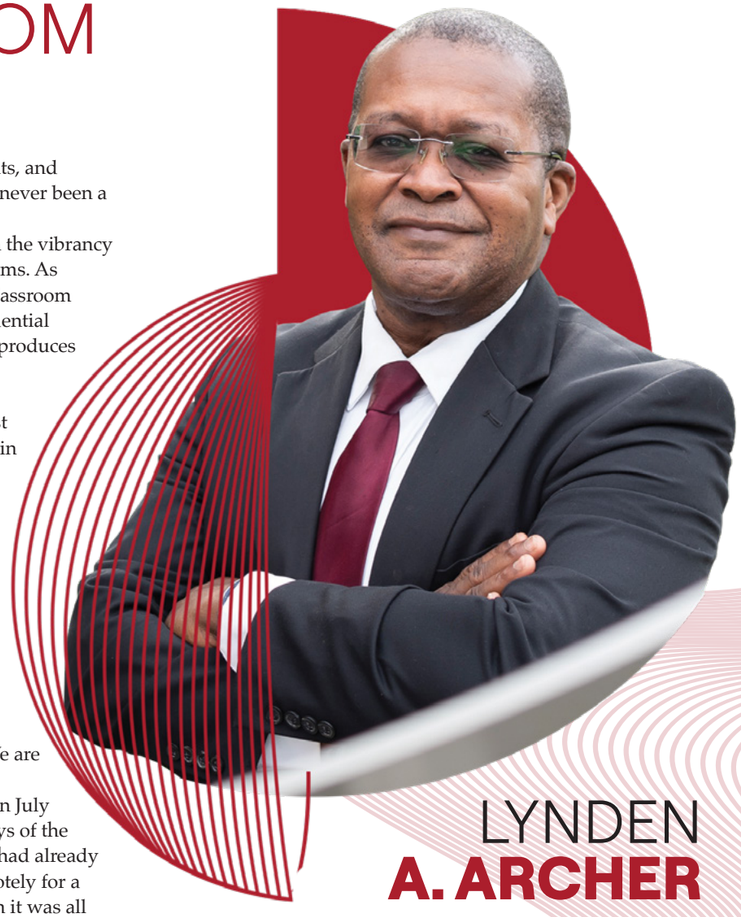
Cornell Engineering MAGAZINE

WINTER 2023

The gift of experiential learning:
How one alum's legacy is transforming Student Project Teams

MESSAGE FROM THE DEAN



I recently spoke with a group of alumni, parents, and friends of the College and told them that there has never been a better time to be a Cornell Engineer.

This year has been especially so, as we've seen the vibrancy of the Ithaca campus rebound to pre-pandemic norms. As we've grown to appreciate how our laboratories, classroom activities, design projects and other aspects of residential campus life provide an immersive experience that produces well-rounded, capable engineers. As we've grown to understand the crucial role systems thinking, commonplace in every engineering discipline, must play in addressing the big challenges of our time – in human health, in space exploration, and in climate change and energy transitions.

Of course, "normal" at Cornell Engineering is a bit of a misnomer. To us, "normal" means students learning how to apply engineering concepts in and outside the classroom; faculty forging new collaborations with clinicians at our Weill Cornell Medical College in New York City; members of our committed staff innovating processes for streamlining functions university-wide, transforming our aging infrastructure, and improving the quality of the student experience. We are constantly moving and continuously improving.

I was appointed dean of Cornell Engineering in July 2020, in what we would now consider the early days of the pandemic. At the time, it seemed like most people had already been working and interacting with each other remotely for a while. I continued to come to campus. Even though it was all quiet, and I'd been at Cornell for almost twenty years, each day allowed me to explore buildings on the Pew Engineering Quad, many of which I'd only known from the outside. In these buildings, many clever and transformative ideas have emerged, and many inspiring engineers have been educated.

It was a joy to tour the spaces where we educate students and enable faculty to push the boundaries of knowledge through their research. It was also an opportunity to understand where we needed to improve.

Those early days helped inspire the push to create our strategic plan for the college, Cornell Engineering 2030, which will guide the investments we make in people, programs, and infrastructure for the foreseeable future. The process also allowed us to prioritize action and to reflect upon the core values that must guide such priorities. Among these values, "excellence", "community", and "collaboration" stood out as key descriptors of what we are and aspire to become as a college.

I look forward to keeping you informed as we implement the Cornell Engineering 2030 plan. I also look forward to your continued engagement, generosity, and friendship as we live out these values. And as we work to foster and sustain a diverse, engaged, and caring environment where all members feel like they belong, are heard, and can reach their full potential.

In this issue of the alumni magazine, we've selected stories that capture the impressive range of impacts our community members —from our youngest students to those who have long since graduated, are having. I hope you feel as proud and as energized as I am about the fact that Cornell Engineering is making a difference. If you haven't been to Ithaca in a while, I hope you'll come see us soon.

There has never been a better time to be a Cornell Engineer.

Lynden A. Archer
Joseph Silbert Dean of Engineering
James A. Friend Family Distinguished Professor of Engineering

LYNDEN
A. ARCHER

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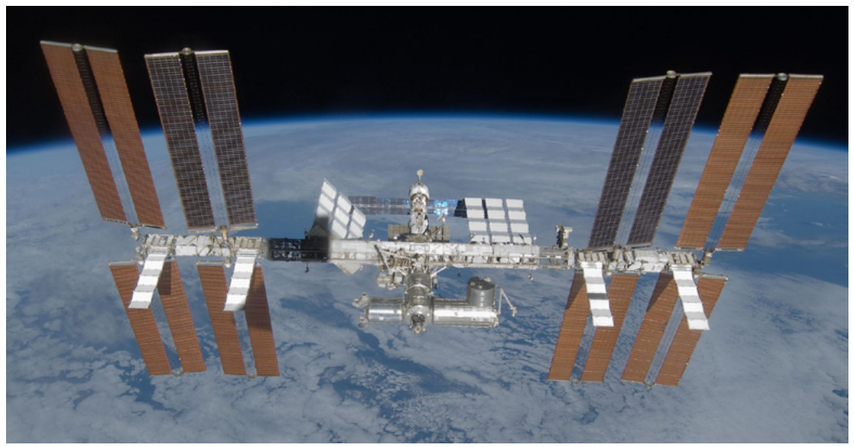
CORNELL SOFTWARE ENABLES 3D PRINTING ON SPACE STATION



The ability to 3D print in space would enable astronauts to fabricate their own components for equipment and other products, but the challenges for "Earth-independent manufacturing" are as vast as space itself.

Those challenges may be overcome thanks to modeling software created in the lab of Derek Warner, professor of civil and environmental engineering, and successfully tested aboard the international space station as part of a collaboration between Cornell, Hewlett Packard Enterprise (HPE), NASA and the ISS U.S. National Laboratory. The experiment was part of an ongoing effort to demonstrate the functionality of the HPE Spaceborne Computer-2, which was installed on the space station as the first commercial, state-of-the-art edge computing system with artificial intelligence capabilities.

"One of the allures of 3D printing is that you can manufacture locally," Warner said. "So the neat thing about this is that, while space might be the most extreme environment, for the military or on oil rigs or other places, there's also going to be a need for doing the same thing. This demonstrates that it's possible."

