

UA Department of Electrical and Computer Engineering Celebrates a Century of Excellence

By Pete Brown - September 28, 2010, 2:42 pm



The UA Department of Electrical and Computer Engineering is 100 years old in 2010, and to celebrate its first century, ECE has organized an exciting program of events to highlight how engineering affects every aspect of our lives.

Events include a gala evening to raise funds for student scholarships, a public lecture series, a book launch, and an exhibition on the UA Mall of planetary exploration rovers designed by an ECE professor.



Several of Professor Wolfgang Fink's planetary rovers will maneuver in formation on the UA Mall Oct. 4. A boat will also be on display.

The gala evening takes place Oct. 22 at the JW Marriott Starr Pass from 5 p.m. to 8 p.m. The gala will honor alumni achievements, recount the department's history, and present the experiences of ECE's brightest stars of the past, present, and future. Sponsorship of the gala will fund scholarships for ECE students.

UA President Robert Shelton echoed the ECE centennial theme by saying: "All of modern life is shaped by the circuits, signals and microsystems that form the core work of the UA's dynamic Department of Electrical and Computer Engineering."

President Shelton lauded the department's past and potential future: "This department has brought distinction to the UA since 1910 and will lead the way in its next century with horizons stretching from astronomy, optics, neuroscience and medicine to theater arts and entertainment," he said.

President Shelton also commented on how ECE has thrived during economic straits: "In hard fiscal times," he said, "ECE has become an inspiring model of self-reliance in finding external funding and new ways to collaborate across the campus in pursuit of excellence. I join the UA community and the state of Arizona in saluting this outstanding unit."

Support for the Centennial Gala Event comes from Fluor Corporation, ephibian, and Raytheon Missile Systems, among other organizations.

RSVP for the ECE Centennial Gala Evening here: www.UAecealumnievents.com

Free Public Lecture Series

ECE has organized a lecture series featuring a noted inventor looking to the future of energy and climate, an entertainment guru who will reveal secrets of Cirque du Soleil's spectacular shows, and a pioneer in social networks who will envision future virtual communities.

The first speaker in the Centennial Lecture Series is Saul Griffith, an inventor, entrepreneur and MacArthur "Genius Grant Fellow" who recently appeared on the Colbert Report and in *The New Yorker*. Griffith leads the movement to explain simply and illuminate the technical and practical energy needs of the planet. Griffith's talk, "The Century for Engineers: Climate, Energy, and Other Grand Challenges," is on Tuesday, Oct. 5, at 6 p.m. in the Student Union's Gallagher Theater.

Saul Griffith on Kite Power

The second speaker is J.T. Tomlinson, technical manager for automation at Cirque du Soleil. Students who complete the "advanced motion control" course in ECE are often snapped up by Cirque du Soleil and similar production companies because of their unique engineering knowledge in the field of theatre arts, which will be the focus of Tomlinson's lecture, "Engineering Applications in Live Entertainment," on Friday, Oct. 15, at 4:30 p.m. in the Student Union South Ballroom.

The final speaker of the series is ECE alumnus Raymond Oglethorpe, former president of America Online. His talk, "ECE's Second Century: The More Things Change," takes place on Thursday, Oct. 21, at 6 p.m. in the Student Union South Ballroom.

Lecture series poster: http://www.ece.arizona.edu/docs/ece_dls.pdf

Mission to the Mall

Since leading the Phoenix Mars Mission, the UA has become known worldwide for its space exploration work. UA's extraterrestrial ambitions continue apace and one of UA's leading researchers in this area is Wolfgang Fink, associate professor of electrical and computer engineering and biomedical engineering.

Fink holds the Edward and Maria Keonjian Endowed Chair in the College of Engineering, and directs the Visual and Autonomous Exploration Systems Research Laboratory. He also has a joint appointment in the UA Department of Ophthalmology and Vision Science.



Wolfgang Fink has received the NASA Board Award and R&D Magazine's 100 Award and Editors' Choice award.

Fink is currently researching autonomous planetary exploration by satellites, airships, and land and sea rovers. On Monday, Oct. 4, from 9 a.m. to noon on Alumni Plaza next to the UA Mall, Fink and his students will demonstrate his latest generation of planetary rovers. Expect to see as many as five planetary rovers moving in formation and performing choreographed stunts right in front of the Administration Building. A boat will also be on display. Special choreographed demonstrations will take place at 9:45 a.m., 10:45 a.m. and 11:45 a.m.

Wolfgang Fink story: <http://www.engr.arizona.edu/news/story.php?id=178>

ECE: The First Hundred Years

Part of the ECE centennial celebration is the publication of a book covering the history of the department in a collage of little known facts, curious stories, and major historical achievements. The book will be published a few days before the ECE gala evening.

Jerzy W. Rozenblit, University Distinguished Professor and ECE department head, is justifiably proud of his department's history. "As we celebrate our centennial, the electrical and computer engineering department will showcase its rich history and outstanding contributions to the profession and community," Rozenblit said. "We are known for our signature research, our spirit of innovation and discovery, our national and regional outreach, and the superb career accomplishments of our graduates."

One of the West's first electrical engineering programs, along with Stanford and a few others, began at the UA in 1910, about 30 years after Edison's incandescent light bulb. As early as 1893, UA students were specializing in electrical engineering, even before the advent of air conditioning, amplifiers and electric refrigerators. The first UA student with that specialty graduated in 1898. The first electric streetcars ran in

Tucson in 1906. The first UA full-time faculty member was appointed in 1918.

Personal computers started to become mainstream in the 1980s and for a quarter century there was a UA Computer Engineering degree, but today it's an all-in-one bachelor's degree. Now students earn a Bachelor of Science in Electrical and Computer Engineering and many go on to industry, government and academic research where they will blaze new trails during the department's next 100 years.

ECE Research Frontiers

Researchers on the ECE faculty are inventing robots to conduct noninvasive microsurgery, tools for cybersecurity, and devices to look for signs of life in outer space, and teaching those skills to the next generation of Wildcats. Some other research examples are:

Robotic Cars: Jonathan Sprinkle, ECE assistant professor and former T-33 jet trainer test pilot, and his students are developing smart cars that drive themselves. Much of his research involves computer simulations in Sprinkle's lab, saving thousands of hours and dollars that would be spent on early field-testing.

Cancer Detection: Helping detect cancer earlier and thus increase survival rates is one outcome of work by Professor Jennifer Barton, who has joint appointments in ECE and the Department of Biomedical Engineering, and is assistant director of BIO5. She is using a noninvasive technique that lets a beam of near-infrared light bounce off tissue, creating an image of cells below the surface.

Better Cell Phones: Extending cell phone battery life is an outcome of research on low-power warp processing by Roman Lysecky, an ECE assistant professor. His work on power conservation can lead to customizable computer chips that can be programmed after manufacture.

Resources for the press:

Details of centennial events:

www.ece.arizona.edu/centennial.php

Centennial lecture series:

www.ece.arizona.edu/centdls.php

ECE website:

<http://ece.arizona.edu>

Media advisory for *Mission to the Mall*

[mall_mission_advisory.pdf](#)