

With Shake Tests, Engineers Plan for Tall Timber Buildings

Researchers are putting a two-story structure made with high-performance timber through a series of strong earthquakes this month on the UC San Diego shake table. The goal of the tests is to gather enough data to eventually design wood buildings as tall as 20 stories that do not suffer significant damage during large earthquakes. The NSF and industry-funded tests are taking place at the world's largest outdoor earthquake simulator, which is part of the Englekirk Structural Engineering Center at UC San Diego. The shake table enables researchers to test structural specimens at full scale for severe earthquake ground motions, which is crucial for making structural engineering advances that save lives and enhance the resilience of communities after natural disasters, explained UC San Diego structural engineering professor Joel Conte, who is the principal investigator on the NHERI NSF grant that funds the shake table operations. Watch the structure go through a 1994 Northridge earthquake simulation bit.ly/TimberQuake. Watch a construction time lapse bit.ly/TimberBuild.

Learn more: bit.ly/TimberShake



Engineering Professor Named One of the 100 Most Powerful Women in Mexico in Forbes Ranking

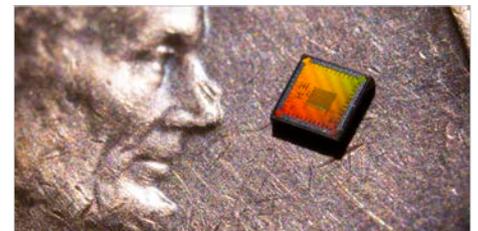
UC San Diego mechanical and aerospace engineering professor Olivia Graeve has been named one of the 100 most powerful women in Mexico, according to a Forbes 2017 ranking. The magazine recognized Graeve as an internationally known expert in nanomaterials manufacturing who runs the industry-focused CaliBaja Center for Resilient Materials & Systems at the Jacobs School of Engineering, as well as the Xtreme Materials Laboratory. The publication also cited the fact that Graeve, a member of the Mexican Academy of Engineering, collaborates with researchers across Mexico and actively promotes women and underrepresented minorities in science and engineering. Graeve is the creator and driving force behind the new CaliBaja Education Consortium and the ENLACE bi-national summer research experience, two innovative cross-border engineering education programs run from the Jacobs School.

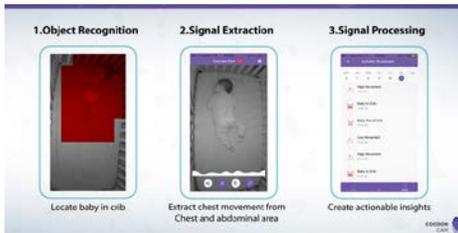
Learn more: bit.ly/Mx100Most

Near-zero-power Temperature Sensors for Wearables, Smart Home Devices and More

Electrical engineers at UC San Diego have developed a temperature sensor that runs on only 113 picowatts of power – 628 times lower power than the state of the art. This near-zero-power temperature sensor could extend the battery life of wearable or implantable devices that monitor body temperature, as well as smart-home monitoring systems, IoT devices and environmental monitoring networks. The technology could also enable a new class of devices powered by harvesting energy from low-power sources, such as the body or the surrounding environment. This near-zero-power technology, which was just published in Scientific Reports, could one day eliminate the need to change or recharge some batteries, explained electrical engineer professor Patrick Mercier, who runs the Energy-Efficient Microsystems lab and co-directs the Center for Wearable Sensors at the Jacobs School.

Learn more: bit.ly/NZPsensor





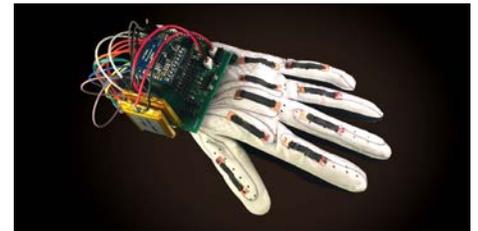
High-Tech Baby Monitor Company Co-Founded by Computer Science Alumnus Raises \$4 Million

Cocoon Cam, a computer-vision-based baby monitor company co-founded by UC San Diego computer science alumnus Pavan Kumar, recently announced that it closed a \$4 million Series A funding round. Cocoon Cam is a baby monitor that relies on computer vision technologies to track breathing and other vital signs. Kumar and his team took advantage of a wide range of entrepreneurship education resources at UC San Diego including the Jacobs School of Engineering's ENG 200 entrepreneurship course series and the NSF-funded Innovation Corps (I-Corps) Program, which helps student entrepreneurs determine whether their idea could turn into a viable company. These and other programs are run by the Jacobs School of Engineering through the Institute for the Global Entrepreneur, which is a collaboration between the Jacobs School of Engineering and the Rady School of Management that prepares engineers to drive innovation.

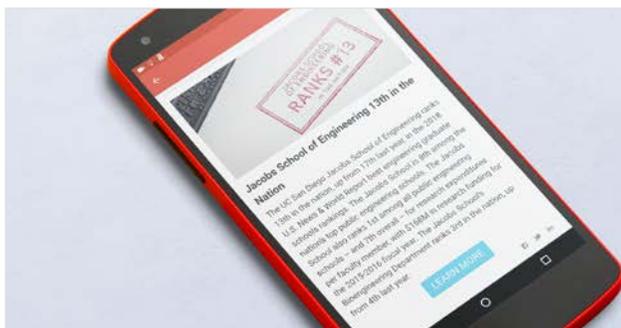
Learn more: bit.ly/CocoonCam

Low-cost Smart Glove Translates ASL Alphabet

UC San Diego engineers have developed an easy-to-assemble smart glove made with stretchable and printable electronics that cost less than \$100 in materials. The version of the glove described in PLOS ONE translates the American Sign Language alphabet into text which can be sent wirelessly to a smartphone or computer. A person wearing the glove can also control a virtual hand. The research team led by nanoengineering professor Darren Lipomi is developing smart gloves that could be used in many applications ranging from virtual and augmented reality to remote surgery, technical training and defense applications such as bomb-diffusing robots. Lipomi and his team are part of the Center for Wearable Sensors at UC San Diego. Media coverage included IEEE Spectrum.



Learn more: bit.ly/ASLglove



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