PHYSICAL SYSTEMS PERFORM MACHINE-LEARNING COMPUTATIONS

You may not be able to teach an old dog new tricks, but Cornell researchers have found a way to train physical systems, ranging from computer speakers and lasers to simple electronic circuits, to perform machine-learning computations, such as identifying handwritten numbers and spoken vowel sounds. The experiment is no mere stunt or parlor trick. By turning these physical systems into the same kind of neural networks that drive services like Google Translate and online searches, the researchers have demonstrated an early but viable alternative to conventional electronic processors – one with the potential to be orders of magnitude faster and more energy efficient than the power-gobbling chips in data centers and server farms that support many artificial-intelligence applications.

Cornell researchers have successfully trained (from left to right) a computer speaker, a simple electronic circuit and a laser to perform machine-learning computations.

"Many different physical systems have enough complexity in them that they can perform a large range of computations," said Peter McMahon, assistant professor of applied and engineering physics, who led the project. "However, not every physical system will be a good neural network for every task, so there is an important question of what physical systems work best for important machine-learning tasks. But now there is a way to try find out – which is what my lab is currently pursuing."

STUDENT-BUILT CUBESATS TO RENDEZVOUS IN SPACE

Millie Schwartz '23, Shihao Cao '23 and Andreea Foarce '22 examine one of their CubeSats at Virgin Orbit in Los Angeles.

The Pathfinder for Autonomous Navigation (PAN) project, led by Mason Peck, the Stephen J. Fujikawa '77 Professor of Astronautical Engineering, is preparing to launch a pair of small, low-cost, modular satellites, known as CubeSats, into space. Once deployed in low Earth orbit, the two CubeSats will drift apart by up to 30 kilometers and then, using custom software, locate each other's position, fire their thrusters and dock together. By demonstrating that autonomous rendezvous and docking are possible at the small spacecraft scale, the project provides a critical step towards the eventual construction of advanced structures such as space stations, as well as the refueling and repairing of small spacecraft.

ALGORITHMS PREDICT SPORTS TEAMS' MOVES WITH 80% ACCURACY

Algorithms developed in Cornell's Laboratory for Intelligent Systems and Controls can predict the in-game actions of volleyball players with more than 80% accuracy, and now the lab is collaborating with the Big Red hockey team to expand the research project's applications.

Silvia Ferrari, the John Brancaccio Professor of Mechanical and Aerospace Engineering, and doctoral students Junyi Dong and Qingze Huo trained the algorithms to infer hidden variables the same way humans gain their sports knowledge – by watching games. The algorithms used machine learning to extract data from videos of volleyball games, and then used that data to help make predictions when shown a new set of games.

Cornell researchers have successfully trained (from left to right) a computer speaker, a simple electronic circuit and a laser to perform machine-learning computations.

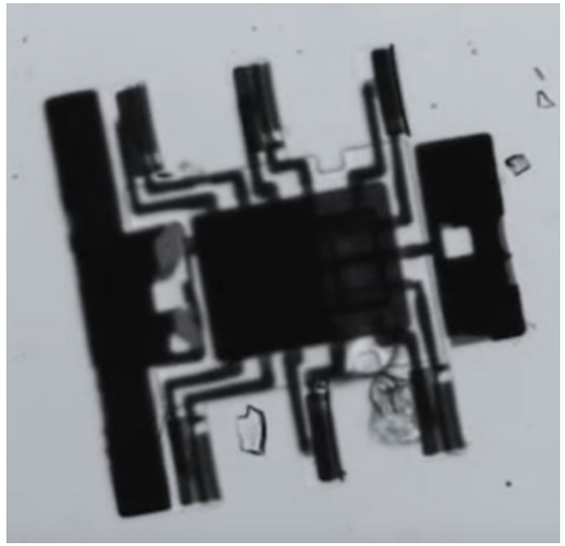
The results show the algorithms can infer players' roles – for example, distinguishing a defense-passer from a blocker – with an average accuracy of nearly 85%, and can predict multiple actions over a sequence of up to 44 frames with an average accuracy of more than 80%. The actions included spiking, setting, blocking, digging, running, squatting, falling, standing and jumping. Ferrari has filed for a patent and is now working with the Big Red men's hockey team to further develop the software.

BRAINS ON BOARD: **SMART MICROROBOTS WALK AUTONOMOUSLY**

A collaborative effort has installed electronic "brains" on solar-powered robots that are 100 to 250 micrometers in size – smaller than an ant's head – so that they can walk autonomously without being externally controlled.

The innovation, which brought together researchers from Cornell Engineering and the College of Arts and Sciences, sets the stage for a new generation of microscopic devices that can track bacteria, sniff out chemicals, destroy pollutants, conduct microsurgery and scrub the plaque out of arteries.

The "brain" in the new robots is a complementary metal-oxide-semiconductor (CMOS) clock circuit that contains a thousand transistors, plus an array of diodes, resistors and capacitors. The integrated CMOS circuit generates a signal that produces a series of phase-shifted square wave frequencies that in turn set the gait of the robot. The robot legs are platinum-based actuators. Both the circuit and the legs are powered by photovoltaics.



Cornell researchers installed electronic "brains" on solar-powered robots that are 100 to 250 micrometers in size, so the tiny bots can walk autonomously without being externally controlled.

SMART THERMOSTATS INADVERTENTLY STRAIN ELECTRIC POWER GRIDS

Smart thermostats – those inconspicuous wall devices that help homeowners govern electricity usage and save energy – may be falling into a dumb trap by unintentionally working in concert with other thermostats throughout neighborhoods to prompt inadvertent, widespread energy-demand spikes on the grid, according to new research from Sibley School engineers. "Many homes have their smart thermostats turn down temperatures at night in the winter," said Max Zhang, professor of mechanical and aerospace engineering. "The temperature can be programmed to ramp up before you wake up – and you'll have a warm house. That's the smart thing to do. But if everyone keeps their default setting, let's say 6 a.m., the electric grid suffers synchronized demand spikes and that's not smart for the system. That's the challenge." Zhang notes ways to address the growing pressure on the grid, such as educating consumers on how to use smart thermostats and staggering the morning ramp-up times.

Alfredo Rodriguez, a doctoral student in engineering who conducts research with Max Zhang, adjusts a smart thermostat.

THURSTON HALL ADDITION TO **MODERNIZE THE ENGINEERING QUAD**

A rendering of the Thurston Hall expansion.

A multi-million dollar building project will expand Thurston Hall, providing laboratory, teaching and meeting spaces for multiple engineering departments while giving the south end of the Engineering Quad a modern new look. Early site preparation and other enabling work is now underway for the four-story addition that will add about 30,000 net square feet to Thurston Hall and transform its stone and brick façade, originally built in 1951, into a contemporary glass and metallic exterior. Construction is scheduled to begin in January 2023 and last through summer 2024.

The addition will give the Nancy E. and Peter C. Meinig School of Biomedical Engineering a visible presence at the center of the Engineering Quad and will add to the footprint of the Department of Materials Science and Engineering.

