

The work that matters

I'm a staunch advocate for all of our students, and in these difficult times, standing up for students is absolutely critical. As I prepare this message, the situation for our international students is both fluid and concerning. I'd like to personally emphasize the contributions our international students make and recognize the added stresses caused by uncertainty surrounding new policy guidance from ICE. Chancellor Pradeep K. Khosla's message, immigration policy updates from our campus and updates from UC all point to efforts toward a positive resolution of this latest challenge facing our students. Once options are set, Executive Vice Chancellor Elizabeth H. Simmons' office will work closely with colleges, divisions and academic advisors to help students. In the meantime, if you are a student or staff member with questions or concerns, you can reach me at DeanPisano@eng.ucsd.edu.



We landed an NSF MRSEC

I'm thrilled to share that UC San Diego won an NSF MRSEC. These are prestigious materials science center grants funded by the National Science Foundation. The six-year \$18 million award comes with the possibility of renewal and affirms yet again that UC San Diego in general, and the faculty of the Jacobs School of Engineering in particular, have grown into a world-class destination for materials science research and education. I am particularly proud of the MRSEC plans to provide research opportunities for our transfer students.

Engineering problem solving for high school students

Thanks to a gift from Buzz Woolley, we've launched a program to teach technical problem solving to high school students and teachers from under-resourced schools. Technical problem solving is a doorway to good jobs. It's a transferable skill that everyone deserves access to.

You make engineering matter

Engineering and computer science education and research matter more now than ever before. 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.



\$18M Boost to Materials Science Research at UC San Diego

The National Science Foundation has awarded UC San Diego researchers a six-year \$18 million grant to fund a new Materials Research Science and Engineering Center (MRSEC). In addition to research and facilities funding, MRSEC centers provide sustained research opportunities for both graduate and undergraduate students, and resources to focus on diversifying the pool of students studying materials science. The UC San Diego labs funded by this new MRSEC will focus on two important, emerging approaches to build new materials aimed at improving human lives: living materials, and predictive assembly.

Learn more: bit.ly/UCSDMRSEC

MRSEC research thrusts led by nanoengineers

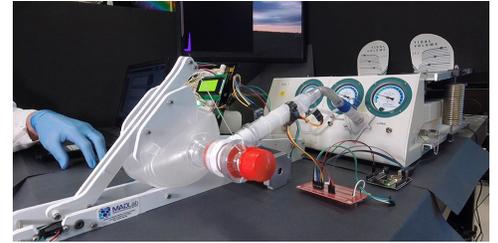
Nanoengineering professors lead both research thrusts within the new UC San Diego MRSEC. Andrea Tao and Tod Pascal lead the predictive assembly research thrust. This team will develop new ways to control the properties of materials during their synthesis by controlling how they transition, from the smallest atomic building blocks to larger meso-scale materials. Jon Pokorski and Nicole Steinmetz lead the living materials research thrust. This team will create hybrid materials that incorporate living substances—microbes and plant cells—in order to create materials with new properties. The overall project is led by chemistry and biochemistry professor Michael Sailor while the facilities component is led by nanoengineering professor Shirley Meng.



Learn more: bit.ly/UCSDMRSEC

Low-cost emergency ventilator moves toward FDA approval

A team of engineers and physicians at UC San Diego developed a low-cost, easy-to-use emergency ventilator for COVID-19 patients that is built around a ventilator bag usually found in ambulances. The team built an automated system around the bag and brought down the cost of an emergency ventilator to just \$500 per unit—state of the art models cost at least \$50,000. The device's components can be rapidly fabricated and the ventilator can be assembled in just 15 minutes. The team from UC San Diego is seeking approval for the device from the Food and Drug Administration, but the device's plans and specifications are open source.



Learn more: bit.ly/ventilatorsucsd2020



Problem-solving and skill-building for the technical workplace

The Jacobs School of Engineering is partnering with UC San Diego Extension to launch a new initiative to meet the growing need for a talent pool of workers with advanced technical and engineering skills. The Problem-Solving and Skill-Building for the Technical Workplace program promises to increase youth success in entry-level jobs in technical and engineering industries, as well as better prepare them for postsecondary university engineering degrees. The program also focuses on supporting secondary teachers to help create a pipeline of skilled problem-solvers who are ready-to-work, ready-to-learn high school graduates. The initiative was made possible by a \$1.6 million gift from San Diego entrepreneur Buzz Woolley, and much of the work to create inclusive problem-solving materials for students and teachers will be based in the EnVision Arts and Engineering Maker Studio.

Learn more: bit.ly/UCSDTechSkills

Research Ethics Project

As a research community, the Jacobs School of Engineering recently entered phase two of an NSF-funded project to strengthen our culture of Research Ethics. The project aims to build a sustained culture where students, faculty and staff have the resources and comfort level to engage in ethical conversations regarding mentorship, authorship, and ethical research on an ongoing basis. "This is important work. Talking about ethics and the practice of engineering research is directly relevant to creating an anti-racist academic community," said Albert P. Pisano, co-PI of the project and dean of the Jacobs School.



Learn more: bit.ly/ResearchEthicsProject



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

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