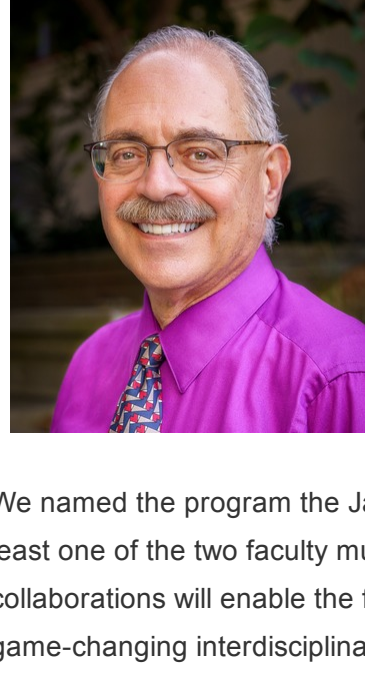


**Accelerating early-career faculty research**



I am proud to announce a new effort here at the Jacobs School of Engineering to empower our early-career faculty to accelerate interdisciplinary research collaborations. The pilot program is unique in that it provides funding for graduate students from two different labs to begin cross-discipline research collaborations.

We launched this pilot to address a chicken-and-egg conundrum. How do faculty demonstrate that an unexpected collaboration is worthy of multi-year funding if the faculty don't have the resources to get the cross-disciplinary research collaboration started?

We named the program the Jacobs School Early Career Faculty Development Award because at least one of the two faculty must be an early-career professor. The goal is that these early collaborations will enable the faculty to successfully compete for multi-year research funding for game-changing interdisciplinary research projects.

This program emerged from a lunch conversation that I had with early-career faculty. This is a great example of faculty at the Jacobs School proposing creative, doable solutions to well-known challenges. In the first story below, we congratulate the six faculty whose cross-disciplinary research projects won the inaugural funding from the new program.

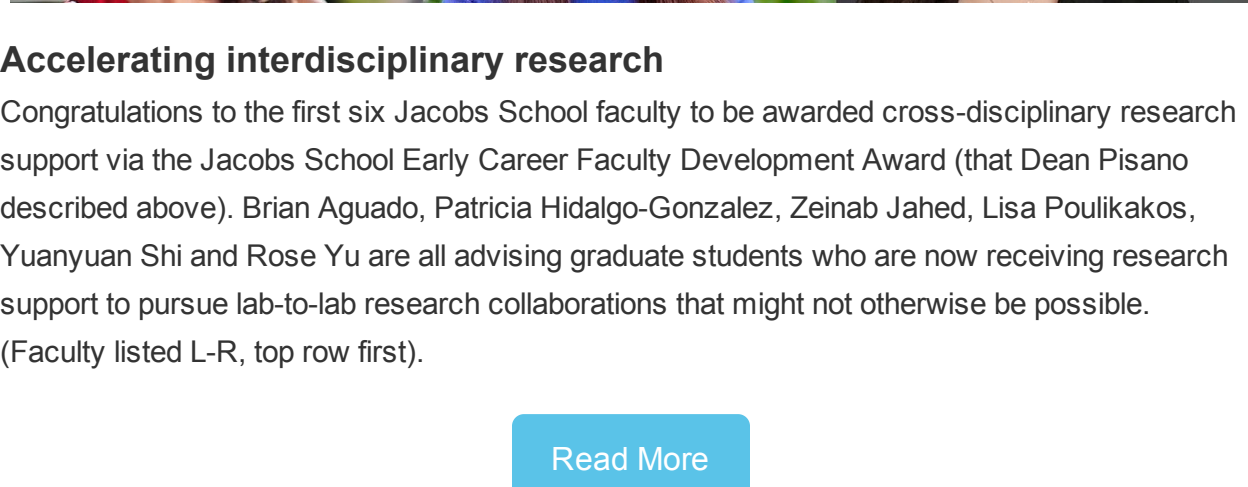
Creative solutions to research funding challenges are something I am always thinking about. I'm in the early stages of a new initiative across every Jacobs School department to help organize the strongest research areas around efforts to win transformative research grants and contracts. You always need to double down on your strengths, even as you work to build up other areas. More on this to come.

