

ASU

ARIZONA STATE UNIVERSITY
VOLUME 23 NUMBER 4

Thrive[®]

Rapid responses to the rescue

From a new fast saliva test to delivering meals via robots, ASU innovates in the face of the pandemic



ASU
Arizona State University

SHARING SUCCESS with you.

Desert Financial is passionate about giving back to our community!

Along with providing exceptional experiences for our members and team, we perform Random Acts of Kindness throughout Arizona as a way of sharing success with others.

Join us today and become part of the Kindness Revolution!



Through our InvestED program, Desert Financial employees can reach their educational goals at ASU Online with full tuition coverage. We are invested in our team and in our community!



Kate & Ryan
Members since 1998

 BANKING |  BORROWING |  PROTECTING |  PLANNING

desert
FINANCIAL
CREDIT UNION

DesertFinancial.com

[@DesertFinancial](#) | [#KindnessRevolution](#) |     

Federally insured by NCUA |  Equal Housing Lender

Contributors**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.

Taylor Drake

Leads marketing for a major litigation support firm in Los Angeles. An alumna, '09 BA in film, at age 30 she co-founded Bluestocking Society, an online networking community for female professionals.

Makeda Easter

A staff writer at the Los Angeles Times, she covers the arts. When not writing, she can be found in a dance studio taking a class or in rehearsal for an upcoming show. She was previously a science writer for a supercomputing center at The University of Texas.

Daniel Oberhaus

A staff writer at WIRED magazine and the author of "Extraterrestrial Languages" (the MIT Press). An ASU alumnus, '15 BA in English (creative writing) and philosophy, he is a graduate of Barrett, The Honors College.

Brad Ogonna

A New York City based photographer who has worked with publications like The New York Times, The Atlantic, Fortune, Forbes and New York magazine.

Kelly Vaughn

The senior editor for Arizona Highways, Vaughn, '04 BA in journalism, has written for many publications including PHOENIX magazine and Arrive.

On the cover

ASU students in a pilot area can now order food delivery from campus eateries via a mobile app. Here, some of the fleet's 40 robots en route to their destinations.

The official publication of
Arizona State University
Fall 2020, Vol. 23, No. 4

**CHIEF CREATIVE OFFICER,
PUBLISHER**
Jill Andrews '97 BS, '03 MPA

**SENIOR DIRECTOR,
EDITOR**
Lindsay Kinkade

SENIOR ART DIRECTOR
Heidi Easudes

FEATURES STORY EDITOR
Kari Redfield

ART DIRECTOR
Danielle Knotts

PHOTOGRAPHER PRINCIPAL
Jarod Opperman

**DIRECTOR, NEWS AND STRATEGIC
COMMUNICATIONS, ASU NOW**
Penny Walker

COPY EDITOR
Leigh Farr

PRODUCTION
Chris Myers

**STORY IDEAS AND
ADVERTISING INQUIRIES**
asuthrive@asu.edu

ASU THRIVE MAGAZINE
PO Box 875011
Tempe AZ 85287-5011
480-727-5440

ASU Thrive (USPS 024-438; ISSN 1940-2929) is published quarterly by the Arizona State University Enterprise Marketing Hub, PO Box 875011, Tempe, AZ 85287-5011, 480-727-5440. Subscriptions are sent to all ASU alumni. For detailed information about alumni memberships, visit alumni.asu.edu/give-back/asu-alumni-membership. Periodicals postage is paid at Tempe, Arizona, and additional mailing offices. Postmaster: Please send address changes to ASU Thrive, Attention: Circulation, PO Box 875011, Tempe, AZ 85287-5011. Permissions: Portions of this publication may be reprinted with the written permission and proper attribution by contacting the ASU Thrive editor. ASU Thrive can be accessed online at asunow.asu.edu/thrive-magazine.

If you would prefer to receive only a digital edition of the magazine, please update your subscription:

Alumni
links.asu.edu/thrive-subscription-alumni

Faculty and staff
links.asu.edu/thrive-subscription-employees



ASU Thrive is printed on paper that is certified to the Forest Stewardship Council® (FSC®) Standards.



ASU Thrive is paper neutral, replanting trees equivalent to paper usage in geographic areas of need.

Inclusion and impact

On June 1, after the murder of George Floyd and as the Black Lives Matter protests refocused the nation's attention on ending systemic racism and violence directed at Black people and communities of color, I reached out to voice ASU's rejection of racism and discrimination and to reaffirm our university pledge to always pursue the highest levels of social inclusion and impact. Now, I am reaching out again, this time after the shooting of Jacob Blake in Kenosha, Wisconsin.

These incidents, and countless others, remind us that we have so much more to do to achieve our common aspiration for social justice in this country. They are also a reminder to turn a mirror on ourselves to identify our own missteps, inadequacies and deficiencies and to acknowledge our institutional responsibility to do more than we ever have before in the fight for equality and social justice.

In order to accelerate meaningful change here at ASU and to contribute to a national agenda for social justice, ASU is committing to the 25 actions listed on the next two pages. These 25 actions are drawn from your ideas, your expertise, your creativity and your public commentary, and each and every one of them will be launched this year. They will be undertaken with the goal of enhancing diversity, growth and opportunity for Black undergraduate and graduate students, faculty and staff, while also expanding our academic offerings, community services and collaborative relationships to the benefit of all underrepresented groups and individuals at ASU.

I do know this list of actions will be inadequate by itself. I also want to acknowledge that many units across the university have already been hard at work at introspection and planning on how they will address racial injustice. What I want to firmly communicate to you today is that we will work harder, invest more and do more to ensure that Black students, faculty and staff — and other underrepresented groups and individuals — are provided an educational, work and living environment that is welcoming, supportive and empowering to their success, creativity and ability to achieve their personal, educational and professional goals all for the betterment of this university and our nation.

As always, I welcome your thoughts about this initial agenda of activity. We will provide regular updates on the implementation of these action items. Thank you for being a member of a diverse and inclusive ASU community, and I look forward to working with you to advance these initiatives.

Michael M. Crow

President, Arizona State University
asuthrive@asu.edu

Arizona State University list of 25 actions to support Black students, faculty and staff

1 ASU commits to supporting ASU law Professor Victoria Sahani's proposal to undertake a historical study of race and discrimination at the university. She will be director of the Faculty Inclusion Research for System Transformation (FIRST) initiative.

2 ASU commits to the appointment of an Advisory Council on African American Affairs, comprised of faculty, staff and students to assist the president in ensuring the success of Black faculty and staff and the growth of students while also convening and engaging the Black community at ASU, locally and nationally on a variety of issues. The advisory council will be established and convened by its chairperson as soon as possible in September 2020.

3 ASU recommits to supporting the vice provost for inclusion and community engagement in the role of convening and engaging the university community through the Committee for Campus Inclusion in support of the university provost's efforts to achieve these and other goals.

4 The chairperson of the Advisory Council on African American Affairs and the vice provost for inclusion and community engagement will convene a regular series of discussions about the implementation of this list of 25 actions and the continued development and advancement of new ideas that would facilitate the

goals and activities reflected in these commitments.

5 ASU commits to establishing a multicultural space on campus and establishing and funding a working group to assess and begin design options for this space.

6 ASU commits to publishing an annual report on all key metrics to broadly share student enrollment and graduation data and to celebrate the successes, ideas and work of our Black students, faculty and staff.

7 ASU recommits to promoting student success and well-being among Black students and all students of color as ASU constantly pursues a student body that reflects the people and changing demographics of the state of Arizona. This includes, but is not limited to, realizing undifferentiated outcomes in student retention and graduation for Black students and other students. This work is articulated in our charter, mission and goals and will be accelerated with and through the mechanisms, activities and investments reflected in the first 25 actions identified here and in the work of the President's Advisory Council on Inclusion and Success.

8 ASU commits to investing in and providing enhanced service support to student organizations and their initiatives on behalf of Black students including, but not limited to, the African American Men of

Arizona State University, Sankofa, STARS and the Black African Coalition.

9 ASU commits to hosting an annual spring recruitment fair for undergraduates of color into graduate programs across all disciplines with scholarship investments in acute areas of underrepresentation.

10 ASU commits to establishing a Presidential Postdoctoral Fellowship Program funding a minimum of 30 postdoctoral fellowships from underrepresented communities over the next two years who will — presuming satisfactory performance — continue on after two years into a tenure-track position. This program will continue so that we are creating a long-term process to diversify the faculty of the university.

11 ASU commits to creating a new class of graduate fellowships (Community Fellows) for Black students and other students of color.

12 ASU commits to establishing graduate assistantships for underrepresented students to go to graduate school. ASU will support the addition of 50 new graduate assistantships over the next two to three years.

13 ASU commits to establishing a university-wide student entrepreneurship, career advising and student success initiative to inspire

and assist Black students and all students of color to successfully pursue their visions for their future and to help provide pathways to the careers of their choice.

14 ASU commits to the training of all faculty and staff on all search committees to address issues such as systemic bias in identification of candidates and hiring.

15 ASU commits to more cluster hiring around leading faculty members from underrepresented groups to deepen our expertise and recruit more underrepresented faculty with a commitment to 10 positions this year and continuing in subsequent years.

16 ASU commits to advancing appointments and/or enhancing the role of academic centers in the advancement of the institution as both affirming of race and of advancing multicultural solidarity.

17 ASU commits to appointing a Black tenured faculty member to Barrett, The Honors College to serve as a resource to recruit and retain Black students in Barrett.

18 ASU commits to implementing the “To Be Welcoming” training for all continuing and new ASU employees and students.

19 ASU commits to implementing a program of service time for Black (and other) employees to serve as mentors to Black and other students at ASU.

20 ASU commits to the establishment of a new Bachelor of Arts degree in Race, Culture and Democracy to be launched by the College of Integrative Sciences and Arts, the New College of Interdisciplinary Arts and Sciences and The College of Liberal Arts and Sciences (School of Social Transformation) with support from the Center for the Study of Race and Democracy.

21 ASU commits to the enhancement of the Center for the Study of Race and Democracy as part of the Office of the Provost and under the leadership of Director Lois Brown, working under the direction of the vice provost for inclusion and community engagement.

22 ASU has committed to the appointment of Ehsan Zaffar, senior adviser on civil rights

and civil liberties at the U.S. Department of Homeland Security, to launch and lead a multicollge interdisciplinary initiative to help reduce inequality in the United States.

23 ASU has committed to providing funding to sustain the Community-Driven Archives initiative in the ASU Library in order to enhance the historical record of and the university's and library's engagement with underrepresented communities.

24 ASU commits to providing increased institutional support for the annual A. Wade Smith Memorial Lecture on Race Relations. thecollege.asu.edu/wadesmithlecture

25 ASU commits to an ASU police force on which all officers have a baccalaureate degree or the opportunity to earn a baccalaureate degree if they do not have one. ASU also will develop additional racial sensitivity and other new training for ASU police officers and further supplement the ASU police force with enhanced services to meet the many needs of students, faculty, staff and the public who call upon the university for responses to emergencies and incidents of various kinds.

ASU Charter

ASU is a comprehensive **public research university**, measured not by whom it excludes, but by **whom it includes** and how they **succeed**; advancing **research and discovery** of public value; and assuming **fundamental responsibility** for the economic, social, cultural and overall health of the **communities** it serves.

Go

Calendar of events

Populate your agenda with upcoming event highlights from ASU. 6

Resources for every learner, at any age, on ASU for You 9

Update in the news

See through the eyes of NASA's Mars rover. 15

Using nature's wisdom for better solar panels. 16



Expand your network by connecting virtually.

Advance your career

3 ways to network virtually

Tips for staying connected. 20

May Busch:

Developing a growth mindset. 22



Free saliva testing with typically a 48-hour or shorter turnaround is available for everyone via a partnership between ASU and the state of Arizona.



William Comar presents the ASU Study Hall chemistry series on YouTube.

Reach your goals

Green Screen

YouTube stars the Green brothers and ASU partner to create high-quality, timely videos based on expert curriculum. 26

YouTube resources for parents, students and teachers. 31

CHARLIE LEIGHT, JAROD OPPERMAN/ASU



youtube.com/ASU
youtube.com/ASUathletics



alumni.asu.edu/linkedin
linkedin.com/school/Arizona-State-University



instagram.com/ArizonaStateUniversity
instagram.com/ASU_alumni
instagram.com/SunDevilAthletics

Protect human lives

Rapid testing to the rescue

When the COVID-19 pandemic arrived, Biodesign Institute researchers jumped into action. 36

On the front lines:

Alumni serving in the medical field. 46

Amplify the arts

Radically inclusive dance

A Sun Devil leads the way for change in the dance world. 54



Herberger alum J. Bouey is working to make the dance world more inclusive through their work in New York and online.



Alumna Mara Windsor is an ER doctor serving on the front lines.

BRAD OGBONNA; JAROD OPPERMAN/ASU

Play like a Sun Devil

Former ASU stars battle during the NBA playoffs. 61

Former student-athletes come back to graduate. 62

Historic MLB draft. 63

Build the future

New hybrid spaces for local and global futures. 64



Digital extras and the latest updates

Please visit magazine.asu.edu for the digital magazine with embedded videos and links.



Lu Dort and James Harden met in a gripping matchup.



twitter.com/ASU
twitter.com/ASU_alumni
twitter.com/TheSunDevils



facebook.com/ArizonaStateUniversity
facebook.com/ASUalumni
facebook.com/ArizonaStateSunDevils



magazine.asu.edu



pinterest.com/ArizonaStateUniversity

HACKS FOR HUMANITY

Supercharge innovation

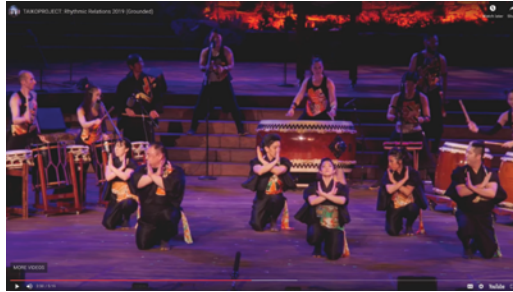
Hacks for Humanity: Hacking for the Social Good is a three-day competitive online hacking event hosted by Project Humanities at ASU that challenges participants to create and to innovate solutions to local and global issues. This unique annual event draws 150 to 200 participants including students, faculty, staff, professionals and community members. Expect prizes, games, networking, community building and fun!

