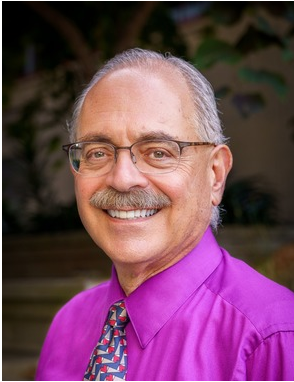


In Fusion, San Diego Steps Up



These are tumultuous times. As I tackle each day as an engineering dean, I am energized, foremost, by our people. We are advancing education and research efforts and partnerships that build on Jacobs School, campus and regional strengths to solve tough problems facing society.

This week, we have more good news on this front. San Diego is consolidating its position as a leader in the global race to make fusion energy a practical reality.

In particular, UC San Diego and General Atomics just launched a new center dedicated to computational and artificial intelligence work that is critical for advancing fusion energy. This includes creating and managing digital models of fusion power plants.

The new center is called the [Fusion Data Science and Digital Engineering Center](#), and here at UC San Diego it is part of our [Fusion Engineering Institute](#).

The center is built on existing collaborations between General Atomics and UC San Diego's [San Diego Supercomputer Center](#) in artificial intelligence, data management, high performance computing, digital engineering and more. Thank you to everyone working so hard on these important efforts!

Fusion is a massive opportunity for the country – and for California. Here at UC San Diego, we are organized around solving the remaining fusion engineering and data challenges while advancing fundamental knowledge. And this is only possible because of decades of sustained federal funding, combined with fruitful research and workforce-development collaborations with industry and public sector partners.

In fact, UC San Diego and General Atomics partnered to establish the San Diego Supercomputer Center 40 years ago thanks, in part, to funding from the National Science Foundation.

In short, here in San Diego we are poised to make big breakthroughs that will move the needle for the national efforts to win the global fusion race.

And this brings me to the [Behind Every Breakthrough](#) campaign that UC San Diego just launched. One of the big goals of the campaign – [including this video](#) – is to raise awareness and support for UC San Diego's many research and education efforts that are improving lives, solving problems for society, and strengthening the economy. All of this is fueled, to important degrees, by federal government research funding, both direct and indirect.

Together, we make **bold** possible.

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



Behind Every Breakthrough

UC San Diego recently launched the Behind Every Breakthrough website aimed at building awareness and starting important conversations around the many ways that federal funding fuels discoveries that cure diseases and solve global challenges. The site includes a video with information on how federal grants work, what they support, and what's at risk if they're cut.

[Read More](#)



Data Science + Fusion in San Diego

A new Fusion Data Science and Digital Engineering Center in San Diego sets the stage for deepening collaborations between General Atomics and UC San Diego in advanced digital engineering, artificial intelligence, machine learning, and high-performance computing. It's part of a multi-step effort to fast-track fusion energy development while reinforcing California's leadership in fusion research and innovation. These collaborations are part of a critical research thrust within the UC San Diego [Fusion Engineering Institute](#).

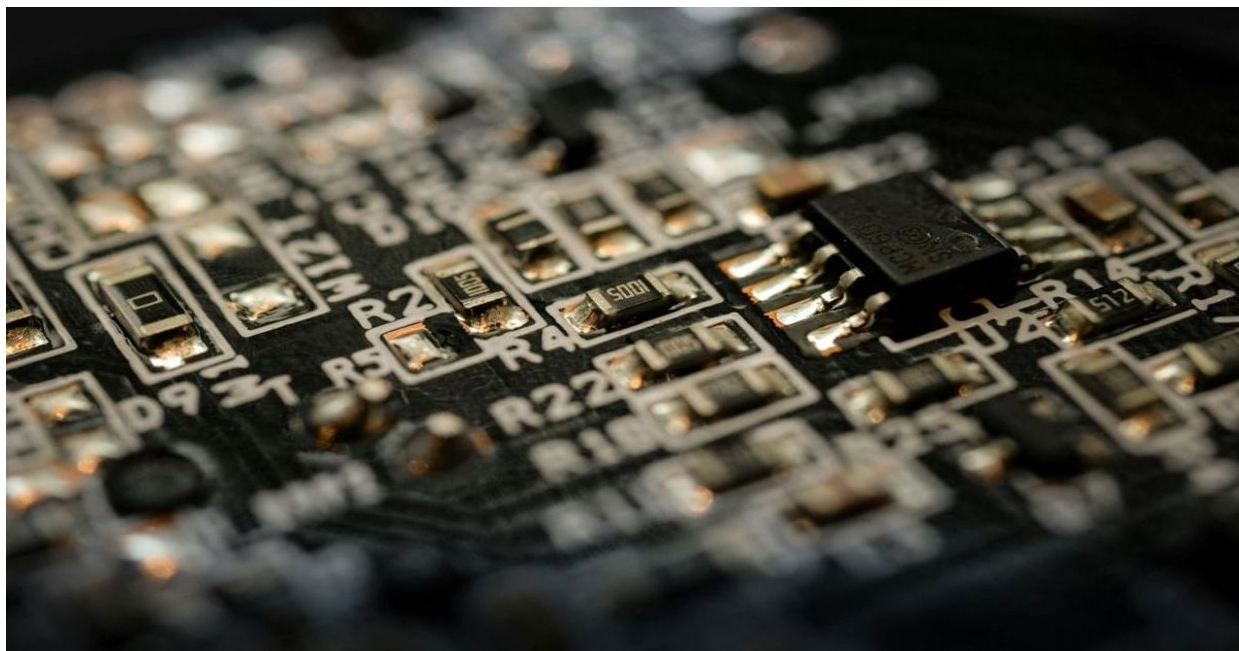
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**Celebrating our Aiiso Yufeng Li Family
Department of Chemical and Nano Engineering!**

We recently got together to officially celebrate the naming of our Aiiso Yufeng Li Family Department of Chemical and Nano Engineering. This department is unique for its successful efforts to combine nano-scale discovery, nano-scale engineering and manufacturability driven by advances in chemical engineering. Thanks again to Jeff and Doreen Li and the entire family for your vision and for your generosity, which is strengthening our education and research efforts in the department.

