

# ASU

ARIZONA STATE UNIVERSITY  
VOLUME 25 NUMBER 2

## Thrive<sup>®</sup>

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People connections, personal education coaches, career preparation at ASU Local in Los Angeles

# A

# bioscience

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**ASU**  
Arizona State University



In the shadow of uncertainty,

**an answer**

can light the way.

MAYO  
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You know where to go.

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He is an award-winning education journalist whose articles have appeared in publications from The Wall Street Journal to U.S. News & World Report.

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A commercial and editorial photographer, her work has been published in The New York Times, National Geographic Traveler, The Wall Street Journal, Midwest Living and Arizona Highways.

**Print and plant, now in California**

ASU Thrive magazine's sustainable paper program, PrintReleaf, is now planting trees in California with the partner organization One Tree Planted. Based in Mendocino, California, with the purpose of complex fire restoration, One Tree Planted will plant trees to offset all paper used in the production and printing of each issue of the magazine.

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# Now is the time to build the new

Our world continues to change in new, dynamic and exciting ways. We are able to make things at lightning speed, think faster and solve problems more quickly, opening up new economic opportunities. We are making a transition to a bio-driven economy emerging from a physically driven one, creating a new economy to benefit more Americans.

We are building new knowledge enterprises that affect everything — food, water, work, travel, cars, medicine, our health and more. Those industries are being impacted by new knowledge-driven technologies. We are trying to make certain that Arizona is at the absolute leading edge.

Right now, Arizona is in the second of five tiers of technologically advanced states. We have a lot of high-tech manufacturing here now and moving here every day. We have a new resurgence of biotech companies, including those locating in downtown Phoenix for the synergy happening between the state's three universities and business clusters in the Phoenix Bioscience Core.

First-tier technology states, like Colorado and Washington, are accelerating even more rapidly. They are starting more companies, and attracting more companies and more high-wage jobs. And we can be competitive with them.

In order to make the jump to a first-tier high-tech state, we need to continue to be a low-tax state with openness and the spirit of free enterprise that we have now. We also need to have fantastic schools to prepare the workforce for the future. From early childhood education to lifelong learning for emerging skills, ASU is building resources for every Arizonan to continue learning.

Opportunities in rural Arizona will also be enhanced by technological capability. If we can get high-speed internet and 5G connectivity to every home, rural Arizona can do anything. Prosperity can be distributable.

The systems, work, creativity and interconnectivity are distributable. Five years ago that wouldn't have been the case — but it can be the case now.

**Michael M. Crow**

President, Arizona State University

[✉ michaelcrow](https://twitter.com/michaelcrow) [in michaelmcrow](https://www.linkedin.com/in/michaelmcrow) [@ asuprescrow](https://www.instagram.com/asuprescrow) [f presidentcrow](https://www.facebook.com/presidentcrow)

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**850 PBC offers the facilities that startups and researchers need.**



**Downtown Phoenix becomes a thriving hub.**

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JILL RICHARDS



[youtube.com/ASU](https://youtube.com/ASU)  
[youtube.com/ASUathletics](https://youtube.com/ASUathletics)



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Involve the community

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People connections, personal education coaches and deep career preparation all help ASU Local students succeed. 38

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ASU works with Maryvale residents to build trust, make connections and help fill gaps in resources. 46

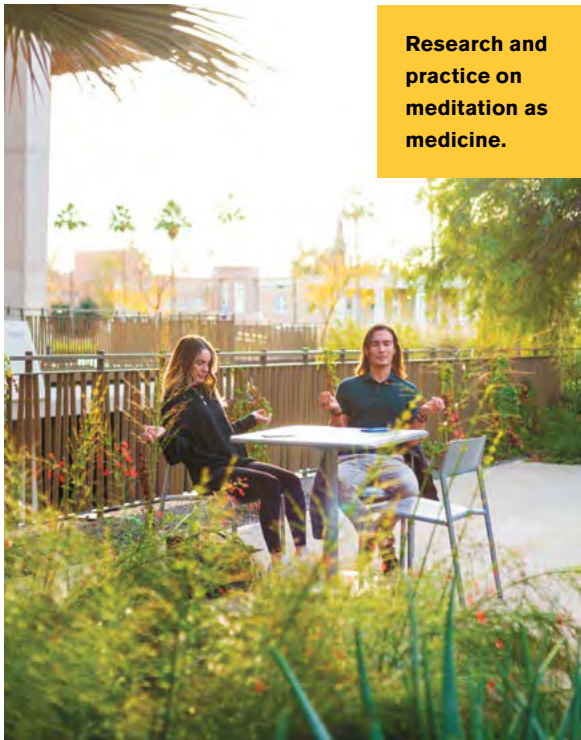
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COURTNEY LIVELY; AMANDA LOPEZ AND TREVOR TRAYNOR

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## Movies on the Field

ASU 365 Community Union presents Movies on the Field at Sun Devil Stadium. Bring a blanket, sit on the grass and enjoy your favorite films on the big screen under the stars. Events are open to ASU and the community.

**Friday, March 18, and Friday, April 15, Sun Devil Stadium, titles announced online**  
[asu365communityunion.com](http://asu365communityunion.com)

**Free Family**

### ! Check for updates:

Information about event dates and times may have changed since the press date. Please check the provided websites for more information.

## Explore fair trade through chocolate

University Sustainability Practices is celebrating its Fair Trade Campaigns designation by hosting an event at Tooker House. Stop by and sample some chocolate while learning about the importance of fair trade practices. ASU is the largest Fair Trade Campaigns-designated campus in the nation.

**Tuesday, April 12, 11 a.m., Tooker House mall**  
[earthmonth.asu.edu](http://earthmonth.asu.edu)

**Free Family Sustainability**



# Apr.



## Garden Commons plant sale

Stop by to purchase plants at a fundraiser supporting programs at the Garden Commons. There will be agaves, cacti, aloe and more. Seeds of the garden's flowers and herbs also will be available.

**Friday, April 22, 10 a.m.–1 p.m., Garden Commons**  
[earthmonth.asu.edu](http://earthmonth.asu.edu)

**Family Sustainability**



## Nibble your way across campus

The Polytechnic campus has a diversity of native plants that offer lessons for living sustainably in the desert. Most of them are edible. We will identify common edible desert plants on campus and learn how and when to harvest for food. Many of the native trees will be flowering. Taste testing will be included!

**Tuesday, April 26, 10 a.m., meet outside Cooley Ballroom, Student Union**  
[earthmonth.asu.edu](http://earthmonth.asu.edu)

**Free Family Sustainability**





# ‘Democracy and Climate Policy’: The effects on Arizona, the nation and the world

Former Vice President Al Gore will deliver the keynote address at “Democracy and Climate Policy” during a live virtual talk. His remarks are part of a long-term initiative focused on the relationship between threats to democracy posed by a destabilizing climate. The talk will address the concept that democracy will face increasing threats in a rapidly warming world, and a reformed and strong democracy is essential to effective climate actions. The conference focuses on five themes: the role of misinformation around climate change; international institutions and climate; constitutional design of democratic institutions for solving the climate emergency; the unequal and adverse effects of climate change on Arizona; and student activism and social movements to activate lasting change.

Tuesday, April 19–Wednesday, April 20, Tempe campus  
[asuevents.asu.edu](https://asuevents.asu.edu)

Free Sustainability



## Drive-in Bingo

Grab the family and head over to ASU West campus for Drive-in Bingo. When you arrive, you will be given bingo cards for everyone ages 5 and older in your vehicle for up to 10 games. When you win a bingo, honk your horn and flash your lights. Prize patrol will verify your win and bring you a prize of your choice.

Friday, April 22, 6–9 p.m., ASU West campus, parking lot 20, registration required  
[asuevents.asu.edu](https://asuevents.asu.edu)

Free Family

## Celebrating our relationship with our planet

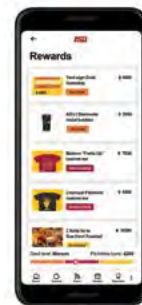
Join more than 740 Global Futures scientists and scholars and 1,300 College of Global Futures students as we honor planet Earth and the work, research and solutions being developed by them and our global network of partners. The week will be filled with captivating presentations, lectures, panels, interactive installations and tours. Themes include: **Cool Planet**, exploring the innovations to keep global warming from reaching critical levels, and what humans can do; **Healthy People, Healthy Planet**, shining a light on the importance of society and humanities as we all consider our global health; and **From Deep Blue to Deep Space**, transporting you to the parts of

the planet where great discoveries are still being made and solutions address the leading indicators of global stress. This all culminates on **Earth Day**, Friday, April 22, with big-picture looks at what our future may hold and how humanity is acting now to shape tomorrow, today, for a future in which all of Earth's inhabitants can thrive. The week also includes the dedication of ISTB7, the new home of the Julie Ann Wrigley Global Futures Laboratory, the College of Global Futures and the Institute of Human Origins.

Monday, April 18–Friday, April 22, Tempe campus and online

[globalfutures.asu.edu/earthweek](https://globalfutures.asu.edu/earthweek)

Free Family Sustainability



## Going to an event? Check in!

Find Sun Devil Rewards in the ASU Mobile App menu, where you can check in to ASU events to earn Pitchforks toward exclusive Sun Devil® merchandise. [m.asu.edu](https://m.asu.edu)

Visit [asuevents.asu.edu](https://asuevents.asu.edu) for up-to-date information about events around all ASU campuses and online. Visit [thesundevils.com](https://thesundevils.com) for athletics news, events and

# Career



## ICU training for nurses

Are you a nurse interested in transitioning to the ICU? ASU has designed a new course for you, Introduction to Adult ICU Nursing and Mechanical Ventilation. The online course is a free, seven-module continuing professional education course that is accessible for nurses to take at their own pace and includes an “ask an expert” feature to discuss related issues or questions.

Learn more at

[courses.cpe.asu.edu](https://courses.cpe.asu.edu)

**Free** Lifelong learning

Self-paced Online



## Alumni and New Grad Career Fair

Networking and connecting with employers is a great way to start and grow your career. Join us for this in-person career fair that will allow you to meet a wide variety of employers, from various industries, who are looking to connect with ASU new graduates and alumni.

**Thursday, May 12, 4–6 p.m., SkySong, 1301 N. Scottsdale Road, Scottsdale**

[asuevents.asu.edu](https://asuevents.asu.edu)

**Free** Networking

Job search Online



## Summer programs for K–12 learners

This summer, future Sun Devils can experience the excitement of college life, learn from world-renowned professors and explore their interests. Summer programs are available in a variety of topics, including engineering, leadership, math and the arts. Programs are offered on all four campuses and online in formats ranging from day camps to residential programs, where students have the opportunity to live on campus.

**June–July, online and in person**

[eoss.asu.edu/access/programs/summer](https://eoss.asu.edu/access/programs/summer)

Ticketed Camp Grades K-12 Online

## Camp Broadway

This summer offering is designed for theater-loving kids, ages 10-17, to develop their confidence, character and presentation skills through ensemble performance. The five-day camp is open to all children, regardless of previous performing experience. The camp team comprises distinguished actors, writers and designers from New York. Campers learn acting, scene study, improvisation, music theory, singing and dancing, while building self-esteem, teamwork skills and creative potential. Campers also will watch the Broadway show, “Come From Away.” The week culminates in a family finale performance.

**Monday, June 13–Friday, June 17, 9 a.m.–5 p.m., ASU Gammage**

[asugammage.com](https://asugammage.com)

Ticketed Camp



# Camps





### A Sustainable Earth

Become an expert on global climate change by learning about its impacts, the reasons behind the rapid warming of Earth and the scientific tools used to study this phenomenon. Explore energy production and consumption on a local and global scale and discover the impacts of solid waste on water and air quality, ocean systems and economic systems. Complete the course and receive a digital badge from ASU.

Self-paced, online at [asuforyou.asu.edu](https://asuforyou.asu.edu).

**Free** **Family** **Lifelong learning** **Self-paced** **Sustainability** **Online**

**New to online course design or looking for tips and insights? Your online kit is ready.**

If you are a teacher or student looking for support in the transition to online teaching and learning, the ASU instructional design community has created a kit for you. This set of vetted resources is an essential toolkit for quality online course development and delivery. The goal is to provide curated resources, actionable steps and an overall strategy to the rapid development of online course materials, activities and assessments.

Access the toolkit at [asuforyou.asu.edu](https://asuforyou.asu.edu) or [teachonline.asu.edu](https://teachonline.asu.edu).