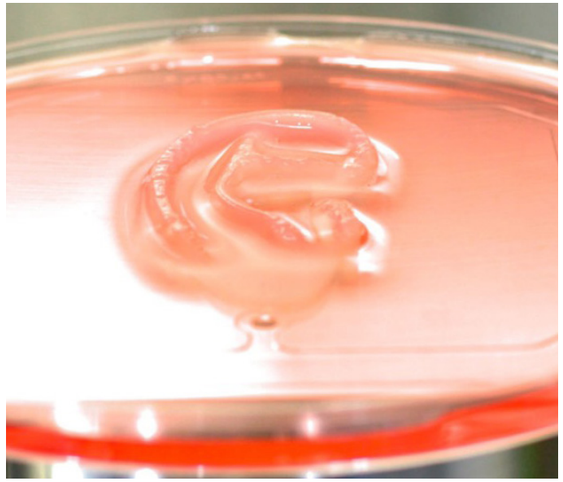
"In a very central, very prominent site within the engineering quad, people will come into that building and be part of the culture of that community of engineers," said Margaret Carney, B.Arch. '81, university architect. "You'll be able to look into the teaching labs on the first floor, and the students in those labs will have windows out to the quad. To be able to activate the quad by having that presence of students is really going to be a game changer."

CORNELLIAN-FOUNDED COMPANY IMPLANTS 3D-BIOPRINTED EAR

In a first-of-its-kind clinical trial, a human has received a 3D-bioprinted ear implant grown from the patient's own living cells – thanks to a technology platform developed by 3DBio Therapeutics, which was founded in 2014 by Dan Cohen '04, M.S. '07, Ph.D. '10, along with Lawrence Bonassar, the Daljit S. and Elaine Sarkaria Professor in Biomedical Engineering and in Mechanical and Aerospace Engineering in the College of Engineering, and Hod Lipson, who taught at Cornell for 14 years and is now a professor at Columbia University.

The process begins with a biopsy from which chondrocytes – cells that form cartilage – are extracted from a patient's impacted ear. The cells are expanded in a specialized cell culture system and then mixed with a collagen-based bio-ink, called ColVivo. That material is shaped via a 3D bioprinter into a living ear implant that matches the size and shape of a typical ear. This AuriNovo implant is surgically placed under the patient's skin along with a temporary biodegradable shell that provides protection and structural support.

The phase 1/2a clinical trial, which involves 11 patients and is currently underway, aims to evaluate the safety and preliminary efficacy of the technology specifically for patients with microtia.



A Cornellian-founded startup company, 3DBio Therapeutics, has announced the successful implantation of a 3D-bioprinted ear implant grown from the patient's own living cells in a first-of-its-kind clinical trial.

PORTABLE CANCER TESTING EXPANDS IN SUB-SAHARAN AFRICA

A project between the Sibley School and Weill Cornell Medicine will expand clinical tests of a portable diagnostic device designed at Cornell to identify cases of Kaposi sarcoma, a common yet difficult-to-detect cancer that often signals the presence of HIV infection. A $4 million grant will expand testing to 11 sites throughout sub-Saharan Africa, including locations in Kenya, Tanzania, Rwanda, Botswana and Malawi – where a shortage of diagnostic testing and pathology experts has led to long waits and sometimes erroneous results. "We are looking to deploy a technology that can change the paradigm of the way Kaposi sarcoma is diagnosed in sub-Saharan Africa," said project lead David Erickson, director of the Sibley School, who developed the technology with Dr. Ethel Cesarman, professor of pathology and laboratory medicine at Weill Cornell Medicine.

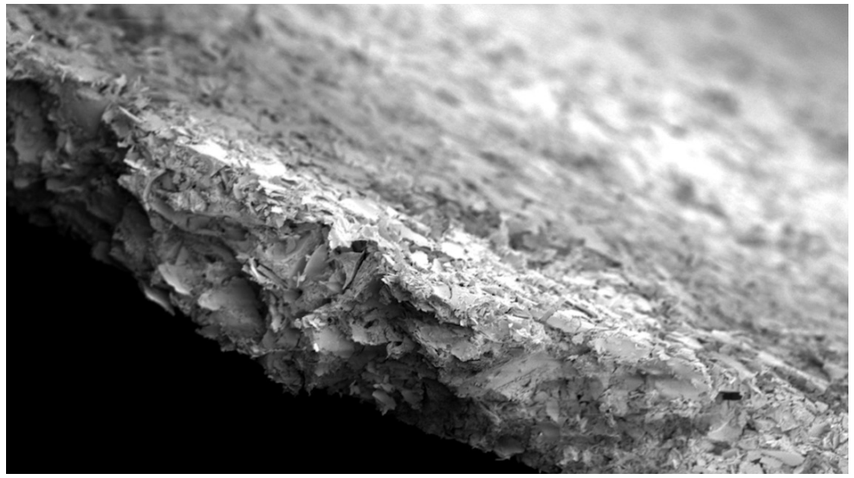
Cornell researchers have successfully trained (from left to right) a computer speaker, a simple electronic circuit and a laser to perform machine-learning computations.

CROSS-COLLEGE RESEARCHERS UNRAVEL MUMMY BIRD MYSTERY

Carol Anne Barsody, left, Hunter Adams, lecturer in electrical and computer engineering, and engineering student Jack Defay '22 scan a mummified bird with smart phones that, in combination with open-source technology, will result in a 3D model of the mummy – a low-cost method of artifact digitization that could be easily replicated by other institutions. The bird is believed to be a sacred ibis and may have been part of a cache from Saqqara that was donated to Cornell in 1930 by an alumnus.

Millie Schwartz '23, Shihao Cao '23 and Andreea Foarce '22 examine one of their CubeSats at Virgin Orbit in Los Angeles.

RESEARCH CHANGES ASSUMPTIONS ABOUT KEY FUEL CELL MATERIAL



Scanning electron microscopy of a cross section of a barium zirconate-based ceramic.

Proton-conducting ceramics are a class of material that, in theory, provide everything one would want in an efficient and durable fuel cell electrolyte – they're chemically stable and can transport hydrogen ions efficiently at preferred temperatures. However, the mechanical strength of proton-conducting ceramics has so far failed to live up to expectations, and their localized performance at desired temperatures has remained unverified.

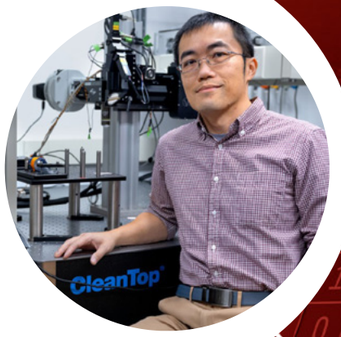
A research team led by Andrej Singer, assistant professor of materials science and engineering, used a coherent X-ray diffraction technique to look in-situ at a sample of a barium zirconate-based ceramic and discovered unexpected structural activity believed to be the mechanism behind the material's lack of durability in fuel cells.

"Green hydrogen technologies are a potential pillar for sustainable energy solutions in the future," said Singer, whose research group has been using various X-ray techniques to gain an unprecedented vision of energy technologies. "Understanding the fundamental mechanisms in-situ and operando can help generate new design ideas of how to mitigate degradation and eventually make durable materials."

NANO STORIES

OVERHEARD

Professor discusses psychedelic drugs on NPR



"In the last couple of years there has been a lot of public excitement about psychedelics. The scientists are catching on now that we just don't know much about what these compounds do," said Alex Kwan, associate professor of biomedical engineering, on NPR's All Things Considered. Read more about his research in the Cornell Chronicle.