Research funding comes from a mix of sources including the US government, industry, foundations and philanthropy. I am always ready to engage in conversations and strategies regarding empowering our community to successfully compete for research funding.

As always, I can be reached at [DeanPisano@eng.ucsd.edu](mailto:DeanPisano@eng.ucsd.edu).

Sincerely,

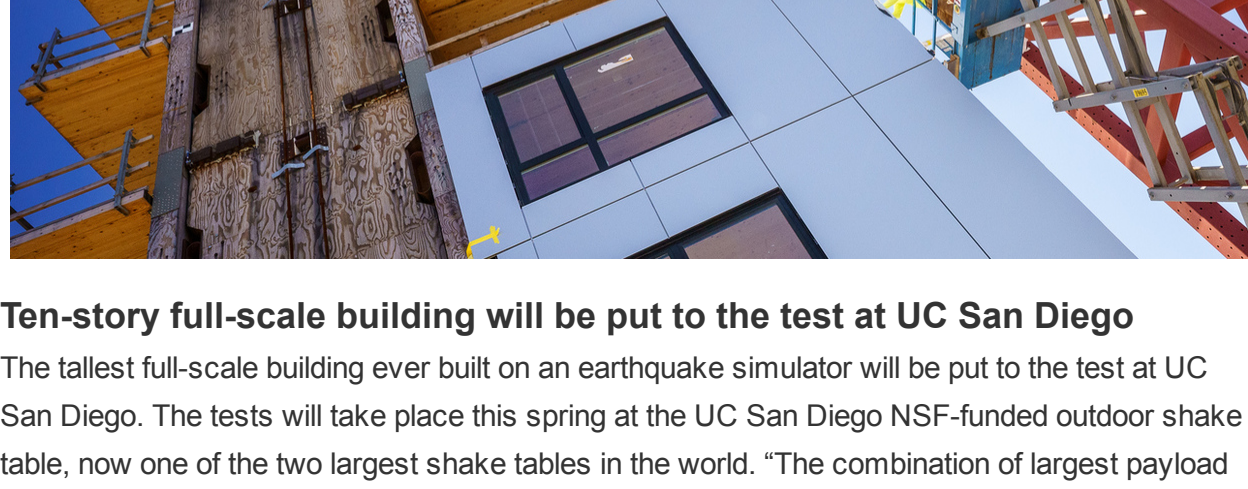
Al  
Albert ("Al") P. Pisano, Dean  
UC San Diego Jacobs School of Engineering



**Accelerating interdisciplinary research**

Congratulations to the first six Jacobs School faculty to be awarded cross-disciplinary research support via the Jacobs School Early Career Faculty Development Award (that Dean Pisano described above). Brian Aguado, Patricia Hidalgo-Gonzalez, Zeinab Jahed, Lisa Poulikakos, Yuanyuan Shi and Rose Yu are all advising graduate students who are now receiving research support to pursue lab-to-lab research collaborations that might not otherwise be possible. (Faculty listed L-R, top row first).

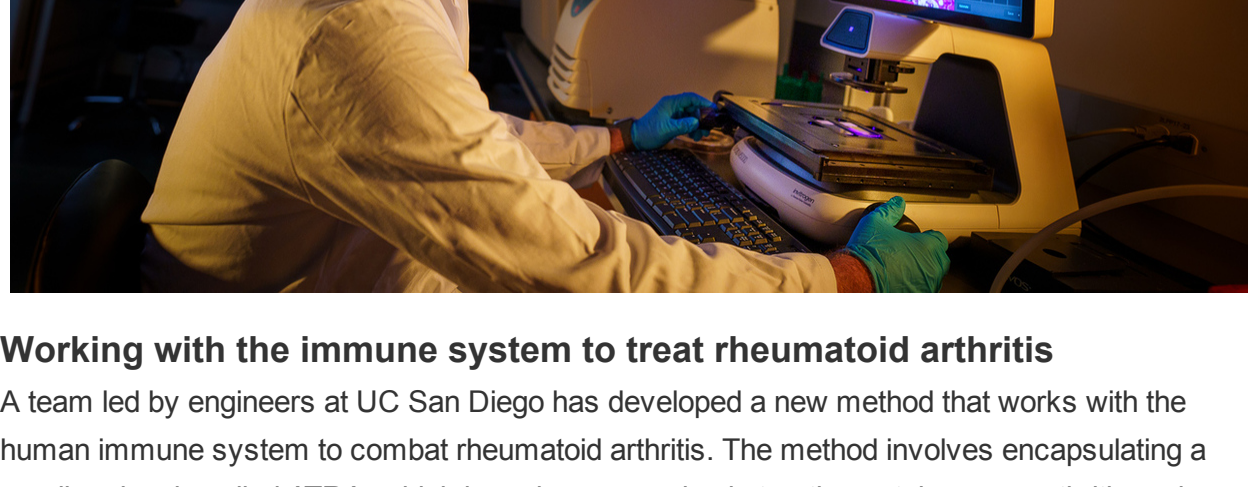
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**Ten-story full-scale building will be put to the test at UC San Diego**

