

## Grit and resolve

Prior to COVID-19, I never thought I would face so much headwind while leading an engineering school. Despite the challenges, we are maintaining the forward momentum that we have spent more than six years building together. The health and safety of our students, staff and faculty is my number one priority. This is the foundation of our momentum.



I am profoundly grateful for the grit and resolve of everyone inside and outside the Jacobs School of Engineering who is empowering us to pivot, adapt, and at times, thrive. There has never been a more important time to strengthen engineering and computer science education and research for the public good.

### Going for 25+ faculty hires this year

We have hired 18 world-class faculty to the Jacobs School so far this year, and we'll have more new professors to announce shortly. This is already the most diverse group of faculty we've hired into the Jacobs School in a single year. Thank you to everyone who is working so hard on these recruitments.

### Franklin Antonio Hall

Great news! Bioengineering professor emeritus Shu Chien, his wife Dr. KC Chien, and Dr. Peter Farrell, Founder of ResMed, have joined forces to strengthen connections between engineering and medicine at the Jacobs School. In recognition of these gifts, we will seek to name a research collaboratory in our new building, Franklin Antonio Hall, the Chien-Farrell IEM Collaboratory. Thank you Shu, KC, and Peter for your incredible generosity and leadership. Your gifts come at an exciting time for the building project: the foundation is being poured and construction continues on schedule.

### COVID-19 research response

So many labs have stepped up. Student, faculty and staff expertise and creativity is pouring into COVID-19 projects. Thank you. Many of these projects at the Jacobs School are already in various stages of efficacy testing, FDA approval, license negotiation and manufacture. There are also bold new projects I'm following closely, and I will update you as soon as I'm able.

### Artificial Intelligence / Machine Learning curriculum

As we physically distance, the creativity that our faculty, students and staff are putting into remote and asynchronous lecture and lab courses is breathtaking. At the same time, we continue to revitalize our educational offerings. In the 2020-21 academic year, we will have Artificial Intelligence / Machine Learning courses in all of our engineering majors, through the new AI Tools for Engineering Practice curriculum.

### An open line of communication

Advice, collaboration and support from all our constituents is more important than ever. In this time of COVID-19, I have tripled my efforts to connect with constituents, work connections, empower educators and students, engage staff, and accelerate research. You have an open line of communication to me: [DeanPisano@eng.ucsd.edu](mailto:DeanPisano@eng.ucsd.edu)

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

-Albert P. Pisano, Dean

UC San Diego Jacobs School of Engineering

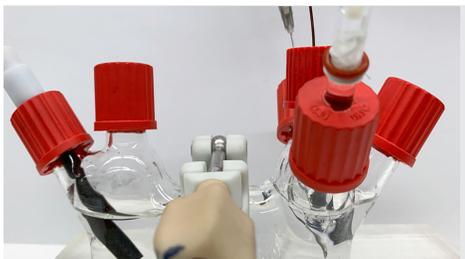
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## Developing a COVID-19 vaccine patch from plant viruses

Nanoengineers at UC San Diego are working on a COVID-19 vaccine using an unconventional candidate: a plant virus. The team's goal is to use plants to create a stable, easy to manufacture vaccine that can be shipped around the globe. It will be packaged in slow-release microneedle patches that patients can wear on the arm to self-administer the vaccine in a single dose. The team is using a plant virus that infects legumes and engineering it to look like the novel Coronavirus, with molecular signatures called peptides woven onto the surface so it can stimulate the body's immune response. The beauty of this approach is that the plant virus is non-infectious in humans.



Learn more: [bit.ly/COVIDPlantVirusVaccine](https://bit.ly/COVIDPlantVirusVaccine)



## Enabling hospitals to produce hydrogen peroxide in house

A team of researchers has developed a portable, more environmentally friendly method to produce hydrogen peroxide. It could enable hospitals to make their own supply of the disinfectant on demand and at lower cost. Hydrogen peroxide has recently made headlines as researchers and medical centers around the country have been testing its viability in decontaminating N95 masks to deal with shortages amid the COVID-19 pandemic. This research originated as a way to make battery recycling processes greener, but the team quickly pivoted to meet this emergent COVID-19 need.

Learn more: [bit.ly/H2O2production](https://bit.ly/H2O2production)

## 'Flexoskeletons' make flexible soft robots faster and cheaper to make

Mechanical engineers at the Jacobs School have developed a new method to create soft, flexible, 3D-printed robots that doesn't require any special equipment and works in just minutes. The structures were inspired by insect exoskeletons, which have both soft and rigid parts--the researchers called their creations "flexoskeletons." The innovation comes from rethinking the way soft robots are built: instead of figuring out how to add soft materials to a rigid robot body, the researchers started with a soft body and added rigid features to key components.



Learn more: [bit.ly/flexoskeletons](https://bit.ly/flexoskeletons)



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Contact newsletter editor, Daniel Kane: [dbkane@ucsd.edu](mailto:dbkane@ucsd.edu)

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