Friday, Oct. 9 to Sunday, Oct. 11, online

hacksforhumanity.io

Free Family Online

Oct



Rhythmic fusion

Featuring drums and martial arts movement that fill the theater with aural and visual landscapes, TaikoProject is exhilarating and explosive and will intrigue students through visual arts, choreography and rhythm. The artists also introduce new sounds through many different forms of percussion, bamboo flutes, yokobue, marimbas and koto — the Japanese harp.

Wednesday, Oct. 28, 6 p.m., Facebook Live

asugammage.com

Free Family Online



Making identity art to frame their next life chapters

Sharing a belief that cultural problems demand cultural solutions, a committed group of arts and social justice advocates created Future IDs at Alcatraz, a socially engaged art project, exhibition and series of community programs about justice reform and second chances after incarceration. Led by Gregory Sale, an artist and associate professor in the School of Art at ASU, the group worked to translate advocacy and reform efforts into a visual language to reframe the narrative of reentry. Participants made new identification cards for themselves and their chosen identities moving forward. See "Transforming Justice," a film about the project at allarts.org/programs/a-blade-of-grass-films.

Free Family Online



Veterans writing circle

This virtual gathering is a space for veteran students and local veterans to write together, workshop creative pieces and share stories. It is a partnership of the Virginia G. Piper Center for Creative Writing, the Pat Tillman Veterans Center and the Office for Veteran and Military Academic Engagement. All skill levels and literary genres are welcome.

Tuesdays, Oct. 27, Nov. 24, Dec. 22, 6–8 p.m.

piper.asu.edu/veterans

Free Veterans Online



'This and That'

Featuring the artwork of ASU alumna Jenita Landrum, "This and That" explores race, class and gender through images reflecting the realities of living in urban spaces. Landrum's works have been exhibited around the world, and she has traveled internationally to pursue fellowships in Ghana, Germany and Poland. She is a nationally sought-after curator and lecturer and has completed several public commissions.

Now through Monday, Dec. 14, daily, Vault Gallery, Downtown Phoenix Campus Library, 411 N. Central Ave.

lib.asu.edu/downtown

Free Family



Cloth & Flame community dinner on the field

Grab a seat and share a meal with fellow community members at tables on Frank Kush field. Cloth & Flame is partnering with ASU 365 Community Union and Sun Devil Stadium to create a stadium-sized interactive and visual statement giving thanks this November. This event will showcase the enormous positive impact of a single adaptive use of space meant for another purpose – one piece of the mission Community Union is aspiring to every day of the year. Guests will enjoy a five-course farm-to-table dinner with friends, new and old. Chefs and beverage programming will be announced in advance. Spacing will be adjusted to follow safety guidelines.

Sunday, Nov. 29, 5–8 p.m., Sun Devil Stadium

asu365communityunion.com

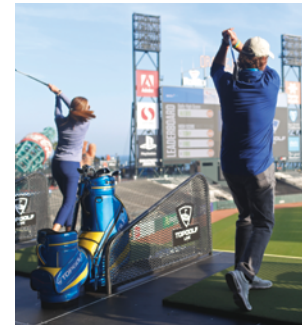
Family Ticketed \$25+

NOV

From ‘Global Medievalism into Africanfuturism’

Join author Nnedi Okorafor and education programs manager Malik Toms for a discussion about premodern influences on Okorafor’s writing across a variety of media — television, novels, novellas, short stories, graphic novels and more. By engaging the culture, history and mythology of premodern and contemporary Nigeria, Okorafor creates science fiction and fantasy narratives that don’t privilege the Western world. Instead, her writing asks, what are the different, more inclusive futures we can imagine? Thursday, Oct. 22, 3–4 p.m., online humanities.asu.edu/events

Free **Family**



Tee it up at Sun Devil Stadium

Topgolf Live is bringing its iconic experience to ASU’s Sun Devil Stadium! Join fellow Sun Devils at this fun and exciting event featuring massive glowing targets on the field, private bays for group events, and Toptracer technology tracing every shot with replays and stats. Thursday, Dec. 10 to Sunday, Dec. 13, Sun Devil Stadium, tee times reserved in one-hour increments

asu365communityunion.com/topgolf-live

Family Ticketed \$25+

Check in to online events to earn Pitchforks and rewards!

Log in to the Sun Devil Rewards app for ASU event listings, news, games and more. Earn and be rewarded! sundeveloperwards.asu.edu



Visit ASUevents.asu.edu for events at ASU.

Visit TheSunDevils.com for athletics event and ticket information.

chapters



Stay in touch
























































Update your info to stay in the know with invites to special events and more.

alumni.asu.edu/update

Get involved with chapters based on your interest or college

Attend meetups to catch up with friends or make new connections. Visit alumni.asu.edu/chapters































































Special-interest chapters

- Aguila    
- Armstrong 
- ASU Black Alumni  
- ASU Chinese Alumni 
- Catholic Newman Center 
- Devils' Advocates    
- Devil's Horns   
- Doran Community Scholars Alumni 
- Hispanic Business Alumni  
- Iranian American Club   
- LDS ASU Alumni 
- Leadership Scholarship Program  
- LGBT Devils' Pride    
- Los Diablos   
- Medallion Scholars Alumni Club 
- Men's Lacrosse Alumni   
-  
- Native American Alumni   
-  
- SDFA Scholar Alumni 
- Starbucks College Achievement Plan  
- State Press Club   
- Veterans   
- Young Alumni   

—

 Facebook  Instagram
 LinkedIn  Twitter  Email

Academic chapters

- Barrett, The Honors College    
- College of Liberal Arts and Sciences   
- College of Nursing and Health Innovation chapter   
- Department of Psychology chapter    
- Herberger Institute for Design and Arts    
- Ira A. Fulton Schools of Engineering chapter    
- Mary Lou Fulton Teachers College chapter     
- Master of Real Estate Development chapter   
- New College of Interdisciplinary Arts and Sciences chapter   
- Sandra Day O'Connor College of Law chapter   
- School of Community Resources and Development chapter    
- School of Criminology and Criminal Justice chapter   
- School of Historical, Philosophical and Religious Studies chapter   
- School of Social Work ASU Alumni chapter    
- School of Sustainability chapter    
- W. P. Carey School of Business chapter    
- Walter Cronkite School of Journalism chapter    

Career



Virtual career events

Get immediate career tips and tricks at virtual professional development events free for all Sun Devil alumni hosted by Career and Professional Development Services. Learn new ways to land your dream job, transition into a career, or advance in your current role and virtually meet successful alumni in various industries.

See which upcoming career events are a great fit for you at career.asu.edu/events

Free **Networking**
Job search **Online**



Graduate school expo

Join us to learn about graduate school programs across the country. This event will be segmented into academic clusters including:

- Social and behavioral science, psychology, humanities and arts.
- STEM, medicine, health and wellness.
- Business, communication and media.
- Law, justice and public service, education.

Thursday, Oct. 22, 10 a.m.–2 p.m., online

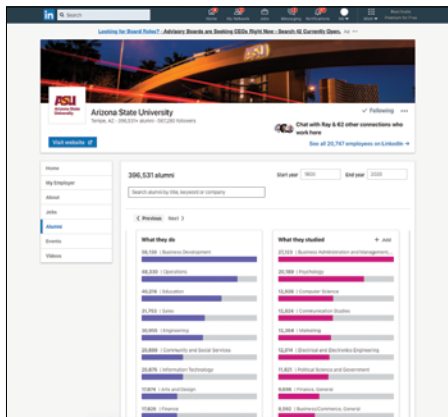
career.asu.edu/events/graduate-school-expo-virtual

Free **Lifelong learning** **Online**

Link up for growth

The network of Sun Devils is big and you are a part of it. Update your LinkedIn page to include key updates (new career path, a change in responsibilities, a promotion) to build and engage your ASU alumni network.

linkedin.com/school/arizona-state-university/people





Job transitions

Search. Prep. Land that job.

Regardless of where you are in your journey, you can grow to achieve your professional goals using these curated resources. Resources include resume support, interview advice, tips to build your online presence, insights about industry trends, networking and more.

Get going with next steps at asuforyou.asu.edu/jobtransitions

Free Job search **Online**

Career services for you, for life

All ASU alumni have lifetime access to career fairs, webinars, networking opportunities and career development events. ASU is here to help you chart and excel on your career path.

career.asu.edu



K-12 students, parents and teachers

For parents

Online resources for adventures at home

It's school season again and many students are relying on remote learning. This fall, ASU for You is your go-to resource for activities to keep your kids busy outside of schoolwork. With a click of a mouse, your student can take a Virtual Field Trip to Mars, master a foreign language with Miacademy, conquer algebra with Study Hall and much more!

Find resources at asuforyou.asu.edu/parents

Free Lifelong learning **Online**

For teachers

Curated resources from teachers college

We all want our children to learn and grow, even in challenging times. Curated by education professionals at ASU's Mary Lou Fulton Teachers College, these resources help both educators and families take the stress out of remote learning.

Find resources at asuforyou.asu.edu/teaching-resources

Free Lifelong learning **Online**

Community



Balancing it all, with a little help from your network of Devils

We're all adjusting to a new normal. Manage your stress and focus on maintaining your physical and emotional well-being with workouts, time and stress management tools, mindfulness resources, virtual group activities and expert advice. Live events and classes.

asuforyou.asu.edu/wellness

Free Lifelong learning **Online**



“These investments represent some of the largest venture funding rounds in Arizona in recent years. Within the next few years, if economic conditions stabilize, we expect ASU-connected startups to approach or surpass \$1 billion in all-time funding raised.”

— AUGIE CHENG, SKYSONG INNOVATIONS CEO, SPEAKING ABOUT SILICON KINGDOM HOLDINGS' COMMITMENT TO SPONSOR RESEARCH AT ASU



Update in the news

SUSTAINABLE INVENTION

Creating a healthier world

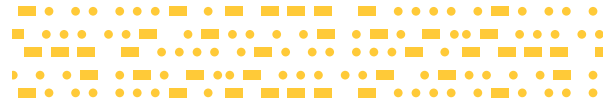
Silicon Kingdom Holdings is aiming to deploy the carbon-capture technology developed at ASU by Klaus Lackner, director of the Center for Negative Carbon Emissions, on a global scale. These “mechanical trees” passively remove carbon dioxide from the air.

Adventure on Mars

See through NASA's cameras.
15

Nature's wisdom

An efficient pattern for solar panels.
16



ASU recently awarded top rankings

- **Top 10 “Best Buy” for public schools** from the 2021 edition of the Fiske Guide to Colleges, the only Arizona school to make the list. Now in its 37th edition, the Fiske Guide ranks institutions for academic excellence and value for the cost of tuition.
- **No. 1 for Innovation** by U.S. News & World Report, which was released in September 2020 for the 2021 fiscal school year. ASU has held the award since 2016, all six years the category has existed.
- **Top in the U.S. and fifth in the world** in achieving the United Nations’ 17 sustainability objectives, in annual rankings by Times Higher Education magazine.
- **Top 200 universities** out of the top 800 universities ranked by The Wall Street Journal/ Times Higher Education College Rankings 2020.



Creator of the SolarSPELL portable library Laura Hosman works with girls in Samoa pre-pandemic.

SolarSPELL learning platform’s reach

A new strategic agreement will help Peace Corps volunteers in the field advance their humanitarian work by using an educational device invented by an ASU professor.

In the plan, Peace Corps volunteers will have wide latitude to use the SolarSPELL portable library, created by Associate Professor Laura Hosman. The solar-powered device has already been used informally by Peace Corps volunteers who serve in communities without internet service.

The library content is hyper-localized, so having advocates embedded in the field, as Peace Corps volunteers are, can help determine the kind of information that is most helpful.

The SolarSPELL device is simple and inexpensive — the parts cost less than \$200.

Each case includes a small solar panel, a microcomputer and a micro digital memory card which contains all of the library content and some code that allows it to be accessed by any type of browser.

The device creates a Wi-Fi hot spot, so no electricity or internet connection is needed. Students then connect any Wi-Fi capable device, such as smartphones, tablets or laptops, to access and download the content. Some of the SolarSPELL devices include the tablets, too.

Many Peace Corps volunteers are just out of college and are digital natives. They will be key in helping to develop digital literacy among people who have never encountered the internet.

Explore at pit.asu.edu/solarspell.

Bilingual chatbot reaches parents who want to go to college

Sunny — ASU's chatbot that launched in 2018 and answers questions about admission deadlines, move-in and more — will soon be able to reach a new audience.

Imaginable Futures and the Lumina Foundation, along with a group of leading partner organizations, announced that ASU received a \$50,000 grant to expand the chatbot to speak to parents and to offer help in Spanish for the first time.



"ASU's community outreach has always involved parents in supporting their kids' journeys to higher education. But education should also be accessible for parents of any age," said ASU Assistant Vice President for Outreach Lorenzo Chavez, who estimates an early 2021 launch for the new chatbot.

Explore at yourfuture.asu.edu/sunny.



Consumers are online more than ever and have something to say about it

The online retailing experience is creating even higher expectations among consumers, which companies must be ready to address, says Thomas Hollmann, a clinical associate professor of marketing who was involved in the 2020 National Customer Rage Study.

More than two-thirds of the 1,000 people polled experienced a product or service problem in the previous 12 months, and nearly two-thirds of them said it made them "very" or "extremely" upset — feeling "customer rage."

The 2020 customer problem rate was 66% — up 10 percentage points over 2017, at 56%, and more than twice as high as the results in 1976 (the year of the first survey), at 32%.

Keep up with the headlines at ASU by subscribing to the ASU Now e-newsletter at asunow.asu.edu/subscribe.

An audacious goal: Transforming the world for a better future with a new laboratory and college

At a time of increasing challenges around the globe, solutions depend on recognizing the complexity and interconnectedness of the Earth's systems, both natural and societal. This includes confronting the accelerating dangers of a planet out of balance, addressing the multiplicity of threats spurred by systemic failures, and embracing humankind's enormous potential for setting things right.

