

Freescale Cup Race coming to University Park

Penn State is hosting the first eastern regional Freescale Cup Race on the University Park campus on April 21. In conjunction with a section of the senior design class, six teams of Penn State electrical engineering students will be participating. Other participating teams are coming from Pennsylvania College of Technology, Lehigh University, Clarkson University, and California University of Pennsylvania. The Freescale Cup is a global competition where student teams build, program, and race a model car around a track for speed. The fastest car to complete the track without derailing, wins.



Arthur H. Waynick Memorial Lecture

Anousheh Ansari is the speaker for the Waynick memorial lecture.

“Space Commercialization and Its Future”

Thursday, April 12, 8 p.m.

22 Deike Building
University Park, PA

Free and open to the public

Parking available at lot adjacent to the IST Building



Anousheh Ansari is co-founder, chairman, and CEO of Prodea Systems, providing innovative technology in many aspects of daily life.

Along with her brother-in-law, Ansari made a multi-million dollar contribution to the X PRIZE Foundation in May 2004, the 43rd anniversary of Alan Shepard's sub-orbital spaceflight. The X PRIZE was officially renamed the Ansari X PRIZE in honor of their donation. The Ansari family's investment firm, Space Adventures, and the federal Space Agency of the Russian Federation have formed a partnership to create a fleet of suborbital spaceflight vehicles for global commercial use.

Ansari was born in Mashhad, Iran, and immigrated to the U.S. with her parents as a teenager. On Sep. 18, 2006, she became the first Iranian in space, lifting off on the Soyuz TMA-9 mission from Baikonur, Kazakhstan. She became the fourth self-funded space tourist and the first self-funded woman to fly to the International Space Station. Ansari does not consider herself a “space tourist,” preferring the title of “spaceflight participant.” During her eight-day stay on board the International Space Station, Ansari performed a series of experiments on

behalf of the European Space Agency including:

- Mechanisms behind anemia;
- How muscle changes influence lower back pain; and
- Consequences of space radiation on ISS crew members and microbes at home on the space station.

She received her B.S. degree in electronics and computer engineering at George Mason University, Fairfax, VA; a master's degree in electrical engineering at George Washington University, Washington, DC; and is currently pursuing a master's in astronomy.

The Waynick Lecture is sponsored by the Communications and Space Sciences Laboratory in the Department of Electrical Engineering. Co-sponsors this year include: Gaelen Entrepreneurial Speaker Series, Penn State student IEEE chapter, Iranian Student Association, and Penn State Lunar Lion Team.

Waynick profoundly influenced the course of radio science and atmospheric research, both in the United States and abroad. His interest in these fields was established during a period of study at the Cavendish Laboratory from 1937–39. He returned to the United States in 1939, worked in the Harvard University Underwater Sound Laboratory, then transferred to Penn State in 1947. Here he joined the Department of Electrical Engineering and served as head and as the first departmental Robert A. Noll Professor until his retirement in 1971.

In 1949, he founded the Ionosphere Research Laboratory at Penn State, served as its director until his retirement, and continued an active participation until his death. Of particular note was his policy of bringing together a group of outstanding international scientists as resident consultants to the laboratory, a program that proved immensely productive in engaging both staff and students in cooperative research activities in important new fields of study.

He was an IEEE fellow and a member of the National Academy of Engineering.

Student Spotlight

Steven DeVore, electrical engineering senior, had an inside track into electrical engineering. Originally from Waterford, PA, DeVore's father is an electrical engineer and they worked on many projects together. At Penn State, DeVore had a hard time choosing between electrical engineering and aerospace engineering. He finally chose electrical engineering because of the flexibility of the program. DeVore explains, "There are so many paths you can choose for your specialization. It really gives you the opportunity to find the best area for your career."



