

TEPPER OPENS DOORS

to His Vision for Higher Ed

— SEPTEMBER 13, 2018 —

The Carnegie Mellon University community celebrated alumnus and philanthropist David Tepper's ambitious vision, which has come to fruition at the grand opening of the David A. Tepper Quadrangle, a new home for the Tepper School of Business, a new hub for campus life and a catalyst for the future of higher education.

More than 2,500 CMU students, alumni, faculty, staff and friends attended activities to commemorate the historic event, which included a dedication ceremony and ribbon-cutting, community lunch, building tours and panel discussion among the building's architects and university's campus design team.

"This university has led the way in innovation, and hopefully this building will lead the way, too."

— David Tepper

The five-story, 315,000 square-foot building, the first to be completed on the Tepper Quad, is named for the



CMU supporters, university leadership, students and special guests cut the ribbon to officially open the new Tepper Quad.

alumnus and trustee who earned his MBA from CMU in 1982 and who has become one of the university's greatest benefactors. Tepper has made two transformational gifts to the university — \$55 million to name and endow the business school and the \$67 million lead gift for the Tepper Quad.

At the dedication ceremony, Tepper marveled at the building's collaborative and flexible spaces, and thanked everyone involved in the project for a "fantastic effort."

"This is a different place than any other place on campus and pretty much at any other university or business school in the country," he said.

"This university has led the way in innovation, and hopefully this building will lead the way, too."

After earning his MBA from CMU, Tepper used the skills he learned to become one of the most successful investors of his generation. His hedge fund company, Appaloosa Management L.P., has consistently outperformed industry peers and the broader global markets since inception. A major philanthropist, Tepper champions education and meeting people's basic needs across the United States. He is passionate about ensuring that education is accessible to all and that children and teachers have the tools and resources they need to thrive.

Carnegie Mellon President Farnam Jahanian said the Tepper Quad would not be possible without Tepper's leadership and generosity.

"His passion for this project is driven by the belief that Carnegie Mellon draws its greatest strength from our willingness to cross boundaries," Jahanian said. "So he challenged — and empowered us — to create a building that would enhance this innate ability. We are so grateful for his foundational generosity, which was supported along the way by more than 1,200 donors who believed in this vision and what it could do for Carnegie Mellon."

Jahanian recognized and thanked Tepper Quad fundraising co-chairs Jack McGrath and David Coulter, as well as Jim and Susan Swartz, who provided a landmark gift of \$31 million to establish the Swartz Center for Entrepreneurship, which is housed in the new facility.

With 82,000 square feet of exterior glass, this building is CMU's new front door to campus and its window to the world. Its visionary open design was created with flexible spaces to connect people and ideas, and promote a new paradigm for learning.

"As the new home of our business school, this building will enhance the Tepper School's diverse strengths at the intersection of business, technology and analytics," Jahanian said. "Here, we will nurture the next generation of leaders. Here, we will

catalyze deeper connections between the Tepper School and other core areas of excellence across campus, including computer science, engineering, social sciences and the arts."

Tepper School of Business Dean Robert Dammon spoke about the opportunity the Tepper Quad presents.

"For the Tepper School, this new building and the collaborative environment it creates provide us the opportunity to reimagine business education for the 21st century," Dammon said.

In addition to Tepper School of Business offices, classrooms and meeting spaces, the building houses the Askwith Kenner Global Languages & Cultures Room, which connects students with the many cultures they will encounter in the global workforce; the Swartz Center for Entrepreneurship, where students, alumni and faculty have access to mentors and business tools for startup success; and the Eberly Center for Teaching Excellence and Educational Innovation, to help faculty enhance their teaching effectiveness.

Social gathering spaces and flexible technology-equipped classrooms and conference rooms that can link students to CMU locations around the world were created to foster local and global collaboration and innovation.

