

College of Engineering Career Center

CORPORATE CONNECTION



University of
Massachusetts
Amherst

University of Massachusetts Amherst

FALL 2009

Three COE Seniors Named 21st Century Leaders

Three College of Engineering students were among the 13 seniors who were presented with 21st Century Leaders awards during the 139th Commencement in May at the McGuirk Alumni Stadium. The three were: Laurene Dykiel, a chemical engineering major; Robert House, a

civil engineering major; and Ivan A. Bercovich, an electrical engineering and mathematics major. The awards recog-



Ivan Bercovich

nized students who are academically accomplished and who have contributed to the university through exceptional achievement or have enhanced the reputation of the campus.

Dykiel graduated with a near-perfect GPA. She performed research on the use of nanoparticles for cancer treatment during a Research Experience for Undergraduates program at the University of Puerto Rico. She did a Commonwealth Honors College thesis on the modeling of reactive separation processes for the chemical

industry. She also worked as an Engineering Career Center Student Advisor. She has taken a position with ExxonMobile in Fairfax, Virginia where she interned last summer.

House was chosen as the student speaker for the College of Engineering commencement ceremonies. He is the past president for the UMass Amherst chapter of the American Society of Civil Engineers. He is also an active member of the Alumni Association's Senior Campaign Committee. He was an intern at Thompson-Liston Associates of Boylston, Massachusetts, and recently took a permanent position with the Geotechnical Group of GZA GeoEnvironmental in Norwood, Massachusetts.

Bercovich was the leader of a team of students that designed and built a "Personal Head-Up Display," or HUD, that effectively works as an OnStar navigation system for pedestrians. The HUD won first place in the Senior Design Competition run by the Electrical and Computer Engineering Department. He has also done research on a system to beat

Upcoming Events

September 30

Engineering Career Fair
10:00 a.m.-3:00 p.m.

University Campus Center

To Register: go to www.experience.com/emp/cf_reg_company

October 14

Coffee and Careers with CDM
114 Marston Hall

October 15

Civil Engineering Career Fair
Gunnness Student Center in Marcus Hall

To Register: call Jodi Ozdarski at 413-545-0686

November 18

Coffee and Careers
2:00-5:00 p.m.

114 Marston Hall

Call Cheryl Brooks at 413-545-2386 if you would like to participate in this or future "Coffee and Career" Events

For more information visit our website at: www.ecs.umass.edu and click on "Services & Programs" where you will find the Career & Student Development Center.

the stock market by using the electrical engineering principles of "signal processing" as a guide. He has accepted a position at Cisco.

QD Tech Wins Innovation Challenge

On May 5, QD Tech won the \$35,000 top prize in the University of Massachusetts Amherst Innovation Challenge Final Business Plan Competition. The winning team plans to produce quantum-dot-based materials designed to improve solar cells.



QD Tech Team

QD Tech aims to bridge the gap between current and next-generation solar cells by increasing the efficiency of the current technology, while at the same time keeping production costs near their current levels. By employing a quantum-dot-based optical coating, QD Tech intends to increase the efficiency of both silicon

and thin-film cells. The team consists of MBA student Mike Deschamps, chemistry doctoral student Kevin Early, and chemical engineering doctoral student Tracy Heckler. Teams were advised by Dr. Kwong Chan, Isenberg School of Management, and Professor Lakis Mountziaris, Department of Chemical Engineering

The \$25,000 second-place prize went to Bug Power, a biotech company planning to produce a talented strain of bacteria that can simultaneously clean up waste, eliminate odor, and generate electricity in portable toilets.

“Our first product is the eToilet - an eco-friendly electricity-generating toilet that uses waste to power fans, lights, and sensors that make portable toilets cleaner, brighter, and odorless,” as the team said. “We are confident that the eToilet will be a breath of fresh air for the \$1 billion portable toilet rental industry.”

The members on the second-place Bug Power team are physics doctoral candidate Nikhil Malvankar,

operations management doctoral candidate Xuan Huang, electrical engineering undergraduate Danxiang Li, and hospitality and tourism graduate student Apurv Mathur.

Since 2005, the Innovation Challenge has awarded more than \$270,000 in prize money to 20 different student-led teams. The goal is for each interdisciplinary team to conceptualize a product with regard to its scientific and technological design and create a business plan for the product’s commercialization.

Besides Platinum Sponsors Wolf, Greenfield & Sacks and Saint-Gobain, other sponsors of the ‘08/‘09 Innovation Challenge were: Forge Partners; Cooley Godward Kronish LLP; Joseph Bohan; Scott Perry ‘82; Raytheon; VISTAGY; Stephen Dunne ‘89; Stephen Collins ‘81; Bart Stuck & Mary-Jane Cross ‘66; Michael Tunstall ‘82; Karen Lauter Utgoff Consulting. In addition to the sponsors, support is provided by Eugene and Ronnie Isenberg.