**Free** **Lifelong learning**  
**Self-paced** **Online**

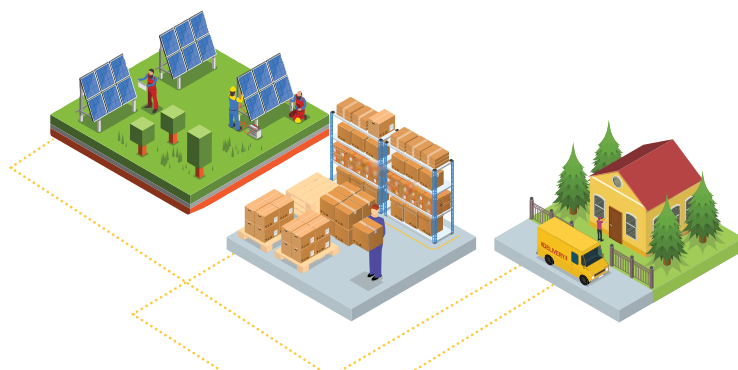


## Resources for teaching sustainability

From food supply chains to water to the air we breathe and more, engaging activities introduce students to central themes in sustainability science. Exercises include data visualization, debate frameworks, investigating students' local surroundings and mapping the networks that make modern life possible. Designed for grades 6–9, the activities can be easily modified for most students and align with Next Generation Science Standards and Common Core science, language arts, mathematics and social studies.

Download lesson plans, slides and prompts in the Rob and Melani Walton Sustainability Teachers' Academy resources section at [asuforyou.asu.edu](https://asuforyou.asu.edu)

**Free** **Lifelong learning** **Self-paced** **Sustainability** **Online**



Mapping the networks that bring food, energy, water and more to students' homes helps create a personalized framework for understanding sustainability.



#### GIVING BACK

### Students construct air filters for K–12 classrooms

As part of ASU's pandemic response, infectious disease epidemiologist Megan Jehn has been measuring the effectiveness of countermeasures such as face coverings. Searching for ways to counter COVID-19 led her to another way to attack the problem: filtering indoor air in classrooms. And to do that, she turned to a simple DIY box and the helping hands of ASU volunteers.

Inexpensive but effective, Corsi-Rosenthal boxes can be built from supplies available at most home improvement stores. The boxes are essentially a cube in which four of the six sides are 20-inch household air filters. The top of the box is a 20-inch fan. Cardboard from the fan's packaging is put to use as the bottom of the cube and as a shroud on top of the fan that increases the pressure to improve airflow.

"You don't have to be a scientist to build a box like this; anyone can do it," says Jehn, who leads both the university's Student Outbreak Response Team and its Community Response Team and is an associate professor in the School of Human Evolution and Social Change.

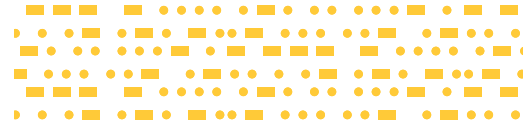
A young man with dark hair and glasses is shown in profile, wearing a red t-shirt and a custom-made air filter mask. The mask is constructed from clear plastic and blue mesh, with grey straps around his head. He is looking down at something out of frame. The background is a blurred outdoor setting with green foliage.

# Update in the news

Fourth-year biological sciences student Matthew Gue (left) and high school student Raymond Gue work together to assemble DIY air filters.

**Top research university**  
ASU remains in the top 10 for research.  
**10**

**Leading the way**  
National Geographic editor-in-chief joins Cronkite.  
**13**



## ASU again among nation's top research universities

Despite a year of unparalleled challenges, including a pandemic, travel restrictions and redirected funding, ASU continues to grow its research enterprise and advance new discoveries and solutions.

In fiscal year 2020, the university remained in the top 10 for research expenditures among institutions without a medical school, ranking sixth, according to new data from the National Science Foundation Higher Education Research and Development rankings.

With \$673.4 million in spending on research, ASU ranks No. 6 against 755 other institutions without a medical school, ahead of California Institute of Technology, Princeton and Carnegie Mellon University.

Explore more achievements at [asu.edu/rankings](https://asu.edu/rankings).

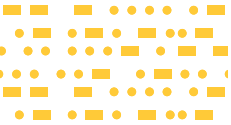


## ASU researchers develop 3 COVID-19 tests for FDA approval

ASU was awarded \$6 million from the state to develop a new high-tech COVID-19 test, and a team of researchers with the university has produced not one, not two, but three new methods of testing, now awaiting approval from the Food and Drug Administration.

All three components were developed and delivered to the state as per the requirements of the government grant.

The purpose of their work was to address multiple areas of concern with COVID-19 testing. This resulted in three components: a clinical form of a diagnostic test and two prototype devices, with one test built to sample in mass amounts and a mobile device designed to test individuals with both speed and ease. The team behind these developments included Mark Hayes, a molecular science professor, Jennifer Blain Christen, an electrical, computer and energy engineering associate professor, and Alexander Green, a biomedical engineering assistant professor at Boston University, formerly with ASU.



## ASU begins joint appointment program with National Renewable Energy Laboratory

Scientists and engineers at ASU are currently collaborating with researchers at the National Renewable Energy Laboratory on more than half a dozen projects. These efforts encompass solar electricity, wind technology, hydropower, advanced manufacturing, and grid reliability and resilience. NREL is the nation's preeminent U.S. Department of Energy national lab with a mission to lead research, innovation and strategic partnerships to deliver solutions for a clean energy economy.

Sridhar Seetharaman, vice dean for research and innovation in the Ira A. Fulton Schools of Engineering, will provide guidance and technical assistance on the program's multi-institutional projects. ASU has an established, strong relationship with NREL and a record of shared achievements in photovoltaics, microgrids, water systems and more.



NREL's Golden, Colorado, campus.



## Time-travel experience in Dreamscape Learn

The first class to use the new Dreamscape Learn virtual reality platform in Creativity Commons on the Tempe campus unveiled its time-traveling, climate-change scenario. Dreamscape Learn works as a set of tools, which includes VR headsets, hand and foot trackers, and haptic sensations, such as a shaking floor and blowing wind, to create fully immersive, avatar-driven VR experiences.

"You've got this fantastic intellectual construct where you can create time travel as a way to address the complexities of climate change," says President Michael M. Crow.

**Keep up with the headlines at ASU by subscribing to the ASU News e-newsletter at [news.asu.edu/subscribe](https://news.asu.edu/).**

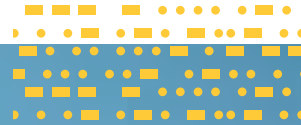


Bryan Brayboy

## University hits new milestone with largest cohort of Indigenous scholars

In May 2020, ASU reached a major milestone when it enrolled approximately 3,500 American Indian students. That same year, 679 Indigenous students graduated, another breakthrough achievement. This year, the university reached another landmark: ASU now employs approximately 60 Indigenous scholars — the biggest cohort ever assembled. These world-class scholars have won Pulitzer Prizes, fellowships, and MacArthur "genius" and National Institutes of Health grants, and have either been inducted into major academies or received significant awards. They teach subjects that cover a wide spectrum of academia.

"In 2014, we started to really take seriously that we needed to create the conditions for Indigenous faculty to thrive at ASU," says Bryan McKinley Jones Brayboy, President's Professor, director of the Center for Indian Education and ASU's senior advisor to the president on American Indian affairs. "We created a plan, worked with senior administration, deans and directors, and our faculty colleagues to attract both tenured and untenured Native faculty. We moved from a model of serendipity — hoping a faculty member would apply — to intentionality, where we built a plan and structure. The migration from serendipity to intentionality has made all the difference."



## CANCER RESEARCH

**Biological paradox offers new cancer insights**

The cells in the body can be thought of as tiny archery targets, each vulnerable to the deadly arrow of cancer. The more cells a given animal has, and the longer it lives, the greater its odds of accumulating harmful cell mutations that can eventually lead to cancer. Or at least, this is what intuition suggests.

Nevertheless, many very large animals bearing huge cell populations, including elephants and whales, not only survive to old age, but have remarkably low rates of cancer. This biological enigma bears the name Peto's paradox. In short, the paradox says that species size and longevity should be proportional to cancer incidence, yet the real-world data across species suggest this association does not hold.

Carlo Maley, a researcher with the Biodesign Center for Biocomputing, Security and Society, along with international colleagues, analyzed a database of adult mammalian life from zoo records that includes 110,148 individuals spanning 191 species. Their results are published in a new study appearing in the journal Nature.

**Learn more about the research at [biodesign.asu.edu](https://biodesign.asu.edu).**

**The Biodesign Center for Biocomputing, Security and Society team analyzed a cross-species database to learn why very large animals have remarkably low rates of cancer.**



**“Barnes is celebrated globally for her musicality, athleticism and joyful presence. ... She is an amazing dancer telling a beautiful and captivating story.”**

– NOMINATION FOR THE BESSIE AWARD



LaTasha Barnes is dedicated to sharing Black American social dance, including house, hip-hop, Waacking, vernacular jazz and Lindy Hop.

### **Dance professor wins big in New York honors**

LaTasha Barnes, a new faculty member in Arizona State University’s School of Music, Dance and Theatre, recently received a 2021 Bessie Award as an outstanding performer for her sustained achievement in dance.

The Bessies are an annual awards ceremony celebrating outstanding dance artists in New York. The awards ceremony was held virtually this year. In her acceptance speech, Barnes acknowledged her role as “tradition-bearer, artist and scholar.”

“I’ve always endeavored to be fully of service to my community and culture in all of the spaces and places that I’m called to be,” Barnes says.



### **Undergraduate business program continues ascent in US News rankings**

In the latest U.S. News & World Report rankings, the W. P. Carey School of Business at ASU improved its position. The school improved in 10 department rankings, including jumping to the No. 2 spot in the historically strong supply chain management degree. The undergraduate business analytics program made the top five, making it the top destination for business analytics in the Southwest. The school’s undergraduate programs are ranked No. 23 for undergraduate business programs, ahead of The University of Arizona, Johns Hopkins University and Purdue University.

**Explore at [wpcarey.asu.edu](http://wpcarey.asu.edu).**



### **National Geographic editor-in-chief joins Cronkite and Global Futures Laboratory**

Susan Goldberg, editor-in-chief of National Geographic and editorial director of National Geographic Partners, joins ASU with a joint appointment in the Walter Cronkite School of Journalism and Mass Communication and the College of Global Futures’ School of Sustainability. Serving as vice dean and professor of practice, and leading new programs and strategic partnerships in Washington, D.C., Goldberg will expand ASU’s presence in the nation’s capital, which provides significant educational opportunities and leverages the expertise of world-class faculty across a wide range of issue areas.

“I’m thrilled to join ASU, as this position combines things I believe in deeply: I can give back to our profession, help strengthen journalism during a challenging time for the free press and work at an inclusive public university with young people who will shape the stories of tomorrow,” Goldberg says. “I also am excited to work with journalists and experts at the Julie Ann Wrigley Global Futures Laboratory and its College of Global Futures to help tell stories around how we are addressing and shaping our collective future options, including climate change — one of the trickiest stories to tell to a general audience. I want to do what I can to figure out how to explain the threats to and opportunities for our planet and its inhabitants with greater accessibility, resonance and impact.”

## Expanding clean water access for Navajo Nation

Approximately 20% of households within the Navajo Nation lack indoor plumbing, meaning thousands of residents haul water in tanks they fill from a mixture of regulated and unregulated sources. The latter are susceptible to contamination and therefore pose a threat to human health, so more safe water sites are needed. Courtesy of a \$1.8 million grant from the CDC Foundation to Construction in Indian Country, which is part of the Ira A. Fulton Schools of Engineering, ASU is leading a project to build multiple permanent water loading stations that will improve clean water access for thousands of people.



“Indian Health Service, which is part of the U.S. Department of Health and Human Services, identified 41 proposed sites for us to consider for these permanent water loading stations,” says Marcus Denetdale, program manager for CIIC. “So, we’re looking at the number of homes without piped water in those areas, current water usage levels, local water quality and a lot more.”

The team will submit a report for Navajo Nation authorities and local utilities to consult in deciding where to proceed with the new stations. In addition to the many partners working on the project, CIIC has designated a Native-owned construction management firm to acquire contractors and direct fieldwork.

“This is a broadly collaborative effort,” Denetdale says. “It’s all hands to the pump.”



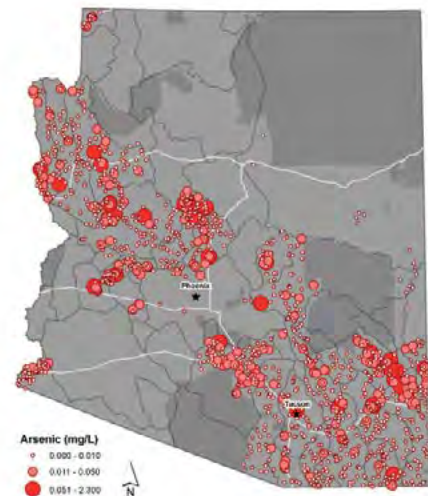
## Google announces funding for research at Cronkite School

The Walter Cronkite School of Journalism and Mass Communication is partnering with Wick Communications on a project supported by Google to research strategies for facilitating healthy online discourse. The project will engage with local communities to understand their needs and to research products and strategies that combat misinformation and encourage healthy online dialogue. Three diverse communities in Arizona will be selected for the research. The Voices Listening Project is one of 25 included in the Google News Initiative’s third North America Innovation Challenge selected to address the need for research in local news.