Watch the Event Video



Microelectronics are Going from Lab to Fab at UC San Diego

Little more than a year after the [Microelectronics Commons program](#) kicked off, UC San Diego researchers have made significant strides in bringing new semiconductor technologies from possibility to prototype and beyond. “We picked 5G/6G communication as our number one focus because of our research strengths and close relations with industry leaders,” said Yuhwa Lo, UC San Diego lead for the [California DREAMS](#) hub, electrical engineering professor, and director of our Qualcomm Institute’s [Nano3 nanofabrication cleanroom facility](#), which is key infrastructure for the hub.

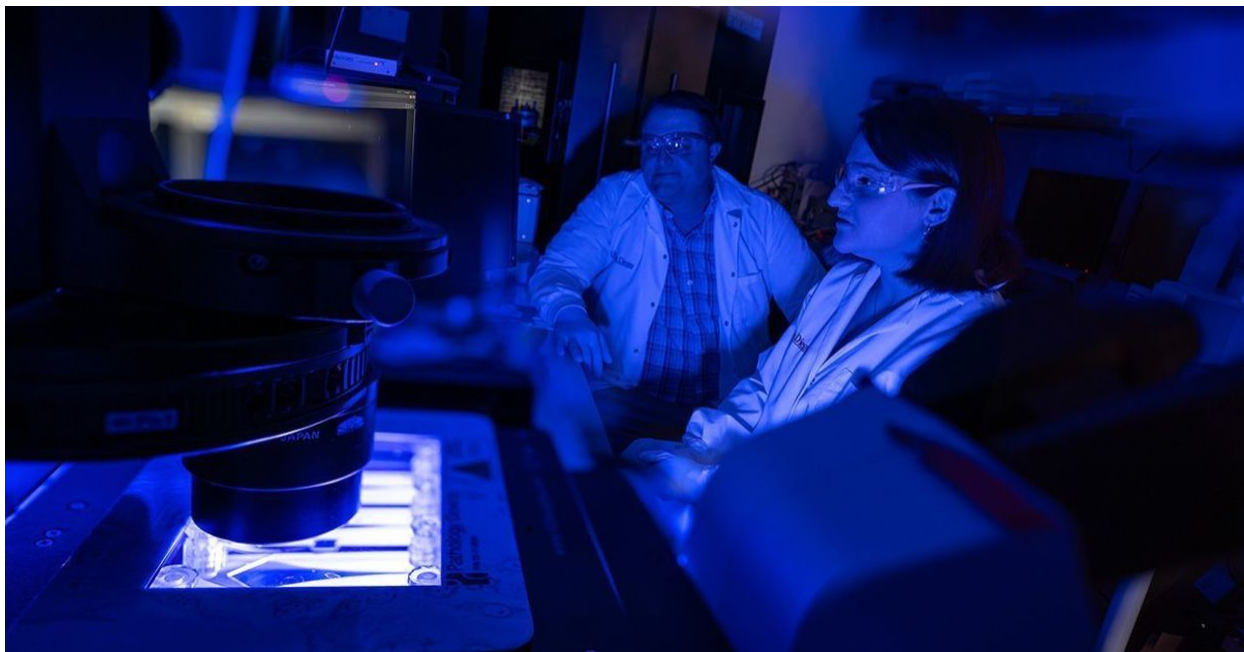
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What Are the Frontiers of AI and its Impact on Society?

Researchers from all across UC San Diego and around the world, including industry experts from Google, Meta and Qualcomm, converged on campus recently to explore the promise of generative artificial intelligence. Speakers shared in-depth points of view on various aspects of generative AI, from frontier technologies, to its impact on scientific discovery, to societal and safety implications, to creating a whole new way to make music and interact.

[Read More](#)



'Stickiness' of Tumor Cells May Help Predict Cancer's Spread

By assessing how "sticky" tumor cells are, bioengineers and Moores Cancer Center researchers have found a potential way to predict whether a patient's early-stage breast cancer will metastasize. The discovery, made possible by a microfluidic device that sorts tumor cells based

on their adhesion strength, could help doctors identify high-risk patients and tailor their treatments accordingly.

[Read More](#)



Giving Micro-drones a Jump Start

Electrical engineers at the Jacobs School and French research institute CEA-Leti have developed an innovative circuit design that could enable miniature devices, such as microdrones and other microrobotics, to be powered longer while staying lightweight and compact. The circuit features miniaturized solid-state batteries arranged in a “flying” configuration. The result is a high energy density system with an ultra lightweight design. Read coverage in [IEEE Spectrum](#).

[Read More](#)



Giving Students Hands-on Experience with New Course

Chemical engineering students now have their very own junior-year capstone project course at the Jacobs School. The hands-on course allows the students to gather and analyze data on a solar collector's performance while visiting various sunny areas of campus—in what might be the biggest challenge in their undergraduate careers to date. Teaching professor Aaron Drews and research and development engineer James Findley de Regt, both from the Aiso Yufeng Li Family Department of Chemical and Nano Engineering, developed the class together.

[Read More](#)



Join Us at Research Expo April 30!

You're invited! Register today and plan to join us for the Jacobs School's 43rd annual Research Expo symposium on Wednesday, April 30, 2025. Research Expo is an opportunity to learn about

the latest technologies in development, meet the engineering and computer science graduate students and faculty bringing them to fruition, and recruit top tech talent.

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