Academia Tech Debuts at CES

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Looking for the latest innovations bubbling out of university research labs? Check out the all new Academia Tech TechZone at CES located within Eureka Park that showcases cutting-edge tech breakthroughs from research universities around the world. New technologies include nano-scale engineering, digital health monitors and a light-sensor indoor positioning system. Here's a look at who's who in this exhilarating new TechZone.

Center on Optical Wireless Apps
The Venetian, Level 1, 73008
The Center on Optical Wireless Apps (COWA) is a National Science Foundation (NSF)-funded collaboration between Penn State and Georgia Tech that focuses on wireless technologies for use in communications, networking, imaging, positioning and remote sensing devices. Private sector members include Boeing, Corning and Lockheed Martin. The center is in its second year and COWA's director Dr. Mohsen Kavehrad says he "leaped at the opportunity" to participate in CES because it provides them with "an audience that it would take us a lifetime to reach on our own." COWA plans to demonstrate a working video transmission link using LED and an indoor positioning system that incorporates visible light communication (VLC) technology. "Commercialization of this technique will benefit retail industries and as well can be utilized at airports [and] museums," Kavenhrad says.

Nascent-UT Austin
The Venetian, Level 1, 73006
NASCENT, a nanosystems engineering research center based at University of Texas at Austin, launched last year after receiving an $18.5 million grant from the NSF. Together with partners from the University of California, Berkeley and the University of Mexico, the center's mission is to create high throughput, reliable and versatile nanomanufacturing systems, says NASCENT's Industrial Liaison Officer Larry Dunn. The center now has about a dozen research projects underway. At CES, NASCENT will showcase several nanoelectronics devices fabricated on flexible substrates.

NSF ASSIST Nanosystems Center at NCSU
The Venetian, Level 1, 73010
Global research institutions have joined forces to create the ASSIST Center to study ultra-low power nanotechnology for use in wearable health devices. The consortium, which is based at North Carolina State University, develops technologies that enable consumers to manage their health and wellness. Most people today learn about their health by visiting doctors and clinics that use high-tech professional instruments, says Tom Snyder, ASSIST industry liaison. "We want to provide [health] information to users all the time—perpetual data—and at the same time collect data about your environment." The center focuses its research on nanoenabled ultra-low energy wearable devices that can harvest a body's energy. The ASSIST Center works with 17 companies, three of which they first met at the 2013 CES. Snyder said he thinks of CES as a recruiting tool for the center. He says. "We want companies to take the results of our research and build products or companies around it. Eventually that will lead to positive health outcomes."

Columbia Technology Ventures
The Venetian, Level 1, 73002, 73004
Columbia Technology Ventures (CTV) was established shortly after the passage of the Bayh-Dole Act in 1980, which, for the first time, allowed universities to own and license the research they developed. To date, CTV has more than 1,200 patented technologies available for licensing across biotech, IT, cleantech, devices, nanotechnology and material science. Their research has been used in products and services by DISH, Blu-ray Disc, Roku, Acer and HP. One of the largest technology transfers in the U.S., CTV licenses more than 80 technologies each year, and has annual revenues of nearly $200 million.

CTV is returning to CES this year after a fruitful exhibition in 2013 in the Eureka Park TechZone. “Last year, we were so successful meeting with investors and potential licensees that we wanted to do it again with a new crop of technologies,” says Teresa Fazio, Ph.D., technology licensing officer for CTV. At the 2014 CES, CTV will showcase innovative consumer technologies including a device that kills mosquito larvae using ultrasound, an app that facilitates texting while walking, new software to help Android operating systems run faster on mobile devices, and several digital imaging technologies. Fazio says CES is a great opportunity to network with industrial manufacturers, investors and businesses.

Smart Lighting Engineering Research Center

The Venetian, Level 1, 73013

Dedicated to creating holistic, efficient lighting systems for homes, offices and public spaces, the Smart Lighting Engineering Research Center (ERC) at Rensselaer Polytechnic Institute is run in partnership with Boston University and the University of New Mexico. The center creates lighting systems that automatically adjust the color, intensity and direction of light to maximize its quality, improving health and productivity. “At the core of the center’s R&D efforts are smart lighting systems with adaptive and controllable properties that will revolutionize the way society uses lighting,” says Silvia Mioc, industrial collaboration director at ERC. In their debut at CES, the Smart Lighting ERC will demonstrate a modified Google Glass prototype that offers personal health insights by collecting light exposure and biometric data of the wearer. ERC startup ByteLight will also be on hand, showcasing a new system for the delivery of location-based content to mobile devices using LEDs.

Rachel Horn
Manager, Publications, Consumer Electronics Association

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first level path: innovate

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