TEACHING EXCELLENCE

'Passionate, incredible' faculty win teaching awards

Passionate, committed, encouraging, approachable, incredible – these are just a few of the adjectives used to describe faculty members receiving teaching and advising awards at the 2022 Cornell Engineering Fall Faculty Reception hosted Sept. 22 in the Statler Ballroom.

AROUND CAMPUS

Engineers rock

After winning a battle of the bands contest, Cornell Engineering student band The Fuse earned the right to perform on Ho Plaza during Slope Day.

TRENDING

Dragon Day returns... along with the phoenix

Dragon Day made its triumphant post-pandemic return in April along with a Cornell Engineering tradition: the phoenix. A video showing the student-made dragon meeting the phoenix on Campus Road was one of @CornellEng's most popular Instagram posts of the year, reaching over 16,000 accounts. 12,635 people and received 1,256 likes on Instagram - @CornellEng.

IN THE FIELD

Students test spacecraft with weather balloon

Following a successful weather balloon test of their spacecraft electronics, Cornell students have begun building the final version of Alpha CubeSat – a small satellite that will carry a first-of-its-kind light sail, hologram-embossed solar panels and several other new techniques for deep-space travel.

MAKER'S CORNER

Cornell, Afghan students collab on astromech droid

Members of the Cornell Cup Robotics project team and the Afghan Dreamers all-girls high school robotics team collaborated to design a new feature for C1C0 - a Star War-inspired astromech droid that serves as "spokesdroid" for the Cornell Cup team at major public events - that will give the droid the ability to draw pictures. C1C0 already reads, responds to users' questions, navigates around workspaces, and uses its two arms to open doors and pick up objects.

THE GIFT OF EXPERIENTIAL LEARNING

HOW ONE ALUM'S LEGACY IS TRANSFORMING STUDENT PROJECT TEAMS

By Reeve Hamilton

Of all the people Lauren Stulgis has interacted with since joining Cornell Engineering as the Swanson Director of Student Project Teams, James F. Cunningham '71 stands out as a singular character – and not just because he was the first alum she met in person. "I knew Jim right away as someone who was very engaged in a different way than most other alumni," she recalls.

A systems engineer with decades of experience, Cunningham would readily help student teams map out their projects — from designing and building high-powered rockets for competition to researching and implementing community-scale water treatment technologies — and alert them to potential opportunities within his professional network. During Stulgis's first winter session, known as JanFab, Cunningham was a daily presence in the Experiential Learning Lab, the home of Student Project Teams, providing consultations and working one-on-one with students.

"His commitment to serving in that mentorship role is incredible," said Stulgis, her inadvertent use of the present tense conveying Cunningham's ongoing impact. "He's passionate about the value and the power of systems engineering and hands-on learning, and he wants to be here working with the students."

Cunningham passed away on September 2, 2022. In a conversation just a few days prior, he reflected on the program. "Most alumni go to class reunions and alumni events," he said. "I was fortunate to work with the kids in project teams."

Even though he will no longer be physically present, Cunningham's impact will continue to be felt. A regular donor to the program throughout his life, he ultimately dedicated much of his estate to the establishment of the James F. Cunningham '71 Assistant Director of Student Project Teams. Now held by Kate Reiter, the new position doubled the program's full-time staff support, which has launched a new era for the storied Student Project Teams experience, enabling a wave of transformative changes.

Building on a strong foundation

Throughout its history, Cornell Engineering students have been drawn to opportunities for hands-on learning and collaborative teamwork. In 1909, even before a formal course in aerial engineering was offered, students formed the Cornell Aero Club and began entering gliders in intercollegiate competitions. It would be another six decades or so before a renewed focus on engineering design education and the encouragement of a young faculty member named Albert R. George – now the John F. Carr Professor of Mechanical Engineering Emeritus – prompted the original formation of what would become today's Student Project Teams.

Coming on board, Stulgis saw a lot of opportunity. "I think there is a lot of recognition, especially with the college's focus on experiential learning in our new strategic plan, of just how valuable this type of hands-on education is," she said. "And that is also coming from the students. The demand for participating in project teams and active learning just continues to grow and grow."

She was eager to develop a framework that would allow that growth to be strategic and sustainable, however, she quickly found herself hamstrung by two factors. The first was the onset of the COVID-19 pandemic, which significantly impacted opportunities for in-person work for about two years. The second was the fact that she was the only full-time staff support for over 1100 students. "There were a lot of more strategic, big-picture things that I wanted to tackle that just were not possible because I was also responsible for the day-to-day operations," she said.

That changed in January 2022, following the commitment from Cunningham. With the addition of Reiter, who has multifaceted experience in both engineering and education, the expanded project team staff — which added a third full-time member in late 2022 — wasted no time implementing ideas for improvements that had, by then, been percolating for years.

New curriculum, new processes, new teams

One of the distinguishing features of Student Project Teams has long been that students earn academic credit for their work. Working with a faculty committee, Stulgis has implemented a new "flexible, yet specific" approach to ensure that standards and expectations for the assigning of grades and earning of credit are applied consistently. More than two dozen departmental independent study courses previously used for project team work have been supplanted by a single college-level course with a section designated for each project team.

"For the students, we want them to intentionally articulate their learning objectives and reflect on their experiences,"

Stulgis said. "And for the faculty, we want them to be able to focus on the fun aspects of educating, and we can provide the administrative support."

The last year also saw a more formalized application process put in place for groups interested in becoming a Student Project Team. Following the new process, which was developed in collaboration with existing project team members, would-be teams have to demonstrate – both to the staff and to their peers in the program – that they have a forward-looking vision, a clear organizational structure, and well-defined processes in place to allow for the transfer of knowledge and student leadership from one year to the next, among other criteria.

"There is a lot of student ownership in this new process, which really helps us set the tone and make it clear to the new teams that we're all here to support them and make sure they have the resources they need," Stulgis said. "It also gives us the opportunity to ensure that we are positioned to help them succeed and take that next step, which for many of them is the curricular piece."

Four new teams have been added thus far in the current academic year, bringing the total number of project teams to 34 — with more expected to be added this year.

One of the new teams, Cornell Custom Silicon Systems, or C2S2, leveraged generous funding from another dedicated alumnus to become a Student Project Team. Working with Chris Batten, an associate professor of electrical and computer engineering, they applied for funding and team status via the Shen Fund for Social Impact. The Shen Fund – named for Cornell Engineering alumnus David t. Shen '89, managing director of the private equity group Olympus Capital Holdings Asia — was established in 2018 to launch and support projects that employ technology in an innovative manner to generate high impact on society. C2S2 joins three existing Shen Fund-supported project teams.

"Many of the companies Cornell Engineering students are applying to want experience with semiconductors," said Aidan McNay '24, the co-founder and team lead for C2S2, "but nobody at the undergrad level typically gets that experience until later on. Students need to have that knowledge, so we thought it would be really valuable for students to get that experience through a hands-on project team."

Two other existing clubs, the Cornell Biomedical Device team, often referred to as CUBMD, and Hack4Impact, a university chapter of a national organization, successfully made the transition to Student Project Team status. Pursuing the change in designation — even with the more rigorous application process — was attractive, in part, because of how it changes an organization's standing on campus.

