating power systems and control systems. The workshop received financial support from the Department of Electrical Engineering (Yih-Fang Huang, chair), the Graduate School (Jeffrey Kantor, vice-president), and the Center for Applied Mathematics (Panos Antsaklis, director) of the University of Notre Dame. We are grateful to Peter Bauer, Local Arrangements chair and professor of electrical engineering at the University of Notre Dame, who spent countless hours in getting the workshop running smoothly. We would also like to thank Olesia Kovalenko and Yi Zhang for their help with the workshop registration.

Workshop participants joined Tony and his wife Leone at a welcome reception in the evening of 4 April 2003. During lunch on the day of workshop, James Peterson and Jay Farrell read several greetings and messages from Tony's former Ph.D. students who were not present. Many of Tony's colleagues and friends from Notre Dame joined the workshop participants at the workshop banquet that was held at the press box of the Notre Dame Stadium, a very special venue! Tony's former boss, Timothy O'Meara, now Provost Emeritus, delivered the banquet featured address to the 140 guests. His address revealed many interesting stories about Tony! At the banquet, Panos Antsaklis presented Tony with the first publication copy of the workshop proceedings, Yih-Fang Huang presented Tony with a token of appreciation on behalf of the Electrical Engineering Department, and Anjan Bose and Kevin Passino presented Tony with a gift from the workshop—a "Lyapunov bowl."

A homemade movie titled "Tony's Story" was created, narrated, and played by Derong Liu. The movie showed Tony's pictures at various stages of his life (starting with baby pictures) and also had video clips with interviews of his wife Leone and his colleagues (Panos Antsaklis, Peter Bauer, Ruey-Wen Liu, and Mike Sain) relating to Tony's stories. It was a great event and a wonderful time was enjoyed by all! We would like to thank Tony Michel for his friendship, guidance, and support over many years. Please join us in wishing Tony the best of retirements!

—Panos J. Antsaklis
—Derong Liu