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Masters and Novices

Chaouki T. Abdallah

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Masters and Novices

In this issue, we provide a collection of reports on diverse activities, ranging from a high school workshop and focused symposia to a world-renowned conference. Two workshops honor the achievements of senior members of our community, Peter Dorato and Pravin Varaiya. I am sure that you will be inspired as you read these reports. At the other end of the research spectrum, we report on a workshop for high school students and their teachers held in conjunction with the 16th IFAC World Congress in Prague, Czech Republic, an event that reflects worldwide activity in control. This workshop demonstrated to the students and their teachers—and,

indeed, reminds us of—the power, beauty, and excitement of control. In fact, the World Congress set a record as the world's largest conference devoted to control. Finally, we report on a symposium on networked control.

I look forward to receiving your reports as well as announcements of upcoming events.

Please contact me at

Zongli Lin
 Charles L. Brown
 Department of Electrical and
 Computer Engineering
 University of Virginia
 P.O. Box 400743
 Charlottesville, VA 22904-4743 USA
 E-mail: z15y@virginia.edu

The University of New Mexico Workshop on Systems and Control

On 5–6 June 2005, the Electrical and Computer Engineering Department of the University of New Mexico organized a workshop to celebrate the career of Peter Dorato. The event was held at Los Poblanos Inn, an historic inn and cultural center located in the village of Los Ranchos de Albuquerque, New Mexico. Los Poblanos Inn, which is listed on both the New Mexico and National Registers of Historic Places, has 25 acres of agricultural fields and extensive historic gardens. Both Los Poblanos Inn and La Quinta Cultural Center were designed by the Southwest's foremost architect John Gaw Meem, the "father of Santa Fe style."

Peter Dorato retired from the University of New Mexico in December 2004,

after serving its Electrical and Computer Engineering Department for 28 years. His department organized a sequence of events to celebrate his career, culminating in the 5–6 June workshop organized by Chaouki Abdallah and Laura Menini.

The attendees of the workshop included colleagues from Italy (Roberto Tempo, Mario Milanese, Salvatore Nicosia, Osvaldo Grasselli, Antonio Tornambe, Laura Menini, and Marco Ariola), the Czech Republic (Vladimir Kucera), and the United States (Frank Lewis, Douglas J. Birdwell, John Chiasson, Prentiss Robinson, Mo Jamshidi, Michael Bredemann, Ray Byrne, and Chaouki Abdallah). Also attending the workshop were many of Peter's students and colleagues from the University of New Mexico.

TECHNICAL PROGRAM

The technical program consisted of sessions chaired by Chaouki Abdallah and

Laura Menini. Vladimir Kucera opened the workshop with his talk on "Polynomial Control: Past, Present and Future," which was followed by Roberto Tempo's talk on "Mixed Deterministic/Randomized Methods for Fixed Order Controller Design." S. Galeani then delivered a talk titled "Ripple-Free Robust Tracking and Output Regulation for Multirate Digital Control Systems—A Simple and General Design Technique," and Mario Milanese discussed "Set Membership Identification, Prediction and Simulation of Nonlinear Systems." The first session concluded with John Chiasson's talk, "A Differential-Algebraic Approach to Estimating the Speed of an Induction Motor from Stator Currents and Voltages." On 6 June, Frank Lewis discussed "Neural Networks and Fuzzy Logic Systems For Control of Industrial Motion Systems," while Mo Jamshidi presented "V-Lab—



Peter Dorato in his medieval outfit, presented to him by his colleagues from the University of Roma-Tor Vergata.

An Intelligent Virtual Laboratory for Autonomous Agents—Towards Simulating System of Systems.” Marcus Ariola then presented “On Finite-Time Control of Dynamical Systems,” followed by Silvia Mastellone’s discussion of “Finite-Time Stability and Stabilization.” The technical sessions was concluded by Patrizio Colaneri, who presented “Dwell Time and Lyapunov Metzler Inequalities in Switching Control of Linear Systems.”

The talks presented were inspired by Peter’s research and collaboration with the various speakers. True to form, Peter was there to ask probing questions and argue the finer points of robust control and polynomial inequalities as well as Italian culture, food, and wine. The event concluded with a special dinner where Peter was presented with a medieval costume, an original edition of Bruno di Finetti’s book, and a large collection of Neapolitan songs (Peter’s favorite music). The event’s participants have agreed to contribute to a volume celebrating the occasion. The volume will be edited by Mo Jamshidi for publication by TSI Press.

Peter continues to teach and conduct research at the ECE department

of the University of New Mexico. He also continues to preach about professional engineering and to challenge

his colleagues and students to speak their mind, be true to their beliefs, and enjoy life!



Friends of Peter Dorato at the garden of Los Poblanos Inn, near Albuquerque, New Mexico. Standing (from left) are Laura Menini (University of Roma-Tor Vergata), Silvia Mastellone (University of Illinois at Urbana-Champaign), Salvatore Nicosia (University of Roma-Tor Vergata), Mo Jamshidi (University of New Mexico), Chaouki Abdallah (University of New Mexico), John Chiasson (University of Tennessee-Knoxville), Osvaldo Grasselli (University of Roma-Tor Vergata), Roberto Tempo (CNR-Politecnico di Torino), and Patrizio Colaneri (Politecnico di Milano). Sitting (from left) are Mario Milanese (Politecnico di Torino), Peter Dorato, Vladimir Kucera (Czech Technical University in Prague), and Frank Lewis (University of Texas at Arlington).

Peter Dorato’s Life and Accomplishments

Peter Dorato was born on 17 December 1932 in Manhattan and attended Brooklyn Technical High School. After graduating from Brooklyn Tech in 1951, Peter enrolled at the City College of New York (CCNY) to pursue a degree in electrical engineering. Immediately after earning his B.S.E.E. degree in 1955, he received a teaching assistantship at Columbia University to pursue a master’s degree in electrical engineering. In 1960, he received a National Science Foundation (NSF) Faculty Fellowship to complete his doctoral thesis at Brooklyn Poly, and in 1961 he was awarded the doctor of electrical engineering (D.E.E.) degree. He stayed on as an assistant professor at Brooklyn Poly and became an associate professor in 1969. In 1972, Peter left Brooklyn Poly to join the University of Colorado, Colorado Springs, as a professor. In 1976, Peter left the University of Colorado to accept the department chair position in the Electrical Engineering and Computer Science Department at the University of New Mexico (UNM) in Albuquerque. In 1977, he was elected a Fellow of the IEEE with the citation “for his contributions to sensitivity analysis and design in automatic control systems.” Peter held the chair’s position until 1984.

Peter was instrumental in starting the computer engineering degree at UNM and remained in the Electrical and Computer Engineering Department until his retirement in December 2004. In 1998 he was awarded the John R. Ragazzini Education Award by the American Automatic Control Council and cited for “contributions to control systems education and innovative ideas for teaching analytic control methods.” In 1999, he was awarded a Gardner-Zemke Professorship for “outstanding teaching in the Department of Electrical and Computer Engineering.” In the following year, Peter was awarded the IEEE Third Millenium Medal for his contributions to the IEEE Control Systems Society.

In 2004, Peter also received the School of Engineering Senior Faculty Teaching Excellence Award. In preparing information for the award, Peter was asked to outline his teaching philosophy. Peter summarized his philosophy with four points:

- 1) You must know the subject you teach.
- 2) You must like the subject you teach.
- 3) You must occasionally think it’s funny.
- 4) You must see your class like a family reunion.