The tallest full-scale building ever built on an earthquake simulator will be put to the test at UC San Diego. The tests will take place this spring at the UC San Diego NSF-funded outdoor shake table, now one of the two largest shake tables in the world. "The combination of largest payload capacity in the world, an outdoor setting, and the newly added six-degrees-of-freedom shaking capability make the UC San Diego shake table a powerful and unique facility," said professor Joel Conte, PI of the NSF-funded UC San Diego NHERI shake table and a professor in the Department of Structural Engineering at the Jacobs School. "It's the only place where the Tallwood tests could happen."

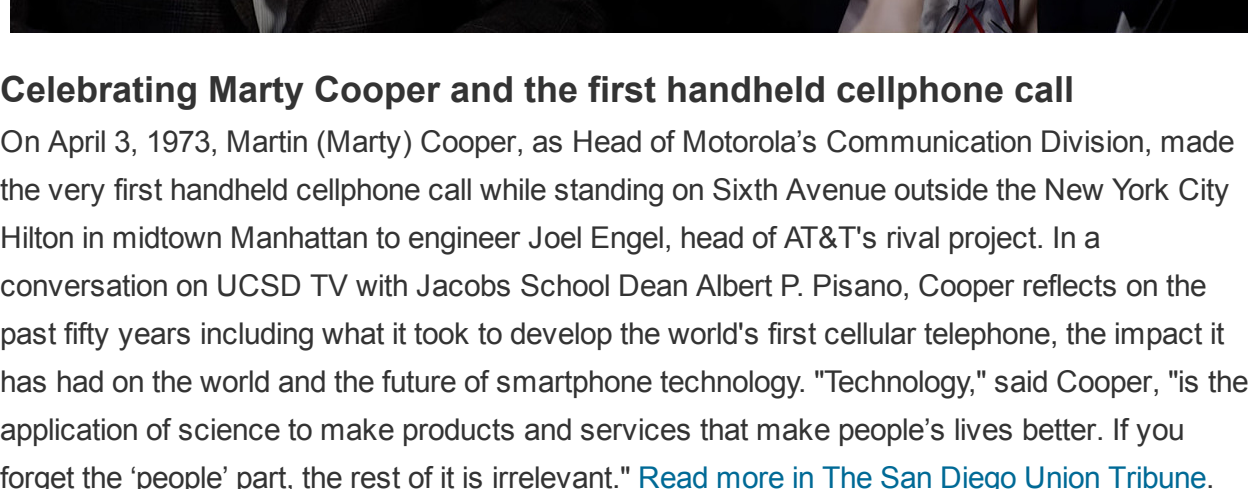
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**Working with the immune system to treat rheumatoid arthritis**

A team led by engineers at UC San Diego has developed a new method that works with the human immune system to combat rheumatoid arthritis. The method involves encapsulating a small molecule called ATRA, which has shown promise in treating autoimmune arthritis and relieving inflammation, into a biodegradable polymer. The encapsulated ATRA is directly injected into a joint affected by rheumatoid arthritis, where it remains in effect for at least several weeks. During that time, ATRA reprograms immune cells at the joint into disease-stopping cells, known as regulatory T cells, so that they resolve rather than cause inflammation. "Essentially, our system turns the disease site into a factory that produces regulatory T cells," said David A. McBride, the first author of the paper and a chemical engineering Ph.D. student at UC San Diego.

