

ECE Weekly

The Ohio State University | Department of Electrical & Computer Engineering

CubeRRT: Ohio State's first satellite launch successful



Video: Watch a clip of the CubeRRT team explaining the technology of the satellite and how the collected data could help the future of Earth science.

Link: <http://go.osu.edu/cuberrtvid>

Named after "Q*bert," one of the most popular video arcade games of the 1980s, Ohio State's first satellite, dubbed CubeRRT, could be vital for future Earth science missions. The technology on board is designed to solve a major problem for researchers by breaking through noisy radio transmissions interfering with efforts to detect from space what's happening on Earth. Project leader and ECE professor **Joel Johnson** explained how Earth emits natural microwave frequencies, which scientists study with sensors called radiometers. The data from these sensors helps determine soil moisture, sea temperature, sea ice coverage, weather, and much more. The team has high hopes for this new radiometer technology. Read more about CubeRRT on ABC6, the Columbus Dispatch, or the ECE website:

<http://go.osu.edu/cuberrt6>

<http://go.osu.edu/cuberrtstory>

<http://go.osu.edu/dispatch-c>

Sahin wins IEEE AP-S Doctoral Research Grant



A graduate student won an IEEE Antennas and Propagation Society Doctoral Research Grant to continue her exploration into electromagnetics and next-generation wireless communications.

Seckin Sahin focuses on the areas of micro-fabrication, ultra wideband low-profile phased arrays for mobile applications, mmW antenna measurement techniques, THz spectroscopy systems for material characterization and more. Read more about her research:

<http://go.osu.edu/sahinIEEE>

Kiourti wins URSI Young Scientist Award



For her groundbreaking work in implantable and wearable electromagnetic technologies, **Asimina Kiourti** received the coveted International Union of Radio Science (URSI) Young Scientist Award at the 2018 Atlantic Radio Science Meeting.

Kiourti leads the Wearable Implantable Technologies group (WIT) at ESL. WIT conducts interdisciplinary research at the intersection of electromagnetics, antennas, sensors and medicine. Read more about her research:

<http://go.osu.edu/ursi-ak>

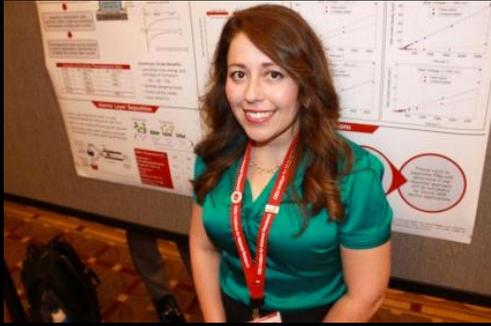
Video: Liang Guo delves into NSF CAREER Award work

After reading about Asst. Professor **Liang Guo's** recent win of the NSF CAREER award to boost biocircuit engineering in the previous *ECE Weekly*, watch him sum up his research and impressive accomplishment in this interview:

<http://go.osu.edu/liangcareer-vid>



Specht wins DAGSI fellowship in aerospace tech



An Ohio State graduate student won a fellowship for her plans to support the Air Force Research Laboratory (AFRL) and pursue a career in aerospace technologies after earning her Ph.D. Student **Teresa Specht** is part of the KIND Laboratory group working under

ECE professor and George R. Smith Chair **Sanjay Krishna**. She won the AFRL/Dayton Area Graduate Studies Institute (DAGSI) Ohio Student-Faculty Research Fellowship program, which supports graduate science and engineering students and faculty conducting research in areas essential to AFRL research at Wright Patterson Air Force Base.

Read more:
<http://go.osu.edu/spechtdagsi>

AEP Ohio aids in Ohio State cyber security research



American Electric Power offered a gift of support to The Ohio State University toward its research protecting power grids from cyber-attacks.

On May 17, the Ohio branch of the utility company gifted \$250,000 to **Dr. JK Wang**, assistant professor of ECE, in support of her power grid cyber security research.

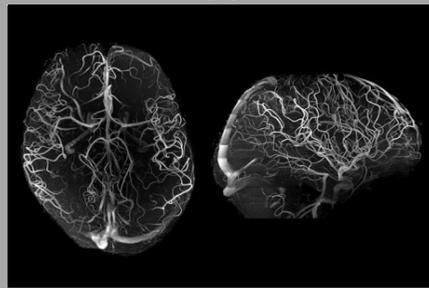
The Electric Power Grid Research Group that Wang leads at Ohio State systematically investigates cyber, physical and economic issues relevant to the grid-level integration of energy and power delivery. In particular, its research focuses on electric power distribution networks, which are the last stage in delivering electricity to consumers, to make power supply more reliable, cyber-secure, energy efficient and environment friendly.

Read more about AEP and the research funding gift:
<http://go.osu.edu/jkwang-aep>

Alumnus explores next-generation “Tic-Tac-Toe” MRI technology

An ECE alumnus is making waves in next-generation research in neurological diseases.

Tamer Ibrahim, associate professor of bioengineering in the University of Pittsburgh’s Swanson School of Engineering, runs the Radiofrequency (RF) Research Facility and conducts experimental and human studies with one of only five dozen 7T magnetic resonance imager (IMR) machines in the world. It’s a powerful imaging tool allowing researchers to gain a far better understanding of brain structure and function. Over the past two years, in collaboration with Pitt’s



departments of Psychiatry and Epidemiology, Ibrahim’s lab received close to \$5 million from multiple NIH grants totaling more than \$18 million and extending through 2022. These awards fund the development and use of innovative 7T human imaging technologies.

Read more about the research:
<http://go.osu.edu/ibrahim-MRI>

Get involved: STEM Outreach Club inspires next-generation college students

In order for inspiration to take root, it first requires the desire to get involved; to participate in something worthwhile.

For more than 10 years, **Dr. Betty Lise Anderson**, a professor and associate chair in Electrical and Computer Engineering (ECE) at Ohio State, has provided free STEM-based learning opportunities for K-12 students and children within the Columbus area. Volunteers are needed. Learn more about how to get involved in 2018. Link: <http://go.osu.edu/STEMClub1>

