Focused Workshops

In this issue of *IEEE Control Systems Magazine*, we have two workshop reports. The first workshop was held in honor of Thomas Seidman. The second workshop provided a venue for researchers on nuclear fusion and control to interact and share ideas.

I encourage you to send me reports on a recent conferences and workshops. Please keep in mind that a conference report is the best way to alert potential attendees to the next conference in a series.

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Zongli Lin

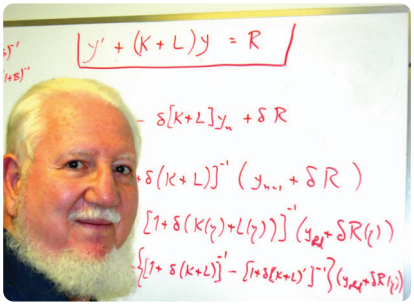
Advances in Control of Partial Differential Equations in Honor of Thomas I. Seidman

On 28–29 October 2006, the Department of Mathematics and Statistics at the University of Maryland, Baltimore County (UMBC) held a two-day workshop titled "Advances in Control of Partial Differential Equations" in honor of Thomas I. Seidman on the occasions of his 70th birthday and 35th year of service to UMBC, as well as in celebration of over 50 years of outstanding research in systems and control theory.

Thomas Seidman received his Ph.D. in mathematics from New York University in 1959 under the supervision of K.O. Friedrichs. He held positions at national laboratories and industry before joining Wayne State University and later Carnegie Mellon University. He moved to UMBC in 1972, where he has served the Department of Mathematics and Statistics in many different capacities. His numerous contributions to the field of systems and control theory include control of partial differential equations (PDEs), optimal control, switching and hybrid systems, ordinary and delay differential equations, ill-posed and inverse problems, and manufacturing and scheduling systems. His outstanding and fruitful research is reflected in over 150 scientific papers and with more than 60 collaborators around the world. This workshop concentrated on control of PDEs, an area Prof. Seidman significantly impacted during his distinguished career.

The workshop drew 92 attendees from 26 universities, including four participants from overseas, as well as junior researchers and graduate students from the mathematics and engineering departments at UMBC. Opening remarks were delivered by Dean of the College of Natural and Mathematical Sciences Geoffrey P. Summers as well as Department of Mathematics and Statistics Chair Nagaraj K. Neerchal. The workshop consisted of eight plenary lectures by invited researchers, a poster session, and a panel discussion on future directions of the field. On 28 October, five invited speakers delivered

Participants of the workshop in honor of Thomas Seidman.



Thomas I. Seidman.


Audience of the workshop with the guest of honor Thomas I. Seidman in the first row.

keynote lectures. Irena Lasiecka of the University of Virginia spoke on blowup rates for the minimal energy associated with null controllability of coupled PDE systems, Suzanne Lenhart of the University of Tennessee spoke on optimal control of integro-difference population models, Boris Mordukhovich of Wayne State University discussed optimal control of evolutionary systems, Hector Sussmann of Rutgers University gave a survey on set separation theorems and the Pontryagin maximum principle, and Roger Brockett of Harvard University discussed the influences of continuum dynamics on the stabilization problem. A poster session held after the plenary speeches consisted of 14 researchers from mathematics and engineering fields displaying results in control theory for PDE systems and related applications in fluid and structural mechanics.

Three additional plenary talks were given on 29 October. Roberto Triggiani of the University of Virginia talked about control problems for Navier-Stokes equations and fluid-structure interaction, Jiongmin Yong of the University of Central Florida presented results on second-order spike variations for controlled PDEs, and David Russell of Virginia Tech gave an overview of elastic control theory. The workshop concluded with a panel discussion addressing future directions of PDE control systems and their applications. The panelists included Jagdish Chandra (George Washington University), Irena Lasiescka, and Hector Sussmann. The discussions, which were moderated by Stuart S. Antman, centered around three primary topics, specifically, emerging applications, mathematical issues that need attention, and educational initiatives.


Panel discussion on future directions of the field with (from left) Irena Lasiecka, Jagdish Chandra, Hector Sussmann, and moderator Stuart Antman.

At the workshop banquet, which was held on the evening of 28 October, many colleagues, friends, and coworkers of Prof. Seidman spoke in honor of his distinguished career. The master of ceremonies Manil Suri (UMBC) related anecdotes and showed pictures that reflected the life of Prof. Seidman. Boris Mordukhovich, P.R. Kumar, James M. Greenberg, and David Russell talked about their earlier working experiences with Tom and their high regard for his contributions and influence in systems and control theory, while Jonathan Bell (UMBC) recalled some amusing stories of Prof. Seidman's time in the department. Thomas's son Gregory Seidman spoke about his experience growing up with a father who is a distinguished mathematician. Many mentors and collaborators who could not attend the workshop sent their regards, which were read at the banquet.

The workshop was organized by Stuart S. Antman (University of Maryland, College Park), Matthias K. Gobbert, and Kathleen A. Hoffman (UMBC). A grant from the National Science Foundation (NSF) provided support for travel and local expenses for 50 graduate students and junior researchers. The Department of Mathematics and Statistics and the College of Natural and Mathematical Sciences at UMBC contributed additional financial support. Complete information on the workshop, including the final program and the list of poster presenters and participants, is available on the workshop Web page at www.umbc.edu/seidman.

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