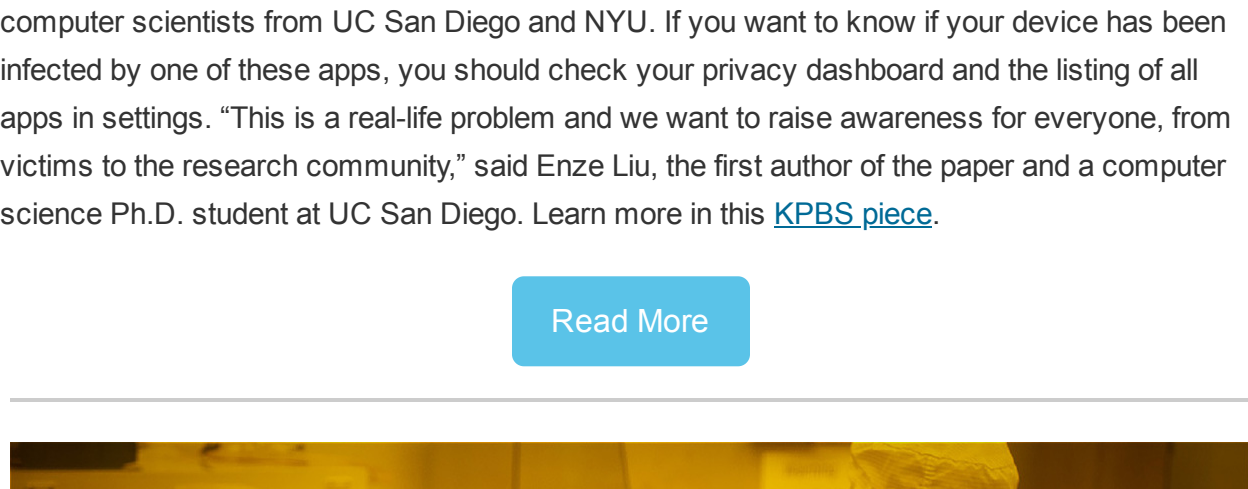
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**Celebrating Marty Cooper and the first handheld cellphone call**

On April 3, 1973, Martin (Marty) Cooper, as Head of Motorola's Communication Division, made the very first handheld cellphone call while standing on Sixth Avenue outside the New York City Hilton in midtown Manhattan to engineer Joel Engel, head of AT&T's rival project. In a conversation on UCSD TV with Jacobs School Dean Albert P. Pisano, Cooper reflects on the past fifty years including what it took to develop the world's first cellular telephone, the impact it has had on the world and the future of smartphone technology. "Technology," said Cooper, "is the application of science to make products and services that make people's lives better. If you forget the 'people' part, the rest of it is irrelevant." [Read more in The San Diego Union Tribune.](#)

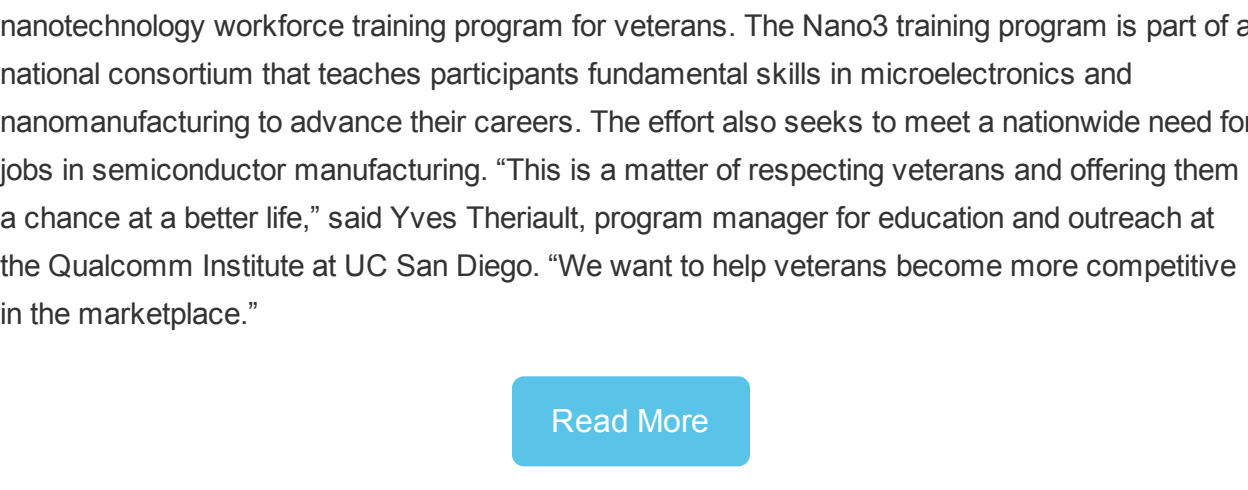
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**What happens if a smartphone app is spying on you**