"Over centuries, humankind has asked our planet to give more than it has to offer and driven it toward its environmental and societal boundaries. To address this crisis under extreme time pressure, we have to face the daunting task of mobilizing intellectual and material resources of proportions never seen before, and we have to do it now."

— PETER SCHLOSSER, ONE OF THE WORLD'S LEADING EARTH SCIENTISTS, WHO HAS BEEN APPOINTED TO LEAD THE EFFORT

To that end, ASU has launched a laboratory dedicated to saving the planet and enhancing the quality of life for future generations.

The Julie Ann Wrigley Global Futures Laboratory, building on a commitment to shaping a sustainable future for all humankind through innovation, will encompass a new college with three schools, as well as a major research institute and a practice arm devoted to solutions, each enhanced by and integrated with global partnerships.

The new College of Global Futures comprises three schools: the School of Sustainability, the School for the Future of Innovation in Society and the new School of Complex Adaptive Systems.

Learn more at globalfutures.asu.edu.



When it comes to longevity, any exercise is good exercise

Assistant Professor Connor Sheehan and graduate student Longfeng Li have found that any exercise is beneficial, but stretching, volleyball and fitness exercises (i.e., walking, aerobics, cycling, etc.) in particular are associated with lower rates of mortality.

They used data collected by the National Health Interview Survey of 26,727 American adults ages 18 to 84 to examine the effect of 15 different exercises on mortality rates. After adjusting for such factors as demographics, socioeconomic status and health behaviors, the researchers found that walking, aerobics, stretching, weightlifting and stair climbing were related to lower risks of mortality. When adjusting for engagement in all exercise types, stretching and volleyball were found to be uniquely associated with lower risks of mortality.

Their findings suggest that some types of exercise have unique benefits for longevity, but most are indistinguishable in relation to longevity.

“What that means,” Sheehan says, “is that if you’re doing any exercise, that’s better than if you’re doing nothing. So I think what’s best is to just keep doing what you can consistently do, what you consistently enjoy doing.”



Stretching and activities like cycling, walking and aerobics in particular are associated with positive health outcomes.



Graduate student Lauren Gold of ASU’s Meteor Studio with an augmented reality map of Mars via the JMARS AR Viewer app.

Create your own planetary adventure with ASU’s new 3D terrain app

The Mars Space Flight Facility teamed up with Assistant Professor Robert LiKamWa and graduate student Lauren Gold to launch a new smartphone app called JMARS AR Viewer.

Downloadable for free from the Apple and Android stores, the JMARS AR Viewer allows users to virtually project planetary terrains from Mars, Mercury, Earth and the moon onto their physical environment. They can walk around it, zoom in and out and see the terrains from any angle.

The augmented reality app also allows users to generate a QR code of a specific terrain, which can be useful for K-12 teachers designing lesson plans, students presenting academic conference posters, and signage for exhibits.

Learn more at science.asu.edu/mars-space-flight-facility.



Scan this QR code to discover Jezero Crater, the landing site for the Mars 2020 rover Perseverance in augmented reality via the JMARS AR Viewer.

See through the eyes of a NASA Mars rover

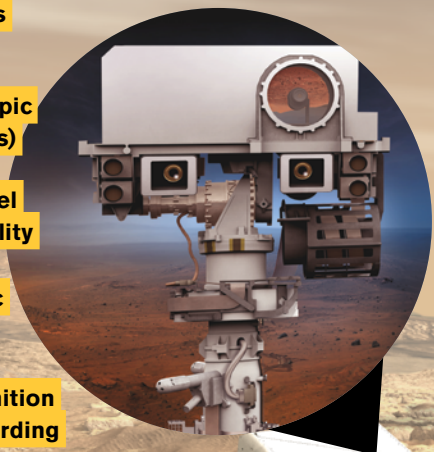
8.8 pounds
6' 6" high

Stereoscopic
(3D images)

2 megapixel
image quality

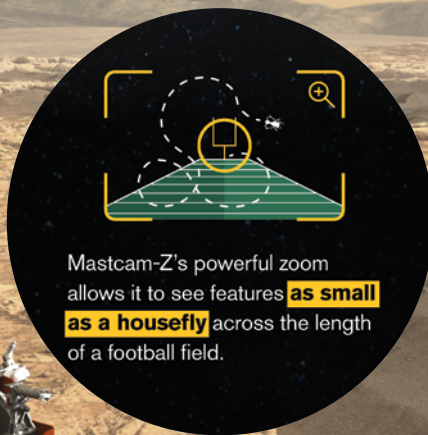
Panoramic
capability

High-definition
video recording



ASU was selected to develop the color panoramic zoom camera for NASA's 2020 Mars rover Perseverance. Known as Mastcam-Z, the cameras will help scientists characterize the planet's geology, pick out the best rocks for coring/caching and search for signs of ancient microbial life.

See more at sese.asu.edu/research/mastcam-z.

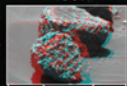


Mastcam-Z's powerful zoom allows it to see features **as small as a housefly** across the length of a football field.

false color



anaglyph



The two-camera system can see into the **ultraviolet** and **infrared** ranges of the color spectrum, providing scientists superhuman color photos and videos.

“Why do we design things at right angles when nature doesn’t?”

— MICHAEL KOZICKI, ENGINEERING PROFESSOR WHO PARTNERED WITH LIFE SCIENCES PROFESSOR ROBERT ROBERSON ON BIOMIMICRY RESEARCH FOR EFFICIENT SOLAR CELLS AND POWER DISTRIBUTION

NATURE'S WISDOM

Thinking like a tree

The word dendrite comes from the Greek “dendron,” meaning tree. Over the years, dendrites have so enthralled engineering professor Michael Kozicki that if there’s a branching pattern anywhere in sight, he can spot it: when he flies over the desert and looks down at a network of eroded canyons, when he gazes at the veins on the back of his own hand. If it seems like they’re everywhere, Kozicki says, it’s because they are.

Kozicki detected a mathematical thriftiness in dendrites’ branching patterns, specifically of fungal threads. Could it also inspire a structural design for increasing solar cells’ efficiency? To answer this question, in 2019 he and biologist Robert Roberson rolled up their sleeves to find out, thanks to a matching seed grant from ASU’s Biomimicry Center and the Ira A. Fulton Schools of Engineering.

Wind turbine farms typically use right angles to connect windmills to a major line to transfer power to the grid. Early results of the dendrite research on new design structures are showing promise.

Research and innovation leader confirmed as National Science Foundation director

ASU Executive Vice President and Chief Research and Innovation Officer Sethuraman “Panch” Panchanathan has been named the 15th director of the National Science Foundation, unanimously confirmed by the U.S. Senate in June after his December 2019 nomination by President Donald J. Trump.

During his six-year appointment, Panchanathan will be responsible for overseeing NSF staff and management, program creation

and administration, merit review, planning, budget and day-to-day operations. He also will direct the federal agency’s mission, including support for all fields of fundamental science and engineering, keeping the U.S. at the leading edge of discovery.



**Sethuraman
“Panch”
Panchanathan**

“Right now, the world faces significant scientific challenges — most obviously a pandemic,” Panchanathan says. “But in addition to providing creative solutions to address current problems, our eyes are on the future, leveraging partnerships at every level and encouraging diversity that breeds new ideas for a robust pipeline of young scientists. It is only through that expansive perspective on the scientific and engineering enterprise that we can recognize the brightest ideas and nurture them into tomorrow’s world-class technological innovations.”

ASU’s Knowledge Enterprise Chief Science and Technology Officer Neal Woodbury will assume the bulk of Panchanathan’s oversight and engagement activities as interim executive vice president.



Locusts carbo-load too

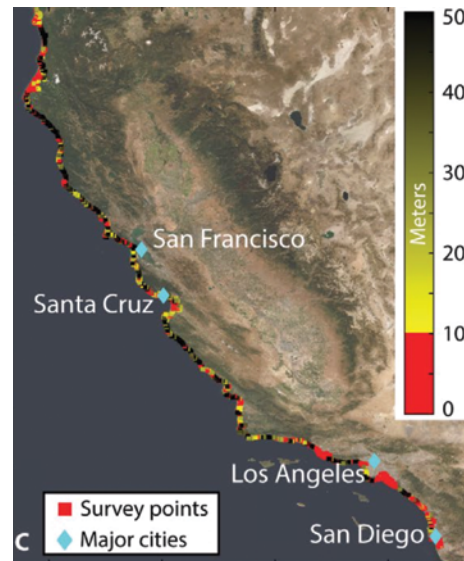
The night before a big race, marathoners power up with pasta and other high-carbohydrate foods to fill up their fuel tanks with easily burnable energy.

It turns out that migrating locusts — which can fly 350 kilometers (217 miles) in a single night — do the same thing, according to a study out of the School of Sustainability and ASU’s Global Locust Initiative.

Marion Le Gall and Arianne Cease found that Senegalese locusts did better in overgrazed pastures, tying it to the nutritional content of plants. Land that is overgrazed contains less nitrogen and plants are more sugar-based.

They tested this with a control plot and fertilized plots (where the plants had more protein and less sugar). Female locusts preferred the unfertilized food, laying larger eggs and surviving more successfully.

Learn more at sustainability.asu.edu/global-locust-initiative.

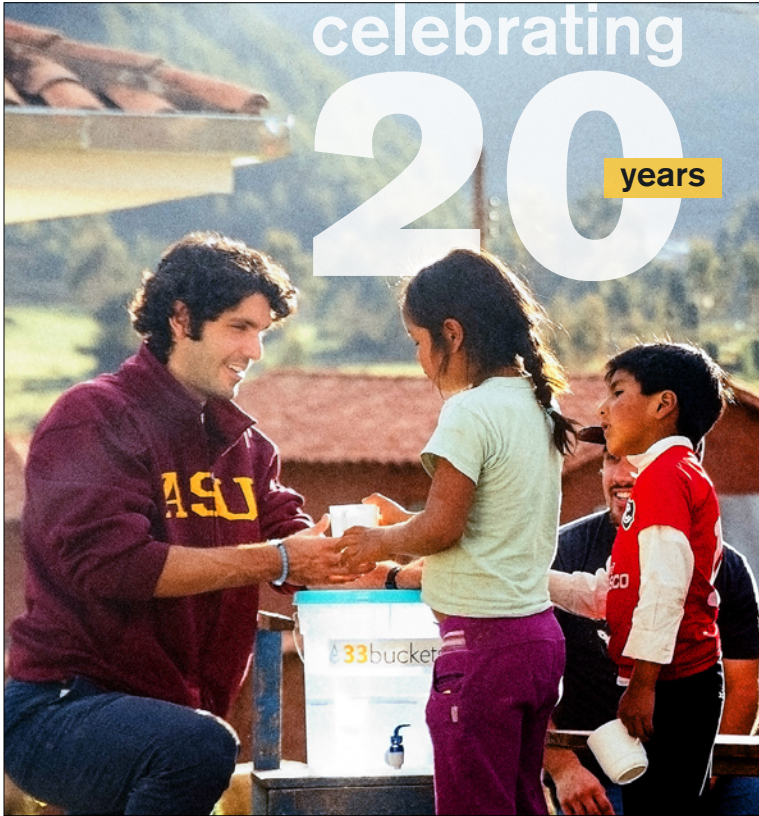


Satellite survey shows California’s sinking coastal hot spots

A majority of the world’s population lives on low-lying lands near the sea, some of which are predicted to submerge by the end of the 21st century due to rising sea levels.

Now, using precise measurements from state-of-the-art satellite-based interferometric synthetic aperture radar that can detect the land surface rise and fall with millimeter accuracy, an ASU research team led by Manoochehr Shirzaei has tracked, for the first time, the entire California coast’s vertical land motion.

They’ve identified local hot spots of the sinking coast, in the cities of San Diego, Los Angeles, Santa Cruz and San Francisco, with a combined population of 4 to 8 million people exposed to rapid land subsidence, who will be at a higher flooding risk during the decades ahead of projected sea-level rise.



celebrating
20
years

Twenty years ago, an act of generosity changed the future of Arizona.

Craig and Barbara Barrett's gift showed the power of generosity to transform honors education. Today, Barrett supporters around the world continue that tradition of giving. Together, they are creating a better, brighter future.

CAMPAIGN ASU 2020

ASU Barrett
The Honors College
Arizona State University

 **INDUSTRIOUS**

The Ultimate Workplace Destination

- Flexible private offices
- All-inclusive amenities
- Move-in ready



BOOK YOUR TOUR @ industriousoffice.com/sdl

Advance your career

RESUME



CONNECT

Tap into resume resources

Whether you're seeking your dream job, embarking on a career change, looking for an on-campus job or applying for an internship, having a quality resume and application materials that get you noticed are key to your success. Try these resources to help craft or update your resume, cover letter and references so you can land that interview.

ASU offers a Resume Dropbox, free for all ASU alumni, to get feedback on your resume or cover letter from the Career and Professional Development Services team. Simply upload your materials and our team will provide recommendations to ensure you are making a great impression.

career.asu.edu/resumes-and-application-materials



See resume tips in action on youtube.com/ASUCareerServices

Working your network

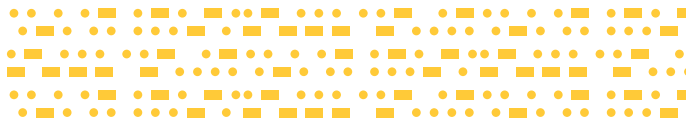
How to connect virtually.

20

May Busch: Developing a growth mindset

4 steps to thrive.

