



IEEE Crosstalk



The Newsletter of the Mid-Hudson Section of the IEEE

Volume XLV, No 3, October 2006

Upcoming Events

October 4, 2006: Technical presentation sponsored by the Computer Society titled "Insight Racing and the DARPA Grand Challenge" by Grayson Randall, IBM at SUNY New Paltz, 6:30 – 8:00PM. See pages 2 and 3 for details.

October 27, 2006: Workshop sponsored by the Power Society titled "Alternative Energy", at SUNY New Paltz, 8:00AM – 4:00PM. Featured topics to include:

- "Energy Trends and Solutions"
- "Energy Consumption and Benchmarking in the Data Center"
- "Fuel Cells and the Hydrogen Economy"
- "Efficiency Enhancement Measures in Electrical Apparatus and Systems"
- "Nuclear energy, the Nucleus of Sustainable Energy"
- "National Laboratory Research in Solar, Wind, Hydropower, and Geothermal Energy"
- Panel Discussion, "The Role of Technology in Alternate Energy"

See Pages 4 and 5 for additional details

Mid-Hudson Section Leadership

Chair:	Rob Atkins
Immediate Past Chair:	Bob Sadowski
Vice Chair:	Lisa Shay
Treasurer:	David J. Dittmann II
Secretary:	Michael Otis
Members-at-Large:	Larry Boland Bill McCarthy * opening
Program Chair:	Kwok Soohoo
Society Chairs:	
Computer:	Baback Izadi
Education:	Michael Otis - temp
Electron Devices:	Fernando Guarin
Power:	Hal Turner
WIE Affinity Group:	Rebecca Gott - temp
Student Activities Membership:	Michael Otis - temp Casimer M. DeCusatis
Awards Chair:	Lisa Shay
Newsletter Editor:	Brett Artetta
Associate Editor:	* opening
PACE Chair:	Larry Winkler
Publicity Chair:	* opening
Engineer's week:	Vic Melville
Tech Societies Liaison:	Vic Melville
Webmaster:	Larry Winkler



Mid-Hudson Section Website

<http://www.ewh.ieee.org/r1/mid-hudson/index.htm>



Mid-Hudson Section General Contact

otism@engr.newpaltz.edu (845) 257-3827

Have you signed up? MyIEEE!

In September 2005, IEEE rolled out a greatly improved interface that gives you the power to personalize; for access go to: www.ieee.org/myIEEE

Computer Society Meeting

Insight Racing and the DARPA Grand Challenge

Grayson Randall, IBM

October 4, 2006, 6:30 PM (Wednesday)
109 Resnick Engineering Hall, SUNY New Paltz



Driven by a Congressional mandate to convert one-third of the military vehicles to driverless computer-driven mode by 2015, the Department of Defense who authorizes and runs the DARPA Grand Challenge, believes the future holds great promise for autonomous vehicles to perform missions that put our men and women in uniform at risk. The \$2 million prize goes to the vehicle that completes the 175 mile desert course the fastest within a 10 hour time period.

Raleigh, NC based, Insight Racing team's Desert Rat computer driven Chevy Suburban was one of the last 3 robots on the DARPA Grand Challenge Course on October 8, 2005. A finalist in the historic Defense Advanced Research Projects Agency (DARPA) Grand Challenge Race, the Desert Rat was still running after 17 of the 23 team field had stopped mid course in the Mojave Desert course. Insight Racing earned a spot in the finals during a week long set of grueling elimination rounds held in California, from which DARPA whittled the field of 43 semi-finalists to the 23 best who ran on the Mojave Desert October 8th. The field was narrowed down to 23 participants from almost 200 entrants. The sensors on the 1987 Chevrolet Suburban permit it to drive unknown terrain, regulate its speed, and avoid obstacles just like a human driver but without any human intervention.

Grayson will talk about the team, what it took to develop the robot, and has lots of pictures and video of the qualification and race events in California.

DARPA has recently announced another Grand Challenge to take place in November 2007. Grayson will give an update on the Urban Challenge, where driverless vehicles tackle driving in city traffic.

Speaker: Grayson Randall, IBM

Grayson Randall is the team leader of Insight Racing. He is responsible for the overall system design and architecture of their Grand Challenge entry. Specific development responsibilities include vision processing and sensor data management. Grayson started the team in early 2003 in response to the initial DARPA Grand challenge. Grayson is a senior software engineer at IBM. He has 24 years experience in systems design and architecture. At IBM, he has worked on projects involved with manufacturing automation, digital video processing, set top box designs, as well as network processors for high speed network communications. He is currently involved in PowerPC processor development. Grayson's work includes 9 patents and several publications. Prior to IBM, Grayson had 5 years experience in the development of commercial and military flight simulators. Grayson holds a BS in Aerospace engineering from Parks College of St. Louis University. He is chairman of IEEE Robotics and Automation chapter for Eastern North Carolina. He also mentors a FIRST high school robotics team which won 1st place in the 2004 international FIRST competition as well as numerous other awards.