## Students win gold for cleaning arsenic from drinking water

A team of seven biomedical engineering students at ASU, led by seniors Emma Lieberman and Maggie Cook, won a gold medal in the International Genetically Engineered Machine competition. Their accomplishment? Engineering microalgae to bind arsenic in water, reduce it and sequester the toxic contamination. While more than 99% of Arizonans who obtain drinking water from public water systems are served water that meets the Safe Drinking Water Act arsenic standards, arsenic is a major concern and cost for small public water systems and the 5% of Arizonans who get their water from private wells. Prolonged exposure to arsenic can cause serious health issues. The team vied with 351 other teams in the iGem competition.

“We won a gold medal for excellence in the design, development and execution of our project,” says Lieberman.



**Drinking wells across the state have shown varying levels of arsenic, with dozens showing concentrations of .051–2.300 mg/L, marked with red dots.**



GROWING TECH

## **ASU cultivates new market opportunities for small farmers**

American agriculture has been consolidating for decades. Farms have dwindled in number as they have grown in scale, and the same is true of businesses that process and distribute food. Recent agricultural research suggests that emerging precision technologies that collect, analyze and apply detailed information to better connect farm production and markets for fresh produce could yield crucial benefits for small growers.

Rene Villalobos, an associate professor of industrial engineering in the Ira A. Fulton Schools of Engineering, has devoted 15 years to studying the commercial food supply chain with the goal of addressing problems facing farmers. The yield of his extensive work is a project called Terra-Fresh, which stands for technology-enabled, rapid response, fresh supply chains.

"It's a platform or an environment that applies market intelligence to identify opportunities related to demand for fresh produce, and then coordinates action in a way that benefits small growers, consumers and the environment," Villalobos says.

**Discover more from the Industrial Assessment Center at ASU at [iac.engineering.asu.edu](http://iac.engineering.asu.edu).**

## Founders' Day: Celebrating innovative leaders

To honor outstanding alumni, faculty and philanthropists of the year, Founders' Day 2022 was held in March at the Arizona Biltmore. Hosted by the ASU Alumni Association, this signature ASU event recognizes individuals who exemplify the spirit of the founders of the Territorial Normal School, ASU's predecessor institution. Their innovative research, excellence in teaching, unparalleled success and visionary philanthropy is fundamental to the university's trajectory toward becoming a New American University.

For more information on Founders' Day 2022, visit [alumni.asu.edu/events/founders-day](https://alumni.asu.edu/events/founders-day).



## Barrett honors student crowned Miss America

Emma Broyles, a junior biomedical sciences major in Barrett, The Honors College has been crowned Miss America 2022. Broyles competed as Miss Alaska in a live event in the 10,000-seat arena at the Mohegan Sun Resort in Uncasville, Connecticut. She is the first Miss Alaska and the first Korean American to wear the Miss America crown. Broyles won a \$100,000 scholarship and the yearlong job of representing the Miss America Organization and advocating for her social impact initiative, Building Community Through Special Olympics.



## US News ranks ASU among best in nation for online programs

ASU's online bachelor's programs in business and online master's in educational administration have been ranked No. 1 in the country by U.S. News & World Report. In addition to the No. 1 rankings, ASU Online earned top-three rankings in a total of 12 categories as part of the 2022 Best Online Programs report, including online bachelor's programs for veterans (third), online master's in electrical engineering programs (second) and online master's in special education programs (third).

As part of its overall Best Online Bachelor's Programs category, U.S. News ranked ASU among the top 10 in the country, at No. 6, ahead of Ohio State University, Penn State World Campus and The University of Arizona.

## \$5.2M to Biodesign Institute from Michael J. Fox Foundation to advance Parkinson's fight

The Michael J. Fox Foundation has awarded three new grants totaling \$5.2 million to ASU to explore three pioneering treatments for Parkinson's disease. The awards will fund research led by Principal Investigator Jeffrey Kordower, each targeting underlying causes of the disease, which currently affects nearly 1 million people in the U.S. alone.

Parkinson's disease is a leading neurodegenerative ailment, whose symptoms include rigidity, tremors and difficulty with balance and walking. In many cases, problems with movement are accompanied by serious cognitive impairment, including dementia.

## President of Robert Morris University joins ASU leadership

Chris Howard, a national expert in higher education policy, joins ASU as executive vice president and chief operating officer of the ASU Enterprise.

Howard will work closely with President Michael M. Crow and other ASU executives to coordinate enterprisewide initiatives and advancement, oversee affiliates, advance new relationships and opportunities, and integrate ASU Enterprise planning and strategy.

"Chris Howard brings tremendous leadership experience to ASU, having served as president of two universities, having served in the United States military, having worked in the private sector and as a former student-athlete now helping to shape the future of college athletics," Crow says.



**Chris Howard,**  
ASU Enterprise's  
new chief  
operating officer

# Advance your career

HUNGRY TO LEARN

## New skills, new career

During the early days of the pandemic, Max Miller, '06 BA in music performance (voice), was furloughed from Walt Disney Studios. He made a career pivot to create the YouTube food and history show "Tasting History," which boasts more than 600,000 subscribers and 19 million views. Here he shares success tips for any endeavor.

- 1. Be curious.** "Never be done learning. When you graduate from college, that's the beginning," Miller says.
- 2. Absorb as much as you can.** "I loved working for Disney and learned skills that I didn't expect to ever learn, things like editing and storytelling," he says.
- 3. Study your craft.** "I watched hundreds of hours of other YouTubers." He continues to build upon his skills.
- 4. If you fail, try again.** "Every single failure gave me another tool in my toolbox," Miller says.
- 5. Communicate well.** "When you have an idea in your head, being able to get someone else to picture that idea is important."

Watch "Tasting History":  
[youtube.com/c/TastingHistory](https://www.youtube.com/c/TastingHistory).

## Your career success

3 traps to avoid.

18

## Build skills, find inspiration

Discover career resources at ASU.

21



**May Busch**

The former COO of Morgan Stanley Europe is now an executive coach, speaker, advisor, author and executive in residence in ASU's Office of the President. Find her at [maybusch.com/](http://maybusch.com/) [asuthrive](http://asuthrive).

# Comparison, competition AND conflict

3 traps to  
avoid for  
success in all  
career stages



**W**hen I was about to leave home for college, my mother gave me this pearl of wisdom: “Remember to avoid the three C’s.”

She explained that I must avoid unnecessary comparison, competition and conflict and that this would help me to be happier and more successful in my college experience.

What I didn’t realize then is that this advice would continue to serve me throughout my 24-year corporate career as well as my personal life. Whatever your career stage, avoiding the potential pitfalls of the three C’s will serve you well.

**Avoiding comparison: the thief of joy**

Comparing yourself to others is such a common trap, especially these days with social media offering everyone’s highlight reel.

It’s all too easy to compare yourself to the best in each category of your work and life. Like being the best mother and the best candidate for the job and having the cleanest house and being the fittest person in the gym and ... the list goes on.

This sets an impossibly high standard because you’re comparing yourself to the best qualities in others.

Instead, practice gratitude and appreciate yourself. Compare your work against itself. As long as you’re learning and growing, that’s

**Regardless of career stage, avoiding the three C’s will help you achieve more and bring more joy**

You can make your life and career happier and more successful when you avoid the three C’s:

**1. Avoid unnecessary comparison:** Comparison is the thief of joy, and you deserve to live a joyful life.

**2. Avoid unnecessary competition:** Focus on abundance and not a zero-sum mindset.

**3. Avoid unnecessary conflict:** Let go of being right and learn to disagree without being disagreeable.

what matters.

Which brings us to the second C ...

### **Competition: breeding a scarcity mindset**

Healthy competition can be good, but unnecessary competition can be damaging to your career. Especially when it breeds a “zero-sum” mentality where either you win or they win. Like having to win an argument, even if it’s with your boss or your client.

Competing with others makes it harder to see people as potential partners. And instead of teaming up to rise higher together, you might waste mental energy trying to outdo your colleagues. You might even make enemies without needing to.

Instead, adopt an abundance mindset. Rather than fight over how many slices of pie you can have, or how much of a portfolio you own, look at how to grow the pie and portfolio so everyone has more.

And this leads to the third C ...

### **Conflict: the kind that doesn’t make you stronger**

Unnecessary conflict often stems from the need to be right. You’ve done all the research and thought things through. You’re an expert in the area and you expect to be right. So any challenge to your views can feel personal. Like someone’s challenging your identity.

So you get into a debate and sound defensive. You might even say things you regret later. This is the crux of unnecessary conflict.

It wasn’t useful, it didn’t resolve anything. In fact it created more problems.

The more senior you become, the more your success comes from working with people. Which means ongoing conflicts will be a distraction to building the kind of trusted relationships you need to achieve greater results than you can alone.

Instead of engaging in unnecessary conflict, learn to disagree without becoming disagreeable.

But how do you tell when the three C’s are unnecessary?

The litmus test is whether it contributes to your sense of well-being or detracts from it.

If saying, “Why can’t I be more like Susan?” is creating a comparison that makes you feel bad, that’s unnecessary. On the other hand, if comparing your situation to the worst-case scenario which thankfully didn’t happen brings up gratitude, that’s a good thing.

Similarly, competing with a peer to see who gets to the corner office first could fuel your motivation, or it could lead to desperate behavior that derails your career.

Allowing tensions to build up inside you in the form of internal conflict will eat away at you and serve no good purpose. Whereas working through a conflict to find a resolution could strengthen your relationship and build trust.

Everything in moderation. Live consciously and remember to check in with yourself about the three C’s. ■





## Building a nonprofit for veterans

After attending the Super Bowl in Glendale, Navy veteran Michael Focareto III, '98 BS computer information systems, '09 MS information management, noticed empty seats. It was at that moment he decided to create a nonprofit that could fill those seats with current military members, veterans and their families.

Since its founding in 2008, Vet Tix has given military veterans about 11.5 million tickets to sporting events, concerts, recreational experiences and more. Before the pandemic, the organization had a record-high number of tickets given away, at 3 million in 2019.

To learn more about the nonprofit Vet Tix, visit [vettix.org](http://vettix.org).

Discover the ins and outs of starting a nonprofit with the ASU Lodestar Center for Philanthropy and Nonprofit Innovation at [lodestar.asu.edu](http://lodestar.asu.edu).

**“We work in collaboration with community partners like the Flinn Foundation, the Center for Entrepreneurial Innovation, StartupAZ, Greater Phoenix Economic Council and many others to support innovators and entrepreneurs. ... The power of place is in bringing together ideas and people for connectivity, collaborations and positive collisions.”**

– JI MI CHOI, FOUNDING EXECUTIVE DIRECTOR, J. ORIN EDSON ENTREPRENEURSHIP + INNOVATION INSTITUTE



## Your bioscience business ideas have new spaces to start up

No matter which stage of the journey you are in, there are resources to help every entrepreneur get to the next level

The Phoenix Bioscience Core is the center of gravity for innovation and the region's life science and entrepreneurship activity. It is a collaboration among the city of Phoenix, the Arizona Board of Regents and Arizona's three public universities to advance the bioscience ecosystem and improve population health across the Greater Phoenix region.

The area includes the highest concentration of research scientists and complementary research professionals in the region driving translational discovery.

Phoenix topped the nation for growth in life sciences employment from 2019–2020, according to a recent CBRE Group Inc. market report.

To learn more about the collaborative spaces, visit [850pbc.com](http://850pbc.com).

Meet other startups and tap into ASU mentorship and support resources with the J. Orin Edson Entrepreneurship + Innovation Institute. [entrepreneurship.asu.edu/events](http://entrepreneurship.asu.edu/events)



#### ARIZONA IMPACT

### In the heart of the capital city

The professional, fast-paced urban environment of the Downtown Phoenix campus provides a multitude of connections for the 11,721 students living and learning there. Academic and professional resources are designed for students to develop their careers across industries including health care, research, policy and advocacy, law, government and other public service, nonprofits, public social service, arts and sciences, journalism, media and the corporate sector. Students build both their professional skill sets and networks through internships, mentoring and work opportunities downtown.

Learn more at [campus.asu.edu/downtown-phoenix](https://campus.asu.edu/downtown-phoenix).

The Beus Center for Law and Society is home to the Sandra Day O'Connor College of Law. The LEED Gold building is designed to connect students, visitors and the general public to the role of justice in society with indoor-outdoor spaces that facilitate public gatherings.