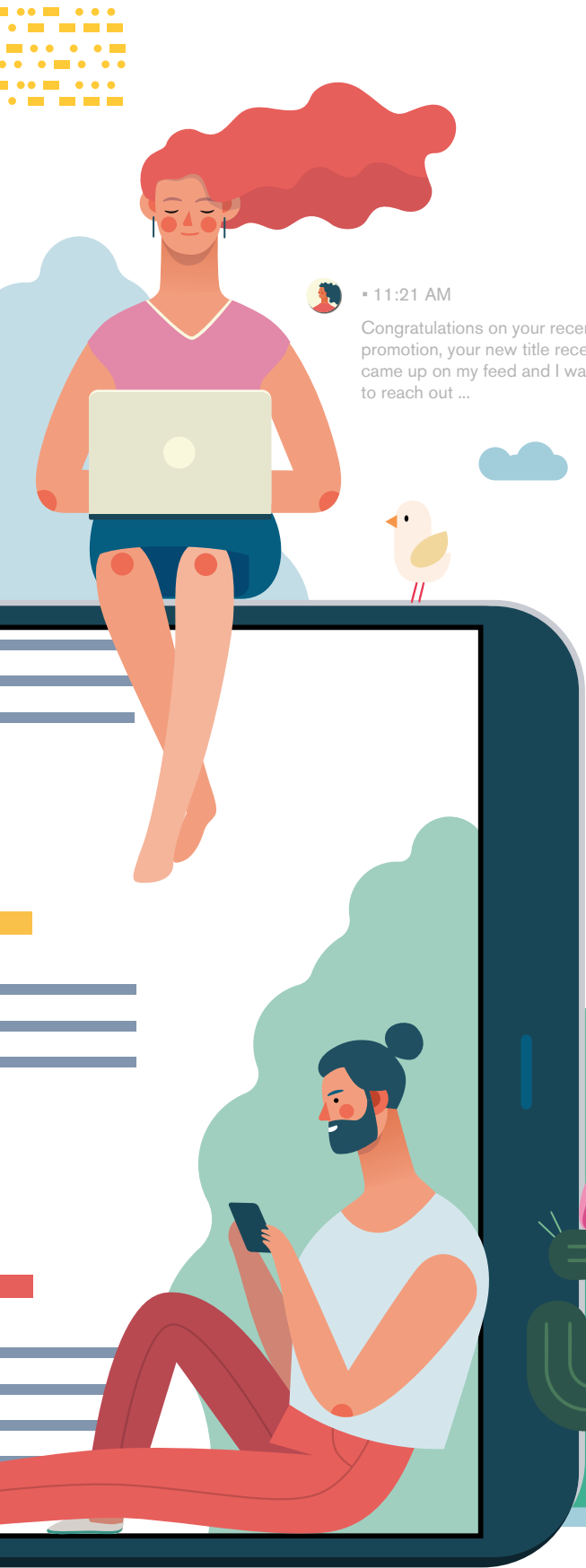
22



3 ways TO network virtually

Story by
TAYLOR DRAKE





• 11:21 AM

Congratulations on your recent promotion, your new title recently came up on my feed and I wanted to reach out ...

Staying connected with others is more critical now than ever

COVID-19 really shook everything up, didn't it? One day we're climbing up that career ladder, then the next, due to no fault of our own, this pandemic pushed us into a land of masks and physically distancing.

Gone, for now, are the days of in-person networking events and happy hours. That doesn't mean we should give up on networking. Opportunity is everywhere, even if we have to look harder for it.

The most important thing to do during this time is to breathe and keep moving forward. And that means making time to stay connected with people you're not necessarily able to see in person.

To network in these times: 1. Interact with LinkedIn connections.

We have all done it. You add someone on LinkedIn and then never do anything with that new connection. Instead, create a goal to increase your LinkedIn presence. For example, comment on every new job/promotion announcement and every happy birthday notice you receive. Message a certain number of your contacts to check in and see how they/their companies are adjusting to the current times.

2. Join virtual activities.

They may be awkward at first, but why not give it a shot? Many



Taylor Drake, '09 BA in film, leads marketing for a major litigation support firm in Los Angeles. At age 30, she co-founded Bluestocking Society, an online networking community for female professionals. Find out more at bluestockingsociety.co.

universities, including ASU, are taking alumni events virtual. Industry organizations are doing happy hours and trivia nights. Can't find one that interests you? Then start your own. Reach out to an industry group you are part of and offer to arrange an event.

3. Make a meaningful connection with someone you admire/want to learn from.

Been looking for a good time to set up an informational interview but didn't want to interrupt the person's busy schedule? Have you always been trying to get an interview with an industry leader but never followed through? Now is your time. With the pressure off of in-person meetings, people are more open than ever to having virtual interactions. Request a simple Zoom meeting, offer to send an Etsy box so you are doing some kind of activity together, or finally propose that interview.

If we have learned anything from COVID-19 it is: There are always alternatives and we can adapt. The virtual world has expanded beyond social media; it is now the way we do business.

Our personal and professional lives have moved online. With that transition comes a greater opportunity to find the virtual connections for your next great opportunity. Try an unconventional networking method and see how it goes.

Then do it again, and again, and again. Who knows where you will be in six months if you work on growing and fostering your professional network? There's only one way to find out.

Good luck out there. We will get through this; and you may even end up a bit ahead. ■



Developing



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/asuthrive.

4 ways to adapt and thrive in uncertain times

Story by MAY BUSCH

My high school volleyball team was filled with first-time players and, most of the time, we couldn't even return the serves coming over the net. That is, until our coach taught us the game changer: how to stand in "ready position."

While we didn't become invincible overnight, that one technique meant we were finally able to score some points.

Being in ready position when it comes to your career and life will help you adapt and thrive no matter what the world throws at you.

Here are four steps to get you in ready position:

1. Cultivate a growth mindset.

With a growth mindset, you'll be able to adapt to whatever environment you find yourself in.

According to psychologist Carol Dweck, people with a fixed mindset believe their talents are carved in stone so they tend to focus on proving they're smart. In contrast, people with a growth mindset see challenges and

a growth mindset

failures as opportunities to learn and grow, and they achieve more because they put more energy into learning.

This is similar to ASU President Michael Crow's concept of being a "master learner" — someone who can learn anything.

A growth mindset helps you reframe the situation and shift your perspective from one that's based in fear to one that's based in possibility. So ask yourself, "How can this become a good thing for me?"

2. Identify your core strengths.

Your core strengths are the foundational resources you can draw on in times of challenge and uncertainty. They're the collection of attributes, skills and capabilities you've developed that make you who you are.

This includes your experiences and the wisdom you've gained from them, your network of relationships, your character and values, and your reputation.

Make a list and put it in writing so you can remind yourself daily. Just as it's harder for someone to knock you over when you brace your core muscles, you'll be

"Being in ready position when it comes to your career and life will help you adapt and thrive no matter what the world throws at you."

— MAY BUSCH



better able to stay strong in your career when you tap into your core strengths.

3. Be future focused.

When you're alert to possible future changes, you can get ahead of that change and put yourself in a fundamentally better position as a result. In fact, you can start to look for and see what's ahead and even create that change. That in turn helps you recognize opportunities to step in and add value.

Some call this "finding the white space" or identifying opportunities or niches that aren't already occupied by someone else.

4. Get ready to thrive!

We know we're in for an extended period of uncertainty and upheaval. But it doesn't mean you need to be on high alert. It simply means staying aware of what's going on around you and making adjustments as things change.

Just like being in ready position helped us in volleyball, getting yourself in ready position personally and professionally will help you to thrive in the new normal.

What will most help you get in a ready position? ■



“In ideal times, getting equipment installed in upward of 375 spaces during a summer would be a massive undertaking.”

—COREY MARSHALL, LEARNING EXPERIENCE MANAGER WITH UTO

Of the updated spaces, 375 have equipment permanently installed, with portable setups configured for the rest.

Reach your goals

LEARNING IN A NEW WAY

Syncing up classrooms for digital classes

ASU's University Technology Office spent the summer preparing classrooms at all campuses for a new learning approach: ASU Sync, which provides students with technology enhanced, fully interactive remote learning. In all, more than 800 learning spaces are equipped or enhanced with Zoom features or capabilities, to allow students to hear the instructor from anywhere in the classroom and see what's written on classroom whiteboards, slide presentations and digital annotation tools. Students both in-person and on Zoom can ask questions of the instructor, and the faculty member can ask questions of all students.

Explore some of the data on how technology is performing at uto.asu.edu/key-data.

YouTube learning

Creating high-quality educational content.

26

Improving online education

ASU is training teachers and helping students.

31

YouTube stars the Green brothers and ASU partner to create high-quality, timely videos based on expert curriculum

Story by KARI REDFIELD
Photos by JAROD OPPERMAN

Green screen



William Comar, an instructor with the School of Molecular Science, presents the ASU Study Hall chemistry series.



Hank and John Green

A lot of people watch YouTube videos, 1 billion monthly users, in fact. Because much of that content is user-generated, quality can vary. Over the years, though, some content has become highly professional, including videos by the “Green brothers” (young adult novelists Hank and John Green). They have created several educational YouTube channels, including Crash Course, which has more than 1.3 billion video views and more than 11 million subscribers.

ASU is helping to further expand professional-quality educational offerings by partnering with the Green brothers to create entertaining content based on curricula from ASU faculty. ASU Study Hall on YouTube serves up expert content in an entertaining format combining the brothers' knowledge in scriptwriting and Thought Cafe's animation to bring complex lessons to life.

"Both Crash Course and ASU are all about providing high-quality educational content for a global online community," Hank Green says. "So we're excited to help you build your skills. Grab hold of this opportunity because it's open to anyone and it's going to be great."

A valuable resource

Sean Hobson, chief design officer for EdPlus, which houses ASU Online, says that the content is created especially for juniors in high school to juniors in college and mostly meant to supplement classes by clarifying key concepts. Each course comprises about 15 videos per subject. Existing series include English composition and college algebra with data literacy and chemistry rolling out this fall.

"Our viewers are often people supplementing their high school curriculum or preparing over the summer," Hobson explains.

One of the millions of Crash Course users is Yumna Samie, a senior majoring in English and communications, and an ASU Study Hall host for the video series on English composition.

"I've been a fan of the Green brothers forever," Samie says. "As

"Both Crash Course and ASU are all about providing high-quality educational content for a global online community."

— HANK GREEN

an aspiring novelist and writer, I admire them and the novels they write, and I've watched Crash Course for years. To be part of this is one of the coolest things I've done."

Now that Samie is the host for one of the ASU Study Hall series, she says that she gets numerous messages on social media from students and teachers about how much they appreciate ASU Study Hall. "People say this has been such a valuable resource not only



for themselves but their students,” Samie says. “It’s been wonderful to get that feedback.”

It’s not just students in Arizona or at ASU using the Study Hall content. A college student in Egypt majoring in chemistry and a student at California’s Diablo Valley University are supplementing college math classes with the algebra series — among thousands of others.

Although students and high school teachers are often the ASU Study Hall users, others

include lifelong learners, such as a politician in England running for a local seat who is using the composition series to help him write better speeches, and a mom homeschooling her kids.

Putting the effort into the design, professional production and entertainment aspects of Study Hall matches with ASU’s Charter, which is to measure the university’s success not by whom it excludes, but by whom it includes.

“ASU has such a strong mission around access and inclusion, and a deep commitment to serving learners where they are regardless of where that might be — and that can be literally where they’re located anywhere in the world, and also where they are in their learning journey,” Hobson says.

While many universities are using YouTube as a repository for lectures they deliver in a classroom, Study Hall uses the platform to provide engaging narratives that resonate with viewers. These 15-minute videos include live action, photographs and animation with a charismatic and personable host, and are posted on ASU’s YouTube channel and featured on the Crash Course channel to increase reach. Study Hall videos are getting tens of thousands of views, which has so far translated into tens of thousands of new subscribers for ASU’s YouTube channel.

“Creation of this content requires more investment in a storytelling narrative,” says Wayne Anderson, EdPlus senior director for design and development. “The partnership between our faculty



Comar, who teaches organic chemistry at ASU, has published academic works in areas of biochemistry, including cell culture and molecular genetics.

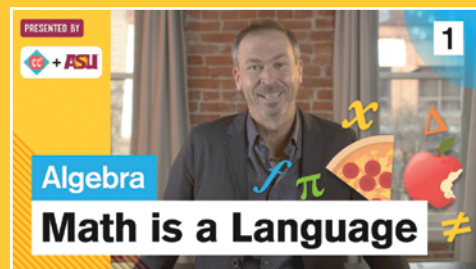
High-quality, entertaining content

Check out ASU Study Hall to supplement your high school or college courses:

youtube.com/ASU



Welcome to Study Hall! ASU and the team at Crash Course have partnered to create four different learning playlists. We’ll dive into subjects like writing composition, algebra, chemistry and data literacy.



Rational expressions (aka fractions) can be scary to see on the page. But there are really four key rules behind manipulating fractions. That’s what we’ll look at in this episode of Study Hall: Algebra!



In this episode of Study Hall we’ll discuss English and writing composition, guided by Yumna Samie. Discover better writing with “The Writing Process,” how we use it and how it can make your next writing project easier.



By the numbers

178,000+
unique learners reached
across all ASU Study
Hall episodes

**36 schools around the
U.S. using the videos**

1.3 billion
views of the
Green brothers'
YouTube channels

2 billion+
users visit YouTube
each month
(almost 1/3 of the internet)

1 billion
hours of
video watched
on YouTube every day

**70% of YouTube
watchtime is on
mobile devices**

SOURCE: YouTube

experts who have taught thousands of lessons with a storytelling approach combined with high production value creates a rich learning experience.”

Easily searchable

People often come to YouTube to answer a specific question, Hobson says. Indeed, according to Ipsos, 80% of Gen Z (born 1997 to 2012) say YouTube has helped them become more knowledgeable about something, and 68% report that YouTube has helped them improve or gain skills that will help them prepare for the future. And YouTube searches are a primary way this generation finds information for nearly everything from “how to tie a tie” on the “Dad, how do I?” channel with 2.5 million subscribers — or simply to hear words such as, “I’m proud of you.”

Gen Z consumes an average of 68 hours of video a week, according to a report by media company Awesomeness. That includes everything from two-minute videos to immersive hourslong experiences, such as studying along with someone doing homework on YouTube, called “studytubers.”

“There’s no other learning platform in the world like YouTube,” Hobson says. “This makes it a logical place for us to be reaching and serving learners where this generation already spends time.”

Many people search YouTube for videos that break down aspects of complex school subjects. To improve user experience, Study Hall videos serve up an engaging narrative within each video and within each series — and are designed to answer students’ questions.

“If your content isn’t optimized to solve a specific problem in an interesting way, you’re likely not going to be able to serve your learner,” Hobson says. “The best content that solves the educational question rises to the top.”