"Project teams are a really big part of campus, and people are really interested in them," said Miyuki Goay '22, the engineering chair for Hack4Impact, which connects student software developers with nonprofits and other socially responsible businesses to develop digital tools for social change. "We want to try to reach out to as many people who are passionate about social impact as we can, and I think being a project team allows us to do that."

Being a Student Project Team also opens up access to additional resources that are not available to other student clubs, which Molly Eron '23, the team lead for CUBMD, believes could be game-changing for her group. Since joining the club as a first-year student, she has worked on projects like BruxFree, an over-the-ear Bluetooth device intended to reduce teeth-grinding, and MyeMonitor, a wearable sensor used to track the neuromuscular symptoms of multiple sclerosis.

While neither concept is ready for market, they did offer Eron the opportunity to acquire an impressive range of skills: everything from soldering, to using computer-aided design software, to team leadership. Now that CUBMD is a Student Project Team, she's ready to take on a new challenge. "We finally have the resources and support to push forward with our products and move past the prototyping phase we've been stuck in," she said.

An enduring impact

While he did not get to meet all the students that will benefit from the increasing support and structure in the growing Student Project Teams program, Cunningham did spend time with Reiter, the first staff member to hold the position named for him.

"He loved Cornell very much, and he was so welcoming of me, and just so engaged with what we were doing," Reiter said. Noting that the program seems to foster such dedication, Reiter remembers walking into the project team space in Upson Hall on the day before fall 2022 classes started, the first without significant restrictions since the onset of COVID-19. Some of the students had arrived on campus mere hours earlier, making a beeline to the space before they had even unpacked.

Jim exhibited this same eagerness, often arriving to the Project Teams office first thing in the morning with a packaged peanut butter and jelly sandwich in his pocket because he wanted to spend as much of his campus visits in the ELL as possible.

"I think something that sometimes gets lost in the shuffle of all the other amazing things they're doing is that this is their main home at Cornell," she said. "They are surrounded by fellow students who are supporting them and that they're connected with, and this is their community."

Specifically, it is a community oriented toward doing and learning collaboratively, something that clearly resonated with Cunningham. "In this program, students really learn how to think. They learn differently when they're involved," he said. "It is the real work of the university."

It's work that can only happen because of his generous support.

"He has made sure that we will have front-line student support for years and years to come," Stulgis said. "It's the most Jim thing ever."

FALCONER, ASPIRING ASTRONAUT, DANCER

MEET THE CLASS OF '26

By Chris Dawson

What do a falconer, an astronaut-in-training, a hip-hop dancer and a social entrepreneur have in common? They are all part of Cornell Engineering's Class of 2026 – one of the most diverse in the college's history.

Research into high-functioning groups has shown that teams encompassing a wide range of backgrounds and experiences are more creative and come up with better solutions to problems than more homogeneous groups do. Scott Campbell, executive director of engineering admissions, keeps this idea in mind when assembling a new class of admitted students.

"I always think of a table with people seated around it who are trying to create solutions to an incredibly challenging problem. For me, that visual helps me consider the notion that diversity should never be narrowly defined, but rather viewed as bringing an array of lived experiences, ideas and skills to bear on the immediate problem," Campbell said. "The hallmark of a great university education is exposure to, and engagement with, a range of ideas and lived experiences and so we try to put people in those seats who represent diversity in all sorts of ways."

Marcus Gamboa

Comfort is overrated

A very wise high school orchestra teacher named Catherine Birke once told Marcus Gamboa "Embrace discomfort. Be epic or be nothing." Gamboa took that advice to heart.

As with just about every member of the Class of 2026, changes forced by the COVID-19 pandemic played havoc with Gamboa's high school years. Suddenly, one of the things he liked to do most – playing the viola in an orchestra for a live audience – was no longer an option. Rather than spend the months of distance learning mourning the loss of the opportunity to perform, Gamboa took his teacher's advice and poured himself into another passion: hip-hop dance.

"COVID was, and still is, a terrible thing," Gamboa said. "Ms. Birke helped me see it also as a chance to focus on my

passion and really put in some time and effort at a thing I love."

If you find @marcus_arts on Instagram, you can see the results of Gamboa's hard work. In one video, he can be seen effortlessly popping and locking on a park bridge, perfectly matching the vibe of the Blxst song playing in the background. The Instagram post is appropriately hashtagged "#aesthetic" – not only an important component of dance, but one of the core design principles of engineering.

Ena Jovanovic

Ena JovanovicEna Jovanovic grew up in the country of Bosnia and Herzegovina and became fascinated at a young age by the higher education system in the United States. Jovanovic would watch American television shows with her mom, and she loved seeing American college life depicted on the screen. She knew she wanted to cross the Atlantic for college, but she wasn't exactly sure where she would land.

She did some research and put Cornell on her list. A neighbor from her hometown of Zenica happens to be a current sophomore at Cornell Engineering, and he confirmed that it would be worth leaving home for.

Jovanovic is not daunted by the distance. This is not the first time she has left home to pursue educational opportunity.

"Ever since I was 10 years old I dreamed of going to the United World College in the city of Mostar, which is more than 100 miles from Zenica," Jovanovic said. Over the course of a few years, she wore down her parents' resistance and she enrolled in UWC Mostar for the final two years of high school.

"My experiences in Mostar taught me so much and let me see that going to Cornell was definitely something I could do and be happy," Jovanovic said. "At first, it was tough being so far from home. But it got better quickly. Based on that experience, I know I will miss my parents while I am at Cornell and they will miss me, but they understand this is an amazing opportunity."

While in high school, she organized a five-day field trip to the town of Visoko to explore some archeological sites. She also co-led a tutoring service for fellow students. In addition to an international perspective, Jovanovic brings a love of basketball and a wish to dive into undergraduate research as soon as she can. She is not sure what she wants to major in yet, but is keeping herself open to all the possibilities.

Kind, self-aware, curious

As part of the team that created the Class of 2026, Ginger Jung, assistant director of engineering admission, read thousands of applications starting in January of 2022.

"Well, of course we seek students who have a love for math and science and do well in those classes," Jung said. "But we are also looking for applicants who are kind, self-aware, and intellectually curious. Usually, those traits show up authentically in the application – that's hard to fake."

Riley Coogan

Riley Coogan wasn't sure where to get his undergraduate degree, and he was accepted by multiple schools. It was a last-minute visit to Ithaca in the spring that sold him on Cornell.

"Everybody I met was very friendly and helpful – honestly, this was a bit of a surprise," Coogan said. "Growing up in Atlanta you hear all these things about New York, but Cornell was so far from the stereotype I grew up with."

It helped that Cornell offers everything Coogan was looking for in a school. He has loved math his entire life and began teaching himself coding years ago. He got so good at it that he had a summer internship with a health care company before coming to Ithaca and was able to make an impact on their operations. He was active in his school's Hope Squad as a student ambassador focused on suicide awareness and prevention, and he also played baseball and basketball. Oh, and one more thing – Coogan is a licensed falconer.

After reading the classic novel "My Side of the Mountain," Coogan and his father embarked on a two-year training that concluded with both of them becoming permitted falconers. Coogan raised and trained three red-tailed hawks in his senior year of high school and is currently sorting through the process of getting certified in New York state to work with raptors while he is at Cornell.

