Keynotes and Invited Speakers

Keynote Speakers

Towards a Smarter Web

Wendy Hall, University of Southampton

Wendy Hall, DBE, FRS, FREng is a professor of computer science at the University of Southampton, UK, and dean of the Faculty of Physical and Applied Sciences. She was head of the School of Electronics and Computer Science (ECS) from 2002 to 2007. She was elected president of the Association for Computing Machinery (ACM) in July 2008, and the first person from outside North America to hold this position. Until July 2008, she was senior vice president of the Royal Academy of Engineering, is currently a member of the UK Prime Minister's Council for Science and Technology, and is a founder member of the Scientific Council of the European Research Council. She was president of the British Computer Society (2003-4) and an EPSRC senior research fellow from 1996 to 2002. Her current research includes applications of the semantic web and exploring the interface between the life sciences and the physical sciences. She is managing director of the Web Science Trust.

Designing Online Advertising Markets

Susan Athey, Harvard University and Microsoft Corporation

Susan Athey is a professor of economics at Harvard University. She also consults for Microsoft Corporation in the role of chief economist, focusing on online services. In 2006, she received the John Bates Clark Medal, awarded by the American Economic Association every other year to "that American economist under the age of forty who is adjudged to have made the most significant contribution to economic thought and knowledge." She was also elected a fellow of the Econometric Society in 2004 and of the American Academy of Arts and Sciences in 2008. She currently serves as an elected member of the executive committee of the American Economic Association, an elected member of the Council of the Econometric Society, and of the Council of the Game Theory Society. She has been named a World Economic Forum Young Global Leader, Fast Company's 100 Most Creative People in Business, Diversity MBA's Top 100 under 50 Diverse Executives, and Kilby Award Foundation's Young Innovator Award. Her current research focuses on marketplace design, auction theory, and the statistical analysis of auction data. Recently she has been working on theoretical and empirical studies of internet search, online advertising and the news media.

Invited Talks

Rich Probabilistic Models for Image Understanding

Daphne Koller, Stanford AI Lab

Daphne Koller is a professor in the Stanford AI Lab, at the Computer Science Department at Stanford University. She completed her PhD at Stanford, and was then a postdoctoral researcher at the Computer Science Division at UC Berkeley. She did her masters and undergraduate degrees at the Hebrew University of Jerusalem, Israel.

She has won numerous awards including the ACM/Infosys Award, 2008, a MacArthur Foundation Fellowship in 2004, and the IJCAI 2001 Computers and Thought Award. She was elected Fellow of the Association for the Advancement of Artificial Intelligence (AAAI) in 2004. Her research focuses on using probabilistic models and machine learning to understand complex domains that involve large amounts of uncertainty. Most recently, she has focused on problems in computer vision and in computational biology and medicine.

Homo Heuristicus: Why Biased Minds Make Better Inferences

Gerd Gigerenzer,
Max Planck Institute for Human Development

Gerd Gigerenzer is director at the Max Planck Institute for Human Development in Berlin and a former professor of psychology at the University of Chicago and John M. Olin Distinguished Visiting Professor, School of Law at the University of Virginia. He is also the director of the Harding Center for Risk Literacy, Berlin, Batten fellow at the Darden Business School, University of Virginia, and fellow of the Berlin-Brandenburg Academy of Sciences and the German Academy of Sciences. He won the AAAS Prize for the best article in the behavioral sciences and the Association of American Publishers Prize for the best book in the social and behavioral sciences. His books *Calculated Risks: How To Know When Numbers Deceive You,* and *Gut Feelings: The Intelligence of the Unconscious* were translated into 18 languages. His academic books include *The Empire of Chance, Simple Heuristics That Make Us Smart* and *Bounded Rationality: The Adaptive Toolbox* (with Nobel Laureate Reinhard Selten). *Rationality for Mortals,* his most recent book, investigates decisions under limited time and information. He has trained U.S. Federal Judges, German physicians, and top managers in decision-making and understanding risks and uncertainties.