Smartphone spyware apps that allow people to spy on each other are not only hard to notice and detect, they also will easily leak the sensitive personal information they collect, says a team of computer scientists from UC San Diego and NYU. If you want to know if your device has been infected by one of these apps, you should check your privacy dashboards and the listing of all apps in settings. "This is a real-life problem and we want to raise awareness for everyone, from victims to the research community," said Enze Liu, the first author of the paper and a computer science Ph.D. student at UC San Diego. Learn more in this [KPBS piece](#).

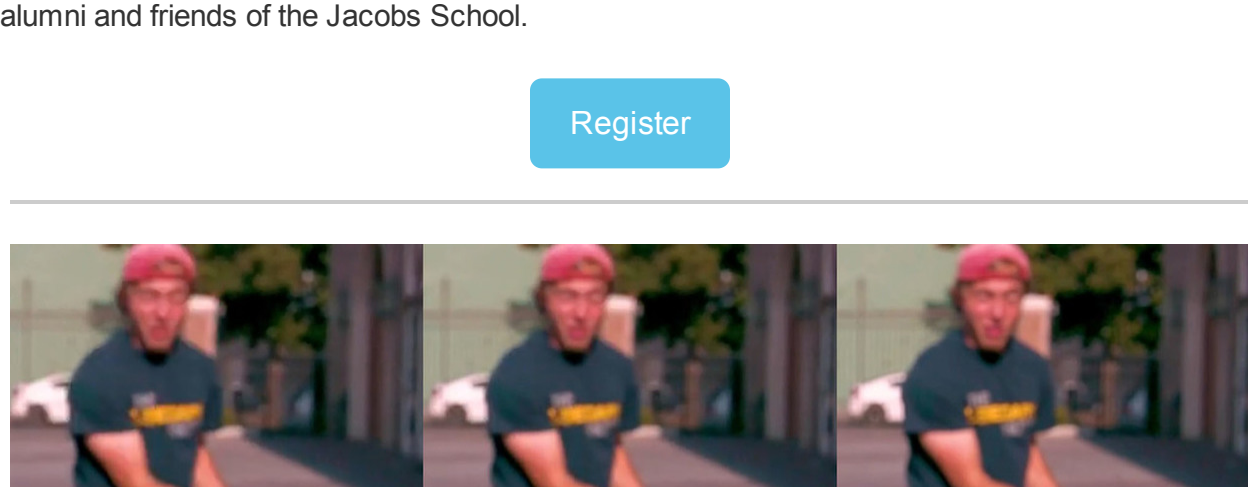
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**Nanotechnology training program for veterans**

UC San Diego's nanofabrication facility, Nano3, received \$437,000 from the NSF to establish a nanotechnology workforce training program for veterans. The Nano3 training program is part of a national consortium that teaches participants fundamental skills in microelectronics and nanomanufacturing to advance their careers. The effort also seeks to meet a nationwide need for jobs in semiconductor manufacturing. "This is a matter of respecting veterans and offering them a chance at a better life," said Yves Theriault, program manager for education and outreach at the Qualcomm Institute at UC San Diego. "We want to help veterans become more competitive in the marketplace."