Improving educational content

Over the years, the Green brothers have been approached by many universities about collaborating on content, but they chose ASU primarily because the university’s mission is to expand access to high-quality education.

**“There’s no other
learning platform
in the world like
YouTube.”**

— SEAN HOBSON,
CHIEF DESIGN
OFFICER FOR
EDPLUS

“ASU sees the need for powerful and free online education and sees the massive opportunities in YouTube. They refined their place as an educational institution and want to offer more educational opportunities, not just to their own students,” says Nick Jenkins, Complexly’s senior producer/director/editor. “That falls in line with how we view education at Complexly.

“More free online education is great. It’s going to be great for students and for teachers so they can spend more time interacting with students, whether online or in-person,” Jenkins adds. “That, to me, is the heart and soul of education.” ■

FREE RESOURCES

Remote learning led by ASU education students

When schools closed and/or went remote last spring, ASU's Mary Lou Fulton Teachers College launched a new learning program called Sun Devil Learning Labs to ensure that teacher candidates could teach remotely and graduate on time. ASU students, working under the supervision of ASU clinical faculty, have delivered more than 500 lessons via YouTube for K-8 grade levels.

You can stream these educational videos on demand. Videos are accompanied by English- and Spanish-language learning guides, developed in partnership with local school districts and youth-serving organizations, and are free and available to all learners and families.

Find your grade level to get started.
education.asu.edu/sdll

During their last workout, Izzy ran $2\frac{1}{4}$ miles in 15 minutes, and ran $3\frac{3}{4}$ miles in 25 minutes. Each girl thought she was the fastest on their last run, which girl is correct? Use any approach to find the answer.

Tables

Izzy			Julia	
Time (minutes)	Time (hours)	Distance (miles)	Time (minutes)	Time (hours)
15	$\frac{15}{60} \rightarrow \frac{1}{4}$	$2\frac{1}{4}$	25	$\frac{25}{60} \rightarrow \frac{5}{12}$
30	$\frac{30}{60} \rightarrow \frac{1}{2}$	$4\frac{2}{4}$	50	$\frac{50}{60} \rightarrow \frac{5}{6}$
45	$\frac{45}{60} \rightarrow \frac{3}{4}$	$6\frac{3}{4}$	75	$\frac{75}{60} \rightarrow 1\frac{1}{4}$
60	$\frac{60}{60} \rightarrow 1$	9	100	$\frac{100}{60} \rightarrow 1\frac{2}{3}$
75	$\frac{75}{60} \rightarrow 1\frac{1}{4}$	$11\frac{1}{4}$		

Miss Alford

Miss Alford is one of many teacher candidates leading courses designed to educate 7th and 8th graders.



Teacher Brian Austin recommends tools that allow teachers to break up long sections of video for more questions and interaction with students.

Training Arizona teachers to teach remotely

New partnership with the State Department of Education

ASU is helping to train Arizona's teachers for remote teaching through a new partnership with the Arizona Department of Education.

A \$7.5 million partnership will help the state's K-12 teachers deliver quality instruction online and through blended learning environments this school year.

Arizona Gov. Doug Ducey, Superintendent of Public Instruction Kathy Hoffman, Helios Education Foundation and ASU are collaborating to train and support every teacher in Arizona on online and blended learning environments. With financial support from the governor's

office, the Arizona Department of Education and Helios, ASU Prep Digital's Arizona Virtual Teacher Institute provides both group and personal training to help Arizona teachers succeed in delivering online instruction.

Free training programs for schools and teachers began Aug. 11 with a three-day program, "Thriving as a Digital Teacher." Topics include best practices in online instruction, Web 2.0 tools, setting up a virtual instruction plan, pace charts, monitoring student progress, teaching time and stress management and more. Synchronous and asynchronous sessions will be available throughout the school year.

"Arizona teachers have demonstrated dedication and

creativity in remaining present in the lives of their students through distance learning," Ducey says. "With funding from the state and both the financial support and expertise of the Helios Education Foundation, we are putting one of the state's strongest assets during this pandemic, Arizona State University, to work to support teachers in elementary schools and high schools from across the state."

The training will get teachers up and running quickly and build their expertise incrementally with avenues for educators to work through specific challenges throughout the year.

Learn more at asuprepdigital.org/training.

From around the world, faculty prepare together

Participants joined in digitally from around the world from countries highlighted in gold.

Focus on digital learning and preparation for hybrid models at 'REMOTE' faculty summit

A pandemic is the perfect time to transform the role of faculty and to broaden their reach around the world, according to ASU President Michael Crow.

"We're sitting at a unique carpe diem moment," Crow said at the opening session of "REMOTE: The Connected Faculty Summit," a free virtual event hosted in July by ASU and designed for faculty preparing courses for the fall semester.

"We have a global pandemic that is driving us to deeply understand the limits and the potential of our institutions," he says. "And we've got 5,000 faculty members here at ASU who have, in miraculous ways, transformed themselves into a powerful force of nature, able to take on things and do things in ways that I think have been profound."

More than 45,000 faculty members from 2,000 institutions in dozens of countries registered for the summit, bringing together, for example, seven from Iran, nearly 500 from India and more than 3,000 attendees from Saudi Arabia. Besides best practices,

other virtual classroom topics included equity, course design, field trips, assessments and advanced labs.

Crow said that the antiquated model of faculty teaching to small clusters of students and then hoping to have their research published in a journal will only lead to further social inequity. Universities must be nimble to quickly respond to crises like pandemics and climate change, he says.

And faculty have to be empowered.

ASU tries to create "super faculty," he says.

"A super faculty member is a person who is empowered by their own education and has access to everything they need to continue their education, and who can move across disciplines," Crow says.

"They would have research and creative activities going on throughout the academy, not just at some selective institutions, and they have students clustered around them who are also creators, not supplicants.

"Then you underpin all of this with a technological platform that allows all of the hard and fast boundaries of the university to be eliminated."

View sessions and courseware on demand through the end of the year at theremotesummit.org.



Dr. Joshua LaBaer, executive director of the Biodesign Institute, oversees a machine that helps the lab test thousands of samples a day.



Protect human lives

TESTING MATTERS

Results in 48 hours or less

ASU's saliva test for COVID-19 provides rapid results in 48 hours or less for ASU community members and for Arizona citizens who sign up for a free test through a partnership with the Arizona Department of Health Services.

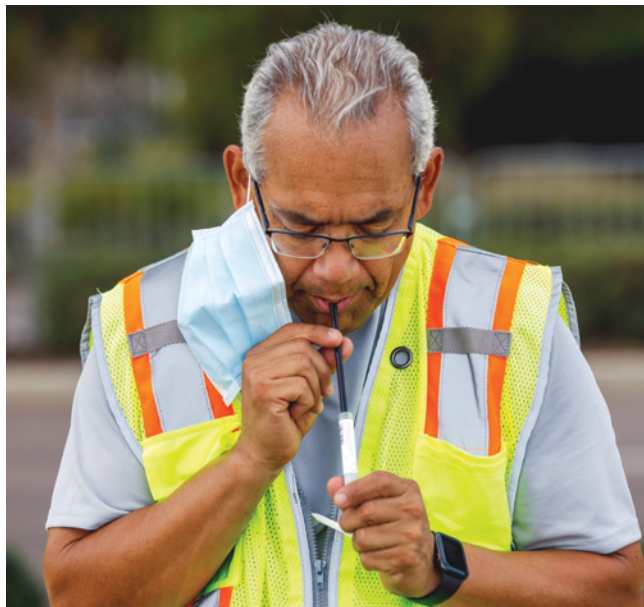
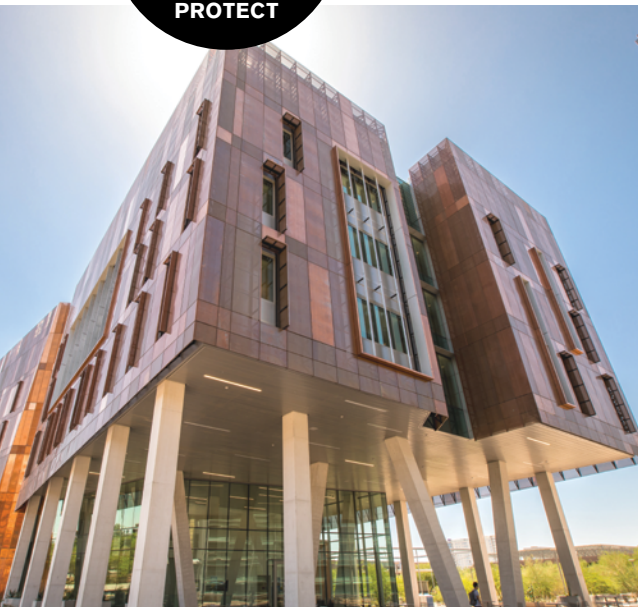
Reserve your time slot at asubioemportal.pointnclick.com
Learn more about testing at biodesign.asu.edu/research/clinical-testing/testing

Rapid testing

How ASU has helped rein in the pandemic. 36

Health heroes

Sun Devils on the front lines. 46



Clockwise from top left: Biodesign Institute Building C, ASU's saliva test for COVID-19 with typically a 48-hour or shorter turnaround, a test site volunteer scans a participant's appointment QR code, drive-thru testing.

Rapid testing to the rescue



When the COVID-19 pandemic arrived, researchers at the Biodesign Institute leapt into action

Story by DANIEL OBERHAUS

On the morning of March 11, clinicians at the Arizona Department of Health Services reported three new cases of the novel coronavirus in the state, and governor Doug Ducey declared a public health emergency.

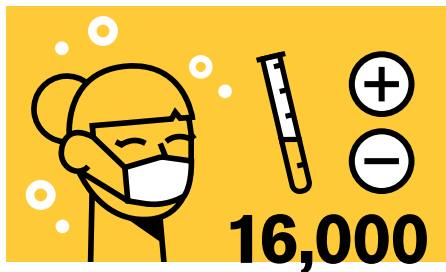
Dr. Joshua LaBaer, executive director of the Biodesign Institute at ASU, was in his office when he

heard about Ducey's declaration. LaBaer spends a lot of his time thinking about infectious disease even when there's not a global pandemic, and yet the novel coronavirus was unlike anything ever seen.

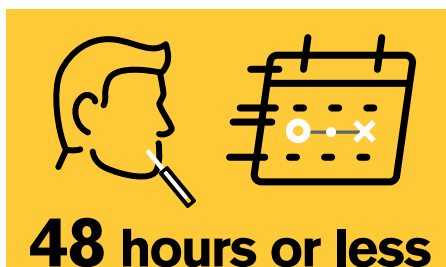
"We took it very seriously," LaBaer says. "Our epidemiologists were saying this is going to spread."

Testing

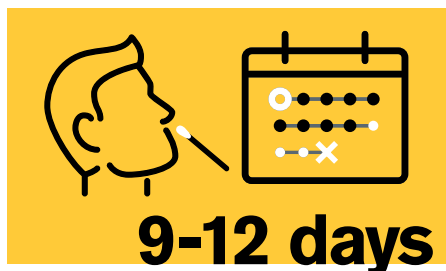
By the numbers



Number of COVID-19 tests the Biodesign Institute can process per day



Amount of time it takes ASU to test saliva samples and deliver results via a secure online portal



Number of days it took large commercial labs to process tests in July, according to The New York Times data

But in the emerging crisis, he saw an opportunity to save lives.

Making rapid saliva tests

Founded in 2003, the Biodesign Institute with its 17 research centers has a broad mandate to conduct research at the intersection of global health, sustainability and security. In March 2020 it was clear that widespread and rapid testing would be critical to combat the novel coronavirus, and that LaBaer's team was well-equipped to make that happen.

“Turnaround time is key. If results take a week then it's going to be too late. Testing is only an intervention if you can get an answer back to somebody quickly.”

— JOSHUA LABAER,
BIODESIGN INSTITUTE
EXECUTIVE DIRECTOR

Before the pandemic, LaBaer's group won a contract from the Department of Defense's Biomedical Advanced Research and Development Authority, or BARDA, to develop tests that could quickly identify the level of radiation exposure in individuals. These tests were meant to save lives in dangerous, rapidly developing situations like a nuclear accident, but many of the techniques and equipment could also be used to detect a coronavirus infection.

“We had the equipment, the expertise and the knowledge to pivot to COVID-19 testing,” LaBaer says.

First his team started with nasopharyngeal swab tests, but within weeks made the decision to start developing saliva tests instead. Spitting in a tube doesn't involve the same physical discomfort that sticking a long swab up your nose does, which could encourage more people to get tested. The novel saliva tests are faster and more cost-effective because they don't require trained medical staff to administer.

“You can scale up saliva tests,” LaBaer says.

Building a medical laboratory

Prior to the pandemic, the institute was purely a research facility; it wasn't designed to handle clinical work, which requires equipment, personnel and procedures that meet stringent federal regulations. LaBaer tapped Dr. Carolyn Compton, who is trained as a clinical pathologist, to lead the transition.

“There was no medical laboratory at the Biodesign Institute, so we had to create it,” says Compton, a professor in the School of Life Sciences who now serves as the institute's medical director.

Rapidly pivoting a lab from academic to clinical work would be a Herculean task even under normal circumstances, but the fact that a lot of this clinical work would have to happen under extremely unusual clinical conditions, like taking samples from participants while they sat in



Clockwise from top left: Staff members verify that each participant's information on their test sample matches their registration record, the ASU Biodesign Clinical Testing Lab has expanded its space in Biodesign B to increase COVID-19 testing capacity while delivering results quickly, a saliva test collection kit, participants arrive at a drive-thru testing site to receive free saliva tests at Ak-Chin Pavilion.



Resources for employers

The College of Health Solutions, supported by a gift of about \$1 million from the Rockefeller Foundation, has created an interactive dashboard called "COVID-19 Diagnostics Commons: Keeping Workers Well." The data is meant to help employers make COVID-19-related decisions about how to safely bring workers back.

It's a one-stop, reliable source for comprehensive information about COVID-19 tests worldwide. Search all tests in the market and in the pipeline by multiple parameters including test type, technology, regulatory status, country of origin and more. The Testing Commons is updated regularly.

