1995 ACC Breaks Records in Seattle

The 1995 American Control Conference (ACC) was held June 21-23, 1995, at the Westin Hotel in Seattle, WA. The ACC is sponsored by the American Automatic Control Council (AACC), which is an association of control and systems engineers from seven professional societies (AIAA, AICHE, ASME, IEEE, ISA, and SCS). The IEEE is represented in AACC by the IEEE Control Systems Society. This ACC was the largest ever, and set several new records: total registration of 1,100 (15.5% higher than the 94 ACC), 1,008 technical papers, a total of 168 sessions, and a 5,076-page, six-volume proceedings. A 1995 ACC World Wide Web home page was created to provide information, which included most of the author's kit, available on-line.

The twin-towered Westin, located in the center of downtown Seattle, provided an excellent setting for the conference. The weather cooperated, and participants explored and enjoyed the beautiful city of Seattle.

The conference week started with seven tutorial workshops, which were given on Monday and Tuesday, and were attended by 84 people. The three-day technical program started on Wednesday, with the 1,008 papers organized into 19 parallel sessions on Wednesday and Friday, and 18 parallel sessions on Thursday. Each of the three days featured a one-hour plenary lecture, followed by morning, midday, and afternoon technical sessions of two hours (six papers) each. All papers, Regular or Short, were given 20 minute presentations. Twenty-four exhibits were sponsored by book publishers and developers of control software and hardware products. MathWorks provided an Internet service for conference attendees.

Among the 1,110 attendees, including 312 students, 760 were domestic and 350 were international, representing 38 countries. The majority of the attendees stayed at the Westin, and those who missed the room reservation deadline stayed at nearby hotels or near the airport. Student housing was provided at the University of Washington residence halls to make the conference affordable for students.

Technical Program

The excellent technical program was the result of an enormous amount of effort by authors, organizers, reviewers, society review chairs, and program committee members. All contributed papers were subject to peer review. Proposals for invited sessions were reviewed by both external reviewers and the program committee.

A record total of 1,366 papers (10% higher than the 94 ACC) was submitted, of which 1,048 were contributed papers and 318 were in invited (organized) sessions. For the final program, 714 contributed papers and 294 invited papers appeared, implying that the rejection rates of contributed and invited papers were 32% and 7.5%, respectively. Overall, the quality of invited sessions proposals was excellent and resulted in a low rejection rate. The rejection rate for contributed papers was largely due to the availability of rooms for breakout sessions. Approximately 2% of the accepted papers were not presented at the conference.

The accepted papers, to the extent feasible, were organized into parallel tracks, each of which featured a particular topic or theme (e.g., adaptive control, automotive controls, nonlinear control, robotics). These tracks covered virtually all established and emerging aspects of control theory. Some technical program tracks that were of special interest to practicing engineers included aerospace, automotive and IVHS, biomedical science, chemical processes, energy systems, flexible structures and vibration control, manufacturing, robotics, spacecraft, and others.

The 1995 ACC featured three interesting plenary lectures. Dr. E. Stears of the Boeing Company presented the lecture, "Challenges in Modern Avionics and Controls - The 777 Experience" on Wednesday, which described the development of the control systems for the commercial Boeing 777 aircraft. Stears emphasized the challenge of coordinated development of this complex hardware/software system. On Thursday, the plenary lecture, "Control Oriented System Identification" was given by the 1994 Donald P. Eckman Award recipient, Kameshwar Poolla from the University of California at Berkeley. Poolla discussed the rapidly developing areas of modeling for robust control design, and nonlinear system identification. "Adaptive Control with a French Touch" was the title of the plenary lecture presented by I.D. Landau of the G.R. Automatique of CNRS, Grenoble, France, on Friday. Landau described the overall process of adaptive control design, and highlighted the discussion with some interesting applications.