Open Information Extraction at Web Scale

Oren Etzioni, University of Washington

Oren Etzioni received his Ph.D. from Carnegie Mellon University in January 1991, and joined the University of Washington's faculty in February 1991, where he is now the Washington Research Foundation Entrepreneurship Professor of Computer Science. Etzioni received a National Young Investigator Award in 1993, and was selected as a AAAI Fellow a decade later. In 2007, he received the Robert S. Engelmore Memorial Award. He is the founder and director of the University of Washington's Turing Center. Etzioni is the founder of Farecast, Inc., which was sold to Microsoft in 2008, and became the foundation for Bing Travel. Etzioni is the author of over 100 technical papers in a wide range of conferences including AAAI, ACL, CIDR, COLING, EMNLP, FOCS, HLT, ICML, IJCAI, ISWC, IUI, KDD, KR, SIGIR, and WWW. His work has been featured in the *New York Times, Wall Street Journal, NPR, SCIENCE, The Economist, TIME Magazine, Business Week, Newsweek, Discover Magazine, Forbes Magazine, Wired, NBC Nightly News,* and even *Pravda.* His current research interests include: fundamental problems in the study of intelligence, web search, machine reading, and machine learning.

Sun, Surf and Automation: A Decade of Field Robotics in Australia

Hugh Durrant-Whyte, NICTA and University of Sydney

Australia is a large, sparsely populated, resource-rich country a long way from anywhere; and is consequently the ideal place to do field robotics. The past decade has seen substantial technical development and investment in field robotics, especially in civilian applications such as cargo handling, mining, agriculture and marine environments; applications which are of central importance to the Australian economy. This talk will describe a number of technical advances in the areas of perception, machine learning, large platform control, and systems engineering that have enabled substantial progress in the "science" of field robotics and which have led to significant commercial applications. The talk will also aim to look forward to the next decade, especially focusing on the development of machine learning methods for real-time operation of robots in large-scale unstructured field environments and where the opportunities for future commercial developments will come from.

Hugh Durrant-Whyte received the B.Sc. in Nuclear Engineering from the University of London, U.K., in 1983, and the M.S.E. and Ph.D. degrees, both in systems engineering, from the University of Pennsylvania, USA, in 1985 and 1986, respectively. From 1987 to 1995, he was a university lecturer in engineering science, the University of Oxford, U.K. From 1995–2010 he was a professor of mechatronic engineering at the University of Sydney where he led the Australian Centre for Field Robotics (ACFR). From 2011 he will be CEO of NICTA. He has been awarded two Australian Research Council (ARC) Federation Fellowships; in 2002 and 2007. His research work focuses on robotics and sensor networks. His work in applications includes automation in cargo handling, surface and underground mining, defence, unmanned flight vehicles and autonomous sub-sea vehicles. He has published over 350 research papers and has won numerous awards and prizes for his work. He is a Fellow of the Institute of Electrical and Electronic Engineers (FIEEE), a Fellow of the Australian Academy of Science (FAA), and a Fellow of the Royal Society (FRS).

The Games People Play Revisited

Jonathan Schaeffer, University of Alberta

Jonathan Herbert Schaeffer is a Distinguished University Professor at the University of Alberta and the Canada Research Chair in Artificial Intelligence. He led the team that wrote *Chinook,* the world's strongest American checkers player. His coauthored paper "Checkers is Solved," published in *Science* won the International Computer Games Association Best Publication prize for 2007. He was elected a Fellow of the Royal Society of Canada in 2007, and of the Association for the Advancement of Artificial Intelligence in 2000. He has won numerous awards including the Province of Alberta Centennial medal award (2005), Distinguished paper prizes at IJCAI 2005, and IJCAI 2003, and the Best poster prize at IJCAI 2003. He has an honourary doctorate from the University of Lethbridge. He is interested in anything to do with heuristic search.

Adventures in Scheduling: Some Trends in Operations Research

Mike Trick, Carnegie Mellon University

Michael Trick is the associate dean of research and a professor of operations research at Carnegie Mellon's Tepper School of Business (formerly the Graduate School of Industrial Administration), a school he joined in 1989. From 1998 through 2005 he was also president of the Carnegie Bosch Institute for Applied Studies in International Management, a research institute specializing in research support, conferences, and executive education on international management issues. He was the recipient of the Bosch Professorship from 2003-2005. The students of Tepper awarded him the George Leland Bach Award as the top teacher in the program in 1991 and 2010. In 1995, he was appointed the founding editor of *INFORMS Online* and in 2002 he was president of that society. From 2004-2009, he was vice-president, North America for the International Federation of Operational Research Societies, an umbrella organization of 46 national operations research societies. He has consulted extensively with the United States Postal Service on supply chain design, with Major League Baseball and a number of college basketball conferences on scheduling issues, and with companies such as Motorola and Sony on machine scheduling. He is a Fellow of the Institute for Operations Research and the Management Sciences (INFORMS).