What is Human-Centered Computing?

with Jeffrey M. Bradshaw,
Senior Research Scientist, Florida Institute for Human and Machine Cognition

Friday, June 15, 2012, 3:00 - 4:00 pm
Cowgill Hall, Room 202, VT Campus

The Florida Institute for Human and Machine Cognition (IHMC) is a not-for-profit Research Institute of the State University System of Florida. Researchers at IHMC pioneer technologies aimed at leveraging and extending human capabilities. In our collaboration with Virginia Tech, IHMC is sharing its technology and expertise in the areas of building simulation, monitoring, visualization, management of security and building control policies, and human-centered performance enhancement. Among our most-acclaimed deployable modular concepts was the Small Pressurized Rover with integrated Hab, developed with NASA and Ideo as part of an IHMC Blue Sky study and later featured as the culminating vehicle in the 2009 Presidential Inaugural Parade. A current highlight of our human-centered building technologies efforts is our joint proposal with Autodesk Research to build resilient monitoring and response technologies into the Salt Lake City Public Safety Building (PSB), designed for net-zero performance. As a hub of the city’s critical infrastructure, the PSB will garner significant attention as a flagship for state-of-the-art building design and operations. Unlike the typical situation where comfort and energy efficiency degrade over time, the opportunity is presented to create a building whose performance continually gets better. Even more important, given the vital role of the PSB as an emergency response center, is the key requirement for resilient building response to threats and disturbances. In this talk, I will give an overview of selected areas of human-centered computing research currently underway at IHMC.

Jeffrey M. Bradshaw is a Senior Research Scientist at IHMC, where he leads the research group developing the KAoS policy and domain services framework. With Marco Carvalho, he co-leads the group developing IHMC’s Sol Cyber Framework. Formerly, Jeff led research groups at The Boeing Company and the Fred Hutchinson Cancer Research Center. He helped pioneer the research area of multi-agent systems, and his first book on the topic, Software Agents, became a classic in the field and a best-seller for The MIT Press. Jeff has been a Fulbright Senior Scholar at the EURISCO in Toulouse, France; an Honorary Visiting Researcher at the University of Edinburgh, Scotland; a visiting professor at the Institut Cognitique at the University of Bordeaux; is former chair of ACM SIGART; and former chair of the RIACS Science Council for NASA Ames Research Center. Jeff currently serves as a member of the Board on Global Science and Technology for the National Academy of Science and as an external advisory board member of the Cognitive Science and Technology Program at Sandia National Laboratories. Jeff served for over a decade on the Board of Directors of the International Foundation for Autonomous Agents and Multiagent Systems, and is a co-organizer of the Human-Agent-Robot Teamwork (HART) workshop series. With Robert Hoffman and Ken Ford, he serves as co-editor of the Human-Centered Computing Department for IEEE Intelligent Systems, and co-edited Essays on Human-Centered Computing (with Robert Hoffman, IEEE Press, 2012).