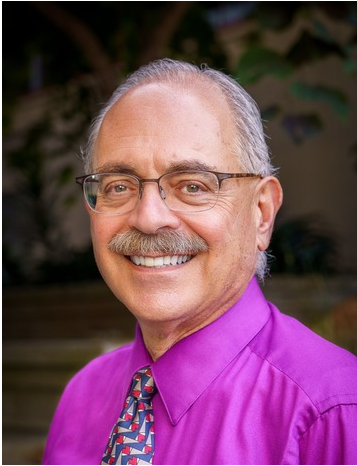


Our Founding Family and the Value of Teamwork



Irwin and Joan Jacobs are our founding family, and I am profoundly grateful to them both. I will miss Joan deeply. Many of her incredible contributions to our engineering school, to UC San Diego and to the larger community are [outlined in this story, which I encourage you to read](#).

In the next few paragraphs, I'd like to recount a story that Irwin shared at Joan's public celebration of life ceremony. Irwin gave a bit of the backstory of how he and Joan decided to uproot their lives in Boston and move to La Jolla in 1966 so Irwin could join the faculty of UC San Diego.

As the story goes, Irwin and Joan initially decided that he would turn down the UC San Diego offer and remain on the MIT faculty. With that decision seemingly made, Joan returned to the search for a home for their growing family. A couple of days later, after Irwin returned from campus in a rainstorm, Joan described to him what sounded like a promising house for the family to consider. Irwin said, great, let's go see it.

There was just one problem, Joan said, referring to the real estate listing: the house was in La Jolla.

And with that, their decision making process officially reopened, and ultimately they decided to make the jump to UC San Diego.

I love this story for many reasons, including the fact that it highlights the extent to which Joan and Irwin were – and still are, on so many levels – a team.

It is their teamwork that conjured their first philanthropic gifts to UC San Diego. It is their teamwork that led to a series of transformational gifts to our school of engineering at UC San Diego that are honored by the addition of their names to our school. It is their teamwork that helped accelerate our school to national and international prominence through foundational support for faculty and students. It is their teamwork that led to the beloved Jacobs Scholars and Fellows programs, which allow us to attract absolutely stellar cohorts of engineering and computer science undergraduates and graduate students. It is their teamwork that has allowed us to recruit, retain and accelerate our faculty through endowed chair professorships, collaborative research seed grants, and several other means. It is their teamwork that has empowered us to improve and expand our research and teaching infrastructure. And this is by no means a comprehensive list.

The greatest donors inspire others – and in this domain, Joan and Irwin are a winning team, yet again.

Joan and Irwin, you have inspired so many others to build on what you started. Your vision has not only been noticed, it is accelerated by those you inspire.

Two of the latest to be inspired by your vision and generosity are Aiiso Yufeng Li (Jeff) and his wife, Dongdong Li (Doreen). [Jeff and Doreen recently made a transformational gift to the academic department that is home to our chemical and nano engineers](#). In recognition of this incredible gift, the department has a new name: the Aiiso Yufeng Li Family Department of Chemical and Nano Engineering. Thank you, Jeff and Doreen. Your generosity will be truly transformative. You will empower us to link chemical and nano engineering more strongly while enriching the student experience and accelerating research.

The chair of this department, Liangfang Zhang, has been key to our long-standing efforts to link chemical and nano engineering – the efforts that inspired Jeff and Doreen. I am honored to note that Liangfang holds the Joan and Irwin Jacobs Chancellor's Endowed Chair Professorship here at UC San Diego.

Joan was adamant that the community of philanthropy driving the Jacobs School forward continue to grow and expand. And it has, and it will.

Jeff and Dorren are one recent example. Gene Lay is another wonderful example. He is the naming donor for our bioengineering department, now named the Shu Chien-Gene Lay Department of Bioengineering. Franklin Antonio's name graces our world-renowned building for collaborative engineering research. These are just a few examples of people in our community who have been inspired by – and are building on the vision created by – the magical teamwork of Joan and Irwin Jacobs.

Joan and Irwin, your teamwork strengthened our foundations, and on these foundations, we are building an ever more impactful school dedicated to accelerating engineering and computer science for the public good. On your foundations, we are building a school ever more worthy of the trust that is a prerequisite for philanthropic inspiration.