The Tepper Quad is designed to bring the university community together in new ways. Amenities include a fitness center with expansive exterior views;

the 600-seat Simmons Auditorium that can be reconfigured to accommodate various types of events; an undergraduate admission area; and the David and Susan Coulter Welcome Center, where visitors can embark on their CMU experience by learning about the university and some of its unique traditions. Rohr Commons houses two eateries offering new dining options for students from across campus.



The Tepper Quad opening's full house.

"From the beginning, he [David Tepper] insisted this was not to be just a business building," said Jim Rohr, chairman of Carnegie Mellon University's Board of Trustees. "Here, in addition to the business school, he wanted to have large spaces devoted to collaboration. He wanted to have faculty and staff from all over CMU teach here. He wanted a welcome center. He wanted dining facilities. He wanted spaces for their families and visitors to CMU. This vision aligns perfectly with where the trustees, the staff and the faculty see the strategic plan of Carnegie Mellon going forward."

Four Reasons Why MACHINES WILL ALWAYS NEED A HUMAN

This article has been reprinted by Forbes. Visit the full article on-line.

Forbes

— JUNE 13, 2018 —



Carnegie Mellon University

State Department Selects Skinner as **SENIOR POLICY ADVISOR**

— AUGUST 30, 2018 —

Kiron Skinner, the Taube Professor of International Relations and Politics at Carnegie Mellon University, has been named senior policy advisor to U.S. Secretary of State Mike Pompeo. Skinner also will serve as director of policy planning, one of the State Department's most influential positions.

Skinner is the founding director of Carnegie Mellon's Institute for Politics and Strategy (IPS). The center for research, undergraduate and graduate education focuses on university-wide initiatives in the fields of political science, international relations, national security policy and grand strategy.

Skinner is a renowned expert in foreign policy who served on President Donald Trump's national security transition team in 2016.

"I am honored to assume the role of Director of the Office of Policy Planning and Senior Policy Advisor to the Secretary of State," Skinner said. "The Office of Policy Planning has a long and distinguished history of supporting the Secretary of State and the President in crafting U.S. grand strategy. My charge now is to assemble an intellectually diverse set of leading policy thinkers to create a 21st century U.S. grand strategy that brings American values and international commitments into focus while supporting the cause of peace, freedom and security throughout the world."

"Kiron Skinner is a national security powerhouse," said United States Secretary of State Mike Pompeo. "She is a one-woman, strategic-thinking tour de force. I'm confident that she will enhance our influence overseas, protect the American people and promote our prosperity. I am thrilled to bring her on board to the State Department team."

In addition to U.S. foreign policy, Skinner's areas of expertise are international relations, international security and political strategy.

"As director of Carnegie Mellon's Institute for Politics and Strategy, Kiron Skinner has created and supported countless opportunities for students, faculty and global thought leaders to cut across disciplines to examine key issues shaping our world," said Carnegie Mellon President Farnam Jahanian. "Being called to serve the nation in Washington, D.C., reflects her distinguished career and exemplifies the growing role CMU faculty play in shaping the policy and research agenda at the national level."

Skinner directs several other academic initiatives at CMU, including the Center for International Relations and Politics and the Institute for Strategic Analysis. She holds appointments in the Dietrich College of Humanities and Social Sciences, Heinz College of Information Systems and Public Policy, and the School of Computer Science. She's also



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a distinguished fellow of CMU's CyLab Security and Privacy Institute within the College of Engineering.

"Kiron is a thought leader in her field, best-selling author and highly accomplished faculty member whose work intersects many disciplines across Carnegie Mellon," said James E. Rohr, chair of the CMU Board of Trustees. "Her expertise will be a tremendous asset to the nation as she serves in the State Department."

Skinner has previously advised several presidential candidates and was named to the Department of Defense's Policy Board in 2017. She begins her new post at the State Department on September 4.

ARTFORUM

Carnegie Mellon's Miller Gallery Relaunches as **MILLER INSTITUTE FOR CONTEMPORARY ART**

— AUGUST 17, 2018 —

The Regina Gouger Miller Gallery at Carnegie Mellon University in Pittsburgh announced that it is being re-branded and reopening as the Miller Institute for Contemporary Art. Elizabeth Chodos, the current director of the Miller Gallery, will lead the institute.