# Invite collaboration



## **A bioscience powerhouse**

Advancing health care and driving economic growth.

**24**

## **Revitalizing the city**

Campus helps breathe new life into downtown Phoenix.

**34**

INVITE



# powerhouse





How a bioscience and innovation core in downtown Phoenix is poised to revolutionize health and drive economic growth to benefit Arizona and beyond

Story by CRAIG GUILLOT  
Photos by JILL RICHARDS

# bioscience



**Imagine a vaccine that could prevent people and dogs from developing multiple types of cancer.**

It would be a groundbreaking innovation preventing millions of diagnoses and saving innumerable lives every year. It's one of several lifesaving interventions researchers are striving to make a reality at the Phoenix Bioscience Core.

Research like this is quickly elevating Phoenix's profile as a hotbed for life sciences innovation, says Phoenix Mayor Kate Gallego. Years of investments, planning and development are now bearing fruit as life science companies and university researchers improve health while bringing new opportunities to Arizona.

"It is my goal that the path to cure cancer will run through Phoenix," Gallego says. "We want Phoenix to be the leading place for both preventative medicine and therapeutics."

### **A growing hub for biosciences and innovation**

After nearly two decades of collaboration among the city of Phoenix, ASU, the Arizona Board of Regents and private industry, Phoenix has become a prime player in biotech and is attracting some of the industry's top scientists and companies.

This is why commercial real estate firm CBRE Group Inc. named Phoenix among the top emerging bioscience markets in the U.S., with the city topping the growth for life sciences companies from 2019 to 2020.

At the heart of the momentum is the PBC. Established in 2004 on mostly vacant land at the corner of Van Buren and Seventh streets, the area now centers Arizona's three state universities and five of its major hospital systems. The

**Shu Wang (right) and Qiaobin Hu are working to enhance phytochemical bioactivity to prevent and treat chronic diseases.**

**“It is my goal that the path to cure cancer will run through Phoenix.**

**We want Phoenix to be the leading place for both preventative medicine and therapeutics.”**

— KATE GALLEG0,  
MAYOR OF PHOENIX

PBC brings together research, top facilities, biomedical companies, startups, faculty, students and community members in one space.

Companies moving to the PBC seek not only the life sciences infrastructure but the walkable, amenity-rich environment that has blossomed in the area, says David

Krietor, PBC executive director.

“Phoenix has always been attractive for business and entrepreneurial activity. What has really changed is the urban center has become repopulated and reinvigorated,” Krietor says. “The combination of university investment with this back-to-the-city movement has created an energized environment where entrepreneurs and established biomedical players want to be.”

### **A bioscience core like no other**

The latest component of the PBC opened in March 2021. The 227,000-square-foot building, called 850 PBC, provides key biomedical facilities and resources. These include clinical trial areas, dry labs (which feature high-tech equipment for crunching numbers, among other uses), a wet lab (which provides the resources for complex analytical chemistry and molecular biology analyses), a cardiovascular and exercise physiology laboratory, and a rehabilitation and motor control lab — the types of high-end facilities and equipment that most startups and many researchers previously were not able to access.

The \$77 million facility is the first ASU-centered building on a 7-acre site on the larger PBC. ASU leases 112,000 square feet of the facility, with private companies occupying the rest.

850 PBC was constructed by Wexford Science + Technology, a Maryland-based development company specializing in mixed-use communities for health sciences anchored by academic medical centers and universities.





Luhui Shen, Penny Gwynne, Stephen Albert Johnston and Alexandra Kassis meet as a research team to discuss the day's objectives. Johnston is founder and chairman of the board of the startup Calviri and a scientist at ASU's Bidesign Institute.

“This building represents a focal point that mixes so many uses and includes environments for programmatic activity, collisions and also a place that provides pathways for new jobs,” says Tom Osha, Wexford’s senior vice president of innovation and economic development.

To support startups, the J. Orin Edson Entrepreneurship + Innovation Institute has 4,500 square feet on the ground level for collaborative coworking, events and exhibitions. Included in that space is the Health Entrepreneurship Accelerator Lab, a collaboration between the Edson Entrepreneurship + Innovation Institute, the Edson College of Nursing and Health Innovation, the College of Health Solutions and the New College of Interdisciplinary Arts and Sciences that supports health-related ventures and provides training for health-related startups. This fall, Wexford Science + Technology will open its Wexford Innovation Labs, a coworking space for life sciences companies on the fifth floor, making it easier for life science startups to find lab and office space.

In 850 PBC, faculty and researchers in the College of Health Solutions and other units collaborate across ASU and the broader community to offer the facilities, services and advanced technologies available via the Translational Research Center.

“Historically, the activity on the PBC has focused predominantly on training the next generation of Arizona’s health care workforce,” Krietor says. “The evolution of the



PBC is to translate the clinical research happening in university labs and apply it to real-world challenges.”

The space, combined with institutional connections, research support from ASU and a growing number of companies, provides a hub for bioscience companies.

“There is a collaborative, entrepreneurial environment,

and we hear from our startups that they [can] share ideas and work together. It’s not as much ‘dog eat dog’ as in some other communities,” Gallego says.

### **Health breakthroughs**

Biomedical researchers from across ASU, including the College of Health Solutions, the Edson College of Nursing and Health



**“The evolution of the PBC is to translate the clinical research happening in university labs and apply it to real-world challenges.”**

— DAVID KRIETOR, PBC  
EXECUTIVE DIRECTOR

**Stavros Kavouras and his clinical research team in the College of Health Solutions use areas on the second floor for patient intake and diagnostics.**

how to identify and kill cancer cells early. At specific intervals, participants bring their pets back to do preventive checks for cancer, which will determine whether the vaccine works.

An important component, says Johnston, is that any human vaccines that result from this research become affordable, around \$100 to \$500 a dose, as opposed to the tens of thousands of dollars required for cancer treatments. He wants people in the developing world to have access to his company's potentially lifesaving innovation too.

OncoMyx Therapeutics, one of the building's first tenants and an ASU spinoff, is striving to develop oncolytic immunotherapies that use viruses to infect and destroy cancer cells. In December 2021, the company received \$50 million in new funding in addition to money raised previously.

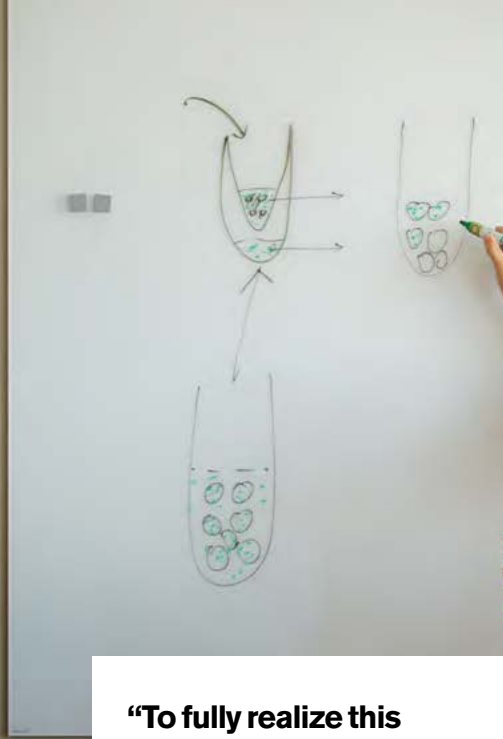
850 PBC also is home to BacVax, a University of Arizona spinoff founded by Dr. Terrence Stull, former senior vice president of research at Phoenix Children's Hospital. BacVax uses molecular genetics to study *Haemophilus*

Innovation and the Biodesign Institute, are working in the new facilities to advance medical and health innovation. Researchers' focuses run the gamut of promoting health to the treatment of diseases. In addition, several startups in 850 PBC work to accelerate biomedical innovation.

Stephen Albert Johnston, founder and chairman of the board

of the startup Calviri and a scientist at the Biodesign Institute, is testing a preventive cancer vaccine for canines. In the future, this innovation could open the door for testing on people.

For the clinical trial, local community members bring in their beloved dogs, who then get the trial vaccination, which is meant to teach the immune system



**Shu Wang (right) and graduate student Fang Zhou conduct innovative research for heart disease and obesity. Wang is a professor in the College of Health Solutions.**

**“To fully realize this responsibility, our faculty and students are working together with our surrounding populations ... in research that rapidly moves from the lab to the community to have a real impact for better health.”**

— DEBORAH HELITZER,  
PROFESSOR AND DEAN  
OF THE COLLEGE OF  
HEALTH SOLUTIONS

influenzae, a common cause of ear infections.

Stull moved his startup from the University of Arizona College of Medicine – Phoenix to the fourth floor of 850 PBC in July 2021, noting the building is a prime location to grow and expand.

“There is an inadequate amount of incubator space in Phoenix for companies like this, so having us in 850 PBC was critical for us to be able to remain here,” Stull explains. The access to the biomedical resources and equipment at 850 PBC is absolutely essential, he adds.

### **For the community**

A core component in 850 PBC is the notion of translational research, which shortens the time from discovery to clinical practice. This is the focus for the entire level 2 of the building and part of why ASU’s College of Health Solutions

brought Dr. Frank LoVecchio in as the medical director of clinical and community translational research to foster collaborations within the university and in the greater community.

In this area, Shu Wang, a nutrition professor at the College of Health Solutions, is exploring how biocompatible and biodegradable nanocarriers can enhance phytochemical bioactivity for the prevention and treatment of chronic diseases, especially cardiovascular disease and obesity. She recently relocated to Phoenix from Texas

Tech because of 850 PBC and expects to translate her research from the lab to real-life health interventions.

“It is a new and fantastic facility for our work,” Wang says.

ASU researchers are using the labs, offices and translational research center for more than two dozen clinical studies funded through private and public grants from local and national sources.

College of Health Solutions Professor Scott Leischow is testing a new smoking cessation drug with volunteers from the community. Other trials and community-based research being conducted by Health Solutions faculty include sports science support for the local SC del Sol soccer club and the ASU triathlon team, as well as the connections between hydration and mood.

“The work our researchers are already doing in 850 PBC

is bringing the ASU Charter to life with its charge to assume fundamental responsibility for the overall health of the communities we serve," says Deborah Helitzer, a professor and dean of the College of Health Solutions. "To fully realize this responsibility, our faculty and students are working together with our surrounding populations — learning from them, collaborating with them — in research that rapidly moves from the lab to the community to have a real impact for better health."

### **Fostering the biomedical ecosystem through education**

Because a business location can only be as good as its available talent, workforce development is critical to driving economic growth. A key component is training techs to work directly for local biotech and biomedical companies.

This is where the Maricopa County Community College District and the Center for Entrepreneurial Innovation come into play. They opened LabForce on the ground floor of the building, part of Arizona's first certification program focused on biotech and life sciences. In building the curriculum, the MCCCCD and CEI work with private industry to create the curricula to provide in-demand biomedical skills along with two-year degrees. Similar to the ASU-to-industry route, this works as a pathway from technical college to jobs.

"As companies grow, they need a steady pipeline of talented individuals. Because they're often competing with [larger companies]

for talent, they often have to develop their own," says Thomas Schumann, CEI executive director. That's where the workforce training comes into play, addressing those needed skills.

Meanwhile, research in 850 PBC provides ASU and MCCCCD students access to cutting-edge opportunities and facilities, and to big biomedical companies and smaller startups.

Together, part of what LabForce, ASU and the PBC are doing in 850 PBC is filling the talent gap by providing education for biomedical employees at all levels.

### **Improving Arizona's economy**

Biomedical companies are choosing Phoenix because of its outstanding public transportation, strong talent pipeline, ASU's innovation culture, the PBC, and city and regional support. Compared to other cities with a strong biomedical industry, like Boston and San Diego, Phoenix also has a lower cost of living, making it easier for companies to attract talent.

The biomedical industry growth in Arizona benefits the local and greater economies.

"All you have to do is look downtown to see the number of cranes rising up, the tall buildings. I think with all the activity with the semiconductor industry that is coming here, the autonomous vehicle activity, the bioscience activity, we are really becoming a technology center," Schumann says.

Gallego agrees and says that research coming out of the PBC will not only bolster the economy

but also create life-changing medical innovations.

"An exciting factor of the strong growth of bioscience jobs goes far beyond the high wages for our workers," Gallego says. "It is rather the promising innovations possible as a result of the emerging cluster of advanced therapeutics which will benefit Arizonans and people worldwide." ■

## **Economic impact**

**6 million+ square feet**

planned total buildout of the Phoenix Bioscience Core at completion

**Fastest growth in life sciences employment**

the Phoenix metro area topped the nation, beating Seattle, Denver, Boston and other major metro areas in growth

**8.5% growth in life sciences jobs in Phoenix**

including research, biotechnology and therapeutics from 2019–2020

**22,000+ jobs**

in life sciences in metro Phoenix at the end of 2020

*Sources: PBC, CBRE Group Inc.*

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Laburnum, called golden chain or golden rain, is native to the mountains of southern Europe. A medicine derived from it may offer relief for smoking addictions.

