Partnership wins

Last week, the NSF announced UC San Diego as the lead on a $20M artificial intelligence research institute called The Institute for Learning-enabled Optimization at Scale (TILOS). And just a week before that, we celebrated UC San Diego as one of six institutions invited to join the Wu Tsai Human Performance Alliance, launched through a $220M philanthropic investment from the Joe and Clara Tsai Foundation.

This NSF AI Institute win would never have been possible without our deep partnerships across campus and in particular with the Halıcıoğlu Data Science Institute (HDSI), directed by Professor Rajesh Gupta (Computer Science & Engineering; and HDSI). In similar fashion, joining the Wu Tsai Human Performance Alliance would never have happened without our deep partnerships across campus and in particular with Health Sciences via the Institute of Engineering in Medicine (IEM), directed by Professor Andrew McCulloch (Bioengineering; and Medicine).

In both cases, professors at the Jacobs School of Engineering are leading large, multidisciplinary teams to do things that matter: Andrew Kahng (Computer Science; and Electrical Engineering) leads TILOS, Andrew McCulloch leads the Wu Tsai Human Performance Alliance at UC San Diego.

I'm so proud to see the collaborative DNA of the Jacobs School shining so brightly. In both cases, entire ecosystems are coming together to address challenges that no one lab, discipline or industry could solve on their own.

Looking beyond these recent wins, we are pushing to the finish line on Franklin Antonio Hall, which is a large, powerful machine that will house a collection of ecosystems of researchers tackling big challenges that matter. From this ecosystem, many more partnership wins are sure to emerge. It's opening soon, in March 2022!

We are running a virtual series to introduce Franklin Antonio Hall and some of the people and projects going into it. You can register here for future events in the series, and see video of the first two talks in the series.

This building is our recipe for future success, and I really feel like I'm still in the kitchen. This virtual series is just a taste of what we're cooking up. And hey, do you want to help? I could always use some help in the kitchen!

The help I could use, of course, is with the building fundraising we still need to do. I'm profoundly grateful to everyone who has helped us so far. Thank you. And if you might be interested in opportunities to help us in our final push across the finish line, please do get in touch. As always, I can be reached at DeanPisano@eng.ucsd.edu.

~Albert P. Pisano, Dean
UC San Diego Jacobs School of Engineering
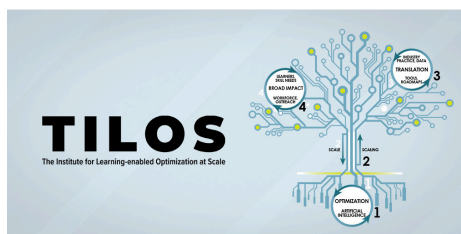
NSF Invests $20M in Artificial Intelligence Research Institute

UC San Diego will lead a $20 million NSF National Artificial Intelligence (AI) Research Institute called The Institute for Learning-enabled Optimization at Scale (TILOS). The Institute will pursue foundational breakthroughs at the nexus of artificial intelligence and optimization to transform chip design, robotics, and communication networks. TILOS includes researchers from MIT, San Diego-based National University, U. of Pennsylvania, UT Austin, and Yale; partial support is from Intel. TILOS will be housed at the Halıcıoğlu Data Science Institute (HDSI), UC San Diego's campus hub for data science and artificial intelligence. TILOS is one of the NSF's 11 new AI institutes, each receiving $20 million over five years.

Learn more: bit.ly/UCSDTILOS

The Wu Tsai Human Performance Alliance at UC San Diego

UC San Diego is one of six institutions invited to participate in the Wu Tsai Human Performance Alliance, a scientific collaboration that aims to transform human health and well-being on a global scale through the discovery and translation of the biological principles underlying peak human performance. The Alliance was created through a $220M philanthropic investment from the Joe and Clara Tsai Foundation. Partner institutions include Stanford; Boston Children's Hospital, a Harvard Medical School Affiliate; U. of Kansas; U. of Oregon; and the Salk Institute for Biological Studies.

Learn more: bit.ly/WuTsaiUCSD

Power electronics with your sweat — while you sleep
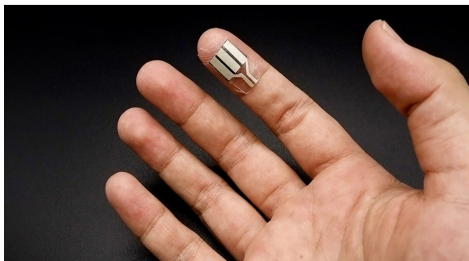
A new wearable device turns the touch of a finger into a source of power for small electronics and sensors. Engineers at UC San Diego developed a thin, flexible strip that can be worn on a fingertip and generate small amounts of electricity when a person's finger sweats or presses on it. What's special about this sweat-fueled device is that it generates power even while the wearer is asleep or sitting still. This is potentially a big deal for the field of wearables because researchers have now figured out how to harness the energy that can be extracted from human sweat even when a person is not moving.

Learn more: bit.ly/FingerBFC

IDEA Engineering Student Center Faculty Director

NanoEngineering Professor Darren Lipomi has been named the new Faculty Director of the IDEA Engineering Student Center at the UC San Diego Jacobs School of Engineering. The IDEA Center's mission is to support all students on the challenging path of an engineering and computer science education at UC San Diego, with specific programs that build community, and provide academic and peer support for students traditionally underrepresented in the engineering and computer science fields. Lipomi will build on the momentum and achievements that the IDEA Center has made over the last six years under the leadership of Mechanical and Aerospace Engineering Professor Oliva Graeve.

Learn more: bit.ly/LipomiIDEACenter

Soft skin patch could provide early warning for strokes, heart attacks
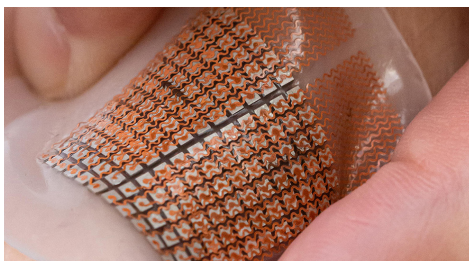
Nanoengineers at UC San Diego developed a soft and stretchy ultrasound patch that can be worn on the skin to monitor blood flow through major arteries and veins deep inside a person's body. The ultrasound patch can continuously monitor blood flow—as well as blood pressure and heart function—in real time. Wearing such a device could make it easier to identify cardiovascular problems earlier, including blood clots; heart valve problems; poor circulation in the limbs; or blockages in the arteries that could lead to strokes or heart attacks.

Learn more: bit.ly/BloodFlowPatch