He plans to major in computer science, but also wanted to be at a school that provides a variety of academic options in the event he changes his plan. He has a strong interest in entrepreneurship, and Cornell offers just the sorts of entrepreneurship classes and opportunities he was looking for.

"I don't really like just doing one thing," Coogan said, "and Cornell felt like a place I can do a lot of what I like and maybe even find new interests."

Silochanie Miller

Silochanie Miller grew up in Brooklyn and went to Stuyvesant High School. During their junior year they attended (virtually) a STEM outreach event for high school students hosted by the Graduate Women's Group of Cornell's Robert Frederick Smith School of Chemical and Biomolecular Engineering. This event opened Miller's eyes to the possibility of majoring in engineering and put Cornell firmly on the radar as a college possibility.

The more Miller looked into it, the clearer it became that Cornell was an excellent fit for their interests. During high school Miller had worked on the school paper as an editor and fact-checker and was a member of the math team. During school breaks they liked to embroider, spin and dye wool, and make jewelry. Miller was also a long-time volunteer at the Brooklyn Botanical Gardens, acting as a peer mentor and an assistant teacher for horticulture classes. It was this last interest that may have tipped the scales to Cornell's favor when it was time for Miller to choose a school.

"I have always been interested in plants and agriculture and may decide someday to focus on crop development – though it is too soon to say that with any certainty, since I also can see myself moving into materials sciences or medicine," Miller said. "Cornell gives me a chance to explore any or all of these as an undergrad."

Applied science

Beth Kunz, senior associate director of engineering admissions, is another key member of the team that reads all of the applications that come in. The process is intense and grueling. And yet Kunz, despite her temporary exhaustion, always comes away from admissions season recharged and excited about the mission and the people of Cornell.

"Learning about these amazing individuals and their hopes and dreams is just so inspirational. I feel like there is hope in the world because so many of our applicants want to help make the world better, and they have the ability to do so," Kunz said. "I get to see so many different perspectives and read about a wide array of life experiences – I find myself learning as I read. And then I get to actually meet some of the students as they begin their college journey and I keep seeing them over their years here. The growth that happens is just amazing – it makes me feel like, in some small way, I have helped them along their way and that we will all benefit because they are here."

Mohamed Kane

The extensive Project Team possibilities and the option of creating an independent major are what first caught Mohamed Kane's attention about Cornell Engineering. Kane, who grew up in the Maryland suburbs of Washington, D.C., as well as in Dakar, Senegal, has always been interested in putting what he is learning to good use.

As a high school student Kane developed an app to promote the idea of voluntourism to help mitigate some of the harmful effects of the tourism industry. The summer before his senior year, Kane worked with a group of students enrolled in an entrepreneurship and innovation class at Columbia University to create a business plan for an eco-friendly business-to-business and business-to-consumer marketplace where companies and consumers could find businesses that produce and sell products made from recycled ocean pollution. He and others in the group were so taken by the project that they have continued to work on it long after the final online class ended.

"So, when I was researching where I wanted to apply, I learned about operations research as a field and saw that Cornell is very strong in this area," Kane said. "It seemed like it would be a great way to apply engineering to real life in a way that could solve problems and improve a wide variety of solutions and processes."

Kane is not certain he will declare a major in operations research but he is excited to explore the possibility. And if it turns out that his interests lead him to another major, Kane is confident he will be able to stay at Cornell to pursue whatever that may be. The fact that he could also propose his own course of study is important to Kane.

"The opportunity for interdisciplinary learning through the independent major was reassuring as I applied," Kane said. "It let me know that I could always connect different classes and topics to allow me to do the specific thing I want to do."

Priya Abiram

Priya Abiram wants to go to space. She has known this since she was seven years-old and her family visited Kennedy Space Center, where she got to meet an astronaut. Rather than allow her space dream to remain a nebulous wish, Abiram made it an actual goal and took concrete steps to attain it.

In middle school, she built a prize-winning model rocket. In high school, she joined — and ultimately led — the robotics team. She was a cadet commander in the Air Force Auxiliary. She is earning a private pilots license. She is a Project PoSSUM citizen-scientist who will be gathering data about combustion under varying g-forces on board a sub-orbital flight in the summer of 2023. She has conducted research into the possibility of harvesting geothermal heat to power settlements on Mars – research she presented to the International Aeronautics Conference in Paris in September of 2022. And she has worked directly with Apollo 13's lead engineer for life support systems, Don Rethke, to use space technology to make toddler car seats on Earth safer and more comfortable.

Early in her search for a school, Abiram visited campus to see what it felt like. She was wandering around on a self-guided tour of Upson Hall and struck up a conversation with a chemical engineering doctoral student. He then gave her a two-hour tour of various lab facilities, all the while talking about his research and answering questions.

"It was incredible," Abiram said. "Seeing how passionate he was about his work and how generous he was with his time, I was like 'These are the type of people I want to be surrounded by.'" A subsequent conversation with Mason Peck, the Stephen J. Fujikawa '77 Professor of Astronautical Engineering and NASA's former chief technologist, sealed the deal.

At Cornell, Abiram hopes to affiliate with the Sibley School of Mechanical and Aerospace Engineering and continue her astronaut training as she also finds other ways to apply her education.

"Another big part about why I love aerospace engineering is its applications to everything back on Earth. Yes, we want to go farther in space, but at the same time going farther in space is bringing back solutions to improve home," Abiram said.

Back in the Admissions Office, Campbell said, "Ultimately, as we pull the full set of selection priorities together, the class should be capable of learning at the highest levels in the classrooms and labs, they should contribute meaningfully to the life of the university, and they should be able to learn as much from one another as they do from any other part of their Cornell education."

For the Class of 2026, it is mission accomplished.

100 IDEAS, $400 EACH, NO STRINGS ATTACHED

By Syl Kacapyr

Four-hundred dollars might not change the world, but it can change someone's world.

That's the intent behind the Contribution Project, which last year handed out $400 each to 100 Cornell undergraduates, with no strings attached other than for the students to spend the money by improving something in the world. The students were selected randomly from a pool of qualified applications and could ultimately choose how to spend the funds.

Nine engineering and computer science students were among those selected by the Contribution Project. Since receiving the funding in February 2022, some students have created their own initiatives, while others have contributed to existing ones. From repairing homes in West Virginia and supporting small farmers, to recycling plastic waste and helping students with disabilities, here is how the students proposed to contribute:

About the Contribution Project

The Contribution Project is a product of Cornell's Bronfenbrenner Center for Translational Research, with funding from the youth-empowerment organization HopeLab. It began in 2019 with an Engaged Scholar Prize awarded to Anthony Burrow, professor and director of the Bronfenbrenner Center, who used the funding to support 50 projects. The tradition continues today and applications for the 2023 Contribution Project are now being reviewed.

1. Recycling plastic waste with 3D printing

Jeffrey Wilcox '25 is designing and constructing a machine that takes plastic waste and converts it into 3D-printer filament useable in desktop printers. The goal is to help reduce plastic waste and allow hobbyists to continue printing while decreasing their environmental impact.

2. Cornell review platform

Jay (Jaehyung) Joo '24 is creating Sentiment, a discussion platform for students to share opinions on courses, dorms and clubs. Still in its beta form, Sentiment already has 5,000 posts and 8,000 registered courses and clubs, among other experiences to review. The official platform will launch soon, and Joo plans to build other Cornell-specific platforms, including Cornlet, a sublet marketplace; RideHub, a carpool finder; and ThriftHub, a second-hand marketplace.