#### NATURAL SOLUTIONS

### More options to end smoking addictions

A plant-based medication may be a solution to nicotine and cigarette addiction. Scott Leischow, director and professor in the College of Health Solutions, is heading the Arizona site for a clinical trial with the medicine to help volunteers quit smoking. The drug, cytisinicline, is derived from the seeds of laburnum trees in Bulgaria and, according to Leischow, helps reduce cravings and withdrawal symptoms by triggering the same specific receptors in the brain as nicotine. Leischow also says current findings show very few side effects associated with cytisinicline, compared to other smoking-cessation drugs.

Offering effective smoking-cessation treatments is critical, as data from the Centers for Disease Control and Prevention from 2020 shows “smoking is the leading cause of preventable death.” And taking responsibility for the well-being of the community is part of ASU’s mission. This trial is one of about two dozen clinical trials happening at ASU. — *Josh Geenen, State Press reporter and senior majoring in economics*

Learn more at [chs.asu.edu/trials](https://chs.asu.edu/trials).

# Then

## Downtown Phoenix



Westward Ho

U.S. Post Office

A. E. England

McKinley Street

Pierce Street

Fillmore Street

Taylor Street

Polk Street

Van Buren Street

Monroe Street

Adams Street

Washington Street

Jefferson Street

Arizona Center

Mercado

Phoenix Convention Center

Heritage Square

Arizona Science Center

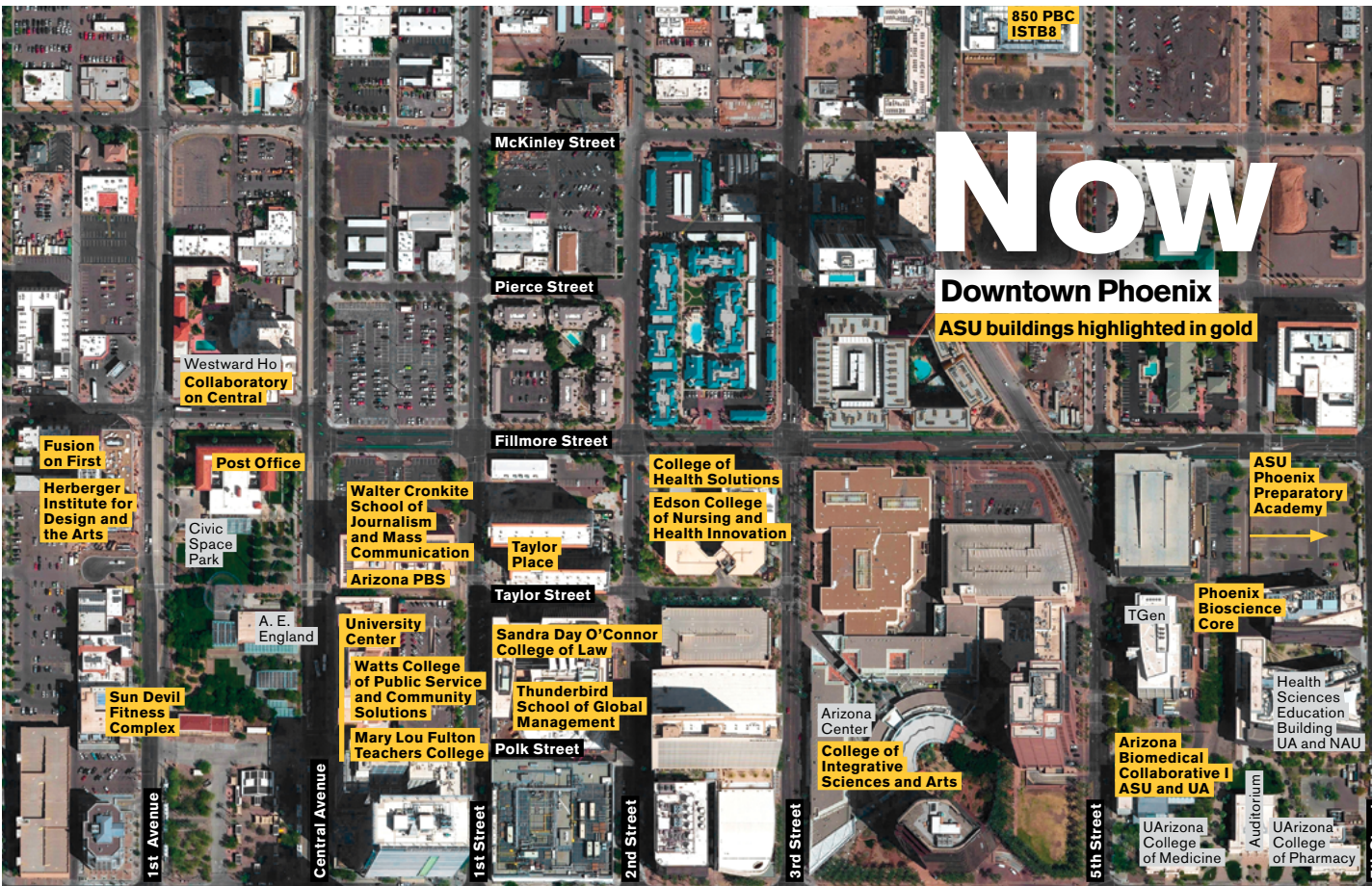
Maricopa County Courthouse

Basketball arena

# Now

## Downtown Phoenix

ASU buildings highlighted in gold



### GROWING ENGAGEMENT

## 15 years later, downtown Phoenix is a changed place

In 2003, ASU President Michael M. Crow and then-Phoenix Mayor Phil Gordon met to explore the possibility of establishing an ASU campus in downtown Phoenix. What resulted was a substantial and sustained alliance between the two entities, marked, in part, by a 2005 intergovernmental agreement. In 2006, Phoenix voters approved propositions securing \$223 million in funding for the development of the ASU Downtown Phoenix campus. Later that year, just three years after the initial discussion, the campus launched with four founding colleges. Marking its 15th anniversary this school year, more than 11,500 ASU students now live and learn on the campus. [Learn more at campus.asu.edu/downtown-phoenix.](http://campus.asu.edu/downtown-phoenix)



REVITALIZATION

## Iconic LA building reopens

ASU alumni and faculty have been involved in Los Angeles industries and have been helping students get internships in the city for years. Now an anchor — the ASU California Center — provides much more in the renovated Herald Examiner Building, located at 11th Street and Broadway in downtown LA. Commissioned by William Randolph Hearst, designed by Julia Morgan and built in 1914, it housed the Herald Examiner newspaper for decades. The building is home to ASU Local-Los Angeles, the Walter Cronkite School of Journalism and Mass Communication, the Herberger Institute for Design and the Arts, the Thunderbird School of Global Management and other programs. It's a place where students, staff, faculty and alumni connect and is part of what has been described in the Los Angeles Times as a “breathtaking” transformation of downtown LA. [Learn more at california.asu.edu](https://california.asu.edu).





# Involve the community



## **ASU Local- Los Angeles**

Personalized approach to learning creates success.

**38**

## **Revitalizing a community**

Building trust and restoring resources, one home at a time.

**46**

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Jose Nava graduated from Wallis Annenberg High School in Los Angeles. He now attends ASU Local programming with colleagues at the ASU California Center.



People connections, personal education coaches, deep career preparation all help ASU Local students succeed

Story by JAMAAL ABDUL-ALIM

Photos by AMANDA LOPEZ AND TREVOR TRAYNOR

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# Learning

## Victor Sanchez sought personalized support

and individualized attention in his college journey. He had come to expect that after the college readiness program he participated in during high school called GEAR UP, a federal program for middle and high schoolers. That close connection and sense of community is what drew Sanchez to ASU Local-Los Angeles. From the very first interaction, the admissions staff members were approachable and responsive, Sanchez says.

“They reached out to me. They broke down the financial plan. They followed me every step of the way,” Sanchez says. “I feel like I belong here.”

Since then, Sanchez, a second-year student majoring in urban planning, says the close bonds and intentional programming have helped him move closer to his college and after-college goals in numerous ways.

With an intentional focus on personalized support, ASU Local debuted in Los Angeles in fall 2019 to provide the academic and student service resources of a renowned research university, while allowing students to stay rooted in their local communities.

The program’s innovative hybrid setup combines online coursework completion with in-person programming at the college’s downtown Los Angeles location, with support through career-oriented, project-based learning, internships and programming focused on student well-being — along with success coaches. The

coaches are a key part of what makes ASU Local stand out for students.

### Expanding access to higher education

ASU Local, which now has locations in Los Angeles, Washington, D.C., and Yuma, Arizona, was launched by Executive Vice President of Learning Enterprise Maria Anguiano, who saw a need for more flexible options for learners.

The program allows students the flexibility to access all coursework online 24/7 through ASU’s advanced digital learning platform. Students have more than 130 bachelor’s degree programs available as options.

**“They reached out to me. They broke down the financial plan. They followed me every step of the way. And now ASU Local keeps showing me options. I feel like I belong here.”**

— VICTOR SANCHEZ,  
ASU LOCAL STUDENT

“It was created for students from all backgrounds who are rooted in their communities and would like to grow in and have an impact on the places that are important to them from a personal and cultural perspective,” Anguiano says.

“Not only does this approach help students access their existing support systems of family and friends during their college journey,” Anguiano says, “but their presence also ensures the economic, social and cultural vitality of the communities that they live in.”

Students are able to continue to work in their current jobs if desired, help with their families if necessary, build upon their roots, rely upon already established social networks and envision themselves contributing locally in their professions.

### Coaches on deck

Success coaches are a key part of the program. With each coach serving no more than 35 students, students participate in well-being programs, community-building programming and networking connections, while receiving support for their individual learning needs.

For the coaches, they see their role as helping remove any obstacle to success for their students.

“We are here to help in any way possible, not only through formal programming and ASU’s many resources, but also through our personal connections and understanding of each individual student,” says Success Coach Jessica Guzman.

Says third-year student Jose Nava, “All the coaches and professors and other support people really get to know us. They care about us. That’s a nice benefit to have the built-in mentors that come with this program. They feel like family.”



**Victor Sanchez, a second-year student, aspires to build affordable housing in LA's Koreatown. ASU Local is helping him meet urban planners who can help him along his path to his purpose.**



**Kara Smith, a mass communication and media studies major, enjoys ASU Local's sense of community and the way it allows her to organize her own time.**

**“I like working alongside people I look up to. The coaches and staff and director of recruitment — my boss — are hardworking and sweet people. I really like being a work-study student and learning from them.”**

— KARA SMITH,  
ASU LOCAL STUDENT

**A place to learn, grow and excel**

ASU Local-LA students take part in on-campus programming two days a week and can use the on-campus resources as many days as work best for them.

One important benefit the campus provides: places for students to focus and prioritize their learning with spaces for

studying and reliable high-speed Wi-Fi.

“For many ASU Local students, the physical space as well as the amenities deliver a quiet, dedicated place for them to focus and prioritize their learning,” Guzman says. Many students find it helpful to spend time in this environment where everyone is focused on learning, on their

education and on their future careers, Guzman adds.

The campus also creates the environment and programming for students to bond with their fellow students and their success coaches.

Maria Visoso, a sophomore and behavioral science major, says that she loves these community-building activities. She takes part in collaborative projects with fellow students, along with talks, presentations, study groups and student groups. She also enjoys the regular workshops that provide tips on a variety of subjects, from how to manage time to well-being.

The warm, welcoming on-campus environment is also a big draw for second-year student Kara Smith. A writer who was published in the Los Angeles

Times while still in high school, she is now a mass communication and media studies major.

Smith says that one of the things she enjoys about ASU Local is the ability to take her classes and do her work on her own time.

"I like being able to organize my own time," she says.

But she also enjoys going to campus because of the sense of community.

### Career-mindedness

An important aspect for future success is preparing students for their careers. ASU Local's career readiness programming takes a holistic approach to identifying students' skills and talents and providing them with experiential learning opportunities to get ready for their unique professional paths.

Throughout the programming, each student is provided personalized opportunities toward their career aspirations. For example, Sanchez's ultimate goal is to build affordable housing in Koreatown that offers some of the amenities of middle-class housing. Through his success coach, he has met with local leaders, including an LA suburb's head of city planning, to learn about housing and gentrification challenges unique to LA to help him craft the steppingstones toward his purpose.