SMV Team Hits 817 Miles Per Gallon

The UMass Amherst Supermileage Vehicle Team successfully fielded two vehicles this year at the annual



UMass Amherst Supermileage Vehicle Team

Society of Automotive Engineers Supermileage Vehicle competition, held at the Eaton Corporation Proving Grounds in Marshall, Michigan, on June 4th and 5th.

“Our ‘old reliable’ car, the Homewrecker, finished tenth with a strong showing of 817 MPG,” reports the team’s faculty advisor, Professor David Schmidt of the Mechanical and Industrial Engineering Department. “Though we have achieved higher mileage as a team, this was a peak for this particular car. It will now be retired.”

College ASCE Chapter Hosts Concrete Canoe Races on April 18

This past spring, the campus chapter of the American Society of Civil Engineers (ASCE) hosted the regional semifinal of the National Concrete Canoe Competition, for which students designed and built fast, floatable canoes of concrete to paddle in endurance and sprint races. During the competition, five races were held, including men’s and women’s 600-meter endurance; men’s and women’s 200-meter sprints, and a coed sprint.



Meghan Krupka, Kimberly Rudy, Robert House and William Goulet prepare to launch the canoe

In order to prepare for the races, students learned and applied practical engineering principles, teamwork, and effective project management skills. Teams were judged on a combination of design, oral presentation, canoe construction and durability, and race performance. More than 200 students competed from 11 schools in the Northeast United States and Canada. Scholarships totaling \$9,000 were awarded to the winners' undergraduate civil engineering programs.

ECE Seniors Design Life-saving Devices

On May 1, visitors to the College of Engineering saw a variety of visionary, topical, and potentially life-saving senior projects demonstrated by talented students from the Electrical and

Computer Engineering Department (ECE). These projects included devices designed to help find and rescue firefighters in distress, allow teleconferencing between ambulances and emergency room doctors, and enable cars to communicate automatically with each other and avoid collisions. The occasion was the 19th annual ECE Senior Design Project Day, with inventions on display at the Guinness Engineering Student Center in Marcus Hall.

Inventions don't get much more significant than the electronic system being developed by ECE students for "Rescuing Firefighters in Distress." It's a system in which the incident commander can track and monitor each firefighter's path throughout a building and will allow for assisted guidance or recovery of an injured firefighter.

Another potential life-saver is the "Medical Emergency Communication Assistant," or MECA, an emergency ambulance communication system. The goal of MECA is to provide emergency-room-to-ambulance teleconferencing, thus allowing doctors to see and hear the emergency personnel and patients in real time and provide assistance.

Corporate Partnerships

Eight College of Engineering students and six companies are participating in the High Technology Scholar/Intern Tuition Waiver Program this summer, to the mutual benefit of all. The program packages a company scholarship and internship with a full waiver by UMass Amherst of the scholarship student's annual tuition charges. The compa-

ny makes a minimum \$1,865 contribution to the College of Engineering to fund a named undergraduate scholarship.

After the student intern works at the participating company (earning a competitive hourly wage), then the next two semesters following the internship he/she receives a full tuition waiver from the Commonwealth (\$857 per semester), in addition to the company's scholarship.



Matthew Coggan and Corey Chalmers intern for Babcock Power Summer 2009

The current participating companies and their High Tech Scholars are: Millitech, Justin Ayvazian; City Lights, Alan Levin and Yi Lin; New England Wire Products, Ryan Hobson and Thomas Blankenship; ISO New England, Eric Every; Shaw Group, Avidor Turkewitz, and Babcock Power, Corey Chalmers

Chemical Car Competition

This past spring, Chemical Engineering students at UMass Amherst formed a team to design and develop a hydrogen fuel cell car, powered by hydrogen produced in a chemical reaction. They entered the car in the March 2009 AICHE Regional competition and qualified for the National Competition in November. The team is looking for industry support for the





College of Engineering 111810
114 Marston Hall
130 Natural Resources Rd.
University of Massachusetts Amherst
Amherst, MA 01003

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development of the car and to help cover travel expenses to the AICHE National Competition. If you would like to support this effort, please contact Heather Demers, Associate Director of Stewardship, at 413-577-0231, demers@ecs.umass.

Letter from the Director

There is no doubt that the economic downturn of this past year has been difficult for many families as well as businesses and institutions. According to the National Association of Colleges and Employers less than 20% of graduating seniors who were looking for a job found employment nationwide. However, even in tough economic times, companies are interested in hiring technically strong, innovative and hard-working students like those at UMass Amherst. We are grateful for our strong

industry partners and look forward to continuing to build long-term, mutually beneficial relationships in the future.

If your company has engineering hiring needs: whether immediate or in planning for the future, please contact Cheryl Brooks at 413-545-2386 or at brooks@ecs.umass.edu.