We continued the ACC tradition of giving out a best presentation award at each session. The winner in each session was selected by the session co-chairs, and was given a marble paperweight on which the skyline of Seattle was engraved, as well as the phrase “1995 ACC.” The Student Best Paper Competition initiated at the 1994 ACC was conducted again. Papers where the primary author was a student at the time of submission were eligible to compete, as announced in the Call for Papers. A total of 49 students participated in the competition, and five finalists were chosen and awarded partial travel grants of $650 each to attend the conference and present their papers. Finalists were Bradley J. Nelson, Miroslav Krstic, Sandeep Jain and Ilya V. Kolmanovsky. The winner, M. Krstic, was selected on the basis of the written paper and the presentation, and was presented a plaque at the Awards Luncheon on Thursday.
The conference proceedings also contain the AACC Award announcements, including the names and biographies of the AACC Award recipients for 1995. Copies of the proceedings are available from the IEEE Service Center, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08854-1331, USA. They may be ordered by calling the tollfree number 800-578-4333 or 908-981-0060, and giving catalog number 95CH35736. Members of the seven societies get a discount when they purchase the proceedings.

Six of the seven workshops presented prior to the conference were one-day tutorials. These were: “Adaptive Control of Nonlinear Systems,” “Control of Semiconductor Manufacturing Processes,” “Automated Multivariable System Identification: Basic Principles and Control Applications,” “Automated Factory Control,” “Application of DSPs in Control” and “H-infinity and mu-Methods for Robust Control.” The seventh workshop was a two-day tutorial on “Quantitative Feedback (QFT) Design: Theory and Applications.”

Social Events

The welcoming reception on Tuesday, the Awards Luncheon, an optional boat ride, Native American-style baked salmon dinner and Native American dance at Tillicum Village on Thursday, as well as the closing reception, were the major social events of the 1995 ACC. All these events had excellent turnouts. Tickets for the optional boat ride were sold out by Thursday morning. In addition to these events, a get-acquainted-meeting for spouses and families and a newcomer/student/industrial participant reception were arranged.

The Awards Luncheon started with introductory remarks by General Chair Masayoshi Tomizuka, who recognized the organizers of this year’s conference. AACC President Dagfinn Gangsaas reported on the status of AACC. Presentation of the 1995 AACC Awards [please see accompanying article in this issue of the Magazine] was made by AACC Awards Chair Michael Safanov. The O. Hugo Schuck Best Paper Award was given to the following two papers, both presented at the 1994 ACC: “Non-Invasive Diagnostics of Motor-Operated Valves,” by Jangbom Chai, Richard H. Lyon, and Jeffrey H. Lang; and “Behavioral Approach to Robustness Analysis,” by Fernando Paganini, Raffaello D’Andrea, and John Doyle. Andrew Packard received the Donald P. Eckman Award, and J. Boyd Pearson received the AACC Education Award. The Richard E. Bellman Control Heritage Award was presented to Michael Athans, who gave a brief address. A. Galip Ulsoy, 1995 Program Chair, gave a brief technical program report, and presented the finalists and winner of the Student Paper Competition. Stephen Kuhne, President of IFAC, invited ACC participants to attend the 13th IFAC World Congress July 1-5, 1996, in San Francisco. It will take the place of the 1996 ACC. Naim Kheir, 1997 ACC General Chair, invited everyone to attend the ACC June 4-6, 1997 in Albuquerque.

Acknowledgments

The success of the 1995 ACC was due to the dedicated work of numerous volunteers and supporting organizations. I was very fortunate to have an outstanding operating committee. I acknowledge with deep gratitude the excellent work of Naim Kheir, Finance Chair; Irving Hirsh, Local Arrangements Chair; Ka C. Cheok, Registration Chair; B. Wayne Bequette, Publication Chair; Glenn Masada, Publicity Chair, Michael K. Masten, Workshop Chair and Ching-Fang Lin, Exhibits Chair. I thank Program Chair Galip Ulsoy, Vice Chair for Invited Sessions Pierre Kabamba, Vice Chair for Contributed Papers Petros Ioannou, and the society review chairs for their outstanding work in putting together the excellent program. The dedicated work of the members of the program committee, and members of the ACC paper review boards of the societies, is gratefully acknowledged. I thank Abe Haddad, secretary of AACC, for his guidance, advice, and dedicated work. Judy Alexander and Cathy Tanner provided professional assistance at the on-site registration. I realize that I have yet to mention the effort of many individuals, including those who assisted the members of the operating committee and those of the program committee at their local sites. Thanks are also due to the plenary speakers, each author who selected the ACC at which to present their work, and exhibitors.

Masayoshi Tomizuka
General Chair, 1995 ACC