Additional Information:

- On Insight Racing: <http://www.insightracing.org>.
- Maps and direction to Resnick Engineering Hall at SUNY New Paltz: http://www.newpaltz.edu/map/loc_reh.html and <http://www.newpaltz.edu/map/>
- Questions? Please contact Baback Izadi, ECE Dept., SUNY New Paltz, (845) 257-3823, bai@engr.newpaltz.edu
- Refreshment at 6:00 PM

Power Society Workshop

Alternative Energy

Sponsored by:

The Mid-Hudson Section of the IEEE

School of Science and Engineering, State University of New York, New Paltz

When: Friday, October 27, 2006

Where: College Terrace, SUNY New Paltz campus (all campus facilities are fully accessible and comply with the Americans with Disabilities Act).

Registration Fee: \$20 per person, or free with valid student ID (includes coffee breaks and buffet lunch, plus CD ROM with presentation materials and invited papers). Advance registration payments (checks drawn on a U.S. bank only) may be made out to the CAS 8600, c/o The State University of New York, New Paltz, NY 12561. Attendees may also register at the door on the day of the workshop.

Scope and Purpose:

There has been a great deal of recent interest in energy use, management, and conservation, as well as the development of alternative energy sources. Many alternatives have been proposed, including nuclear power, biomass conversion, fuel cells, wind farming, and other approaches. Advanced techniques, such as nanotechnology, also hold the promise of increased efficiency from existing sources. Energy costs and management have begun to influence all aspects of our economy; even the design of large computer data centers is being influenced by the cooling requirements and heat dissipation from massive amounts of computer equipment. In this workshop, we will hear from a number of distinguished speakers with first-hand experience in the development of new energy sources, improved efficiency of current sources, and future energy consumption needs. A panel discussion on current trends and directions in this field will also be included.

Attendees will have the opportunity to interact with the guest speakers through informal discussion breaks throughout the day, and a question/answer session will be held at the end of the panel discussion to assess those attendees wishing to apply for continuing education units under the New York State Professional Engineers program (there are no prerequisites for this workshop). Attendees will also have the opportunity to provide written feedback on the various sessions during the day. Invited papers and other presentation materials will be made available on CD as part of the registration package.

Alternative Energy Workshop Agenda

Friday, 27 October 2006

8:00 - 9:00 On-site registration and coffee

9:00 - 9:15 Welcome (Dean John Harrington, SUNY New Paltz; Rob Atkins, Chair, Mid-Hudson Section of the IEEE)

9:15 - 9:30 Dr. Casimer DeCusatis, IBM Corporation, Introduction to the Workshop Theme

9:30 – 10:00 Frank Napoli, PE, Director of Con Edison Solutions, “Energy Trends and Solutions”

10:00 - 10:30 Elisabeth Stahl, IBM Certified IT Specialist, “Energy Consumption and Benchmarking in the Data Center”

10:30 – 10:45 coffee break

10:45 – 11:15 Professor. Pradeep Haldar, State University of New York, “Fuel Cells and the Hydrogen Economy”

11:15 – 11:45 Professors. Hassan Kalhor and Mohammad Zunoubi, State University of New York, “Efficiency Enhancement Measures in Electrical Apparatus and Systems”

12:00 - 1:00 Buffet Lunch, The Terrace Lounge

1:00 – 1:30 Paul Bode, Entergy/Indian Point Nuclear Facility, “Nuclear energy, the Nucleus of Sustainable Energy”

1:30 – 2:30 Professor. Gunner Tamm, West Point, “National Laboratory Research in Solar, Wind, Hydropower, and Geothermal Energy”

2:30 – 2:45 coffee break

2:45 - 3:45 Panel Discussion, “The Role of Technology in Alternate Energy” (all invited speakers)

3:45 – 4:00 Concluding Remarks (Dean John Harrington, SUNY New Paltz)

Continuing Education Units:

Attendees who register for this workshop are eligible for 0.7 Continuing Education Units (CEUs) under the New York State Professional Engineers License Program, for an additional fee of \$10 payable either in advance or on the day of the workshop. The IEEE is an authorized CEU provider of the International Association for Continuing Education and Training, IACET provider # 1255

For more information, please contact Dr. John Harrington, Dean of Science and Engineering, SUNY New Paltz, (845) 257-3728 (harringj@newpaltz.edu) or Dr. Casimer DeCusatis, IBM Corporation, 2455 South Road MS P343, Poughkeepsie, NY (845) 435-7232 (decusat@us.ibm.com).



Reach over 900 engineers and professionals in the Mid-Hudson Valley. Place an ad with the Editor:

<i>Business Card:</i>	<i>\$ 30.00</i>
<i>1/4 Page:</i>	<i>\$ 50.00</i>
<i>1/2 Page:</i>	<i>\$100.00</i>
<i>Full-Page:</i>	<i>\$200.00</i>

Discounts available for long-term advertising.

Are you an IEEE Senior Member?

Becoming a Senior Member is not as difficult as you might think. According to the IEEE bylaws, "a candidate shall be an engineer, scientist, educator, technical executive or originator in IEEE-designated fields. The candidate shall have been in professional practice for at least ten years and shall have shown significant performance over a period of at least five of those years." If you qualify and would like to become a senior member, contact a section officer.

More information on Senior Member Elevation:
<http://www.ieee.org/organizations/rab/md/smforms.htm>