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# Making Waves

University of Dayton

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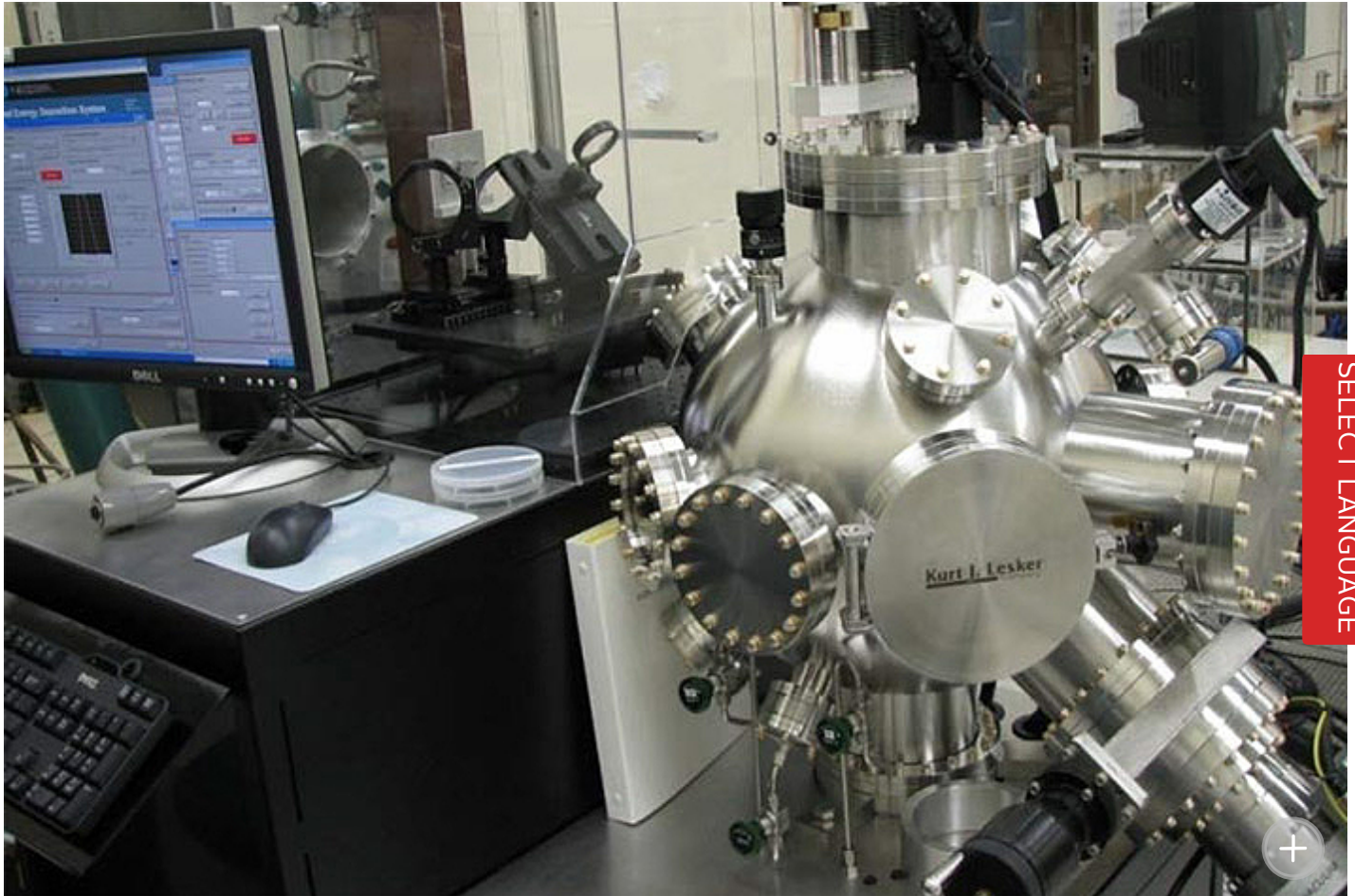
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# NEWS



*Tuesday April 21, 2015*

## Making Waves

The University of Dayton electrical and computer engineering department has been making waves with initiatives to improve student learning outcomes.

With the help of a \$150,000 gift from GE Aviation, the University will begin a national search for a faculty member to work with GE Aviation's Electrical Power Integrated Systems Center to develop a curriculum and research opportunities in electrical power systems. GE and the University also expect

the professor to develop and lead an aviation electrical power systems consortium of academic, industry and government partners that would also increase internship and job placement opportunities for students.

"We are looking for someone to help establish the University of Dayton as a leader in teaching and research of electrical power systems and continue to provide a world-class engineering education for our students," said Guru Subramanyam, electrical and computer engineering department chair.

The University and GE Aviation opened the \$53 million EPISCenter in Dec. 2013 to stimulate economic growth in the region and expand research with the University of Dayton.

In addition to GE Aviation's gift, the department received a Keysight Technologies vector signal generator and analyzer worth nearly \$200,000 for its Mumma Radar Laboratory. The system can create any type of wave, including AM, FM, cellular communication and other digital signals.

"The lab is a playground for wireless communications and radar measurements," Subramanyam said.

The lab opened last year with \$1.5 million in funding from the Ohio Third Frontier Ohio Research Scholars Program to work on improving radar for medical imaging, manufacturing and environmental uses.

"Our new Keysight equipment allow students to receive industry-ready RF (radio frequency) engineer certification and be industry ready for wireless, sensor and automotive companies," he said. "There's great demand for RF/wireless engineers."

Some of those students may land jobs when the Institute of Electrical and Electronics Engineers National Aerospace & Electronics Conference and Ohio Innovation Summit come to the University of Dayton Research Institute June 15-19.

The conference, held at the University for the second straight year, is a forum for researchers, practitioners and students interested in advanced aerospace sensors, power, control systems, radar and imaging fusion, and advanced materials, among others. The Ohio Innovation Summit will discuss emerging technologies and market opportunities vital for future sensor development. Organizers hope government, industry and academia interaction accelerates research and development and regional economic growth. Visit the related links for more information on both the conference and summit.

June isn't the only time the department will gather industry leaders to discuss the latest happenings in the field. The department's Center of Excellence in Thin-Film Research and Surface Engineering (CETRASE) will host its first international workshop — in conjunction with the Society for Photo

Instrumentation Engineers (SPIE) — July 4-6 at the University of Dayton China Institute. More information can be found through the related link.

The 10 CETRASE researchers — with a combined 15 patents and more than 600 contributions to publications — will join scholars from at least 11 nations to discuss the use of thin films in energy systems such as fuel and solar cells and batteries, electronics, optics, communication and sensor devices. These systems are found in medical devices and advanced medical imaging, cell phones and communications, among others.

"Our researchers gaining knowledge from and making connections with scholars around the world will provide tremendous opportunities for our students," Subramanyam said. "If a student wants to continue his or her studies, research or work in Asia or Europe, there's a chance we have a connection there."

The University of Dayton department of electrical and computer engineering set new records for enrollment this year, serving more than 300 undergraduate and 250 graduate students.

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