

In the Top Ten, again!

I'm proud to announce that for the third year in a row, we are in the top 10 in the influential US News & World Report Best Engineering Schools rankings. We gave it our all and ranked #10 after two years in the #9 spot. Three years in a row in the top 10 is great for all of us here at the Jacobs School of Engineering at UC San Diego. It's great for the San Diego region, for California and for the nation.

I see these exciting rankings as nationwide recognition of the efforts of our students, faculty and staff. I thank you all for your sustained excellence, creativity and dedication. You are world-class engineers, computer scientists, and professionals. Together with our industry and public-sector partners, we are leveraging engineering and computer science for the public good.

I'm thrilled to announce that we are opening Franklin Antonio Hall this spring. We have the keys to the building! As we wrap up finishing touches and the teams prepare to move in, I can already feel the rising energy. I am sensing the enthusiasm and creativity that will soon pulse through this incredible facility. Thank you to EVERYONE who is making this possible, and a special thanks to our philanthropic community who stepped up to help us realize the vision of Franklin Antonio Hall. We couldn't do this without you.

Franklin Antonio Hall is truly a machine for innovation. Every square foot is designed to encourage the circulation of people and ideas. All the research facilities are organized into thematic laboratories where multiple, complementary research groups can work in different disciplines yet occupy the same labs. I can barely wait to hear of the new research breakthroughs they are sure to have. This is, literally, how we make bold possible.

I would like you and your ideas to be part of the grand circulation in Franklin Antonio Hall. I assure you that the building is breathtaking, inside and out. Please [enjoy this video of Franklin Antonio Hall](#), and I hope it tempts you to come to campus and experience this machine for collaborative research and education for yourself! If you plan to come to our Research Expo on April 14, you can take a look, after talking tech with graduate students at the poster session in Bear Courtyard.

As always, I can be reached at DeanPisano@eng.ucsd.edu.

~Albert P. Pisano, Dean

UC San Diego Jacobs School of Engineering



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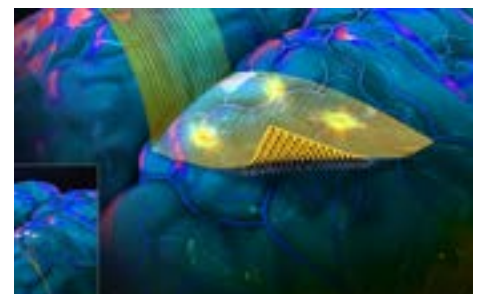
The UC San Diego Jacobs School of Engineering just ranked #10 in the nation in the influential U.S. News & World Report Rankings of Best Engineering Schools. It's the third year in a row the Jacobs School of Engineering ranked within the top ten. In the same US News & World Report Rankings, Bioengineering at the UC San Diego Jacobs School of Engineering ranked #4 in the nation, and Computer Science: Systems ranked #8 in the nation. Follow the link for more rankings information.

Learn more: bit.ly/2023Rankings

New brain-computer interface with a flexible backing

Engineering researchers invented an advanced brain-computer interface with a flexible and moldable backing and penetrating microneedles that allows the device to more evenly conform to the brain's complex curved surface, and to more uniformly distribute the microneedles that pierce the cortex. Such a device could be used by stroke victims or people with spinal cord injuries to use their thoughts to control robotic limbs and other devices in order to restore some everyday activities such as moving objects. The research was led by engineers at UC San Diego and Boston University.

Learn more: bit.ly/BCIFlexibleBacking



Concert hall acoustics boost non-invasive ultrasound brain treatments

A team led by engineers at UC San Diego developed a device that is a first step to enabling noninvasive, ultrasound-based therapies for the brain to treat conditions such as epilepsy. Current approaches focus ultrasound waves to reach their specific target in the brain, but this has proven difficult, as ultrasound tends to bounce around within the skull. Using concert hall acoustics as a model, UC San Diego researchers tried a different approach, diffusing ultrasound waves instead of focusing them by placing a microscale diffuser on the transducer that produces the ultrasound waves.



Learn more: bit.ly/concerthallacoustics



Highly accurate algorithm scales ability to assemble complete genomes

An international team led by UC San Diego computer scientists has shown that a new genome assembly algorithm, called the La Jolla Assembler (LJA), vastly improves large genome reconstruction, the process by which DNA snippets are arranged into complete genomes, which is an essential aspect of genomic sequencing. LJA significantly reduces error rates and boosts the ability to scale complete human genome assembly, making it easier to conduct large population studies to better understand the genetic factors that contribute to disease.

Learn more: bit.ly/LJAssembler

Identifying pancreatic cancer much earlier

An early cancer screening approach developed by a Jacobs School alumni-founded company is returning promising results for pancreatic cancer. In a pilot study published in *Nature Communications Medicine*, the screening platform flagged more than 95 percent of stage 1 pancreatic cancers. In 2020, 46,774 Americans died of pancreatic cancer, according to the CDC. Only 5 percent of pancreatic cancers are diagnosed in stage 1 and only 10 percent in time for effective surgery. The study is a collaboration between researchers at Biological Dynamics, which is the Jacobs School startup, and researchers at the Moores Cancer Center at UC San Diego Health.



Learn more: bit.ly/PancreaticCancerScreeningTool



Bioengineers inducted into prestigious biomedical institution

Two bioengineers at UC San Diego will be inducted into the College of Fellows of the American Institute for Medical and Biological Engineering (AIMBE), comprised of the top two percent of medical and biological engineers in the country. Professor Stephanie Fraley was recognized for her work to develop diagnostic technologies to achieve simple yet comprehensive infectious disease screening and identification. Professor Prashant Mali is being recognized for his pioneering contributions to genome editing and enabling gene and cell based human therapeutics.

Learn more: bit.ly/2022AIMBE_UCSD

Sign up to receive the Jacobs School monthly newsletter: bit.ly/JacobsSchoolMonthlyNews

Contact newsletter editor, Daniel Kane: dbkane@ucsd.edu

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