

Creating More Value from Research

More than six months into the COVID-19 pandemic, I continue to be inspired by the many people inside and outside the Jacobs School of Engineering who enable us to do the work that matters, in terms of education, mentoring and research.

Together we continue to build momentum. We hired 23 inspiring and motivated faculty this year; our Task Force on Faculty and Student Racial Equity in the Jacobs School of Engineering has begun work (more on this soon); our community has raised more than \$5 million since the start of the COVID-19 pandemic to support students traditionally underrepresented in engineering and computer science; and we will soon be announcing the inaugural faculty director for the Jacobs School Research Ethics Initiative. This is just a sampling of the work that matters.

I want to thank everyone who is working so hard under incredible pressure to create learning, research, and career opportunities for the Jacobs School and the entire UC San Diego community. Experiencing everyone come together to leverage engineering for good motivates me to take on more.



NAE Deans' Roundtable

I am the inaugural chair of the National Academy of Engineering (NAE) Deans' Roundtable, and I am using this opportunity to bring attention to "a missing link" in how we do research in this country. Fixing this missing link will have direct positive impacts on our students, innovation workers, communities, industries, and our nation's long-term prosperity.

Capturing more value from research

We know that federally funded science and technology researchers across the US make important breakthroughs every day. The problem is that we do not capture enough of the value of the breakthroughs. That's the missing link. We need to increase the flow of innovation from academic research labs into US companies, organizations and communities. In short, we need to get better at capturing the value of the US research enterprise.

To do this, the students and postdocs who are making so many of these breakthroughs need new kinds of tools: virtual and democratized tools that empower them to build on each others' work in contexts that are relevant for industry.

I envision accomplishing these related goals together through new forms of public-private research partnerships that bring industry, academia and government together early on through "pre-competitive research" on influential technologies (which I call "platform technologies") that can be rapidly pivoted to solve emerging problems.

I will continue to work on these projects at the national scale through the NAE Deans' Roundtable, and regionally through the Jacobs School Dean's Council of Advisors, and through other organizations. One of our first case studies is 6G wireless networks.

Please get in touch if you have thoughts or ideas. I can be reached at DeanPisano@eng.ucsd.edu

You make engineering matter

Engineering and computer science education and research matter more now than ever. I'd like to thank the Jacobs School staff and faculty for the incredible work that each of you do — so much of it behind the scenes. Your efforts make all the difference.

Take care and stay safe. We are all in this together.

-Albert P. Pisano, Dean

UC San Diego Jacobs School of Engineering

Welcoming 23 new faculty to the Jacobs School

The UC San Diego Jacobs School of Engineering is proud to introduce the 23 new professors hired in Fall 2020. These professors are among the more than 130 faculty who have joined the UC San Diego Jacobs School of Engineering in the last seven years. These new faculty, and the communities of scholarship and innovation they are creating and building on, point to an exciting future for everyone here at the Jacobs School of Engineering.

Learn more: bit.ly/2020NewFaculty



\$5 Million in new support for Jacobs School students

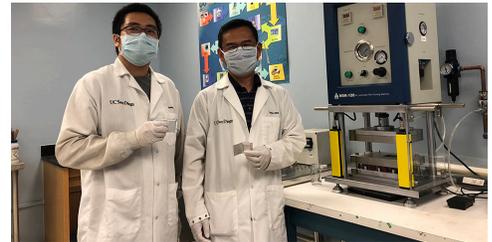
New scholarships and fellowships for students who are traditionally underrepresented in engineering and computer science are being created at the Jacobs School thanks to more than \$5 million in generous financial support from our community. Inspired by this vision and generosity, the Jacobs School is launching a new undergraduate scholarship program to support even more students. More than 25% of Jacobs School undergraduates are the first in their families to go to college. The goal is to give as many students as possible full opportunities to focus on classwork, research, team projects, and the intangibles of a well-rounded technical education that lead to deep learning, meaningful and impactful careers, and life-long friendships.

Learn more: jacobsschool.ucsd.edu/giving

New anode material could lead to safer fast-charging batteries

Nanoengineers at UC San Diego have discovered a new anode material that enables lithium-ion batteries to be safely recharged within minutes for thousands of cycles. Known as a disordered rocksalt, the new anode is made up of earth-abundant lithium, vanadium and oxygen atoms arranged in a similar way as ordinary kitchen table salt, but randomly. It is promising for commercial applications where both high energy density and high power are desired, such as electric cars, vacuum cleaners or drills. This work is led by professor Ping Liu, incoming director of the Sustainable Power and Energy Center at the Jacobs School, and professor Shyue Ping Ong.

Learn more: bit.ly/DRSanode



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

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