"Under the traditional gallery model, the space was almost exclusively focused on exhibitions, whereas the new model of an institute for contemporary art expands the possibilities for public encounters with art," Chodos said. "Although exhibitions remain the centerpiece of programming, this new model adds a variety of public events and publications — print and online — that increase dialogue about contemporary art and its relevance in today's society."

Founded in 2000, the Miller Gallery has gained recognition for exhibiting regional artists and emerging talent from CMU's College of Fine Arts. The gallery has since evolved to present contemporary work by national and international artists. The Miller Gallery's transformation into the Miller Institute for Contemporary Art means a new mission and identity for the free arts space.



Guests enjoy an exhibit at the Miller Institute for Contemporary Art.

Dan Martin, dean of the College of Fine Arts, said the institute will reflect CMU's flexibility and focus. "Our new approach to programming and exhibitions is indicative of Carnegie Mellon's ability to provide a rich, reflective hybrid experience for our students, and to present new ideas and creative propositions to a general audience." He added: "Elizabeth is the perfect fit to lead us in this new direction. She has strong and successful arts-center leadership experience, a remarkable aesthetic and sharp curatorial skills."

The Miller Institute for Contemporary Art is open to the public with a solo exhibition of photography by CMU alumna Carrie Schneider, a 2001 graduate of the university's bachelor of humanities and arts program. The show features nine photographs of sitters reading texts authored by women and is part of the artist's series called "Reading Women." Later this fall, it will be followed by "Paradox: The Body in the Age of AI," which will explore the unconscious role of the human body in the advent of artificial intelligence.

New Students Encouraged to REACH BEYOND THE STARS

— AUGUST 26, 2018 —

In August, Carnegie Mellon welcomed 1,565 first-year students to the campus community as they moved into undergraduate housing and took part in orientation activities.

At this year's Convocation, CMU President Farnam Jahanian welcomed the Class of 2022+ to the official start of their college experience.

"The next four years will undoubtedly be some of the most transformative of your young lives," Jahanian said. "CMU will change you, and you will change CMU."

The Class of 2022+ consists of students from 45 states and 30 nations around the world. Women make up half of the incoming class, and under-represented minorities are 15 percent of the first-year Carnegie Mellon students.

"You are joining an exceptionally multicultural and multinational community here at CMU — we are a true microcosm of our interconnected world," Jahanian said. "Our 1,400 faculty come from 48 nations, and 110,000 alumni live and work in 130 countries around the globe."

Interim Provost Laurie Weingart reminded the students that, while they likely were drawn to CMU for

its academic excellence in the arts, science, technology or business, CMU is more than a collection of classes, academic majors and departments.

"This convocation is special because it welcomes each and every one of you into our community, for your entire time on campus, and forever once you graduate," Weingart said.

Gina Casalegno, vice president for student affairs and dean of students, welcomed students and their parents to campus.

"You are here because we see in you the talent, the intellect, the passion necessary to thrive in your chosen field," Casalegno said.

Student Body President Roshni Mehta offered advice to not let a fear of failure stand in the way of trying something new.

A third-year student with a double major in economics and ethics, history and public policy at the Tepper School of Business and Dietrich College of Humanities and Social Sciences, Mehta originally planned to study biology. At CMU, she discovered a passion for public policy, and she combines it with economics, which provides a foundation for public policy work.



First-year students created a class photo reflecting the orientation theme, "Dare to Discover."

"Even though I don't know quite what I want to do after college, I know that CMU has given me the skills and support to figure it out," Mehta said.

President Jahanian told first-year students their work will impact the world, and encouraged them to branch outside of their academic boundaries and take advantage of CMU's extraordinary intellectual and creative community.

"This generation — your generation — will write the story of this century," Jahanian said. "You will advance human knowledge, drive our economy with your ideas and shape our culture with your creativity."

A 12-year-old had
**ONE-SIXTH OF HIS BRAIN
REMOVED.**
He feels 'perfectly normal.'