Go to ASUcovidcommons.com.

their cars in a parking lot, added to the complications.

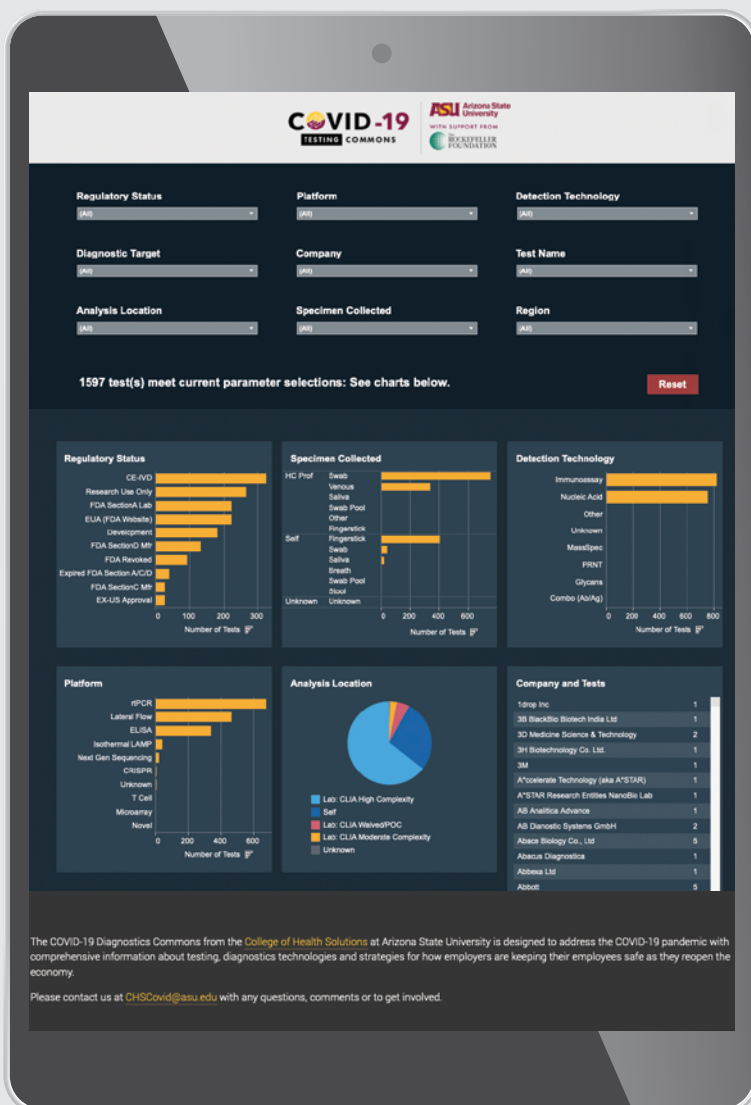
Compton's main duty was making sure the lab met the strict standards of the Clinical Laboratory Improvement Act that governs how labs that produce medical data must monitor and verify the people and instruments doing the tests.

"We have to record every temperature change and every deviation of the performance of our equipment," Compton says. "CLIA inspections are a very serious thing."

And since the lab wouldn't just be doing analysis but handling sample collection and distribution of results as well, that also meant designing a workflow that is compliant with federal privacy laws from start to finish. For Compton and her team, that meant mountains of additional paperwork and still more training for research staff to ensure patient privacy.

Compton's extensive experience as a clinical pathologist made it possible to rapidly transition LaBaer's lab to a clinical testing facility. But she says she wouldn't have taken on this weighty responsibility in the first place if LaBaer hadn't already laid the foundation for the initiative's success. She says the lab's previous work with BARDA enabled its fast pivot to COVID-19 testing because it meant LaBaer and his team were already familiar with the stringent federal requirements for operating a clinical lab.

"Many academic labs are purely discovery labs and



Set the parameters for your search here.

Review your custom dashboard data here.

The COVID-19 Diagnostics Commons from the College of Health Solutions at Arizona State University is designed to address the COVID-19 pandemic with comprehensive information about testing, diagnostics technologies and strategies for how employers are keeping their employees safe as they reopen the economy.

Please contact us at CHSCovid@asu.edu with any questions, comments or to get involved.



Instead of planning events like ASU Homecoming, Breanna Carpenter now gets up every morning at 2:30 a.m. to be at a saliva-testing site early enough to set everything up before the clinical crew arrives at 6 a.m. for daily training.



don't do product development for deployment to the health care system," Compton says. "Josh's laboratory wasn't just sophisticated in terms of its technology, it was sophisticated in terms of its knowledge of regulatory requirements."

By May, Bidesign Institute researchers had successfully created the first saliva-based COVID-19 test in the state. Soon after, they began piloting the test with a network of first responders in Phoenix who were at the greatest risk of exposure to the virus. By comparing the results of these tests with nasopharyngeal swabs from the same individuals,

“Events people know how to work under pressure and think on our toes. That mindset works in this pandemic, and we bring that skill set to the testing sites.”

— DORINDA WILSON,
EVENTS MANAGER

the Bidesign Institute found that the saliva-based tests were just as accurate.

The Bidesign Institute expanded its saliva test network to include students and employees, and soon was processing up to 1,400 samples a day. By early July, the diagnostic system rolled out to the general public, and ASU announced a partnership with the Arizona Department of Health Services to set up testing sites in underserved communities around the state. The goal of this \$12.7 million partnership is to provide free saliva tests for up to 100,000 Arizonans.



Joshua LaBaer in his lab with a few of the many researchers at the Biodesign Institute working on rapid tests for coronavirus, vaccines and new treatments.

In a press release when the collaboration was announced, Gov. Doug Ducey says: “This critical partnership will have an immediate impact in the fight against COVID-19 and help us surge testing where it’s needed most. My thanks to Arizona State University for their continued partnership and for continuing to step up to aid public health in innovative and invaluable ways.”

Setting up testing sites without tying up health care workers

Dorinda Wilson is an events manager at ASU, and she’s been helping many of the university’s partners organize COVID-19 testing sites since the beginning of April. Wilson heads a team of fewer than 10 people, and the events they run usually don’t involve testing people or donning head-to-toe personal protective equipment. But the same sorts of logistical skills still apply.

“Events people know how to work under pressure and think on our toes,” Wilson says. “That mindset works in this pandemic, and we bring that skill set to the testing sites.”

So when the Biodesign Institute contacted Wilson to ask for help setting up and running saliva testing sites, she and her team were ready.

For weeks the events team had been using the Biodesign Institute auditorium to train other organizations to set up testing facilities of their own. And starting in July, the team has also been managing the two public testing sites — one at the

“We are members of the community, we have family here. Doing things like opening public testing sites and developing tools that the public can use helps keep that community safe. We’re here to help, and we take that mission very seriously.”

— JOSHUA LABAER,
BIODESIGN
INSTITUTE
EXECUTIVE
DIRECTOR

Cardinals football stadium and the other at Ak-Chin Pavilion — created through the university’s partnership with the Arizona Department of Health Services, where they’re responsible for safely collecting the samples and getting them back to the institute for testing.

LaBaer estimates that the institute conducted around 10,000 saliva tests during the first few weeks of the public program. It typically takes less than 48 hours for ASU to return results, versus the seven to 12 days, according to The New York Times, that it was taking large commercial lab companies in July.

“Turnaround time is key,” LaBaer says. “If results take a

week then it’s going to be too late. Testing is only an intervention if you can get an answer back to somebody quickly.”

By mid-August, LaBaer expected the institute to have more than quadrupled its testing capacity. He says it was aiming for around 16,000 tests per day.

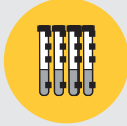
Data modeling

The fight against COVID-19 includes Biodesign Institute data models that serve many purposes. At the most basic level, they help keep the public informed about the virus’s trajectory in Arizona on an interactive COVID-19 dashboard on the Biodesign Institute’s website. Created in March, it’s updated daily with case counts, deaths and daily tests.

The models also help public health officials get ahead of hot spots. Timothy Lant, director of program development for ASU Knowledge Enterprise and an applied mathematician, has been working closely throughout the pandemic with officials from Maricopa County and the Arizona Department of Health Services to help them with their modeling to stay ahead of the virus.

The models also help inform policy decisions about things like when it’s safe to reopen businesses or whether wearing masks in public should be mandatory.

Abba Gumel, a foundation professor of mathematics at ASU, describes his research as “the use of mathematics to save lives.” His models have largely focused on the effectiveness of non-pharmaceutical interventions



Vaccines in development

ASU researchers are racing to develop safe, effective vaccines for COVID-19 and other coronaviruses. There are currently four in various stages:

- Vaccinia virus: a SARS-CoV-2 vaccine using recombinant attenuated poxvirus vectors.
- Human embryonic kidney cells: Mammalian-cell-produced virus-like particles could elicit a robust systemic and mucosal immune response.
- Plants: plant-produced chimeric hepatitis B core-based virus-like particles and recombinant immune complexes (RIC) vaccines for SARS-CoV-2.
- Myxoma virus: vaccine based on myxoma virus expressing SARS-CoV-2 antigens.

Get a free test and fast results

The saliva testing being done at remote sites around the Valley and other parts of Arizona through an ASU and Arizona Department of Health Services partnership is currently free. To pre-register and reserve a testing time, go to asubioempportal.pointnclick.com.

like masks and physical distancing for fighting the virus.

His results have been unambiguous: Wearing masks works, and if it had been implemented sooner in Arizona it could have saved hundreds of people from dying. Gumel collaborated with several colleagues and students from ASU on his work, including Matthew Scotch, assistant director of the Biodesign Center for Environmental Health Engineering. Gumel says his research couldn't have happened without the support of a university that prioritizes transdisciplinary collaboration.

"ASU is gaining the reputation now as a world-class center for research in mathematical biology," Gumel says. "It's one of the best places to use mathematics to understand how diseases spread and how to control them, and that's because it's not something that can be solved by public health people, modelers, mathematicians or computer scientists alone. It requires people from different disciplines to work together."

Using interdisciplinary approaches

Biodesign Institute researchers have also been supported by other ASU departments. In late March, the College of Health Solutions announced it would award up to \$100,000 for transdisciplinary pandemic-related research projects. One of the five grants of \$20,000 was awarded to ASU's Matthew Scotch to create a genome repository of the virus from patients with COVID-19 in Arizona. This will

help researchers monitor changes in the virus's RNA to understand how the virus evolves.

"The College of Health Solutions is designed to really make a difference in health outcomes, and to really serve the community," says the college's dean, Deborah Helitzer. "And with COVID-19 there was a tremendous opportunity to rally the faculty around a topic and to bring together all of our transdisciplinary work."

Serving Arizona

The university's response to the crisis helped to bring down cases through aggressive and rapid testing that delivers a result in 48 hours or less. Other reasons for the decline in cases include modeling that supports the use of face coverings and modeling that supports physical distancing. From a peak of a seven-day moving average of 3,800 new cases in July, Arizona had a seven-day moving average of 435.6 new cases a day on Sept. 10.

ASU's response hinged upon the institute's ability to rapidly leverage the expertise of dozens of researchers to save lives. This was largely possible because of research grants and programs like Arizona's Technology and Research Initiative Fund (TRIF), a critical source of funding that comes out of a voter-approved sales tax. As LaBaer says, "The institute was built on TRIF."

"We are members of the community, we have family here," LaBaer says. "Doing things like opening public testing sites and developing tools that the public can use helps keep that community safe. We're here to help, and we take that mission very seriously." ■

Innovators, creatives, changemakers and storytellers

Have you struggled with knowing where to start?
Curious about how good ideas become great ones?
Or have you ever wondered which innovation tools are best suited for what kinds of innovation activities? Join staff, faculty, student and alumni innovators as we uncover best practices and lessons learned as we explore the “how-to” behind innovation. We’ll work to uncover how culture and innovation collide, and what the implications are for justice, equity, diversity, and inclusion. Innovation Week is a fully immersive, universal learning event for all members of the ASU community. Chart your own innovation path and walk away with the tools you’ll need to take your own journey.



Learn more and register to participate at innovation.asu.edu



Innovation Week

October 26 - 30, 2020



The Power of **Good**

Because of donors like you, 750 students have received emergency financial assistance during the pandemic. **Because of donors like you**, more than 800 classrooms have been adapted for ASU Sync, enabling a technology-enhanced learning experience simultaneously shared by remote and in-person students. **Because of donors like you**, every student and employee has access to free COVID-19 testing. **Because of donors like you**, ASU keeps moving forward.



asufoundation.org/thrive

Serving amid the global pandemic — as doctors, nurses and professionals — these Sun Devils have one thing in common: strong foundations in expertise, care and compassion, much of which they learned at ASU.

On the front lines

Story by KELLY VAUGHN

“Life’s challenges are not supposed to paralyze us. We are all equipped and ready to face any crisis. And remember, you can’t help others without first taking care of yourself. Follow the health guidelines, stay safe and remain positive.”

— FARAH AL BESHER, '14 BS IN ECONOMICS





“When I reached out my gloved hand, in full PPE, patients couldn’t believe they could touch and shake my hand. This was heart-wrenching.”

— CHRISTOPHER BANKS, '18 BS IN NURSING

The mobile testing innovator: Farah Al Beshar

For Farah Al Beshar, '14 BS in economics, who now works as a front-line coordinator with Ambulatory Healthcare Services-SEHA in the United Arab Emirates, early action meant early containment of the virus in her country.

“I am part of the COVID-19 National Screening Service Drive-Through project in the United Arab Emirates,” Al Beshar says. “We were the first to open the drive-through testing center in the UAE, and due to its success, we were asked to expand our presence by the Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces. We were able to build 12 new drive-through screening centers throughout the seven emirates in 10 days, and today we have 18 fully operational centers. By ensuring early detection of positive cases we have been able to increase the safety of our people.”

The United Arab Emirates experienced a spike in mid-May, followed by a steady decline in positive cases and a subsequent early July resurgence. Since, though, the country has seen a sustained reduction in COVID-19 cases.

“Life’s challenges are not supposed to paralyze us,” Al Beshar says. “We are all equipped and ready to face any crisis. And remember, you can’t help others without first taking care of yourself. Follow the health guidelines, stay safe and remain positive.”