Because real-world work experience is a key part of securing jobs and in career success, ASU Local helps students secure



### The role of a success coach

Success coaches serve as mentors and wayfinders to their small cohort of students, empowering them to access the support they need to graduate and thrive in their careers. They do this by providing:

- One-on-one personalized student-coach check-ins for college success.
- Connections to project-based career readiness opportunities, including consultancies and internships.
- Talent development resources, including resume building and job search support.
- Guidance and self-advocacy to access resources within the larger ASU ecosystem, such as well-being or academic support services.
- An intentionally designed in-person experience in which peer-to-peer connections flourish.

**Learn more about success coaching and programs at [asulocal.asu.edu](https://asulocal.asu.edu).**

work experiences, including internships, project consultancies and shadowing opportunities. These internships run the gamut across career fields, from law to entertainment to nearly anything in between.

Sports management is what interests Nava, a business communication major, so ASU Local helped him find and obtain a five-week internship with the Impact Learning Institute, which helps people break into the sports, media and entertainment fields.

"It will give me a good background and skills that are needed for a sports-like industry, to further my goal of becoming a general manager for a soccer team," Nava says.

### Community, college and inclusion

Although ASU Local breaks down barriers to higher education to improve access to include everyone, each location reflects local demographics. At ASU Local-Los Angeles, about nine of every 10 students are from underrepresented communities. A little less than half are the first in their families to attend college. Nearly 66% are Pell Grant recipients. The vast majority, 56.8%, are Hispanic or Latino. The second biggest group, 17%, is Black or African American. White students make up 9.1%, and Asian students make up 4.5%.

"The gap between white Americans and Black and Latino Americans with college degrees



**Maria Visoso, a first-generation college student, appreciates the inclusive community she has found at ASU Local.**

**“With the support and resources here, Maria has become a confident young leader. The program has been nothing short of transformative for her — and for so many of our students.”**

— JESSICA GUZMAN,  
ASU LOCAL SUCCESS COACH

transdisciplinary world,” explains Martha Juarez, head of ASU Local. “It’s all of this together that creates a purposefully designed support network focused on students’ success.”

It has paid off for the students, including Visoso, who, as a first-generation college student, feels she has found a warm, friendly community where she’s supported and enabled.

“Maria is a stellar example of why we’re all fully dedicated to ASU Local and to our approach. With the support and resources here, Maria has become a confident young leader. The program has been nothing short of transformative for her — and for so many of our students. We want to help each student grow and realize their potential, get excited about their future, see the possibilities in the positive changes they can make to their communities and the world,” Guzman says. “That’s why we’re here. That’s why we created ASU Local.” ■

is more than 20 percentage points. In addition, we know that a third of students who grew up with non-college-educated parents drop out of college,” Anguiano says.

“We are closing these gaps through a community of support,” Anguiano says. “Many of these students carry the burden of being the first or only member of the family to have a shot at professional success and end up

feeling isolated and hesitating to reach out for help. Through our network of success coaches, mentors, peers and well-being counselors, we normalize asking for help while keeping our expectations high for their performance in the program.”

**Transforming lives**  
“ASU Local is designed to equip students with a robust foundation for today’s accelerated, global and



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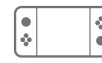
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Second-year business management major Wendy Ruiz, left, and Karolina Arredondo, a community champion, go door-to-door in Maryvale. They are Maryvale High School graduates and now part of the Design Studio for Community Solutions. They are surveying residents to offer school supplies and internet service.



# Making conne



ASU works with Maryvale residents to build trust, make connections and help fill gaps in resources

Story by MARY BETH FALLER  
Photos by CHARLIE LEIGHT

On a hot Saturday afternoon last fall, Wendy Ruiz knocked on the door of a house in the Maryvale community in Phoenix.

The resident opened the door and chatted politely for a while, and then Ruiz handed over an ASU tote bag filled with school supplies before waving goodbye and moving on to the next house.

# cti○ns

Ruiz, a student at ASU, was going door to door in Maryvale to spread the word about how residents can get free internet in their homes.

Like many of the neighbors, this one was skeptical.

"They think it's too good to be true," says Ruiz, who is a student worker for the One Square Mile Initiative, an ASU program that has spent three years working closely with the Maryvale community.

But that doubt is why the team from ASU walks the neighborhoods in Maryvale every month, according to Allison Mullady, senior program manager for the Design Studio for Community Solutions, which houses the One Square Mile Initiative.

"We're trying to build relationships," Mullady says. "A successful day for us would be to

**"I know many people do not have the financial means to get high-speed internet or the time to look for it. Getting that bill out of their way can help them focus on the most important things, which is school and work."**

— WENDY RUIZ, A STUDENT WORKER FOR THE ONE SQUARE MILE INITIATIVE IN MARYVALE

talk to as many people as we can."

During the pandemic, the switch to remote learning revealed an alarming problem: Many households

in Maryvale did not have the wireless internet needed to connect their kids to digital schoolwork. Some families had discounted internet whose broadband couldn't handle the online assignments or multiple kids in one house. Others had no internet at all.

So the One Square Mile Initiative and the University Technology Office at ASU facilitated a pilot program for free Wi-Fi for homes in the Isaac Elementary School District in Maryvale.

Now, the One Square Mile Initiative teams spend one Saturday a month knocking on doors to tell people about the free internet — and dispel doubts.

"With the initiative with the UTO, this whole neighborhood can have access to the free Wi-Fi," Mullady says.

Ruiz is one of four student workers for the program who are graduates of Maryvale High School.

"I know that a lot of people need that help from institutions, and I'm glad I'm able to be a part of that," she says. "I know many people do not have the financial means to get high-speed internet. Getting that bill out of their way can help them focus on the most important things, which is school and work."

**Kimberly Medina Rios (right), a biomedical major who is a student worker for the One Square Mile Initiative, gets ASU tote bags filled with school supplies as she prepares to go door to door with program coordinator Mariya Bahrenburg.**



## Connecting providers

If Maryvale was a municipality, it would be the eighth largest in Arizona. The collection of villages in west Phoenix has 230,000 people — with 44% of them under the age of 24, according to the One Square Mile Initiative. Maryvale has a median household income of less than \$37,000, compared to about \$70,000 for Phoenix overall.

The Maryvale initiative is the main project of the Design Studio for Community Solutions, in the Watts College of Public Service and Community Solutions at ASU. The Design Studio was created in 2018 with the \$30 million naming gift from Mike and Cindy Watts, founders of Sunstate Equipment Co.

The Watts family has fond memories of living in the working-class community of Maryvale in the 1960s. Mike and Cindy met at a Maryvale High School graduation party and went on to grow their equipment-rental business into a thriving enterprise. They wanted their gift to revitalize a community that is now struggling with poverty and crime.

The One Square Mile Initiative is meant to concentrate focus in one area and works to connect community nonprofits with units at ASU.

## Moving at the speed of trust

“One of our main tenets is that we don’t want to show up in a community or neighborhood for the first time talking about ourselves and what we do,” says Erik Cole, director of the Design Studio for Community Solutions.

# Working within communities

The Design Studio for Community Solutions connects nonprofits and services that already exist in the community with units at ASU. Among the accomplishments over the past three years, the studio has:

- **Rolled out the free Wi-Fi** program in Maryvale.



**Phoenix police and streets departments** with several ASU units to produce a report.

- **Connected AmeriCorps VISTA workers** from the Office of Gender-based Violence to different Maryvale initiatives.

- **Offered a remote Teaching English as a Foreign Language certificate program** in Maryvale partnered with ASU’s Global Launch.

- **Established a pedestrian safety working group with**



- **Provided information about vaccines to the Hispanic community** in response to a request from the Isaac district.

- **Set up COVID-19 testing sites, including the first community-based site for ASU’s saliva testing.**

The studio supported ASU and the state with logistic advice, community outreach, broadcasting the availability of testing in English and Spanish, and on-site Spanish-language interpreters.



- **Distributed with Watts College 2,500 personal protective equipment items to community agencies** in Maryvale.

“We want to understand and really listen and learn.”

So over the past three years, the Design Studio held a series of community conversations in English and Spanish as well as interviews with many key stakeholders that will be used to pinpoint priorities. Besides the four student workers who graduated from Maryvale High School, the studio also hired two “community champions,” people who live and work in Maryvale, as

consultants.

Rosie Espinoza is one such community champion and works as a wellness advocate at an elementary school in Maryvale, where she lives. “That’s why building relationships within the community takes time,” Espinoza says. “We move at the speed of trust.”

Looking ahead, the studio plans to focus on pedestrian safety and eviction-prevention resources and to continue relationship building. ■

A low-angle photograph of a modern building with a glass facade and a colorful sculpture in the foreground. The building's architecture features vertical lines and large windows. The sculpture is a circular, multi-colored structure with radiating lines. The sky is a clear, light blue.

## STARTUP CENTRAL

### Changing the world with a first big pitch

A smart glove that uses virtual and augmented reality to turn rehabilitation into a video game. A pacifier that safely dispenses pre-dosed liquid nutrients and medicine to babies. These ideas and more won funding at ASU Innovation Open, an annual collegiate pitch competition for student entrepreneurs.

Powered by the Ira A. Fulton Schools of Engineering, Breakthrough Energy Ventures and the eSeed Challenge, ASUio is designed to advance student-led startups that are tackling the world's most challenging problems.

This year, 32 teams representing 22 universities made it as finalists, including student entrepreneurs from MIT, Stanford and Johns Hopkins University. ASUio, in its sixth year, awards one of the highest prize purses among collegiate pitch competitions in the U.S. with prize sponsors like Amazon, Avnet and BD.

ASUio was originally created with the support of many in the ASU community, including Associate Professor Cody Friesen, to support mentorship and networking for young innovators.

Learn more at [asu.io](https://asu.io)



# Inspire transformation

**SOURCE**

**SOURCE** Global, an ASU startup now at SkySong in Scottsdale, was founded by Cody Friesen, an engineering professor. The company creates clean water using solar power to pull it from the air. Friesen now mentors other startups.

## **Vertical farming**

A more sustainable approach to agriculture.  
**52**

## **Finding your center**

Meditation as medicine.  
**56**

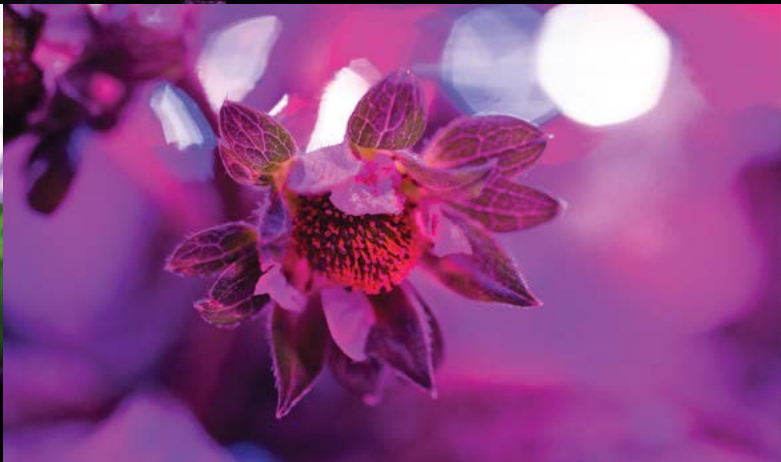


Assistant Professor Yujin Park examines the health of strawberry plant varieties in the vertical garden research lab on the Polytechnic campus.



**“We can grow big strawberries, and very flavorful. Our lab is at a very advanced stage.”**

— YUJIN PARK





# Vertical farming is a tech to watch

The Economist recently named vertical farming one of 22 technologies to watch in 2022.

The future of farming is growing in a white shipping container on a tucked-away corner of ASU's Polytechnic campus.

Inside the container is Yujin Park's vertical farm, where racks of lettuce and strawberries grow under exotic lighting right out of a rave.

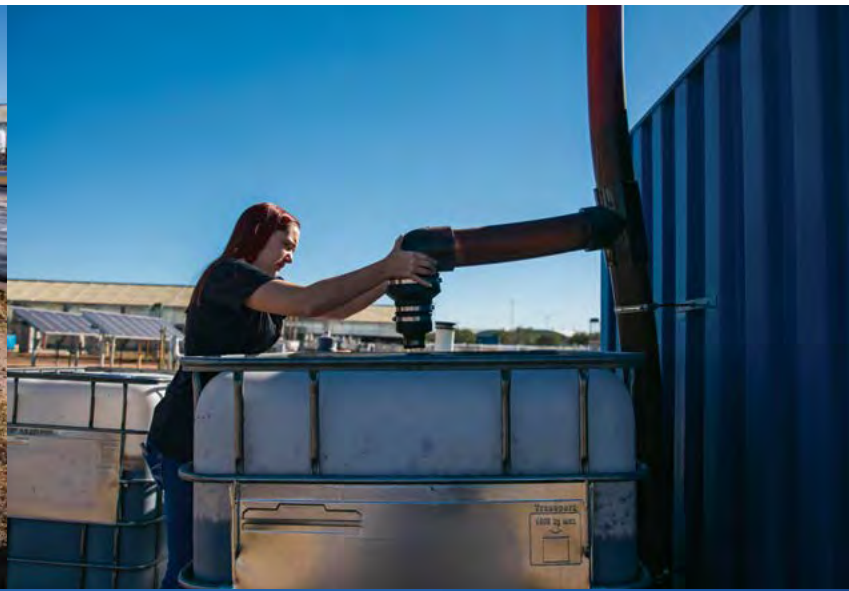
Vertical farming saves 90% of the water that would be used in conventional farming, but yields 10 times the crop you'd raise in the same space outside.

