

Technology for locating first responders in buildings to be showcased at national workshop

EurekAlert

WORCESTER, Mass. – Worcester Polytechnic Institute (WPI), a leader in the development of technology for precisely locating, tracking, and monitoring first responders inside buildings, will host the fifth annual Workshop on Precision Indoor Personnel Location and Tracking Technology for Emergency Responders in the WPI Campus Center Aug. 2-3, 2010. The only national forum in this emerging field, the workshop will bring together approximately 130 leading researchers from industry, academia, and government, members of the first responder community, and representatives of federal, state, and local governments to explore the state of the field and discuss future technical challenges.

Precision indoor location technology is designed to help firefighters, police officers, and EMTs quickly locate and rescue colleagues who become lost, disabled, or trapped inside buildings. Coupled with physiological monitoring technology, such systems can also alert incident commanders when first responders are in distress--especially when their stress levels put them at risk of a heart attack. A 2008 report by the U.S. Fire Administration (USFA) identified stress or over-exhaustion and becoming lost or disoriented inside buildings as two of the top three leading causes of firefighter fatalities.

This year's workshop will include updates on research on indoor location and tracking technology projects being funded by federal agencies, demonstrations of existing technology (including rigorous real-world tests of three systems by the Worcester Fire Department), and, as indoor location and tracking technology moves closer to commercial availability, initial discussions of the need to set standards for their performance and use.

"Since we launched this workshop in 2005, we have seen continually expanding interest in this field, to the point where requests to participate in this year's meeting have prompted us to provide even more space for presentations and demonstrations," said James Duckworth, associate professor of electrical and computer engineering at WPI and a workshop organizer. "We have also seen significant progress in the development of location, tracking, and physiological monitoring systems, driven by enthusiastic assistance from the first responder community, which is anxious to put this life-saving technology to use in the field, growing interest and support from federal emergency management and safety agencies, which have recognized the urgent need for technological solutions to the safety issues first responders face, and the dedication of many research groups."

Here are highlights of the 2010 workshop:

- A keynote address by Jalal Maypar, program manager for the GLANSER (Geospatial Location Accountability and Navigation System for Emergency Responders) and PHASER (Physiological Health Assessment Sensor for Emergency Responders) initiatives of the Department of Homeland Security's Science and Technology Directorate, along with presentations by research groups at Argon ST and Honeywell ACS Labs, which were selected in 2009 to receive funding through GLANSER.
- Real-world tests of location and tracking systems developed by SEER Technology Inc., Q-Track Corporation, and the University of Michigan Engineering Department. The systems will be used by members of the Worcester, Mass., Fire Department to locate a "lost" firefighter in a WPI academic building in a search and rescue scenario designed and executed by the fire department.
- A discussion by representatives of the National Fire Protection Association and the National Institute for Standards and Technology of the need to develop standards for "new to the industry" technologies like location and tracking systems.
- A panel on the real-world experiences of first responders, including a presentation on fireground injury and death by Billy Goldfeder, deputy chief of the Loveland-Symmed, Ohio, Fire Department and author of the column "Close Calls" in Firehouse magazine. The panel is designed to help developers of location, tracking, and physiological monitoring systems appreciate how firefighters and law enforcement officers perform their jobs and the dangers they face every day.
- Additional keynote addresses by Nancy Merritt, senior policy adviser at the National Institute of Justice, and Stefanie Tompkins, program manager, Strategic Technology Office, at the Defense Advanced Research Projects Agency (DARPA), and a panel on perspectives on location and tracking technology from the Los Angeles County Sheriff's Department, the Defense Department's Test Resource Management Center, and the U.S. Army's Natick Soldier Research, Development, and Engineering Center.
- Presentations, technology demonstrations, and poster presentations by nearly 30 corporate, academic, and government research groups.

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