This article has been reprinted by The Washington Post. Visit the full article on-line.

Washington Post

— AUGUST 2, 2018 —



Marlene Behrmann, a professor of psychology and cognitive neuroscientist at Carnegie Mellon, was the lead author of a paper on the remarkable case of Tanner Collins.

Circuit, Heal Thyself: **SELF-HEALING MATERIAL** Keeps Machines Safe From Mechanical Failures

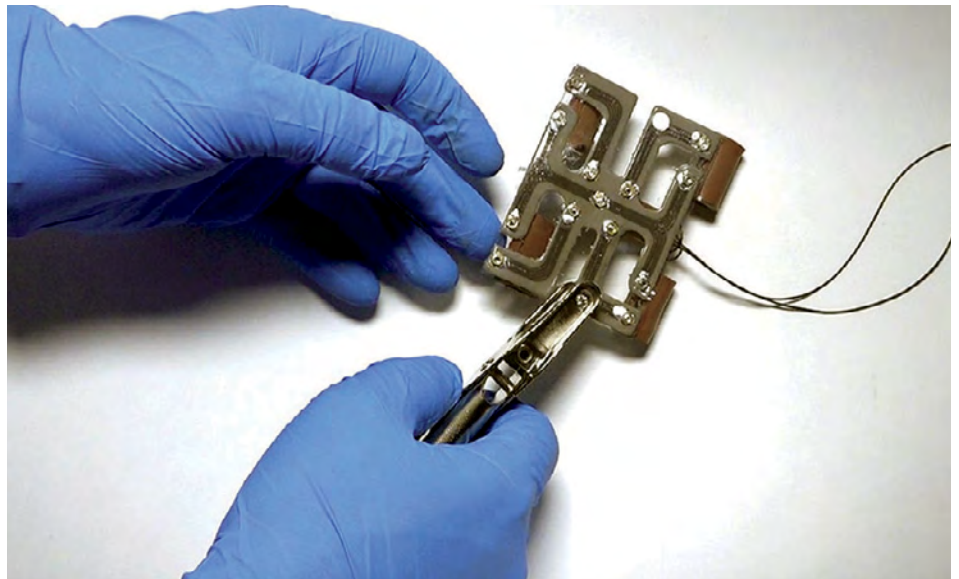
— JUNE 6, 2018 —

Many natural organisms have the ability to repair themselves. Now, manufactured machines will be able to do so, too.

In findings published in *Nature Materials*, researchers at Carnegie Mellon University have created a self-healing material that spontaneously repairs itself from extreme mechanical damage. Think of a first responder robot that can rescue humans during an emergency without sustaining damage, an inflatable structure that can withstand environmental extremes on Mars or even a health-monitoring device on an athlete during rigorous training.

This soft-matter composite material is composed of liquid metal droplets suspended in a soft elastomer. When damaged, the droplets rupture to form new connections with neighboring droplets and reroute electrical signals without interruption. Circuits produced with conductive traces of this material remain fully and continuously operational when severed, punctured or material is removed.

“Other research in soft electronics has resulted in materials that are elastic and deformable, but still vulnerable to mechanical damage that causes immediate electrical failure,” said Carmel Majidi, an associate professor of mechanical engineering who holds a courtesy title in the Robotics Institute. “The unprecedented



level of functionality of our self-healing material can enable soft-matter electronics and machines to exhibit the extraordinary resilience of soft biological tissue and organisms.”

Applications for its use include bio-inspired robotics, human-machine interaction and wearable computing. Because the material exhibits high electrical conductivity that does not change when stretched, it is ideal for use in power and data transmission.

Majidi, who directs the Integrated Soft Materials Laboratory, is a pioneer in developing new classes of materials in the soft matter engineering and soft robotics fields.

“If we want to build machines that are more compatible with the human body and natural environment, we have to start with new types of materials,” he said.

The findings were reported in “An Autonomously Electrically Self-Healing, Liquid Metal-Elastomer Composite for Robust Soft-Matter Robotics and Electronics,” *Nature Materials*, DOI: 10.1038/s41563-018-0084-7.