The Economist recently named vertical farming one of 22 technologies to watch in 2022. It will allow multiple growing seasons in a single year. The world's largest vertical farm is set to open next year in Britain, at more than 45,000 square feet. Los Angeles and Virginia are slated to see vertical farms opening in 2022 as well. Two are being built in Denmark.

The College of Integrative Sciences and Arts will begin offering a certificate program in vertical farming in fall 2022. It will be an applied biological sciences degree with a focus on controlled environmental agriculture.

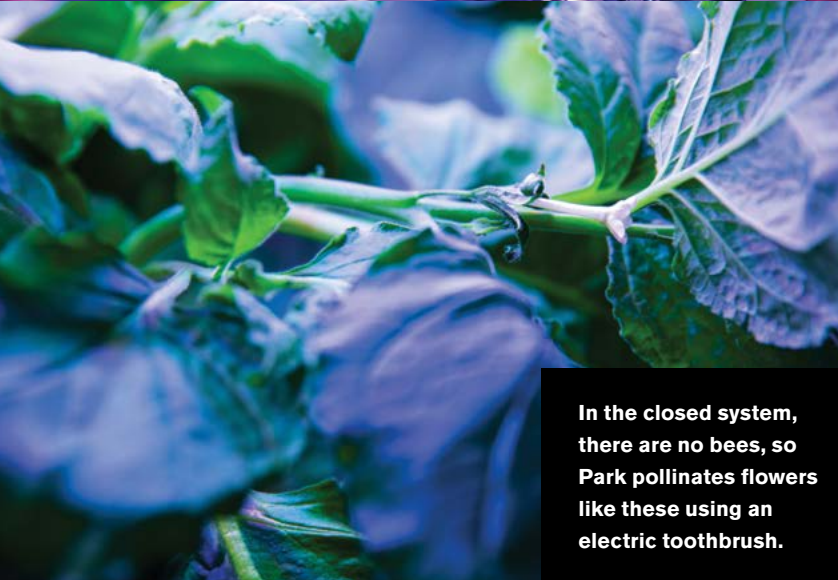
"Vertical farming companies are growing, so there are more job openings in the industry," says Park, an assistant professor in the College of Integrative Sciences and Arts.

– SCOTT SECKEL

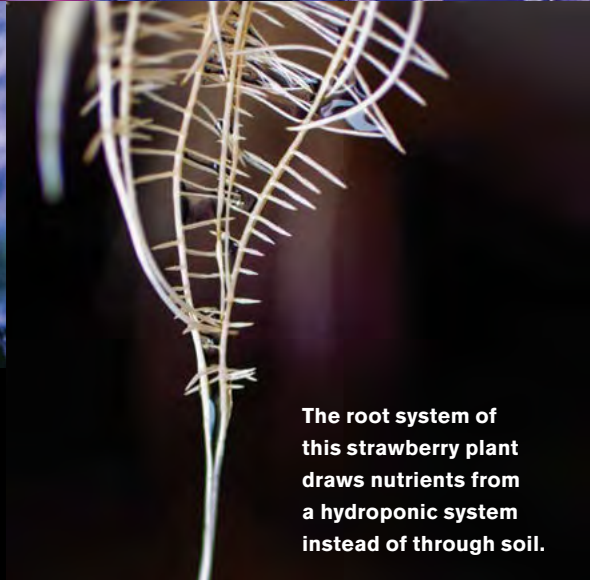


The environment in the farm is controlled to create ideal conditions. Growing inside cuts out the need for herbicides or pesticides. The food could potentially be certified organic one day.

The controlled environment in the vertical farm allows for multiple growing seasons throughout the year.



In the closed system, there are no bees, so Park pollinates flowers like these using an electric toothbrush.



The root system of this strawberry plant draws nutrients from a hydroponic system instead of through soil.

## Meditation can improve cognitive performance, lower stress

**Story by** SCOTT SECKEL  
AND EMMA GREGUSKA  
**Photos by** DEANNA DENT  
AND COURTNEY LIVELY

**W**ant to reduce stress and improve your health? The best way, according to an ASU neuroscientist, is meditation.

Yi-Yuan Tang has studied the brain for more than 30 years. He says that after only five to 10 meditation sessions, your brain can change for the better, bringing a host of benefits.

When Tang started his career 30 years ago in medical school, the emphasis was on the Western approach to medicine: medication and surgery.

"But it doesn't always work for sure," says Tang, a professor in the College of Health Solutions. "Then I found another important factor we ignore — the psychological contribution to health and disease. So this time I studied psychosomatic medicine. I found a lot of psychological factors contributing to health and disease. So I had a question: Can we help the patient with this kind of approach?"

When Tang was 6, he was in a bad accident. He fell from a third floor, breaking his legs and feet. They became infected. Hospital



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**“Participants have a better cognitive performance, like attention, memory, creativity, problem-solving. Stress is lower and immunity is higher.”**

— YI-YUAN TANG, PROFESSOR IN THE COLLEGE OF HEALTH SOLUTIONS, PICTURED LEFT

doctors could not cure him and gave up. His father, a professor, found a traditional medicine doctor who healed Tang. That doctor became one of Tang's first teachers.

Tang went on to learn different body-mind methods and techniques from more than 20 teachers. He has been a long-term practitioner of many Eastern traditions, including traditional Chinese medicine, meditation, tai chi, martial arts and the I Ching.

Tang also studied health, disease, psychology and neuroscience, and developed an approach he calls integrative body-mind training. It focuses on the body part of physical health and, to a lesser degree, mental health. At the heart of his work is the theory of embodied cognition, the idea that many features of cognition, whether human or otherwise, are shaped by aspects of the entire body of the organism.

“It means how your body can work with your brain ... to change our state,” Tang says.

Tang studied the effects of integrative body-mind training on a population of 10,000 people. They improved their emotions, attention and creativity, and also reduced stress and improved other functions.

So, what happens to the brain after the five to 10 meditation sessions?

“Five sessions can improve brain activity in a tension area, emotion area, reward area and the self-control area, usually in the middle of our brain,” he says. “After 10 sessions, we find this area becomes bigger. Emotional reward is bigger.”

It's not exercise, Tang says. It's quiet and calm. It's an experience that changes and shapes the brain.

“Participants have a better cognitive performance, like attention, memory, creativity, problem-solving,” he says. “Stress is lower and immunity is higher.”



■ ■ ■  
**calm**

If immune function can be improved for middle-aged and elderly people, the quality of life can be improved and stress reduced.

“We may prevent ... early chronic decline and aging-related disorder(s),” he says.

What type of meditation is best? Tang recommends brain- and body-based practice, like mindfulness meditation, tai chi, yoga and qi gong.

### **Helping people with autism**

In addition to helping people of all ages who are in various states of health, meditation has also been linked to improving the lives of people with neurodevelopmental disorders such as autism. This is something College of Health Solutions Assistant Professor Blair Braden recently discovered, that mindfulness meditation is a useful tool for dealing with the particular stressors associated with autism spectrum disorder.

“Initially, most of the research in my lab was looking at how aging affects individuals with autism on a cognitive level,” says Braden, who directs the Autism and Brain Aging Laboratory. “But one of the things we didn’t expect was that we saw very consistently a lot of struggles with depression and anxiety, as well as physical health, that contribute to quality of life.”

Ideally, the researchers say, these findings can be expanded and incorporated into precision medicine strategies for improving quality of life in adults with autism spectrum disorder, across the life span. ■

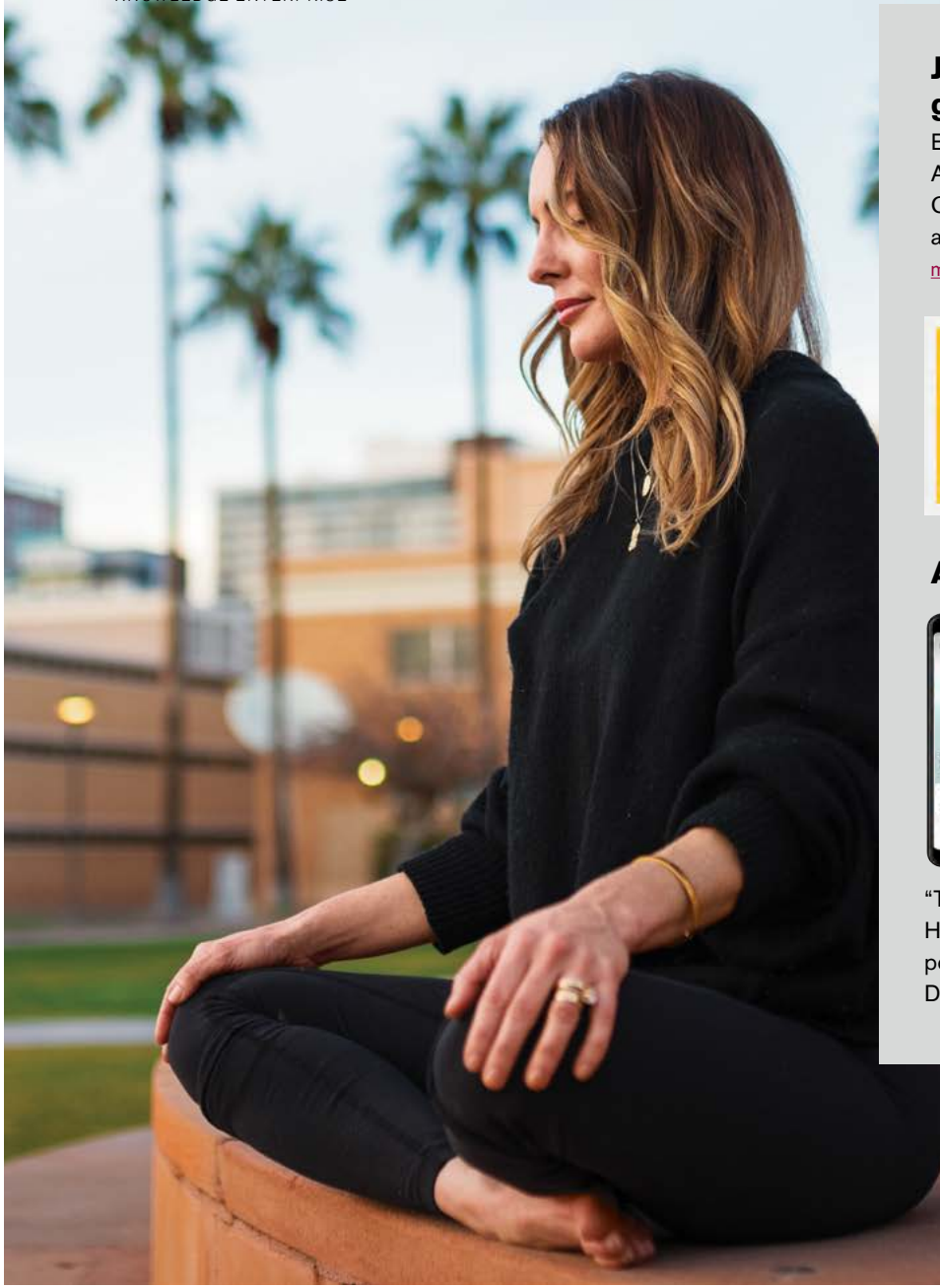


**“As a doctoral student and a full-time employee, I found myself quickly reaching burnout. Meditation taught me to practice that conscious pause, to respond rather than react to stressors, and helped me find an inner equanimity and peace.”**

— ZACHARY REEVES-BLURTON,  
ASSISTANT DIRECTOR, UNIVERSITY  
ENGAGEMENT, CENTER FOR MINDFULNESS,  
COMPASSION AND RESILIENCE

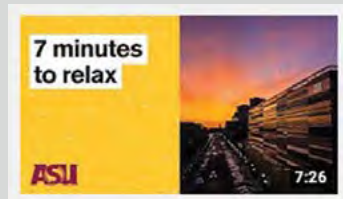
**“I invite you to begin by weaving little acts of mindfulness into the fabric of your everyday life ... the next time you are sitting in class or a meeting, plant your feet on the floor and take a few deep breaths.”**

— MICHELLE VILLEGAS-GOLD, ASSOCIATE DIRECTOR OF HEALTH AND CLINICAL RESEARCH IN THE OFFICE OF THE VICE PRESIDENT OF RESEARCH AT ASU KNOWLEDGE ENTERPRISE



### Join an online guided meditation

Enjoy free meditations from the ASU Center for Mindfulness, Compassion and Resilience at [mindfulnesscenter.asu.edu/meditations](https://mindfulnesscenter.asu.edu/meditations).