DeVore's interest in aerospace led him to become a member of Student Space Programs Laboratory (SSPL) whose lab is located in Electrical Engineering East Building. SSPL brings together undergraduate and graduate students from all majors and provides them with the opportunity for hands-on space system experience. The students use systems engineering to apply classroom knowledge to a real, interdisciplinary project. For two years, DeVore was the systems engineer and then the project manager for the CanSat project. The project served as a mentorship program for the younger students and really enforced the importance of the system engineering principles in an applied design. The students worked through the end-to-end project lifecycle for a small rocket payload to serve as a deployable, autonomous sensor node. Currently, DeVore is the communications engineer for the OSIRIS Satellite project. He redesigned the UHF communication system on a more flexible platform for double the system performance while using 50 percent less volume and power.

During his tenure at Penn State, DeVore has had the opportunity to participate in three summer internships. While working for



From left, DeVore and two of his senior design team members, David Zhang and Josh Miller. Other members include Greg Brulo, Siwei Feng, and Ivan Staley.

NASA during an internship at Wallops Flight Facility, DeVore was able to watch his project fly on a sounding rocket. He worked on the first onboard video system to provide 360° footage studying the performance of the propulsion system as well as repairing a faulty measurement circuit design in-time for relevant data collection during the flight. His work at TE Connectivity Aerospace Defense and Marine during the summer of 2011 made the biggest impact on DeVore. The company provided him the freedom and tools to go beyond his assigned duties to explore new designs. He was able to file a preliminary invention disclosure for his summers work on a RF connector concept. DeVore comments, "I would highly recommend employment with TE to any aspiring engineer as you are encouraged to push the boundaries in any area and are rewarded for your efforts in an internal technical conference each year."

For his senior design project, DeVore is working on a project sponsored by MIT Lincoln Labs. Based on the success of the communications board he designed in SSPL, DeVore and his team are adapting the satellite communication system for an unmanned aerial system. DeVore explains, "The idea is to provide a communication link for first responders when conventional networks go down in a disaster or remote areas. MIT LL has been working on the Next-Generation Incident Command System and wanted this off the grid capability."

DeVore is president of the Penn State chapter of Eta Kappa Nu and was awarded the James M. Barnak Outstanding Junior Award. Following graduation this spring, DeVore is going to work for DRS Signal Solutions in Gaithersburg, MD, as an engineer with the product development team designing RF and analog circuits and systems.



Student Group Places 3rd

The student chapter of IEEE placed 3rd in the Rube Goldberg Machine competition on Feb. 11. Led by team captain, EE senior **Erik Bergstrom**, and team co-captain, EE junior **Grant Vandeb-rake**, and sponsored by Nucor Steel, the team put in about 150 man hours into the building of the project.

Other team members included:

Michael Rybar (Junior EE)

Dan Lafey (Junior EE)

Jared Mihaly (Senior EE)

William Roll (Senior CE)

Savannah Messenger (Freshmen ME)

Ilana Khalifa (Senior EE)

John Sonnelitter (Senior EE)

Bhavya Shah (Junior EE)

Held annually, the Rube Goldberg Machine Contest challenges students to use innovative ideas and problem-solving skills to design a machine that accomplishes an otherwise trivial task. This year's challenge was to design and build a machine that inflates and pops a balloon in 20 or more steps.



Early Career Recognition Alumni Award

The Society of Penn State Electrical Engineers and the Department of Electrical Engineering is looking for nominations for the Early Career Recognition Alumni Award. This award honors outstanding Penn State electrical engineering alumni at the outset of their career. Nominations are due by May 15 and can be made by anyone with knowledge of the career progression and accomplishments of the nominee.

The nomination form as well as award criteria are available on our website here and in the electrical engineering office. The information can be mailed or faxed upon request.

Please contact Cathy McClellan, cls118@psu.edu or 814-863-0253 with any questions. We look forward to hearing all the wonderful things that our alumni have accomplished.

Past award winners include **Brandon Ritrovato** and **Paul Mit-tan** both from Lockheed Martin.

Parsons Graduation Reception

April 27

Noon

101 Electrical Engineering East

Penn State campus

Please join us for lunch as we congratulate our graduating class and welcome them as alumni.

Please RSVP on our website here.

