

## Empowering students IS the job.

Training our engineering and computer science students to become tomorrow's innovation workforce is priority number one. We must find more and better ways to empower all of our students to take what they learn here, and bring it out into the world to make a positive difference.

As an engineering dean, I return again and again to the fact that research is education. This holds true for graduate students and for undergraduates. The research projects we take on as faculty serve as one of the primary ways that we educate our graduate students and train our postdocs. At the same time, research experiences empower undergraduates with tools for lifelong learning in academia, industry or government service. We need our undergraduates to bring their innovative energy to these fields.

What are we doing to ensure that our engineering and computer science research enterprise is structured to turn our students and postdocs into the innovation workforce our country so desperately needs? As chair of the National Academy of Engineering (NAE) Deans' Roundtable, I'm deeply engaged with this issue from multiple perspectives. I am working with engineering deans across the country, my Jacobs School Dean's Council of Advisors, and many others to develop better ways to design the engineering and computer science research enterprise for better outcomes. The goal is to empower our advanced undergraduates, graduate students and postdocs to pull more insights and breakthroughs from university research labs into industry and society where they can do good. There is so much more common ground for us to create by empowering our students to thrive at the intersection of university research, government labs and industry R&D. I look forward to sharing our specific proposals soon.

Here at the Jacobs School, we run a 70% government-funded and 30% industry-funded research operation. I consider this a balanced portfolio between discovery-driven research and use-inspired research. It allows the Jacobs School to engage the virtuous feedback loops that naturally arise in which fundamental research leads to applied research which leads back to fundamental research.

Looking ahead, we need to create new, more and different types of research environments where our students can build on their discovery-driven research, explore applications, and grow into the innovation workforce we need. There is much work to be done in this area, and I'm both energized and humbled to be deeply engaged on these issues with many top thinkers from government, industry and academia.

### **Franklin Antonio Hall**

This notion of designing to empower our students to capture the value of their innovations is literally in the blueprints for Franklin Antonio Hall, our newest building, which will open in early 2022. Franklin Antonio Hall is designed around a series of multi-PI collaborative laboratories with complementary research foci and deep industry interaction. It's a machine that will power these critical explorations that can carry innovations out of the labs and into society.

### **\$39M grant for smart-grid renewables**

Research infrastructure is teaching infrastructure, and our faculty are creating new opportunities. Mechanical engineering professor Jan Kleissl is the Principal Investigator on a new \$39,000,000 National Science Foundation grant to turn our campus into a world-leading laboratory for incorporating ever more renewables into the grid. Security is one of the big issues they will be working on.

### **Thank you, Veterans**

I'd like to close with a sincere "thank you" to those men and women who make sacrifices every day to protect and serve this great country. We champion our veterans and all of our military-connected students here at the Jacobs School of Engineering. We are working hard to support you and provide all that you need to thrive as engineering and computer science students. At the same time, we are always looking to improve. For everyone who has served or is serving now, please accept my profound appreciation for your service to our country and for what you contribute to the Jacobs School of Engineering community. In honor of Veteran's Day, we shared the stories of two Jacobs School student veterans, and a brief story about my father, a veteran.

As always, I can be reached at [DeanPisano@eng.ucsd.edu](mailto:DeanPisano@eng.ucsd.edu) if you have thoughts to share on these important issues.

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

-Albert P. Pisano, Dean

UC San Diego Jacobs School of Engineering