3. Scannable information cards

Moreblessing Mushohwe '24 originally intended to create an information card with a magnetic strip that, once scanned, would allow people to find information about and schedule appointments with centers on Cornell's campus. Mushohwe eventually found a simpler solution that benefited a local non-profit – he created scannable business cards for the Ithaca Pregnancy Center using QR codes, which have been especially helpful during outreach events.

"A highlight so far is the event that took place on November 18 when the Ithaca Pregnancy Center had a fundraising banquet and those cards came in handy as people were able to scan them and get to the website to make donations or learn more about the organization," Mushohwe said.

4. Education platform for students with disabilities

Adele Smolansky '23 – Is supporting AI-Learners, a platform that makes learning math accessible and engaging for students with cognitive, physical and behavioral disabilities through personalized computer games and analytics. The platform is personalized, using a student's disability and past performance to recommend games that adapt to their learning over time.

"I was inspired to create AI-Learners by my younger sister, Lara, who has a severe neurological disability called Rett Syndrome. Growing up, I watched Lara struggle to use technology and access sufficient educational opportunities, especially during the COVID pandemic," Smolansky said. "I quickly learned that Lara is just one of many students with a disability who has a problem learning math from current EdTech websites. My personal experiences and my conversations with hundreds of parents and educators inspired me to dedicate my professional life to improving educational resources for students with disabilities."

5. Task reward app

Claire Zhou '23 is creating an application that rewards someone for doing something regularly. Once a user completes a task – exercising or reading, as an example – they can earn experience points and unlock new avatars, skins and other customizations for their in-app characters.

6. Mechanobiology education online

Rocky An '23 is creating an online space through Reddit for students and professionals to discuss mechanobiology and share resources. The subreddit "r/mechanobiology" features discussions about related topics such force in nature, medicine and space bioscience, and offers a place to share interactive 3D simulations, graphics and diagrams, among other assets.

7. Data tracking for small farms

Somil Aggarwal '22 is supporting Agcess, a data tracking tool for agriculture that digitizes and revolutionizes recordkeeping for smallholder farmers. Aggarwal co-founded a startup based around the tool, and said the project has expanded into a nine-member team working on brining digitization to data tracking in agriculture.

"I was inspired to create Agcess after realizing how much enthusiasm and support there was both at Cornell and its broader network in New York state," Aggarwal said. "Ultimately, we're trying to level the playing field in agriculture and improve food security through supporting smaller, more local farmers."

8. Improving homes in Appalachia

Bennett Miller '22 is helping the Appalachia Service Project acquire better materials to help repair and improve homes in West Virginia and the surrounding Appalachian region.

"The contribution ended up helping fund our trip, where we did a bunch of great work," Miller said. "I myself helped install part of a new floor and ramp."

9. Community craft cafe

Keying Lao '22 is creating a pop-up craft cafe that consists of drinks and desserts, along with art kits that can be used by patrons in the cafe. Lao said the cafe is a way for people to spend time with each other in person and not on a screen.

NEW VISIONS SHOWS HIGH SCHOOLERS THEIR ENGINEERING FUTURE

By Syl Kacapyr

A dozen people racing the clock are feverishly tearing apart a $65,000 plasma etcher inside Cornell's Phillips Hall. One pulls out a vacuum chamber as her colleague scrambles through a stack of blueprints to find the matching part. The delicate machine, used to help fabricate integrated circuits, is in thousands of pieces with hardly any time left.

"This is pretty cool," says Sarah Levine as she removes a gas valve. Time has run out and the team dismantling the large machine sets down the expensive hardware. The high-school students must get to their next activity.

New Visions Engineering is no ordinary program for high school seniors. For the past five years at Cornell, it has provided local students the opportunity to explore engineering careers and perform research activities typically experienced by college students – or in the case of disassembling a broken plasma etcher, not many people at all.

"We like taking things apart and seeing how it all works," says Levine, a senior at Lansing High School, adding that the program has steered her academic interests toward civil and environmental engineering.

Students involved in the program – there are 13 participants this academic year – earn high-school credits, as well as seven college credits, by spending four hours a day, five days a week on Cornell's campus. Students also visit dozens of field trip locations such as Lockheed Martin and other regional businesses, exposing students to industries important to New York state's economy.

"We give them this wide variety of experiences, because a lot of them know they want to be engineers, but they don't exactly know all the different types of engineering," says David Syracuse, the New Visions Engineering teacher, who has appointments at Cornell Engineering and the Tompkins-Seneca-Tioga Board of Cooperative Educational Services, which both support the program. "It really gives the students a leg up on their counterparts because they have a more long-distance view of their trajectory as an engineer."

Cameras, concrete and coffee

After gaining an appreciation for the inner workings of a plasma etcher, students will use a working version of the machine inside the clean room at the Cornell NanoScale Science and Technology Facility (CNF) to etch a logo onto a silicon wafer.

"This exercise is introducing students to many of the different career paths in nanotechnology, whether it's building machines, operating them or designing microelectronics," says Tom Pennell, CNF research support specialist and education coordinator. "And with the federal and New York state push for semiconductor development, programs like New Visions can create a pipeline of workforce talent."

Other activities this academic year included building pinhole cameras and developing pictures in a photographic darkroom, reverse engineering the mechanics inside a rechargeable flashlight, using chemical engineering to brew coffee to a specific strength, and learning how concrete strength is tested in a structural engineering lab.

"I wanted to do something different for my senior year and challenge myself," says Taylor Brock from Candor High School, who added that his favorite activities involved food science experiments at Cornell AgriTech. "You know that feeling when you walk into a classroom and you don't want to be there? I never feel that way with New Visions. Every day I get up and I'm like, 'Let's go do something.'"

New Visions' focus on showing students how to apply science to solve societal problems provides a model for how STEM curricula could be better implemented in high schools, Syracuse says.

"These students understand engineering in a very intimate way, and that applying science is actually useful," says Syracuse. "All of our past cohorts have gone on to do amazing things, and I think it's due to the integrated nature of the program."

After participating in New Visions in 2019, Emma Williamson decided to study industrial design at the Rochester

Institute of Technology. She says the program prepared her for college in a way many of her peers were not.

"I have been motivated to explore, take as many classes in as many areas as possible, and to use all of the resources my university has available," says Williamson, "things I would not know I could do if it weren't for New Visions."

The vast majority of New Visions Engineering students eventually choose to study a STEM field in college, Syracuse says. This year's cohort is already learning to navigate higher education thanks to a newly implemented mentor initiative that pairs each student with a Cornell doctoral student who can offer guidance on the variety of STEM majors, degrees and financial aid options – advice that is especially valuable to students who will be first in their family to attend college.

And while college is still months away for this year's New Visions cohort, Ben Anderson feels like he's already there.

"This is as much of a college experience as I can get right now," says Anderson, a Dryden High School senior, as he holds a turbo fan he removed from the plasma etcher. "I'm at one of the most prestigious universities in the world working on stuff at the nanoscale. That's just awesome."

