The George W. Woodruff School of Mechanical Engineering at Georgia Tech

Presents

The Annual

Harold W. Gegenheimer

Lecture Series on Innovation

Featuring:

Dr. Robin Murphy

(B. ME 1980, M.S. ICS 1989, Ph.D. CS 1992)

Raytheon Professor of Computer Science and Engineering
Director of the Center for Robot-Assisted Search and Rescue
Texas A&M University

Speaking About:

Robots To The Rescue!

THURSDAY, DECEMBER 2, 2010, 11:00 A.M.

Ferst Center for the Arts
Georgia Tech Campus, Atlanta, Georgia

There will be a reception after the lecture in the Galleries of the Ferst Center.

To arrange for parking, please call (404) 894-3200 by Monday, November 29, 2010.

Synopsis of the 2010 Gegenheimer Lecture

Why doesn't FEMA (Federal Emergency Management Agency) or MSHA (Mine Safety and Health Administration) use those "Hurt Locker" robots or Department of Defense unmanned aerial vehicles? Is having the Terminator crawl toward you a Good Thing? Once snake/cockroach/fly robots are perfected, rescue robotics is solved, right? Or is it making the robots fully autonomous? How many robots do you need for a disaster like a building collapse: 10? 100? This talk will answer these questions and discuss other surprises in the nascent field of rescue robotics based on fifteen years of research experience with rescue robots supplemented by the insertion of ground, air, and sea robots for urban search and rescue (US&R) into eleven disasters, including the 9/11 World Trade Center disaster, Hurricanes Katrina and Charley, and the Crandall Canyon Utah mine collapse. Extensive video will be shown as the talk explores how robots can reduce deaths, accelerate damage assessment, and minimize economic downtime after a disaster.

Biographical Sketch

Robin Roberson Murphy is the Raytheon Professor of Computer Science and Engineering at Texas A&M University and directs the Center for Robot-Assisted Search and Rescue and its Roboticists Without Borders program. She holds a bachelor's degree in mechanical engineering (1980), and a master's degree (1989), and a Ph.D. in computer science (1992), all from Georgia Tech. She has more than one-hundred publications in artificial intelligence, robotics, and human-robot interactions, including the textbooks *Introduction to AI Robotics* and *AI in Mobile Robots* (cited by Michael Crichton in his bestseller *Pray*). In 2008, she was awarded the AI Aube Outstanding Contributor Award by the AUVSI Foundation for founding the field of rescue robotics. She is a Fellow of the IEEE and serves on numerous governmental boards, including the Defense Science Board.

THE LECTURE IS FREE AND OPEN TO THE PUBLIC.

About the Lecture Series

The Lecture Series on Innovation was established in 1995 through an endowment from Mr. Harold W. Gegenheimer (Class of 1933) to support student programs that encourage creativity, innovation, and design. Through the lecture series and support of capstone design projects, students are exposed to processes that stimulate creativity and lead to inventions and patents. The previous Gegenheimer lecturers were:

1995 **Dr. Jerry M. Woodall**
Distinguished Professor of Microelectronics, Purdue University

1996 **Mr. Burt Rutan**
President and CEO, Scaled Composites, Inc.

1997 **Dr. Jim Adams**
Professor, Stanford University

1998 **Dr. George N. Hatsopoulos**
Founder, Thermo-Electron Corporation

1999 **Mr. Richard Teerlink**
Retired President and CEO, Harley Davidson, Inc.

2000 **Dr. Woodie Flowers**
Pappalardo Professor of Mechanical Engineering, MIT

2001 **Dr. Leo Beranek**
Co-Founder, Past President, and CEO, BBN

2002 **Dr. Roger L. McCarthy**
Chairman, Exponent, Incorporated

2003 **Dr. Steven L. Stice**
Professor and Eminent Scholar, University of Georgia

2004 **Dr. Malcolm Swinbanks**
Chief Scientist, Vibration and Sound Solutions, Ltd.

2005 **Dr. James DeLaurier**
Professor, University of Toronto Aerospace Studies

2006 **Mr. Mark Jenks**
Wing Team Leader, The Boeing Company

2007 **Mr. Chris Miller**
Director, *Shrek The Third*

2008 **Dr. James E. West**
Research Professor, Johns Hopkins University

2009 **Mr. David Phelps**
President and CEO of CreoSalus, Inc.

About the Woodruff School

Mechanical Engineering is the oldest degree granting program at Georgia Tech. Today, the Woodruff School of Mechanical Engineering offers academic and research programs in mechanical engineering, nuclear and radiological engineering, medical physics, bioengineering, paper science and engineering, and robotics. Both the graduate and undergraduate programs in mechanical engineering are consistently ranked in the top ten in the nation by *U.S. News & World Report*. The current enrollment is 1857 undergraduate and 825 graduate students. Studies are directed by a full-time, tenure track faculty of 85 professors. In addition there are sixteen adjunct appointments from other schools on campus. There are also 24 research faculty and six academic professionals. Support is provided by 54 staff members. The George W. Woodruff School of Mechanical Engineering is the only educational institution to be designated a Mechanical Engineering Heritage Site by the American Society of Mechanical Engineers.

For additional information, contact Dr. William J. Wepfer, Eugene C. Gwaltney, Jr. Chair of the Woodruff School at:

George W. Woodruff School of Mechanical Engineering
Georgia Institute of Technology
Atlanta, Georgia 30332-0405
Phone: (404) 894-3200
Fax: (404) 894-8336
E-mail: information@me.gatech.edu
Online: www.me.gatech.edu

The Annual

Harold W. Gegenheimer

Lecture Series on Innovation

You are cordially invited to

Georgia Institute of Technology

The George W. Woodruff School of Mechanical Engineering
Atlanta, Georgia 30332-0405 U.S.A.