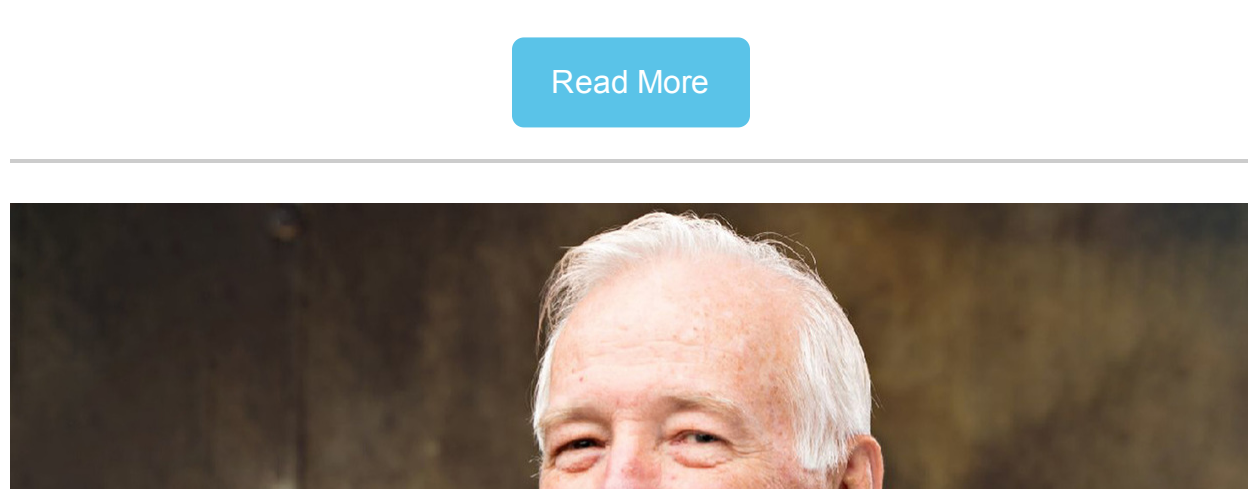
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**Visit Franklin Antonio Hall on May 5**

The Jacobs School's Franklin Antonio Hall is teeming with activity and is running as designed: it maximizes the circulation of people and ideas. This building is filled with collaborative research groups, inventors and entrepreneurs, teams of undergraduate builders, and students. As part of UC San Diego Alumni Week, the Jacobs School is throwing open the doors to the Robert Conn Executive Outreach Center on the 4th floor of Franklin Antonio Hall. The event is open to alumni and friends of the Jacobs School.

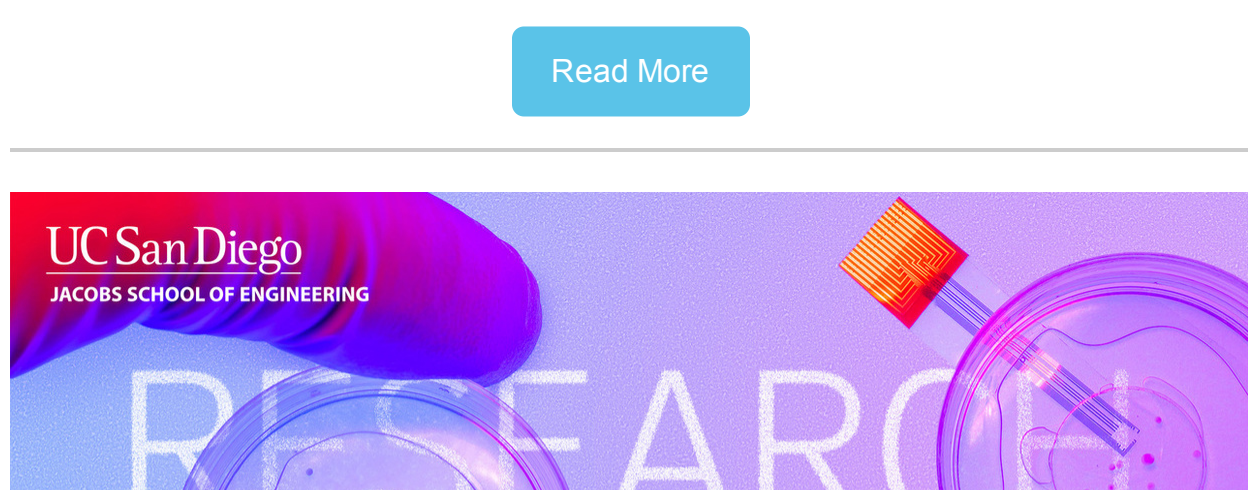
[Register](#)