AWARDS AND HONORS


James Antaki


Wilfried Brutsaert


Julia Dshemuchadse


Greeshma Gadikota


Mostafa Hassani


Qi Li


Peter McMahon


Francesco Monticone


Atieh Moridi


Nils Napp


Samitha Samaranayake


Chris Schaffer


Yadong Wang


Rong Yang


Huili (Grace) Xing

Meinig family earns Engineering Distinguished Alumni Award

From left, Marjolein van der Meulen, director of the Nancy E. and Peter C. Meinig School of Biomedical Engineering; Cornell President Martha E. Pollack; Anne Meinig Smalling '87; Nancy Schlegel Meinig '62; Ellen Walsh; and Lynden Archer, the Joseph Silbert Dean of Engineering, at the 2022 Cornell Engineering Distinguished Alumni Award ceremony.

The Meinig family, which President Martha E. Pollack described as "one of Cornell's most engaged, successful and generous multigenerational families," was honored May 27 with the 2022 Cornell Engineering Distinguished Alumni Award during a ceremony in Duffield Hall.

Three of the four generations of Meinigs who have attended Cornell thus far were on hand to accept the award, which recognizes engineering alumni whose leadership and vision have transformed the world and brought distinction to the College of Engineering and Cornell.

Pollack said the Meinigs stand out "as a family that, for generations, has played an outsized role in shaping the world-class university we know today."

Carl Meinig '31 was the first member of the family to attend Cornell, arriving in 1927, and was joined by his young brother, Hans, two years later. After receiving his bachelor of arts degree, Carl Meinig earned a professional degree in electrical engineering, forming a lasting connection between the Meinigs and Cornell Engineering.

Lynden Archer, the Joseph Silbert Dean of Engineering, credited Carl Meinig with being an "unwavering supporter of Cornell" and passing that trait on to subsequent generations. "Family lore is that Carl said he would be happy to pay for his son's college tuition anywhere, as long as it was at Cornell," he said.

Peter Meinig '61 chose to attend his father's alma mater, a decision that proved to be transformative for both his family and the institution. At Cornell, he met his wife, Nancy Schlegel Meinig '62. Over the course of more than five decades together, they built what Archer described as "a rich history of partnership and impact … characterized by service and dedication, and of selfless giving back and doing good." A successful entrepreneur and businessman, Peter Meinig joined the Cornell University Board of Trustees and served two terms as its chairman before he died in 2017.

The Meinigs have endowed several university positions and programs, as well as the Nancy E. and Peter C. Meinig School of Biomedical Engineering, which coincided with the launch of an undergraduate major in biomedical engineering in 2015. The gift was made along with the couple's daughters, Anne Meinig Smalling '87; Kathryn Meinig Geib, MBA '93; Sally Meinig Snipes; and their families.

James Antaki, the Susan K. McAdam Professor of Heart Assist Technology in the Meinig School of Biomedical Engineering, was elected a fellow of the National Academy of Inventors for the development of several heart-assist devices used clinically, including the Heartmate-II, Novacor, Ventracor, TandemHeart, and Levacor.

Wilfried Brutsaert, the William L. Lewis Professor in Engineering Emeritus in the School of Civil and Environmental Engineering, received from the Stockholm International Water Institute the 2022 Stockholm Water Prize – widely known as the Nobel Prize of Water – for his groundbreaking work in developed ways to quantify evaporation and its role in the Earth's energy balance, allowing for more accurate estimations of how precipitation is likely to evolve.

Julia Dshemuchadse, assistant professor of materials science and engineering, received a National Science Foundation Faculty Early Career Development Award for research that aims to shed light on the self-assembly processes behind the growth of both simple and complex crystal structures – specifically, how different particle attachment patterns depend on the symmetry and complexity of crystal structure type, and how they vary with the chemistry of the system.

Greeshma Gadikota, assistant of civil and environmental engineering, received a National Science Foundation Faculty Early Career Development Award to further her research on carbon removal and storage at massive scales, crucial to limiting the detrimental environmental impacts of climate change.

Mostafa Hassani, assistant of mechanical and aerospace engineering, received a National Science Foundation Faculty Early Career Development Award to advance the field of additive manufacturing, which is used in high-value metallic component manufacture but is sometimes limited by high process temperatures and the large associated thermal gradients and rapid cooling rates.

Qi Li, assistant professor of civil and environmental engineering, received a National Science Foundation Faculty Early Career Development Award to improve basic understanding of transport of heat and air pollutants and inform physically realistic, generalizable estimates of surface-atmosphere exchanges, leading to findings necessary for next-generation urban climate modeling tools.

Peter McMahon, assistant professor of applied and engineering physics, received a Sloan Research Fellowship from the Alfred P. Sloan Foundation. His research tackles the physics of computation, and how physical systems can be engineered to perform computation in new ways that provide benefits over current widely used processors. For this same research, McMahon received an Office of Naval Research Young Investigator Program Award.

Francesco Monticone, assistant professor of electrical and computer engineering, received an Office of Naval Research Young Investigator Program Award for research in the areas of applied electromagnetics, engineered metamaterials and metasurfaces, and nanophotonics, with applications ranging from microwaves to optical frequencies.

Atieh Moridi, assistant professor of mechanical and aerospace engineering, received an Office of Naval Research Young Investigator Program Award for her research using additive manufacturing techniques to synthesize novel high-performance materials, and to develop strategies for alloy design by combination of complementary alloys of a single family.

Nils Napp, assistant professor of electrical and computer engineering, received a National Science Foundation Faculty Early Career Development Award to develop algorithms and build robots that can operate in unstructured, real-world environments, and will develop planning and coordination methods for robots to reliably modify their environment.

Samitha Samaranayake, assistant professor of civil and environmental engineering, received a National Science Foundation Faculty Early Career Development Award to address fundamental research questions related to designing and operating transit-centric, multi-modal transportation systems, with the aim of making these systems efficient, sustainable and equitable. For this same research, Samaranayake was named to the Popular Science Brilliant 10, a list of "the top up-and-coming minds in science" developing ingenious approaches to solving the world's grand challenges.

Chris Schaffer, professor of biomedical engineering, was elected a fellow of the American Association for the Advancement of Science for distinguished contributions to the development of new optical techniques for biomedical research, particularly using these tools to study cellular interactions and dynamics in the central nervous system.

Yadong Wang, the McAdam Family Foundation Professor of Cardiac Assist Technology in the Meinig School, was elected a fellow of the National Academy of Inventors for creating biomaterials for applications in cardiovascular, nervous and musculoskeletal systems. His current projects include vascular grafts, protein delivery, and designing new biomaterials.

Rong Yang, assistant professor of chemical and biomolecular engineering, received a National Science Foundation Faculty Early Career Development Award to support research that enables advances in the manufacturing science of polymer nanoparticles, currently synthesized via a solution-based batch process, which can limit their shape, size, chemistry and, thus, broad deployment.

Huili (Grace) Xing, the William L. Quackenbush Professor of Engineering in the School of Electrical and Computer Engineering, and the Department of Materials Science and Engineering, was elected a fellow of the American Association for the Advancement of Science for distinguished contributions to the field of semiconductors and devices, particularly for polar wide bandgap semiconductors, 2D semiconductors, layered crystals, innovative doping and contacts in these materials.

Select awards and honors are highlighted from 2022 and are abbreviated from detailed announcements. Visit Cornell Engineering News or the Cornell Chronicle online for more awards and honors received by faculty and students.

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