Topic: DARPA Grand Challenge – Invention on a Schedule Development of Unmanned Robotic Vehicles

WHEN: 6:00 – 8:00 PM, Wednesday, November 18, 2009

WHERE: Affiliate Societies Council, Room 300

4801 Springfield St., Dayton, OH 45431

SPEAKER: Grayson Randall

SPONSORS: Dayton IEEE Section & IEEE Computer Society

Buffet dinner – no charge for members; $12 for non-members

RSVP by Friday, November 13, 2009, to Amy Solko at 937-224-8513, asc@dnaco.net

Developing an innovative product or service can be challenging. Add unsolved technology goals, a fixed schedule, limited resources and budget, and the problem can seem overwhelming.

But somehow a small team with little funding or resources was able to place 12th out of 196 teams in an event created to advance technology in autonomous robotic ground vehicles... How did they do that?

The DARPA Grand Challenge and the DARPA Urban Challenge are events sponsored by the US Government to help promote the development of autonomous land robotic vehicles. The government is looking to meet a congressional mandate to have 33% of military ground vehicles operating unmanned by the year 2015.

This presentation will show how an ad-hoc team was able to compete in this international competition. Grayson will discuss technical obstacles, building a team, innovating on a

fixed schedule with a small budget, utilization of an incremental development process, techniques used to accelerate technology discovery, mentoring, and the benefits of student participation. He will demonstrate with Grand Challenge pictures and video.

Grayson Randall is president of Insight Technologies, Inc. (www.insightrobots.com), a North Carolina company which specializes in ground based robots for both commercial and military use. Insight Technologies, Inc. performs both research and development on control systems for autonomous robotic unmanned vehicles.

Mr. Randall led the Insight Racing team (www.insightracing.org) in the DARPA (Defense Advanced Research Projects Agency) Grand Challenge series of races. Insight Racing's most recent entry was a computer driven Lotus Elise which was developed in conjunction with NC State University. The Elise would drive through city traffic without a driver, remote control, or any human intervention whatsoever.

Mr. Randall is a "Distinguished Visitor" for the IEEE Computer Society. He received the Outstanding Engineer Award from IEEE Region 3 at SoutheastCon 2009 in Atlanta, Georgia where Mr. Randall was chosen from among over 30,000 engineers in the Southeastern United States. Mr. Randall was also recognized by IEEE-USA in 2007 "for leadership that inspired pre-college students and college engineering students in the area of robotics."

Grayson is chairman of IEEE Robotics and Automation chapter for Eastern North Carolina. He mentored a FIRST high school robotics team which won 1st place in the 2004 international FIRST competition as well as numerous other awards.