The emergency flight nurse: Christopher Banks

Indeed, compassion is a common theme among alumni health care workers, including Christopher Banks, '18 BS in nursing, a flight nurse and paramedic for Air EMS Inc. Very early on during the pandemic — in late February — Banks was dispatched to assist in the transport of passengers who had been quarantined aboard the Diamond Princess cruise ship off the coast of Yokohama, Japan.

“When I reached out my gloved hand, in full PPE, patients couldn’t believe they could touch and shake my hand,” Banks remembers. “This was heart-wrenching.”

Air EMS uses a special isolation unit to safely transport people suffering from COVID-19 that ensures that the paramedic crew and pilots aren’t exposed. It looks like a clear rectangular bubble for patients to lay in on top of the gurney. Banks helped test and train personnel on the isolation unit’s use as the pandemic worsened.

“As a base manager of our air medical transport company, I ensured that all of our care staff safely experienced the confined space of our isolation units to build better compassion for the patients.”

The ER doc: Mara Windsor

As an emergency room physician and chief wellness officer, Dr. Mara Windsor, '98 BS in psychology, faces COVID-19 on a daily basis. Throughout the pandemic, she's focused on exceptional patient care, as well as ensuring that her colleagues emphasize their own self-care, particularly given the everyday stressors they face.

"I have seen some devastating situations, but I've also seen renewed spirit in humanity by people coming together to accept, understand and support each other," Windsor says. "My nonprofit organization, L.I.F.E. (Living in Fulfilled Enlightenment), has been supporting the front-line heroes by providing personal protective equipment, food and emotional support."

Most recently, the organization received a donation of 70 backpacks and 70 lunch sacks from the kids' backpack company MadPax, all of which will be passed along to the children of health care workers as they make their way back to school.

"It is through our individual diversity that we can come together collectively to meet the needs of our community and society," Windsor says. "This is the perfect time to create a global movement that will align human compassion with understanding and acceptance of all. I believe that this will result in greater love and compassion for all."

"It is through our individual diversity that we can come together collectively to meet the needs of our community and society."

— MARA WINDSOR, '98 BS IN PSYCHOLOGY





The compassionate caregiver: Carmen Dominguez

As a certified medical assistant for Abrazo Medical Group, Carmen Dominguez, '19 BS in health care coordination, works at a small clinic, helping to treat a variety of medical issues. While she acknowledges that COVID-19 has presented a lot of new challenges, she's grateful that her patients can be seen quickly — and without the stress of having to go to the emergency room.

“Day in and day out, I hear patients telling me they are glad the clinic I'm working at is still open and accepting patients,” she says. “Working mainly with elderly patients, it is not an option to head to the emergency room when they feel heart-related symptoms. We are able to welcome them into a smaller setting than a hospital, [where they are able] to be seen and assessed — and possibly triaged — in-person. We are glad to be here to help and be of service.”

She adds: “I am so proud of my fellow Sun Devils, those working in hospitals, clinics, urgent cares, etc. Everything makes a difference! For those who have yet to graduate, please keep going! We need you.”

“I am so proud of my fellow Sun Devils, those working in hospitals, clinics, urgent cares, etc. Everything makes a difference! For those who have yet to graduate, please keep going! We need you.”

— CARMEN DOMINGUEZ, '19 BS IN HEALTH CARE COORDINATION

The mentoring engineer: Aaron Dolgin

Service and inspiration are just two of the things that motivate Aaron Dolgin, '18 BS in electrical engineering. Now a systems engineer for Northrop Grumman in Los Angeles, much of Dolgin's day-to-day life involves a fusion of his love of robotics and systems engineering, and providing for the community.

When the pandemic began, Dolgin co-founded a team of more than 150 people who are working to create, print and distribute face shields across Southern California. To date, SoCal Makers COVID-19 Response Team has manufactured and delivered more than 22,000 pieces of personal protective equipment.

Based on designs and specifications available through the National Institutes of Health, the face shields are 3D-printed visor frames with transparent sheets attached. And many of them are being produced by student volunteers — an extension of Dolgin's mentorship while he was at ASU.

"I really enjoyed the robotics program in high school, so I wanted to make sure I gave back in some way," Dolgin said in June. "During college at ASU, I volunteered at robotics events in Arizona, and I knew I wanted to continue that kind of support when I came back to California. Volunteers don't need any prior technical knowledge. They may struggle a little at first, but we have a remarkable community ready to get everyone up to speed. All of us are figuring things out together."



“Volunteers don’t need any prior technical knowledge. They may struggle a little at first, but we have a remarkable community ready to get everyone up to speed. All of us are figuring things out together.”

— AARON DOLGIN, '18 BS IN ELECTRICAL ENGINEERING, WHOSE SOCAL MAKERS GROUP HAS MADE MORE THAN 22,000 PIECES OF PPE



“I love being a nurse, and I try to make this scary time as special as I can for my patients.”

— EROLINDA BECERRA-MENDOZA, '16 BS IN NURSING AND HEALTH SCIENCES

The nurse who goes above and beyond: Erolinda Becerra-Mendoza

For Erolinda Becerra-Mendoza, '16 BS in nursing and health sciences, staying positive and tending to the emotional care of patients is as much a part of her nursing work as is physical care. “I’ve been working directly with COVID patients,” she says. “Half of the intensive care unit I work in is designated for them, although we are overflowing to our other unit.”

Although Becerra-Mendoza is a relatively new nurse with four years of experience, she says she’s never seen anything like the challenges that have arisen during the pandemic.

“I have seen a few success stories in the ICU unit I work in, but I have also seen patients not make it,” she says. “It breaks my heart knowing that they are not surrounded by family during their last hours of life. I love being a nurse, and I try to make this scary time as special as I can for my patients.”

A perfect example? Becerra-Mendoza had a patient who was about to celebrate a birthday. She took the initiative to ensure it was a happy one.

“A few nurses and I surprised him with a video conference with his family and grandchildren,” she says. “We got him a sugar-free cake and decorated his room. We had to make it special.” And they did. ■

Looking to the future

While a vaccine for COVID-19 remains on the horizon and the world continues to adjust to life in a pandemic, there are a lot of uncertainties. But one thing does seem certain: Current students and researchers, as well as alumni, are working tirelessly — and compassionately — to ensure quality care for a global society.



To learn more about ASU’s Health Heroes or to submit your story, see alumni.asu.edu/healthheroes.



“I’m interested in histories that have been silenced.”

– CAROLINA ARANIBAR-FERNANDEZ, WHOSE RECENT WORK IS LARGELY CONCERNED WITH GLOBAL DYNAMICS OF POWER, INVISIBLE LABOR AND THE CONNECTION TO LEGACIES OF COLONIALISM.

NEW WAYS OF WEAVING

Honoring and representing our full creative diversity

As a Projecting All Voices fellow in ASU’s Herberger Institute for Design and the Arts, artist Carolina Aranibar-Fernandez says she found a place where she could “have a voice” through her practice and a place where she could create conversations.

The initiative, a collaboration between the Herberger Institute and ASU Gammage, aims to support equity and inclusion in design and the arts to help ensure that the nation’s cultural life honors and represents our country’s full creative diversity.

Funded in part by a grant from the Mellon Foundation, Projecting All Voices provides opportunities for designers and artists who have been historically underinvested to advance their work and careers.

Aranibar-Fernandez and the other two 2018–19 Projecting All Voices fellows, Virginia Grise and Marguerite Hemmings, all explored various themes through their work this year.

A woman with dark hair, wearing sunglasses and a colorful earring, is focused on working with a piece of crinkled, metallic fabric. She is using a pair of green-handled scissors. The background is a blurred outdoor setting with tall, thin vertical poles and a ground covered in dry leaves or grass. The lighting is warm, suggesting late afternoon or early morning. In the top right corner, there is a decorative pattern of white dots on a dark background.

Amplify the arts

Carolina Aranibar-Fernandez is a Bolivian artist currently based in the United States. Her practice combines traditional processes including ancient weaving techniques and ceramics with multimedia and video installations. Here she works with metallic fabric.

Learn more at [disrupt.asu.edu/
article/spotlight-on-projecting-
all-voices](https://disrupt.asu.edu/article/spotlight-on-projecting-all-voices).

Radically inclusive dance

ASU alum leads the way for change in the dance world. **54**

Diversity on Broadway

A new initiative from ASU Gammage's executive director. **60**

Radically inclusive



A Sun Devil leads the way for change by helping to create an anti-racist dance world

STORY BY MAKEDA EASTER

dance

J. Bouey says, "My dance union radically supports those of us on the margins of society."

For many people, dance is a form of escape

The sweat-soaked physicality of the art offers the freedom to temporarily forget. For dancer, choreographer and activist J. Bouey (they/them), '14 BFA in dance, dance is healing. It's doing the uncomfortable work to confront trauma head on.

For Bouey, dance is the vessel for breakthroughs. It's a way of dealing with the constant pain of being a Black person in America.

Healing is a recurring theme for Bouey, who is a member of the world-renowned, New York-based dance troupe Bill T. Jones/Arnie Zane Company.

Bouey's latest choreographic work, "Chiron in Leo" — originally set to premiere before the pandemic struck — centers on mental health, generational trauma and healing the inner child.

Bouey is also the founder and co-host with Melanie Greene of The Dance Union Podcast and platform, a community hyper-focused on healing within the dance world itself. Since launching over two years ago, the platform has convened a steadily growing audience of creatives of color, all eager to create a more equitable and just landscape for all dancers.

A love for dance

Bouey's passion for abolishing oppression in all forms began at a young age.

Their mother was involved in a nurse's union at the Los Angeles

County Hospital and their father was a community organizer. Growing up in South Central L.A. and later Phoenix and Chandler, Bouey found an early love for dance, performing with step and hip-hop teams. At 15, they decided it was possible to make a career out of it.


A full ride to ASU led them to the School of Film, Dance and Theatre in the Herberger Institute for Design and the Arts. Bouey originally studied dance education, but when Ashleigh Leite, a postmodern contemporary dance professor, told them they could make it as a performer, they switched majors.

After graduating in 2014, Bouey left for New York — the epicenter of concert dance — determined to build a career as a performer.

Life as a professional dancer

Making a lasting career in dance has become ever more challenging for aspiring dancers and even seasoned choreographers. As governments, from federal to local, continue to cut arts funding, long-standing dance companies have dwindled and audiences continue to shrink. The traditional model — landing a full-time spot with a company — is not viable for most.

Many turn to freelancing, which means dancing, teaching, choreographing and building a social media presence, all while working other non-dance jobs to



“I started to find community in the struggle, the struggle of being a freelance dance artist, which was to essentially be like an indie music artist or any kind of artist without real management support.”

—J. BOUEY



afford New York's cost of living.

"It's a field that makes it really hard for anybody who's Black and does not have financial support from mom and dad," Bouey says.

Freelancers must also fund their own training to keep their bodies in top-notch shape. Many don't have health insurance. In some dance companies, a lack of diversity and hostile environment for Black and other performers of color can make it even harder to succeed.

"I started to find community in the struggle, the struggle of being a freelance dance artist, which was to essentially be like an indie music artist or any kind of artist without real management support," Bouey says.

Despite the hardships, they persevered, quickly building a name. From 2015 to 2017, they performed as an apprentice under Artistic Director Tiffany Rea-Fisher with modern company Elisa Monte Dance — launched nearly 40 years ago by a former principal dancer with the Martha Graham Dance Company. Before landing a spot with Bill T. Jones/Arnie Zane Company, they also danced with groups including the project-based AntonioBrownDance and MBDance, a company centering the experiences of queer people of color.

They won residencies and fellowships that provided funding, space and time to develop work, and showed their original choreography about healing in well-known performance spaces, including New York Live Arts and Gibney Dance.

Bouey also worked to make dance more accessible to Black and brown communities by



Listen and watch

- Listen to the podcast at soundcloud.com/dance-union/the-dance-union-podcast-episode-1-part-1
- Support the work at patreon.com/DanceUnion
- Watch the town halls or learn more at thedanceunion.com
- Watch the teaser for "Chiron in Leo" at jbouey.com/chiron-in-leo

teaching at Mind-Builders Creative Arts Center in the Bronx and other schools. But still, they wanted to do more.

The Dance Union

Having learned the business side from other dancers and through trial and error, Bouey wanted to share what they learned. This sparked the idea for a grassroots education system — a free podcast called The Dance Union — focused on ensuring that dancers of all ages have the necessary tools to make it.

The podcast also tackles topics that were floating around among other dancers who are Black, Indigenous and non-Black people of color — tokenism, hostile environments, toxic masculinity, the need for a union and what reparations would look like in dance.

It became “a hub and a space to amplify the voices of folks who

already have a megaphone and are making really radical and bold choices and change,” says Greene.

In addition to the podcast, when the brutal killings of Ahmaud Arbery, Breonna Taylor and George Floyd forced a reckoning over systemic racism in institutions, ranging from academia to the arts, Bouey moved quickly. They planned a virtual space to process, grieve and express anger centering the perspectives of Black dancers. The town halls offered a platform for artists to speak both about failings and about ways to build a more inclusive future. With more than 10,000 views, others have been learning as well, and The New York Times wrote about the work.

Creating space for tough subjects is one of Bouey’s strengths, Greene says. “It’s been a blessing to actually have someone in my life that is modeling a type

of vulnerability and courage and growth, creating a very hospitable environment for that loving and learning to actually happen.”

A topic that has come up often since the podcast started in 2018 and now in the town halls is white supremacy in dance. It shows up through implicit racism in dance education — the idea that Eurocentric ballet is the foundation of all dance technique, Bouey says. The hyper-focus on ballet often means the contributions of dancemakers of color throughout history are sidelined. On the podcast, Bouey, Greene and others in the community could dream up a more inclusive education that gave the same reverence to dance styles from the Black diaspora and other ethnic groups.

Bouey points out other ways that white supremacy shows up in dance: “not allowing trans and gender nonconforming and nonbinary folks to live in their full expression in dance ... not letting children who are of trans experience, nonbinary or nonconforming experience really be fully supported within the studios and education process.”

