Arizona State University

Africa
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.

New American University

Arizona State University has become the foundational model for the New American University, a new paradigm for the public research university that transforms higher education. ASU is committed to excellence, access and impact in everything that it does.
Welcome

We are proud that ASU is the academic home of more than 440 students from Africa, and that the university has impacted the lives of more than 1,660 alumni from Africa.

We are committed to helping our students succeed — not just academically, but throughout their lives — and be prepared for a rapidly changing world where new careers are constantly evolving.

Our legacy of excellence in education grows because of the strengths of our award-winning faculty, who invest in collaborative, interdisciplinary and solution-focused approaches to research, education and entrepreneurship.

We look forward to working with you to empower the workforce and leadership of the 21st century through discovery and impact.

Warmest regards,

Stefanie Lindquist, JD, PhD
Senior Vice President of Global Academic Initiatives
Office of University Provost
Ntombizodwa Makuyana (Zimbabwe)
Biochemistry, BS

From Harare, Zimbabwe, Ntombizodwa wants to understand how the immune response fights against diseases and the development of new drug therapies. She also co-founded a project in Zimbabwe — Female Dreamers — with her friend, Mastercard Scholar Shantel Marekera, that empowers girls and women. Fostering quality education and poultry-rearing skills to support financial independence, their project won awards at ASU, including the Changemaker Award 2018, Venture Devils 2018, the Millennium Fellowship with United Nations Award 2018, and the Pitchfork Award 2019 for Global Change and Global Impact Project.

“I was inspired to dream bigger and exceed expectations. [My mentors’] unparalleled one-on-one mentoring helped me to shatter the glass ceilings and aim for the horizon. I felt included and appreciated, and that’s a huge reason why I love ASU.”
**Top ASU programs chosen by students from Africa in 2020**

- Computer science: 32
- Applied leadership and management: 17
- Global management: 17
- Biomedical engineering: 15
- Mechanical engineering: 13
- Electrical engineering: 12
- Materials science and engineering: 11
- Civil, environmental and sustainable engineering: 11
- Global logistics: 11
- Chemical engineering: 8

**102 total majors**

**92 Other majors**

(297 students)

The remaining 92 majors chosen by students from Africa range from architecture and construction management, geographic information science and robotics to film, international trade, and the science of health care delivery.

59 undergraduate students were in International Student Exchange.

**Lois Andoh** (Ghana)

Global logistics, MS

Lois and three other students in the Mastercard Foundation Scholars program formed a team that placed in the top two winners of the first Rutgers TEN Plus Supply Chain Innovation Challenge. Lois’ team, which included fellow scholars Samuel Gyan, Samuel Togodu and Asie Wadee from Ghana, presented ideas for electronic device manufacturer BetaWare, who sponsored the event, to innovate and add value to their customers. The W. P. Carey School of Business foursome believes their specialized master’s program equipped them with tools and skills to address the issues in the case.

“Through real-life projects, working with companies and addressing supply chain issues, I have learned adequate skills to start my career in the supply chain. This is a new beginning for me and I can’t wait to embrace the experience I am going to gain and the specific value I can contribute to global supply chains.”
Africa Rises
The purpose of this organization is to portray, promote and share modern African culture with the diverse ASU community and act as a platform to share a positive image of a continent wrongly portrayed by the media. This organization seeks to create ambassadors of the very distinct and diverse cultures and heritages of Africa, and serve as a source of information to those interested in learning more about the continent of Africa. This is a service-driven organization that aims to engage with the local community through community service, fundraising and other social opportunities.

The African Student Association
The African Student Association is an organization that was created out of the need for unity, camaraderie, fellowship and the desire to work together. The association is open to all who are interested in learning about and enjoying African culture. The African Student Association prides itself on creating a sense of community for students of African descent on campus and strives to educate its campus community on African-related topics. The association aims to be a social forum for all students of African descent as well as all students who are interested in sharing the African experience at ASU.

Black African Coalition
The Black African Coalition at ASU is an umbrella organization whose mission is centered around increasing the enrollment, graduation, and retention rates for Black and African American students. The coalition also acts as an advocate and support system for Black and African American students at ASU, in addition to supporting all of its member organizations. The coalition is dedicated to creating inclusive spaces at ASU.

Egyptian Student Association in North America
The Egyptian Student Association in North America is a registered nonprofit organization that aims to integrate the Egyptian student community in North America with the research and public community in North America, Egypt and worldwide. The association is the largest Egyptian student gathering outside Egypt, with more than 1,800 members and 37 local chapters throughout Canada and the U.S.

Susan Dacosta (Gambia)
Mechanical engineering, MS
Susan is the first college graduate in her family and part of the pioneering cohort of the ASU accelerated master’s program with Ashesi University in Gambia.

“Being a Mastercard Foundation Scholar is more of a responsibility than a privilege to me. I believe I have been chosen to be part of a family with a common vision to spearhead the changes we want to see in our mother continent Africa.”
Campus-based programs

ASU Mastercard programs

The Mastercard Foundation has invested in the Mastercard Scholars program at ASU since 2012. The first four cohorts selected for the program (120 scholars) represented 20 countries across the African continent. In 2016, ASU launched a second phase of the program, the Strengthening Institutional Linkages Initiative. This initiative provides 156 scholarships to four cohorts of students from Ghana over six years through international accelerated degree programs in a 3+1+1 format. A third project being developed by ASU’s EdPlus is a social learning network, the Baobab Scholars Platform, designed to support Mastercard’s 30,000 scholars and equip them to build upon their scholarship experiences and achieve impact across sub-Saharan Africa.

