

>> INNOVATION 2015 >>>>>>>>>

Join us for our Innovation Summit and the unveiling of think[box] Oct. 26-28, 2015.

The maker movement. Startup accelerators. Entrepreneurship and intrapreneurship. These movements are gaining traction across the country and around the world—and present enormous opportunities for growth: for individuals, for companies, for regions and institutions.

Please join us for three days of exploration, collaboration and scholarship focused on the opportunities and challenges of global innovation.

This unique summit will bring together thought leaders from across industry sectors and geographies to discuss the impact of various models of innovation, including how they contribute to our regional economies, cultures and education.

The event will also feature the unveiling of Case Western Reserve's think[box] innovation center, as well as coordinate with Cleveland Clinic's Medical Innovation Summit.

Learn more at [engineering.case.edu/innovation-summit](http://engineering.case.edu/innovation-summit).

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SPRING 2015

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## SPOTLIGHT ON CLEVELAND

National media outlets agree—Cleveland Innovates, Incubates, Creates and, yes, Rocks.

Cleveland's days of flying under the radar are over. The once unsung hallmarks of the rust-belt city have gotten major media attention recently, with *The New York Times* naming the city one of its "52 Places to Go in 2015," along with other must-visit destinations like Milan, Singapore and Lower Manhattan. Praising the

city's "comeback fueled by art, culture and King James," the news outlet labels the Uptown district—right in the middle of Case Western Reserve's campus—as officially 'hip.'

*Travel and Leisure* also presented Cleveland in its "50 incredible destinations for 2015," citing the city's revival in terms of urban living, innovative food scene and cultural expansions in Uptown. *Fodor's* was also on to Cleveland's revival, placing it on its "25 can't-miss spots" for 2015.

And it's not just a great place to visit, according to *Popular Mechanics*, which named the city one of the best startup locations in the nation. Stating "Be Like Cleveland. Seriously," *PM* lauds Cleveland's dedication to business incubators, biomedical and biotechnical industries, maker scene and low cost of living and running a business.

Learn more at [engineering.case.edu/whycleveland](http://engineering.case.edu/whycleveland).

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## WORDS WITH WOZ

### Apple co-founder visits CWRU for Q&A with students.

Case Western Reserve University students got to chat with a tech industry legend this fall when Apple co-founder Steve Wozniak visited campus.

Wozniak toured the university's own innovation hub, think[box], before fielding questions in front of a sold-out crowd at an hour-long Q&A with students at the Tinkham Veale University Center.



## LONG-DISTANCE LEARNING

### Five all-online engineering master's degrees launched.

Case Western Reserve University launched five 100-percent online engineering master's degree programs, allowing working engineers to advance their careers from anywhere in less than two years.

The online degrees span five disciplines: a Master of Engineering, and Master of Science degrees in biomedical engineering, mechanical engineering, civil engineering, and systems and control engineering.

All programs are currently accepting applications, and Case Western Reserve alumni who enroll in 2015 are eligible for a \$10,000 discount on tuition.

**Learn more more and apply at [online-engineering.case.edu](http://online-engineering.case.edu).**



## SENSE OF TOUCH

### Sense-restoring prosthesis hailed as one of the "best inventions of 2014."

Without the sense of touch, users of prosthetic hands have trouble controlling the power of their grip, making the handling of delicate objects a challenge.

A prosthetic system developed by researchers at Case Western Reserve University and the Louis Stokes Cleveland Veterans Affairs Medical Center has shown promise in restoring some sensations to amputees—and giving users additional control.

MSN hailed the system as of the "best inventions of 2014," and the team recently received a \$4.4-million grant from the Defense Advanced Research Projects Agency (DARPA) to design a mobile version amputees can use at home.

Developed by associate professor of biomedical engineering Dustin Tyler and his team, the system uses electrodes placed on residual nerves to create connections between a prosthetic hand and the brain. In the lab, it's allowed users to distinguish between textures at 19 different points on the prosthesis.

**Learn more and watch the system in action at [engineering.case.edu/DARPA-prosthetics](http://engineering.case.edu/DARPA-prosthetics).**

Case School of Engineering welcomes **Robert Gao** as the chair of the Department of Mechanical and Aerospace Engineering, and celebrates the appointments of **Dean Jeffrey L. Duerk** as a fellow of IEEE and biomedical engineering professor **Anant Madabhushi** and electrical engineering and computer science chair **Kenneth Loparo** as fellows of AIMBE.





>>> FIRM FOUNDATION >>>>>>>>

## Researchers win DOE grant to refine offshore wind turbine design.

An international team, including civil engineering researchers from Case Western Reserve University, has won a \$2.8-million grant from the U.S. Department of Energy to refine an offshore wind turbine foundation design.