The conversations on The Dance Union Podcast, in the town halls and on social media platforms were about shifting the dance community from being “not racist,” which is a passive state of being, to anti-racist — acknowledging complicity in white supremacy and actively fighting against racism.

Many people were unaware of these topics and conversations. But in recent months, racism and white supremacy in dance have burst into light.



The Dance Union podcast became “a hub and a space to amplify the voices of folks who already have a megaphone and are making really radical and bold choices and change.”

— MELANIE GREENE,
DANCER, WRITER AND THE
DANCE UNION CO-FOUNDER,
METHODSOFPERCEPTION.COM



J. Bouey has empathy for those who are just now becoming aware of systemic racism. "I understand how we could miss something and have blind spots until something honestly tragic wakes us up," Bouey says. But, "I have to commit to not give white people the answer. They gotta figure it out and stay curious."

Raising money for dancers

In recent months, the Dance Union team has been working overtime in response to back-to-back societal crises, from seeing the continued violence perpetrated on people of color, to seeing the way COVID-19 has disproportionately killed people of color, to the additional crisis that the shutdown of live entertainment has had on dancers and other artists.

When it was clear COVID-19 would be devastating for dancers, wiping out gigs and performance opportunities, Bouey sprang into action, helping to organize a relief fund which raised over \$23,000, going to more than 130 dancers so far.

Moving forward

As long-standing institutions including American Ballet Theatre and Gibney Dance have recently posted messages of solidarity with the Black Lives Matter movement and made promises to rectify damage done to dancers of color, it's easy to question if true lasting change is possible.

The question then becomes: What's next? There's no comfortable answer, Bouey says.

They want institutions to practice radical transparency and admit they ignored the long-lingering trauma Black people have faced in America and its consequences.

"Because only from then can we actually do the work of

dismantling things and building better structures," Bouey says.

It takes inner work in hearts and minds, and actions, to uproot oppression and create an inclusive and equitable future in dance and everywhere else. Bouey is doing that work by working on their own healing, helping others to heal, providing a platform for healing and listening, envisioning a better future and helping to hold those with power accountable.

They summed up their vision during the second town hall in June. "The Dance Union is intentionally a space for dance artists to share their ideas, voice their concerns, demand change, resist and unite." ■

Donate to the relief fund for dancers during the pandemic
[gofundme.com/f/dancers-relief-fund-covid19](https://www.gofundme.com/f/dancers-relief-fund-covid19).



Broadway needs diversity, says ASU Gammage head

America must be better reflected in the theater industry, says Colleen Jennings-Roggensack, executive director of ASU Gammage. She is part of a new initiative with the Broadway League, a trade association of theater owners, producers and others in the business, to help increase the industry's diversity. The group has pledged to perform a wide-ranging audit of diversity, prompted by the rising awareness of systemic racism in the country.

Jennings-Roggensack, whose programming includes touring Broadway shows, is on the board of directors of the Broadway League. She also is Arizona's only voter for the annual Tony Awards.

"It's been a long time coming," Jennings-Roggensack told The New York Times about the initiative. "As wonderful as the field is, I often am the only one in the room."

"This is an entire industry coming together to do this."

— COLLEEN JENNINGS-ROGGENSACK,
EXECUTIVE DIRECTOR OF
ASU GAMMAGE

"Broadway is often called 'the longest road in America,' but it is not reflective of America. When you come into a Broadway house, you want to see an audience that reflects America and a stage that reflects America. You want to know that behind the scenes, the crews, and the front of the house and the administration all reflect America."

Learn more at broadwayleague.com/programs/equity-diversity-inclusion.

Publication Title: ASU Thrive magazine Fall 2020 Vol 23, No 4
 Publication Number: 1940-2929
 Filing Date: 9-04-2020
 Issue Frequency: Quarterly
 Number of Issues Published Annually: 4
 Annual Subscription Price: \$0.00
 Complete Mailing Address of Publication: ASU Thrive, c/o Enterprise Marketing Hub, P.O. Box 875011, Tempe, AZ 85287
 Contact Person: Chris Myers
 Complete Mailing Address of Headquarters: ASU Thrive, c/o Enterprise Marketing Hub, P.O. Box 875011, Tempe, AZ 85287
 Publisher: Jill Andrews, c/o Enterprise Marketing Hub, P.O. Box 875011, Tempe, AZ 85287
 Editor: Lindsay Kinkade, c/o Enterprise Marketing Hub, P.O. Box 875011, Tempe, AZ 85287
 Owner: Arizona State University Enterprise Marketing Hub, P.O. Box 875011, Tempe, AZ 85287
 Known bondholders, Mortgages, Security Holders Owning: None
 Tax Status: Has not changed during the preceding 12 months
 Issue Date for Circulation Data Below: September 2020
 Extent and Nature of Circulation: Total Number of Copies: Average per issue
 Printed: 450,322 / 466,431
 Mailed outside-county paid subscriptions: 435,811 / 450,431

Mailed in-county paid subscriptions: 0 / 0
 Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Paid or Requested: 0 / 0
 Paid Distribution By Other Classes Of Mail: 0 / 0
 Non Requested Copies Distributed Outside The Mail: 14,512 / 15,792
 Total Non Requested Distribution: 14,512 / 15,792
 Total Distribution: 450,322 / 466,431
 Copies Not Distributed: 4225 / 500
 Total: 450,322 / 466,931
 Percent Paid and/or Requested Circulation: 96.7 / 96.5
 Requested and Paid Electronic Copies: 0 / 0
 Total Requested and Paid Print Copies + Requested / Paid Electronic Copies: 454,547 / 450,431
 Total Requested Copy Distributed + Requested / Paid Electronic Copies: 453,811 / 450,431
 Percent Paid and/or Requested Circulation: 96.7 / 96.5
 This Statement of Ownership will be printed in the September 2020 issue of this publication.
 I certify that the statements by me above are correct and complete:
 s/Jill Andrews, Publisher, 9/01/2020

“I have not seen a young player come in with that intensity, lateral quickness, strength and, most importantly, intelligence/discipline in a long time.”

– FORMER NBA HEAD COACH AND NOW TV BROADCASTER JEFF VAN GUNDY, RECOMMENDING A MOVE FOR LU DORT, RIGHT, INTO FIRST TEAM.

Play like a Sun Devil®



ALWAYS A SUN DEVIL

Former ASU Men's Basketball players Luguentz Dort of the Oklahoma City Thunder and James Harden of the Houston Rockets battled it out on the court during the first round of the 2020 NBA Western Conference playoffs. Dort had a record-setting performance, and in Game 7, led all scorers with 30 points, setting the record for most by an undrafted rookie in playoff history. Late in the game, a block by Harden on Dort sealed the Rockets' series victory, sending the Rockets to the next round.

Former athletes graduate
Sun Devils returned to complete their education. **62**

MLB draftees
Five athletes are off to the major leagues. **63**

Men's Basketball

Sun Devil stars return to graduate



Roy Joshua
1977–1979

'20 BA in liberal studies

Byron Scott
1979–1983

'20 BA in liberal studies

Eddie House
1996–2000

'20 BA in liberal studies

Tyrone Jackson
2004–2006

'20 BA in liberal studies

Several former Sun Devil basketball players came back to ASU to finish their degrees, graduating in 2020.

For four former members of the Sun Devil Men's Basketball program — while it might have been like crossing the estuary to get there — the path across that river led them to their goal. Now, with much pride, each can now lay the claim to having a college degree, as part of Sun Devil Athletics' spring/summer graduation Class of 2020.

The path was years in the making for the likes of Byron Scott, Eddie House, Tyrone Jackson and Roy Joshua — decades for some of them. Professional basketball careers, coaching careers, educational careers and even a real estate career came before their ASU degree. Life's opportunities and circumstances delayed the completion of education for all four. For whatever reason, completing their education the first time around

“I am only here because of my parents ... all my teachers and coaches who taught me crucial life lessons, and all my ASU teammates and ASU family.”

— ROY JOSHUA

was incongruous with their life path. But for each, no life change was going to keep them from their vows to return and finish what they started.

For Scott, it was a promise to his mom. For Jackson and House, it was promised to their

grandmothers. Joshua, who returned to school after a 40-year hiatus, credits the upbringing from his parents and the support of his wife and children — and a humorous desire to finish school before his grandchildren.

Familial motivations aside, they all each also pointed out that they simply “grew up.” They got older, they learned lessons in life, started families and enjoyed lucrative careers, they experienced that change.

A lifetime of experiences led each across the river, each traversing waters the others did not. And through those experiences, the opposite bank — that path to graduation — became clearer. With degrees now in hand, the goal that each laboriously strove to achieve has come to fruition.

Helping players give back

Former lacrosse player coordinates the giving arm of the Major League Baseball Players Association

Last spring, Major League Baseball players committed \$1.25 million to projects supporting people impacted by the coronavirus. Managing those efforts is Dennis Graham, '16 BA in education, a former Sun Devil lacrosse player. He's the program coordinator for the Major League Baseball Players Association Players Trust, the charity arm of the players' union.

Pledges include \$100,000 to provide COVID-19 hygiene products to people in Dominica, an island country in the Caribbean; \$1 million to help minor leaguers unable to play due to the pandemic, and \$150,000 to the charity Protect The Heroes, which supplies equipment to support health care workers treating coronavirus patients.

"We work for the players and support what they're passionate about," Graham says. "When they want to contribute to an organization, the trust will match that donation." Graham says of his dream job: "It combines my love of sports with my belief in giving back to the community. If you're in a position to help others and you have privilege, then you have an obligation to serve your community." — *Benjamin Gleisser*



Dennis Graham, '16 BA in education, with his sister, Marika Graham, at her graduation in 2018, also with a BA in education.



Tools for athletes to further their careers

Sun Devil Athletics has announced a partnership with brand marketing consultant and author Jeremy Darlow to help educate Sun Devil student-athletes on ways to develop and capitalize on their personal brand.

"This partnership, in tandem with our championship life curriculum, furthers our commitment to preparing our student-athletes for their career after college," says Vice President for University Athletics Ray Anderson.

Through the partnership, Sun Devil student-athletes will have access to "The Darlow Rules" program, which features short, easy to understand video-based lessons teaching athletes from every sport the fundamentals of brand development and communication.



Spencer Torkelson was the first round overall pick in this year's Major League Baseball draft.

Baseball

Historic draft sends Sun Devils to the major leagues

In a historic 2020 MLB draft this past June, several ASU Baseball players were picked in early rounds and drafted into the major leagues.

Spencer Torkelson was selected as the No. 1 pick by the Detroit Tigers, becoming the fourth ASU baseball player to go No. 1 overall in program history, easily an NCAA-high — two more than any other program. In addition, four other baseball players are headed to the major leagues:

- Alika Williams was chosen 37th overall by the Tampa Bay Rays.
- Trevor Hauver was selected in the third round with 99th overall pick by the New York Yankees.
- Gage Workman was selected by the Detroit Tigers in the fourth round, 102nd overall.
- RJ Dabovich also went into the fourth round, 114th overall, to the San Francisco Giants.

Explore more at thesundevils.com/sports/baseball.

ISTB7, shown here under construction at right, is designed to meet specifications for LEED Gold at a minimum. Learn more and see the webcam of the building's progress at cfo.asu.edu/ISTB7.

GROWING NEW HYBRID RESEARCH

Building for local and global futures

A new building to be completed on the Tempe campus in 2021, Interdisciplinary Science and Technology Building 7, is one of the many ways that ASU is preparing for the future. ISTB7 will be a high-performance research facility that will help foster an interdisciplinary approach to knowledge generation and leading-edge research across more than a dozen intellectual focal areas. The largest research building on the campus, it will be a hub for more than 550 faculty members and scholars distributed across all ASU campuses and representing many disciplinary, interdisciplinary and transdisciplinary areas dedicated to the future of our planet.

We customize. You could **save \$842.**¹

Arizona State University Alumni Association has chosen to partner with Liberty Mutual Insurance, so now you could save \$842¹ with customized auto and home insurance.



Teaming up with people you trust gives you the peace of mind you need to live life your way. Millions of people across the country trust Liberty Mutual to protect what's most important. Join them and take advantage of a special discounted rate on:



Auto Insurance

which includes Lifetime Repair Guarantee.²



Home Insurance

which includes Personal Property Replacement.³



Contact us for your customized quote.
1-888-680-5644

AUTO | HOME | RENTERS | UMBRELLA | MOTORCYCLE | CONDO | WATERCRAFT

¹Savings validated by countrywide survey of participating new customers from 3/1/2018 to 3/1/2019 who switched to Liberty Mutual and saved. Savings may vary. Comparison does not apply in MA. ²The 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. ³Not 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 12877362 This organization receives financial support for offering this auto and home benefits program. AFF686950-11 CW-AH 2019/09

Upskill, innovate and adapt

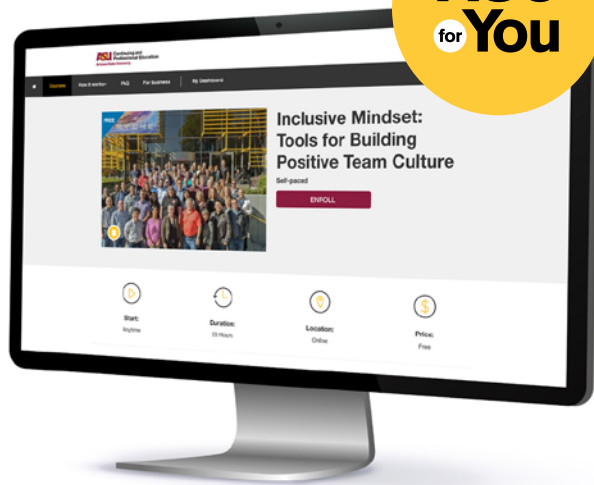


ASU for You is an ever-growing collection of remote, fully interactive tools for learners at any stage of life, including those already in the workforce.

Learn about team culture

The NASA Psyche Innovation Toolkit gives you strategies for working as part of a diverse team and techniques for developing a collaborative, inclusive mindset.

Free Online



ASUforYou.asu.edu

Boost your well-being

Earn a five-course wellness certificate from Mayo Clinic and ASU.

Free Online

