

Report on the First International Conference on Human-Robot Interaction (HRI)

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■ The first international conference on human-robot interaction (HRI2006) was held in Salt Lake City, Utah, on March 2–4, 2006. The conference included posters and paper presentations, with topics including metrics and testbeds, natural and affective interaction, cognitive robotics, interfaces, robot teams, usability, and learning. Approximately 150 researchers and practitioners attended the conference, and many more contributed to the conference as authors or reviewers. HRI2007 will be held in Washington, D.C., in March 2007.

The first international conference on human-robot interaction (HRI) was held March 2–4, 2006, in Salt Lake City, Utah. The conference was sponsored by the Associa-

tion for Computing Machinery (ACM) through SIGCHI and SIGART, in cooperation with AAAI and with the Human Factors and Ergonomics Society, and with technical cosponsorship from the IEEE Robotics and Automation Society and the IEEE Systems, Man, and Cybernetics Society.

The field of HRI has grown dramatically in recent years. Spurred by advances in robotics technologies and communications, many researchers are studying how to use these advances to solve critical challenges in socially relevant problems. These efforts are inherently interdisciplinary, requiring input from engineering, computer science, psychology, cognitive science, linguistics, and human factors.

HRI2006 was the first step toward becoming a premier interdisciplinary forum for the presentation of research results on leading-edge issues of hu-

man-robot interaction and collaboration. The three goals of the conference series are to promote the inherently interdisciplinary field of HRI, to provide a single-track forum for the dissemination of excellent research, and to provide high-quality evaluations of mature and emerging research.

The call for papers attracted 135 submissions from Asia, Europe, Canada, and the United States. Forty-two submissions were accepted as full papers, and 21 submissions were accepted as posters. Topics included metrics and testbeds, social and cognitive robotics, robotics for the disabled, humanoid robotics, emotion and affect, natural language and dialog, teleoperation and supervisory control, robot teams, usability, and robotic and human learning.

We were delighted to have David Woods and Clifford Nass give thought-provoking plenary presentations (see figure 1). Woods delivered a talk titled “The Law of Stretched Systems in Action: Exploiting Robotics” that carefully addressed issues of coordination over wide ranges, extension of perception and action over large spans of space, and projection of human intent into remote situations to achieve human goals. Nass delivered a talk titled “Every Body Is Somebody: The Psychology and Design of Embodiment” that questioned when a robot should say “I” and explored the relevance of lessons from human-human interaction in HRI.

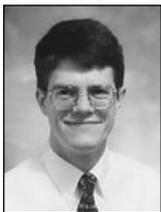
The conference’s outstanding paper award went to “The Utility of Affect Expression in Natural Language Interactions in Joint Human-Robot Tasks” by M. Scheutz, P. Schermerhorn, and J. Kramer. The best student paper award went to “Interactions with a Moody Robot” by R. Gockley, J. Forlizzi, and R. Simmons. The best poster award went to “Challenges to Grounding in Human-Robot Interaction” by K. Stubbs, P. Hinds, and D. Wettergreen. Finally, the best student poster award went to “Experiments in Socially Guided Machine Learning: Understanding How Humans Teach” by A. Thomaz, G. Hoffman, and C. Breazeal.

The conference was attended by about 150 representatives from academe, government, and industry.



Figure 1. Conference Attendees Listen to Plenary Speaker.

Feedback from the attendees was overwhelmingly positive, and substantial momentum has been built for HRI2007, which will be held in Washington, D.C., in March 2007.



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From 1996–1998, he was a postdoctoral research associate at Nissan Cambridge Basic Research. He has more than 70 publications in human-robot interaction, human-machine interaction, machine learning, and decision theory. His current research interests are in human-robot interaction

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Alan C. Schultz is director of the Navy Center for Applied Research in Artificial Intelligence at the Naval Research Laboratory (NRL) in Washington, D.C. He has 20 years' experience and more than 80 publica-

tions in robotics, human-robot interaction, and machine learning, and he is responsible for establishing and running the Autonomous Systems Laboratory at NRL. Schultz was selected to teach at the first IEEE/RAS Summer School on Human-Robot Interaction and has chaired many conferences and workshops in robotics and human-robot interaction. Schultz was the chair of the AAI Mobile Robot Competition and Exhibit in 1999 and 2000.



David J. Bruemmer is currently a principal research scientist at the Idaho National Laboratory (INL) where he serves as technical director for unmanned ground vehicle systems.

At INL, he has led a diverse research and development portfolio focused on providing intelligent autonomy for a variety of applications. Bruemmer's interests include autonomous robot behavior, swarm robotics, mobile manipulation and teaming between unmanned air and ground vehicles. Before joining INL, Bruemmer served as a consultant to the Defense Advanced Research Projects Agency. He received a B.A. in computer science and a B.A. in religious studies from Swarthmore College in 1998.