The Lake Erie Energy Development Corporation (LEEDCo) and a regional team developed the conceptual design of the foundation system last year through a DOE competition. The new award will help the team continue the work.

LEEDCo will work with several key partners, including a team of researchers led by David Zeng, Case Western Reserve's Frank H. Neff Professor and chair of civil engineering, who will conduct lab tests to validate the foundation's design.

Learn more at [engineering.case.edu/LEEDCo-partnership](http://engineering.case.edu/LEEDCo-partnership).

## >>> ENTREPRENEURIAL >>> FOCUS

CWRU participates in NSF  
Epicenter program to harness  
potentials of innovation in  
education.

A team of faculty and administrators from Case Western Reserve was selected as one of 25 U.S. university teams to take part in the second cohort of the NSF-funded National Center for Engineering Pathways to Innovation Program, which helps institutions incorporate innovation and entrepreneurship into undergraduate engineering education. During the two-year program, directed by Stanford University, Case Western Reserve will hone how the energy of the maker movement can be better integrated into engineering education via centers like think[box].

## TEAM EFFORT

## CWRU co-leads effort to combat deadly epilepsy complication.

Case Western Reserve University has been selected to co-lead a \$27.3-million National Institutes of Health-funded effort to identify the causes of Sudden Unexpected Death in Epilepsy.

Case Western Reserve and the Baylor College of Medicine will manage the research efforts of 13 U.S. institutions and one London center.

GQ Zhang, a professor in the Department of Electrical Engineering and Computer Science at the Case School of Engineering and division chief of medical informatics at the Case Western Reserve School of Medicine, will lead the project's Informatics and Data Analytics Core, with contributing researchers including Kenneth Loparo, chair of the Department of Electrical Engineering and Computer Science.

Learn more at [engineering.case.edu/SUDEP](http://engineering.case.edu/SUDEP).



>>> THINK[BOX] BOLSTERED >>>>>>>>>>

The makerspace and innovation hub receives substantial new support.

As the fall 2015 opening of think[box]'s new 50,000-square-foot new home within the Richey-Mixon Building draws nearer, alumni and friends have strengthened the project with valuable contributions.

Alumnus James C. Wyant (CIT '65) made a \$3-million commitment to support construction of a glass-lined skyway to connect the new space to the Veale Convocation, Recreation and Athletic Center, as well as the floor on which the bridge opens. The Burton D. Morgan Foundation made a \$1-million commitment to create the Burton D. Morgan Suite for Entrepreneurship, which will house offices for Blackstone LaunchPad and the law school's Intellectual Property Venture Clinic—both of which earlier received support from the foundation. Thanks to a \$50,000 gift from the George W. Codrington Charitable Foundation, the think[box] Student Project Fund was renewed and expanded. Most recently, the global product design and business innovation firm Nottingham Spirk launched a partnership with the university to help both students and faculty develop new product ideas and get them to market more quickly.



## Student and alumni entrepreneurs showcase innovations at Consumer Electronics Show.

The annual Consumer Electronics Show is a trade show like the Super Bowl is a football game—it's innovation's big dance, where tech's elite gather to show off their latest and greatest wonder-stuff.

Nine teams of Case Western Reserve University student and alumni entrepreneurs showcased their own innovations at this year's show in Las Vegas, introducing their products to more than 150,000 attendees from around the world, including potential investors.

Case Western Reserve made its debut at CES last year with seven student-run companies—two of which returned to this year's show. This year's innovations featured a wide range of products—from a wristband that provides secure access to all your electronic devices to agricultural survey drones to 3-D printed, competition-grade yo-yos. The teams received funding and support from the university's think[box] innovation center, entrepreneurship program Blackstone LaunchPad, the Blackstone Charitable Foundation and the Burton D. Morgan Foundation. **Learn more and see a full list of CWRU's attendee companies at [engineering.case.edu/CES-2015-announcement](http://engineering.case.edu/CES-2015-announcement).**

## A man in a dark blue t-shirt is standing between two red and grey Baxter robots. He is holding a clipboard and a pen, looking down at it. The robots are positioned on a green metal frame with a mesh floor. They are working with blue trays containing small metal parts. The background shows a factory environment with various equipment and materials. The text "MEET BAXTER" is overlaid on the top left of the image. The text "Photo courtesy of Rethink Robotics" is in the bottom right corner.

Photo courtesy of Rethink Robotics

Say hello to the newest member of Case Western Reserve's Integrated Robotics Lab—a human-friendly interactive Baxter model robot from Rethink Robotics. Thanks to the generous support of Oliver and Meredith Seikel, students and faculty in the Case Western Reserve Robotics Laboratory will be able to put Baxter to use exploring 3-D perception, machine learning, artificial intelligence and more.

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10900 Euclid Avenue  
Cleveland, Ohio 44106-7220



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