



VIRGINIA MOUNTAIN SECTION NEWSLETTER

IEEE Region 3, Council 09, Section 65

April 2006

Thursday, April 20, Holiday Inn Hotel Roanoke Airport (former Clarion)

Students from Virginia Tech and VMI report and demonstration on the

Robot Design Competition at IEEE SoutheastCon

IEEE SoutheastCon Design Competition

A highlight of the annual IEEE SoutheastCon meeting, held this year March 31 – April 2 in Memphis, TN is the Student Hardware Design Competition that provides a challenging game of robotics skill

The Challenge

FedEx has three flights about to leave from Memphis. One will depart in 3 minutes, one in 4 minutes, and the last in 5 minutes. Twelve FedEx packages must be loaded correctly on the three planes before they depart.

Test Track

The airport ramp area is represented by a sheet of plywood. Package-sorting/loading vehicles start from its parking space (a square painted in one corner of the ramp) upon a verbal signal that begins each round of the competition. A package stacking chute consisting of a triangular FedEx mailing tube positioned vertically over one corner of the board is filled with 12 “packages.” Barcodes affixed to each of

the packages indicate the plane onto which it should be loaded. The airplanes are represented by cardboard boxes with open tops that are placed on the ramp.

Approach

An autonomous package loading robot will extract packages, one at a time, from a stack inside the package chute. As each package is removed from the bottom, the next package drops into position onto the ramp surface until all packages have been selected. The order of the packages coming from the chute is unknown to the robot for each round. The robot will read the barcode affixed to each package to determine the airplane onto which it should be loaded. Each plane has four packages assigned to it. It is left to each team’s design strategy how to optimally get the packages onto the correct airplanes. Points will be awarded for the timely and accurate loading of packages and deducted for errors or damage.

Members of the VMI and Virginia Tech teams will report on their experiences at this competition, and will demonstrate their robots in action. The IEEE Virginia Mountain Section is pleased to be a supporter of the VMI and VT teams.

Please join us on April 20 to learn of the results and experiences from Southeastcon, to support the future leaders of our profession, as well as to meet and socialize with your friends and colleagues.

Date: Thursday April 20, 2006
Social: 6:30 PM
Dinner: 7:00 PM
Talks & Demos: 8:00 PM

Cost: Members & Guests \$15.00
Students \$ 8.00

Reserve by 5 PM Monday April 17

Dr. James Squire (540) 464-7548

<mailto:squirejc@vmi.edu>

Please specify number of attendees.

**Directions to
Clarion Hotel Roanoke Airport
(formerly the Clarion)**

2727 Ferndale Drive NW
I581 Exit 3 Hershberger Rd West
1st Rt. onto Ordway Drive,
¼ mile, Rt. Into Parking Lot.

Future Events

Virginia Nano-Computing Workshop

Co-sponsored by the IEEE VMS Computer Chapter, to be held on Wednesday, May 10 at Virginia Tech. See <http://fermat.ece.vt.edu/va-nano> for more information.

IEEE VMS May Meeting

Family Day at the Science Museum of Western Virginia

One Market Square, Roanoke, VA
Saturday, May 20, 2006
10 AM to 2:30 PM

Group rate of \$11 per adult, \$9 for children under 12, includes:
Self-guided tour of exhibits all day,
AND Planetarium show "Visions of a Spring Night" at 11 AM, OR Megadome theater "Volcanoes of the Deep Sea" at 1 PM. See the Museum web site for more details: www.smwv.org

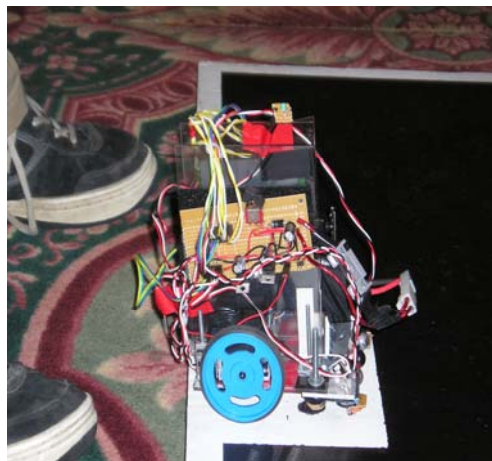
Parking is free at the adjacent garage. Plan on lunch at the Market Building. Visit the Farmer's Market!

Links to Student Chapter Websites

VMI <http://ieee-vmi.org>

VT <http://www.ieee.vt.edu>

Robot Photo from VMS April 2005 Meeting



IEEE-USA Questions Need to Expand H-1B Program when Proposals to Increase Permanent Admissions are Better for U.S. High-Tech Workforce

WASHINGTON (20 March 2006) -- Despite numerous government reports pointing out major flaws and weaknesses of the H-1B visa program, Congress is considering increasing the annual H-1B visa cap by at least 50,000 without strengthening safeguards to protect foreign and domestic technology workers.

The reports reveal "significant weaknesses in the H-1B program that must be corrected to ensure that U.S. workers are not adversely affected and H-1B workers are not exploited," IEEE-USA President Ralph W. Wyndrum Jr. said in a 15 March letter to the Senate Judiciary Committee. "As the administration concluded last year, the program has major flaws that leave it vulnerable to fraud and abuse."

Wyndrum also questioned why Congress is considering increasing the H-1B visa cap from 65,000 to 115,000, and including an automatic escalator mechanism for future years, when current legislative provisions would expand permanent admissions of skilled foreign professionals. Among the proposals is a new student visa (F-4) that leads to a green card for foreign nationals pursuing advanced degrees in science, technology, engineering and mathematics at U.S. colleges. Another proposal would expand employment-based immigrant admissions visas from 140,000 to 290,000; exclude immediate family members from the limit; recapture unused immigrant visas from prior years and exempt advanced-degree professionals from the cap.

IEEE-USA believes the permanent immigration of skilled scientists and engineers is better for our country's capacity to innovate and meet high-tech workforce demands than another expansion of the badly broken temporary H-1B guest worker program.

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