Our future is bright and varied – just as Joan always wanted.

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

Sincerely,

Al

Albert ("Al") P. Pisano

Dean, UC San Diego Jacobs School of Engineering

Special Adviser to the Chancellor for Campus Strategic Initiatives



Remembering Joan Klein Jacobs

Joan Klein Jacobs, a dedicated and visionary philanthropist, civic leader and patron of the arts died on May 6. She was 91. Together with her husband, Irwin, the Jacobs' philanthropic support spanned the entirety of the UC San Diego campus, including the Jacobs School of Engineering, which bears their name. We are grateful for the active role Joan played in strengthening the Jacobs School of Engineering, UC San Diego, and the entire region.

Joan's positive impacts include her great interest in the Stuart Collection, which is UC San Diego's sculpture collection. The collection includes Fallen Star, the sky-blue cottage that sits atop our Jacobs Hall at an unexpected angle. "The sky-blue cottage that causes you to look up, wonder and think...and then inspires you to think more deeply. Like Joan did," said Albert P. Pisano, Dean of the Jacobs School.

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\$21 Million Gift from Li Family Honors Unique Efforts to Link Chemical and Nano Engineering More Strongly

In recognition of this gift from business leader and philanthropist Aiso Yufeng Li (Jeff) and his wife, Dongdong Li (Doreen), the department that houses UC San Diego's chemical and nano engineers will be named the Aiso Yufeng Li Family Department of Chemical and Nano Engineering at the UC San Diego Jacobs School of Engineering. The Li family's gift will support education and research initiatives aimed at strengthening the ties between the two fundamentally complementary disciplines of chemical engineering and nano engineering within the department. The largest two research focus areas within the department are nanomaterials for human health, and nanomaterials for sustainable energy.

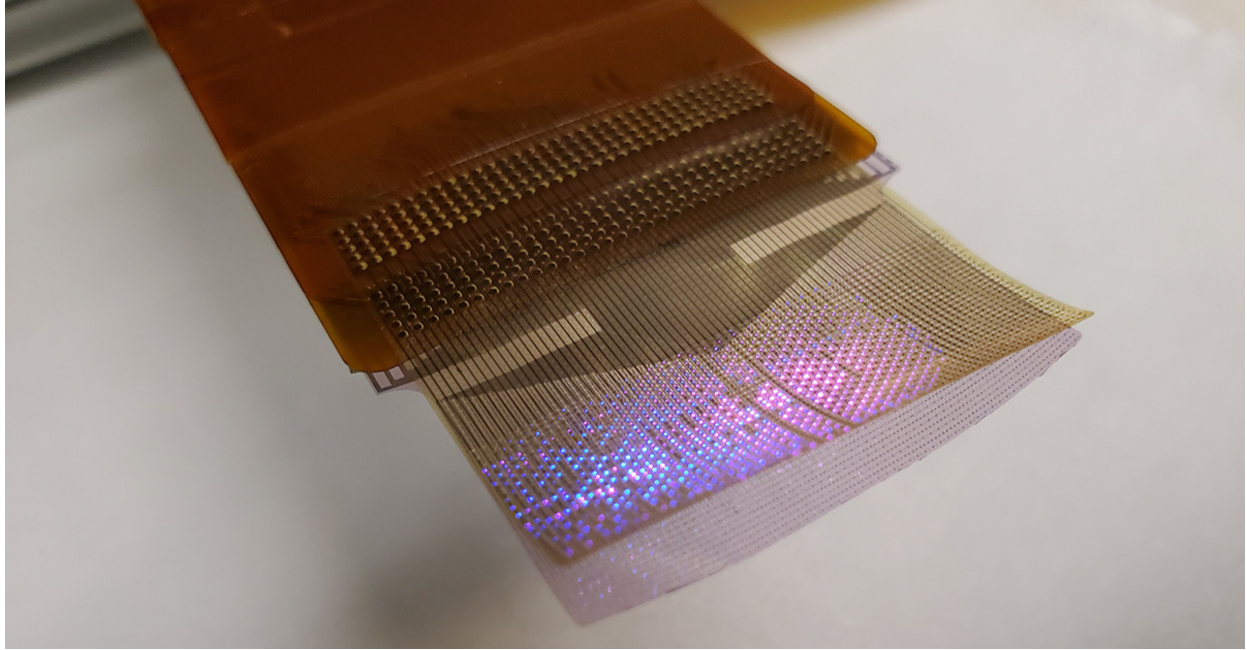
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Biodegradable 'Living Plastic' Houses Bacterial Spores That Help It Break Down