PARSONS

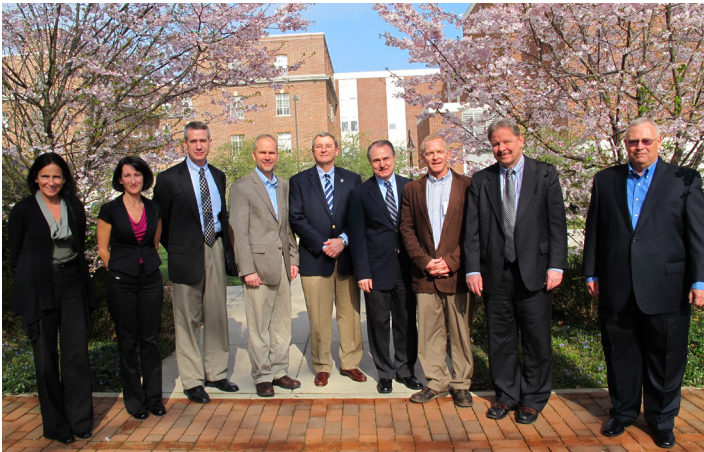
Thank you to Parsons for sponsoring this event.

Annual IPAC Meeting

The annual meeting of the Industrial and Professional Advisory Committee was held in March.

The Industrial and Professional Advisory Council (IPAC) is a select group of alumni from industry, government agencies, and academia who advise the department on academic issues and on current trends and future directions in engineering. The council meets regularly with electrical engineering faculty and students to receive an update on the department, undergraduate and graduate programs, and research activities.

Members are pictured below from left, **Leslie Melaragno**, Rockwell Automation; **Stephanie de Garay**, Rockwell Automation; **Forest Hunsberger**, MIT Lincoln Labs; **Doug Schultz**, Oberon; **William Wannisky**, Fitzpatrick, Cella, Harper, and Scinto; **Kultegin Aydin**, interim department head; **Scott Thompson**, Oberon Inc.; **John Golombeck**, Northrop Grumman; and **Ed Singel**, retired. Not pictured are **John Clark**, Northrop Grumman; **Tom Roell**, Parsons; and **Joe Trench**, Lockheed Martin.



Research Award



Congratulations to **Suman Datta** for being awarded the Penn State Engineering Alumni Society Outstanding Research Award. The award recognizes and rewards outstanding engineering researchers for accomplishments in advancing the frontiers of knowledge. These research awards are established to confer honor on individuals who, by their contributions to knowledge, have brought recognition to themselves, the

College and Penn State.

Congratulations to **MaryAnn Henderson**, administrative support assistant, as she marks her 10th year of service at Penn State.



Outstanding Engineering Alumnus



Thomas Roell (BSEE) is the recipient of the 2012 Outstanding Engineering Alumni Award sponsored by the College of Engineering. The award, which recognizes and rewards outstanding alumni for their success as leaders in their field, is the highest honor bestowed by the College.

Roell is the group executive for operations and risk for Parsons Corporation. He is a member of the Office of the CEO, responsible for projects, systems, and risk worldwide. Prior to this appointment, Roell was president of the Parsons Infrastructure and Technology Group (PI&T) global business unit. Before that, he was senior vice president and manager of operations of PI&T and manager of Parsons Constructors and Fabricators. Roell has 40 years of experience in corporate management, project management, and business management. He is located at Parsons Corporate Headquarters in Pasadena, CA.

He began his career as an engineer for nuclear plants and large industrial plants in the basic steel, aluminum, chemical, cement, and other industries. Roell went on to work for Westinghouse Electric Corporation in Pittsburgh, PA, where he coordinated reactor vendor licensing for commercial nuclear projects.

Roell then moved to Fluor Corporation, where he was president of Fluor Federal Services and responsible for its federal government business. During his 28-year tenure at the firm, Roell also held senior executive positions in the government, environmental and telecommunications businesses; power generation group; power services group; and the transmission, substation, and distribution businesses, which serve electric utilities.

Roell and his family reside in Sierra Madre, CA.

Contact Information:

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Please submit news items to: Cathy McClellan at cls118@psu.edu

This publication is available in alternative media on request.

Penn State is committed to the affirmative action, equal opportunity, and the diversity of its workforce.

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