## For the public good

In everything I do as Dean of the Jacobs School of Engineering, I ask: How does this decision or opportunity improve our ability to leverage engineering and computer science for the public good?

Every year about this time, the Jacobs School conducts our Ring Ceremony, in which graduating engineering and computer science students affirm an oath of integrity and professional responsibility. Every year, I renew the oath for myself.

This year's Ring Ceremony keynote speaker, Kylie Taitano (BS CSE '14), shared a term from the indgeneous language Chamorro that inspires and motivates her. The term is inafa'maolek. She explained that it literally translates as "to make good." It connotes a spirit of interdependence and cooperation, and it drives her professional and personal contributions to society. Taitano is a Senior Software Engineer here in San Diego and is also a Co-Founder and CEO of the nonprofit Code with Her.

Returning to inafa'maolek, Taitano reminded our students that engineers and computer scientists are literal makers who have unique and substantial responsibilities "to make good."

That is so true, and it gets more true every day. With technologies coalescing and integrating ever more deeply into our individual and collective lives, engineers and computer scientists have incredible responsibility, influence, and capacity for good.

As I'm writing this, I am also contemplating the advice that I regularly share with engineering and computer science students. The advice is a set of interrelated lessons that I have learned throughout my life as an engineer. I encourage students to dig in and learn the math that matters. I challenge them to practice the math and its implementation. After all, engineering and computer science excellence is acquired through practice. Finally, I challenge students to "find your why." This is about challenging students to take the time to explore and identify what will motivate them to put in the hard work necessary to persevere.
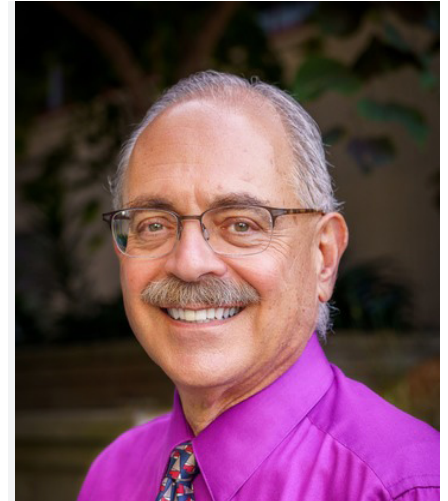
Ring Ceremony is an important reminder that "finding your why" is about integrity and professional responsibility. "Finding your why" is about leveraging engineering and computer science for the public good in ways that resonate personally.

Ring Ceremony comes once per year, but the commitment to integrity and professional responsibility is 24-7. This is the ground truth for the UC San Diego Jacobs School of Engineering, and this is why I feel privileged and lucky to serve this community as its dean of engineering.

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

-Albert P. Pisano, Dean

UC San Diego Jacobs School of Engineering

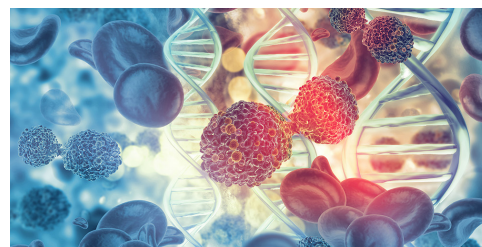## UC San Diego reaches $3 billion fundraising campaign milestone

UC San Diego has become the nation's youngest university to reach $3 billion in a fundraising campaign. The Campaign for UC San Diego has exceeded its initial $2 billion goal by $1 billion. More than 163,000 friends, alumni, foundations and corporations have shown their support of UC San Diego with gifts and grants of all sizes, making a remarkable collective impact. This philanthropic support is providing scholarships, fellowships and support programs for more students who need them. It is recruiting and retaining more top-tier educators, researchers and physician-scientists. It is discovering novel therapies and cures for the world's most devastating diseases. It is building academic and laboratory spaces purposefully designed to encourage collaborations that innovate and create technologies to enhance the human experience. And it is creating community, arts and cultural spaces and initiatives that entertain, enrich and enlighten our students and our greater San Diego community.

Learn more: bit.ly/3BillionCampaign

# Computer scientist plays major role in $25M Cancer Grand Challenges project

UC San Diego computer scientist Vineet Bafna is part of a team of world-class researchers that has been awarded a $25 million Cancer Grand Challenges grant to investigate extrachromosomal DNA, a major driver of tumor evolution. Bafna is part of the eDyNAmiC team, investigating the mechanisms that drive ecDNA—small, circular pieces of genetic information that allow cancer cells to rapidly evolve and become resistant to anti-cancer treatments. The team is led by Paul Mischel, professor of pathology at Stanford Medicine.
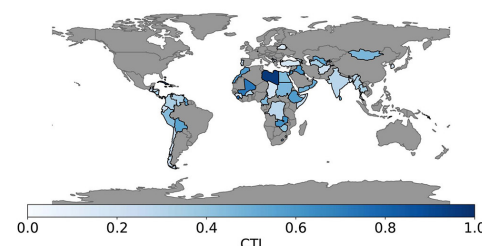
Learn more: bit.ly/CancerGrandChallenges

# Roboticist to lead $7.5M MURI grant on human-robot teaming

In the midst of a medical emergency or disaster response, how can humans and robots work together more effectively? That's the question UC San Diego computer scientist and roboticist Laurel Riek and a team of researchers are seeking to answer with a new $7.5 million Department of Defense Multidisciplinary University Research Initiative (MURI) award. The project seeks to advance research in robotics and autonomy, with the goal of aiding human teams working in critical environments.

Learn more: bit.ly/RiekMURIAward

# Global internet infrastructure is at risk

About a quarter of the world's Internet users live in countries that are more susceptible than previously thought to targeted attacks on their Internet infrastructure, according to a sweeping, large-scale study conducted by computer scientists at UC San Diego. "We wanted to study the topology of the Internet to find weak links that, if compromised, would expose an entire nation's traffic," said Alexander Gamero-Garrido, the paper's first author.

Learn more: bit.ly/InternetInfrastructure

# Students win 2nd place in autonomous, electric go-kart race

A team of engineering and data science students led by a UC San Diego student organization came in 2nd place at a nationwide, autonomous, electric (EV) GrandPrix go-kart race hosted at Purdue University. Teams of students from around the country came together to race the autonomous electric go-karts they built over the year. In this Q&A, meet team member Chaztine Embucado, an electrical engineering student at the UC San Diego Jacobs School of Engineering.

Learn more: bit.ly/EVGrandPrix2nd