**Improved Slow Motion**

A new technique developed by UC San Diego computer scientists could have a far-reaching impact on the future of slow-motion video. The team broke new ground in a technique for video processing known as video frame interpolation – a way of digitally "sandwiching" additional animation frames between existing ones while evening out any blur to achieve a fluid effect. The new video frame interpolation technique is called FLAVR, or Flow-Agnostic Video Representations for Fast Frame Interpolation. The team is led by computer science professor Manmohan Chandraker, who is part of the [Center for Visual Computing](#) here at the UC San Diego Jacobs School of Engineering.

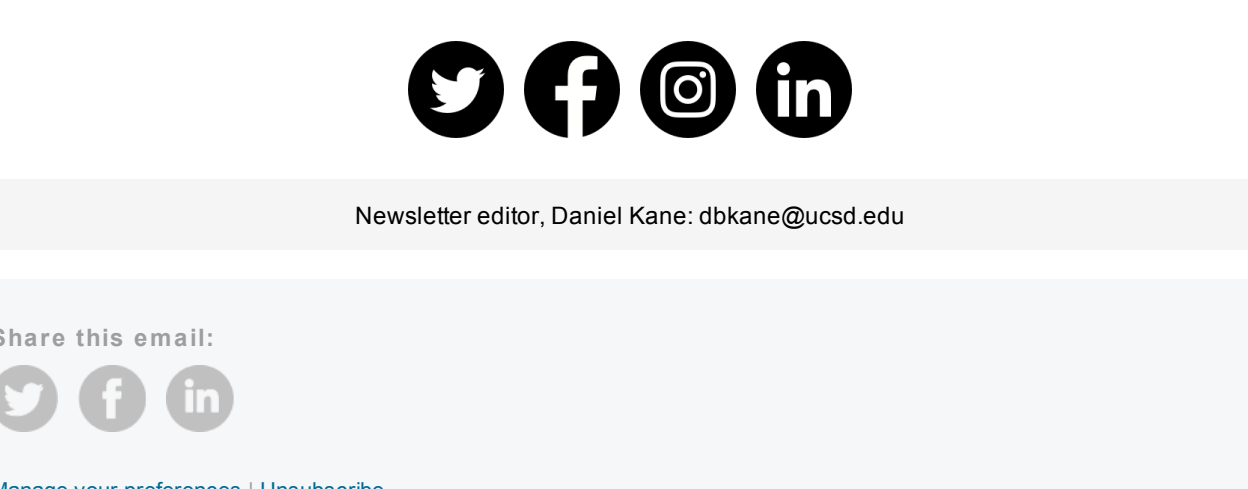
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**Remembering Bob Skelton**

Robert (Bob) Eugene Skelton, UC San Diego Distinguished Professor Emeritus of Mechanical and Aerospace Engineering, passed away Feb. 15, 2023. At UC San Diego, Skelton built his research group around structural systems and control, focusing specifically on the design, analysis, and control of tensegrity systems, a mathematically elegant yet innately practical research paradigm related to lightweight controllable structures. Skelton is broadly recognized as the principal pioneer in the field of tensegrity. A member of the National Academy of Engineering, the breadth and depth of his impact and his contributions are extensive, ranging from art, to architecture, to biology, physics and medicine, as well as to the building of bridges, large telescopes, space structures, and efficient wave energy conversion systems in the ocean.

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**Research Expo is April 26. Join us!**

Looking to recruit top tech talent? Want to see the latest technologies in development, and talk with the graduate students and faculty bringing them to fruition? Join us on Thursday, April 26 for our 41st annual Jacobs School of Engineering Research Expo, to connect with students, faculty, alumni and industry partners of the #10 engineering school in the nation. Research Expo will be free of charge this year.

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