A new type of bioplastic could help reduce the plastic industry's environmental footprint. Researchers led by nanoengineers at UC San Diego have developed a biodegradable form of thermoplastic polyurethane (TPU), a soft yet durable commercial plastic used in footwear, floor mats, cushions and memory foam. It is filled with bacterial spores that, when exposed to nutrients present in compost, germinate and break down the material at the end of its life cycle. Strips of the plastic placed in a compost environment degraded by 90% within five months. Read coverage in [BBC](#), [KPBS \(San Diego NPR\)](#), and [C&E News](#).

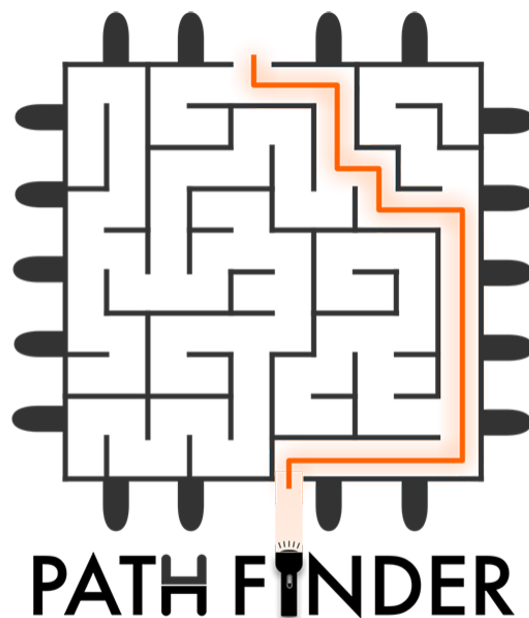
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Flexible Microdisplay Monitors, Visualizes Brain Activity in Real-time

A thin film that combines an electrode grid and LEDs can both track and produce a visual representation of the brain's activity in real-time during surgery – a huge improvement over the current state of the art. The device is designed to provide neurosurgeons with visual information about a patient's brain to monitor brain states during surgical interventions to remove brain lesions including tumors and epileptic tissue. The device was conceived and developed by a team of electrical engineers from UC San Diego and physicians from Massachusetts General Hospital.

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Computer Scientists Detect Cybersecurity Attacks Impacting Intel, AMD

Researchers led by computer scientists at UC San Diego identified two novel types of cyber attacks that target the conditional branch predictor found in high-end Intel processors, which could be exploited to compromise billions of processors currently in use. This research resulted in Intel and Advanced Micro Devices (AMD) addressing the concerns and advising users about the security issues. The attack methods, dubbed Pathfinder, were developed in collaboration with researchers from Purdue, Georgia Tech, UNC-Chapel Hill and Google.

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AI Tool Can Determine How Effectively Newborns Nurse

A modified pacifier coupled with AI algorithms to analyze the data it produces could help doctors determine if newborns are learning the proper mechanics of nursing, a recent study shows. Mechanical engineers and lactation consultants from UC San Diego and UC San Diego Health measured if babies are generating enough suckling strength to breastfeed and whether they are suckling in a regular pattern. Their new device is made up of a simple pacifier connected to a tube which is connected to a vacuum sensor and a chip that collects the data from the sensor. The researchers also developed software that both displays the data from the pacifier and uses machine learning algorithms to identify abnormalities and outliers. Early detection of breastfeeding challenges is critical for both baby and mother.

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Hands-on Electrical Engineering Curriculum Earns Innovative Program Award

The Electrical and Computer Engineering Department at the Jacobs School of Engineering was recognized for its pioneering hands-on lab curriculum by the leading association for electrical and computer engineering educators in North America. With classes like the introductory Experience ECE: Making, Breaking and Hacking Stuff; to Rapid Hardware & Software Design; and Art of Product Engineering, students have the opportunity to take at least one of these project-based, experiential lab courses every year. The department was honored not just for pioneering such an innovative curriculum, but for actively working to share their resources and serve as a model that has been adopted by other institutions around the country.

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