Other authors include Eric Markvicka, a doctoral student in the Robotics Institute; Xiaonan Huang, a doctoral student in mechanical engineering; and Michael D. Bartlett of Iowa State University.

Gene Editing Technique CURES GENETIC DISORDER in Utero

— JULY 9, 2018 —

Researchers at Carnegie Mellon University and Yale University have for the first time used a gene editing technique to successfully cure a genetic condition in utero in a mouse model. Their findings, published in *Nature Communications*, present a promising new avenue for research into treating genetic conditions during fetal development.

An estimated 8 million children are born each year with severe genetic disorders or birth defects. Genetic conditions can often be detected during pregnancy using amniocentesis, but there are no treatment options to correct these genetic conditions before birth.

“Early in embryonic development, there are a lot of stem cells dividing at a rapid pace. If we can go in and correct a genetic mutation early on, we could dramatically reduce the impact the mutation has on fetal development or even cure the condition,” said Danith Ly, professor of chemistry in CMU’s Mellon College of Science.

In this study, the researchers used a peptide nucleic acid-based gene



Danith Ly, professor of chemistry, Mellon College of Science.

editing technique that they had previously used to cure beta thalassemia, a genetic blood disorder that results in the reduced production of hemoglobin, in adult mice.

Peptide nucleic acids (PNAs) are synthetic molecules that combine a synthetic protein backbone with the nucleobases found in DNA and RNA. The PNAs used in this study were created by Ly at Carnegie Mellon’s Center for Nucleic Acids Science and Technology (CNAST), a leading center for PNA science.

Their technique uses an FDA-approved nanoparticle to deliver PNA molecules paired with donor DNA to the site of a genetic mutation. When the PNA-DNA complex identifies a designated mutation, the PNA molecule binds to the DNA and unzips its two strands. The donor DNA binds with the faulty DNA and spurs the cell’s DNA repair pathways into action, allowing it to correct the error.

In the current study, the researchers used a technique similar to amnio-

centesis to inject the PNA complex into the amniotic fluid of pregnant mice whose fetuses carried a mutation in the beta-globin gene that causes beta thalassemia.

“CRISPR is much easier to use, which makes it ideal for laboratory research. But the off-site errors make it less useful for therapeutics,” said Ly. “The PNA technique is more

The researchers believe that their technique might be able to achieve even higher success rates if they can administer it multiple times during gestation. They also hope to see if their technique can be applied to other conditions.

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*-Danith Ly, professor of chemistry in
CMU's Mellon College of Science*

With just one injection of the PNA during gestation, the researchers were able to correct 6 percent of the mutations. This 6 percent correction was enough to cause dramatic improvements in the mice's symptoms of beta thalassemia – and enough for the mice to be considered cured. Mice that were treated using PNA while in utero had levels of hemoglobin that were within the normal range, less spleen enlargement and increased survival rates.

The researchers also noted that there were no off-target effects from the treatment, a finding that might suggest this method would be preferable over other gene editing techniques like CRISPR/Cas9, which can erroneously damage off-target DNA.

ideal for therapeutics. It doesn't cut the DNA, it just binds to it and repairs things that seem unusual. We looked at 50 million samples and couldn't find one off-site error when we used our PNA gene editing technique.”

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This work was made possible by the support of the DSF Charitable Foundation, which has donated \$7 million to CNAIST, enabling the center to engage in fundamental research aimed at developing synthetic chemistry solutions for the diagnosis and treatment of disease.

Additional study authors include Adele S. Ricciardi, Raman Bahal, James S. Farrelly, Elias Quijano, Anthony H. Bianci, Valerie L. Luks, Rachel Putman, Francesc Lopez-Giraldez, Suleyman Coskun, Eric Song, Yanfeng Liu, David H. Stitelman, Peter M. Glazer and W. Mark Saltzman from Yale, and Wei-Che Hsieh from Carnegie Mellon.

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