### Additional resources



“Ten Percent Happier” podcast with Dan Harris



“No Mud, No Lotus” by Thich Nhat Hanh



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Peter Zhong, #21, played for Team China in a Sun Devil Hockey Olympic debut. He is on break from his studies to practice with the team and play in the games.

# Play like a Sun Devil®



## ON THE WORLD STAGE

### First Sun Devil Hockey player makes Olympic roster

In the 2022 Beijing Winter Olympics, junior forward Peter Zhong made history as the first Sun Devil Hockey player selected to join an Olympic roster, representing Team China. Zhong has not been with the ASU team for the 2021–22 season since he decided to take an Olympic break to focus on his training. While starting out his junior hockey career in Chicago with the Chicago Mission Youth Hockey Club, Zhong competed for Team China in the U18 Division II World Junior Championships in 2014 and 2015. Zhong then went on to play two seasons in the North American Hockey League with the Aston Rebels and Philadelphia Rebels before coming to ASU. He redshirted his first season at ASU and made his collegiate debut in 2019. To learn more about Zhong's achievements and the Sun Devil Hockey team, visit [thesundevils.com/sports/mens-ice-hockey](https://thesundevils.com/sports/mens-ice-hockey).

### Athletes part of robust STEM community

ASU in top 5 named by Forbes. 62

### Strong safety

Damien Richardson's football achievements help him serve others in medicine. 63



### Sun Devil Athletics reaches all-time best graduation success rate

Sun Devil Athletics has earned a new all-time high of 92% Graduation Success Rate for its student-athletes, the NCAA has announced. A record 10 teams posted GSR scores at 100% — men's basketball, women's basketball, women's golf, gymnastics, hockey, lacrosse, women's swimming and diving, women's tennis, triathlon and volleyball.

# 92%

**Graduation Success Rate of Sun Devil student-athletes**

– NCAA

**“ASU had everything I wanted — it has high academics ... No. 1 in innovation, and it’s a Pac-12 school, so it’s a very competitive and driven environment. It offered so many doors to the real world for success after college.”**

– KATE FITZGERALD, WHO SAYS ASU IS BUILT TO HELP HER SUCCEED IN BIOSCIENCE AND ATHLETICS



Second-year student-athlete Kate Fitzgerald, #8, plays for the Sun Devil Beach Volleyball team. The Arizona native is on honor roll and is studying biomedical sciences. She hopes to work as a nurse in a NICU unit.

## Athletes part of robust ASU STEM community making top 5 on Forbes list

ASU is among the top five American universities that awarded the most science, technology, engineering and math undergraduate degrees in 2021, according to Forbes. In the 2021–22 academic session, there are nearly 120 student-athletes enrolled in STEM programs at ASU. The men's and women's track and field teams have nearly 30 student-athletes pursuing STEM degrees, the most of any other sport.

– MACKENZIE SCHWEICKART, CRONKITE PR LAB CLASS OF 2022



## Sun Devil Football bolsters 2022 signing class

Head coach Herm Edwards announced that the team added 11 student-athletes in early February who will continue their athletic and academic endeavors at ASU. The February additions consist of eight NCAA transfers, two junior college transfers and one first-year student-athlete. The team added five Power 5 transfer prospects, including players from Alabama, Miami and Penn State. To date, the additions make up one of the best transfer classes in the nation, signing a group that currently ranks No. 17 in the nation and No. 3 in the Pac-12.

**Keep up with Sun Devil Athletics news and videos at [thesundevils.com](https://thesundevils.com).**

# Strong safety to serving through medicine

Teammates used to refer to Damien Richardson as “The Professor.” He sees himself as a “lifetime student.”

Most people who cross Damien Richardson’s path these days simply know him as “Dr. Richardson.”

The quest for knowledge has always been the driving force in Richardson’s life. It started even before his successful three-year tenure as Arizona State’s starting strong safety from 1995–97.

Football was never his end game. But football was the cornerstone on which he would build the foundation that would propel him through a Harvard education, medical school and into his current position as an orthopedic surgeon at the Newport Orthopedic Institute in Newport Beach, California.

He credits his parents with his passion for learning. Arizona State embraced that passion from the jump with Bruce Snyder and his staff introducing him to engineering professors and the athletic department’s academic team in order to let him know he would be supported in academics at ASU.

Richardson shifted his focus toward bioengineering during his sophomore year to apply his love for technology and his desire to impact people’s daily lives and interact with individuals in a way that was personal.

His desire to pursue a medical career coincided with his being named the Sun Devils’ starting strong safety, leading to a Pac-10 champion achievement and an appearance in the 1997 Rose Bowl.

He was drafted by the Carolina Panthers and ended up as the starting safety for



**Damien Richardson, MD, MPH, '99 BS in bioengineering, played on a Rose Bowl team and with the Carolina Panthers before attending Harvard University for a master’s degree and completing his medical training.**

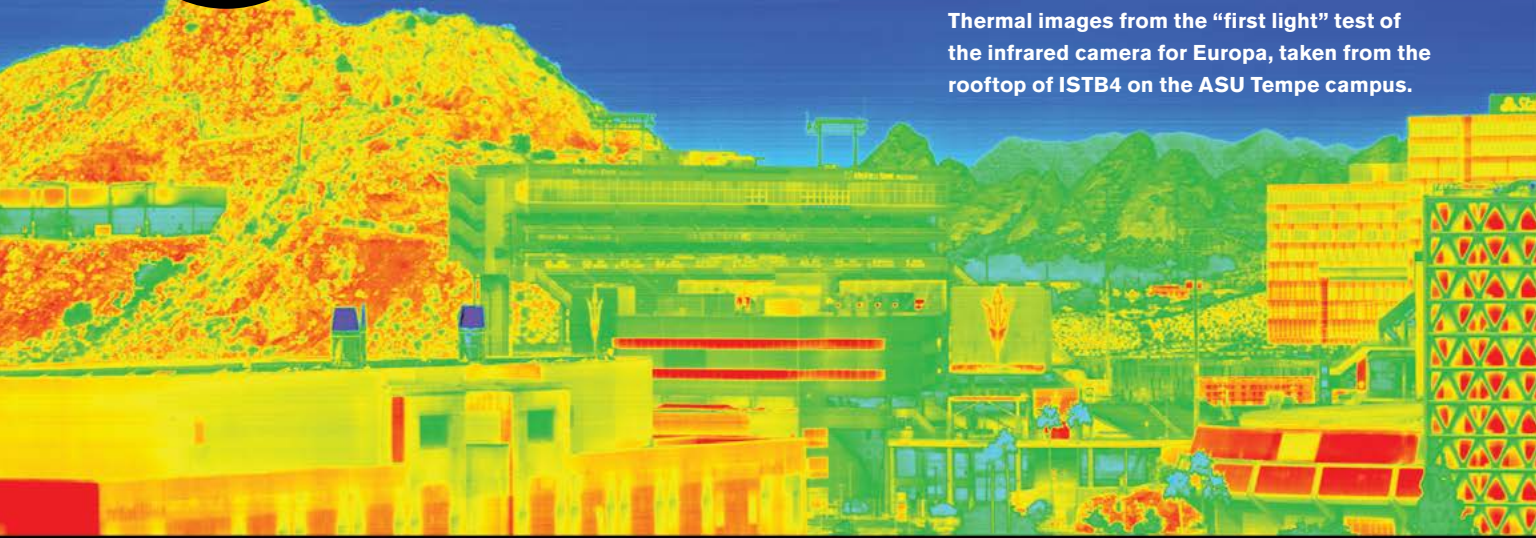
seven games his first year. He remained a member of the Panthers two-deep and an exceptional member of the special teams unit for his first five seasons. His time in Charlotte included a conference championship and a trip to Super Bowl XXXVIII.

In the offseason, he volunteered at hospitals and shadowed physicians in emergency rooms and research laboratories. Richardson left the NFL after the 2005 season and was accepted to medical school at the University of California, San Francisco. As if that weren’t impressive enough, he took a year off to attend Harvard University to earn his Master of Public Health in 2011. One year later, he earned his Doctor of Medicine. The “Professor” had officially become the “Doctor.”

– JEREMY HAWKES

12:40 p.m.

Thermal images from the “first light” test of the infrared camera for Europa, taken from the rooftop of ISTB4 on the ASU Tempe campus.



4:40 p.m.



**“The surface of Europa is extremely cold, but the ocean underneath is warm, liquid water. If that water is coming near the surface ... E-THEMIS will see these warm regions and tell us where ocean water is closest to the surface.”**

— PHILIP CHRISTENSEN, REGENTS PROFESSOR, SCHOOL OF EARTH AND SPACE EXPLORATION

## FIRST LIGHT

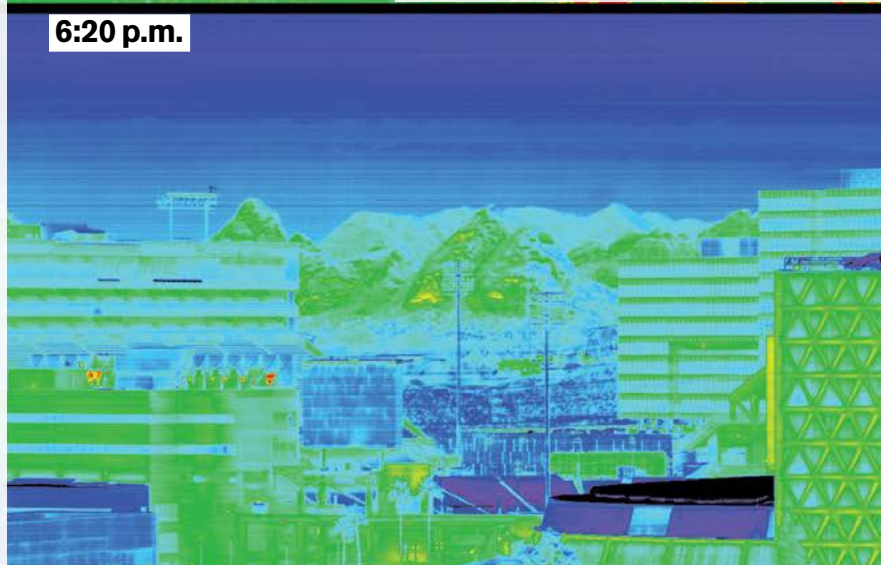
## Building for Europa, testing in Tempe

ASU scientists and engineers building the Europa Thermal Emission Imaging System for NASA's Europa Clipper passed a major hurdle recently by capturing the first successful test images from this complex infrared camera, known as “first light” images. Europa Clipper, a NASA mission to investigate Jupiter's moon, Europa, is planned to launch in October 2024 and arrive at Jupiter in 2030.

The project, led by Philip Christensen of ASU's School of Earth and Space Exploration, is designed to map Europa's temperatures. The infrared images will help scientists seek clues about Europa's activity, including regions where its suspected ocean may be near the surface.

More information about Europa can be found at [europa.nasa.gov](https://europa.nasa.gov).

6:20 p.m.



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<sup>1</sup>Savings validated by new customers who switched to Liberty Mutual between 1/2020-10/2020 and participated in a nationwide survey. Savings may vary. Comparison does not apply in MA. <sup>2</sup>The property damage must be covered by your policy, and repairs completed by a Guaranteed Repair Network Vendor. Guaranteed Repair Network not available in Rhode Island or Massachusetts. In Massachusetts we offer you our Superior Service Program (SSP), which is similar to the Guaranteed Repair Network, however, the estimate is completed by a Liberty Mutual appraiser. For more information, speak with your Liberty Mutual Claims Representative. <sup>3</sup>Not available in all states. Coverage provided and underwritten by Liberty Mutual Insurance and its affiliates, 175 Berkeley Street, Boston, MA 02116 USA. Equal Housing Insurer. ©2019 Liberty Mutual Insurance 14591054 AFF686950-11 CW-AH 2019/09 This organization receives financial support for offering this auto and home benefits program.

**#1**

**innovation**

ASU ahead of MIT and Stanford – U.S. News & World Report, 2016–2022

**sustainability**

ASU ahead of UCLA and Yale – Sierra Club, 2021

**global impact**

ASU ahead of MIT and UNC-Chapel Hill  
– Times Higher Education, 2021

No. 1 in the U.S. for innovation and global impact.  
No. 1 in North America for sustainability.