Baobab Scholars Platform

By 2023, the Mastercard Foundation will award full secondary and tertiary scholarships to 30,000 Mastercard Scholars, enabling them to study at partner institutions around the globe. To unite this community of scholars, ASU is developing Baobab, a social learning network that will link scholars with tools, resources and relationships that will support and equip them to build upon their scholarship experiences and achieve impact across sub-Saharan Africa. Baobab provides Mastercard Scholars continued learning opportunities and the enhanced ability to connect and collaborate with others toward common goals. The platform has a unique one-to-many mentorship model, whose mentors can engage directly with a few mentees and with the broader scholar community through curated experiences. Since its launch in October 2016, the platform actively engages 5,000 scholars across nine time zones and 27 institutions.

Mastercard Foundation Scholars Program

In 2012, ASU partnered with the Mastercard Foundation to expand education access to economically disadvantaged but academically talented young people across Africa through the establishment of the Mastercard Foundation Scholars Program. The grant supported four cohorts of scholars to pursue four-year undergraduate degrees and leveraged the university’s extensive resources to provide signature programming designed to support students’ transitions, leadership development and vision for giving back to their communities. The 120 scholars selected for the program represented 20 countries across the African continent. The first cohort of scholars completed their studies in May 2016 and the fourth cohort graduated in May 2019.

Strengthening Institutional Linkages

In 2016, ASU received an additional Mastercard Foundation grant, Strengthening Institutional Linkages, to support four cohorts, 156 scholars, from select partner institutions in Ghana to complete accelerated master’s degrees at ASU through the university’s 3+1+1 international accelerated degree program format. The scholars came from Kwame Nkrumah University of Science and Technology and Ashesi University. A key feature of the program is connecting ASU faculty members with their peers at the Ghanaian universities to mentor students. The partnership promotes mutual learning and collaborative research by facilitating exchange between faculty members from ASU, KNUST and Ashesi.
Campus-based programs

Mandela Washington Fellowship for Young African Leaders
ASU was selected in 2014 as one of the 20 leading U.S. universities to serve as an academic institute for innovators and leaders from sub-Saharan Africa. The Watts College of Public Service and Community Solutions leads the Young African Leaders Initiative of the U.S. Department of State. This fellowship will provide 700 outstanding young leaders aged 25–35 with opportunities to hone their skills in a six-week professional civic leadership and public management training institute.

Thunderbird SHARE Fellowship
The ASU Thunderbird School of Global Management SHARE Fellowship provides scholarships and mentorship to exceptional students from developing countries. The SHARE Fellowship ensures full tuition and expense money so its fellows can participate fully in campus life, take advantage of unpaid internships, and attend optional academic programs. Fellows also receive access to coaching and a global network of mentors who work one-on-one to help them obtain internships and full-time employment upon graduation.

Adil Mounir (Morocco)
Hydrosystems engineering, PhD candidate

With bachelor's and master's degrees in civil engineering, Adil joined the School of Sustainable Engineering and the Built Environment under the guidance of Assistant Professor Giuseppe Mascaro to pursue his doctorate. He is currently part of the Innovations at the Nexus of Food, Energy and Water Systems funded by the National Science Foundation. He is developing a model that can simultaneously evaluate the water and energy systems for the Phoenix metropolitan area. The goal is to implement this model to explore the effects of population growth as influenced by water and energy policies and management under a changing climate.

“During my undergraduate degree, I was introduced to the importance of water management in my home country, Morocco. I then found out that ASU has a number of professors who produced an impactful body of work related to simulating water availability in regions suffering from water scarcity. I wanted to learn firsthand from their expertise. Since I have joined ASU, I felt like I have been given all the tools necessary to investigate the water issues I am interested in.”
Naruro Hassan (Somalia)
History, undergraduate

Naruro is a refugee with an extraordinary story of survival, resilience and rediscovery that began in war-torn Somalia and, after long, trying chapters in a remote refugee camp in Kenya, is unfolding at ASU. She is majoring in history, minoring in philosophy and African studies, and has pursued certificates in religion and conflict and political thought and leadership, as well as a research internship. She founded the Somali Student Union at ASU and also works with the Humanitarian African Relief Organization, one of the largest groups aiding refugees and displaced people in Africa. Her goal is to become a human rights lawyer.

“\nWhen I got to ASU, it felt like a whole new chance in life. I want to be the voice for people who are marginalized, for the people who are left behind. Our freedom, our justice — it’s all interconnected. We have to look out for each other.\n”

Chalachew Seyoum (Ethiopia)
Evolutionary anthropology, PhD

Chalachew’s research interests include the evolution of early Homo, isotope geochemistry, habitat differences in the Plio-Pleistocene hominins, primate evolution and osteology. He has conducted multiple field studies with different research projects in Ethiopia, including the Ledi Geraru Research Project in Ethiopia. It was there that Chalachew and other members of the project discovered the oldest Homo specimen, dated 2.8 Ma (mega-annum or million years), a discovery that pushed back the origin of Homo by half a million years. He is now a postdoctoral researcher with the University of Missouri-Columbia.

“\nIt was an exciting moment. I had good experience in field surveying and knew where potential sediments are. I climbed a plateau and found this specimen right on the edge of the hill.\n”
Olivia Mulerwa (Rwanda)
Global Affairs and Management, MS
Human and Social Dimensions of Science and Technology, PhD candidate
Olivia graduated from the ASU Thunderbird School of Global Management in 2018 and currently works to support the school’s mission in Africa, as assistant director of international partnerships.

Prior to Thunderbird, Olivia was a Senior State Attorney and Head of Department at the Ministry of Justice in Rwanda. In that role, she managed key partnerships with United Nations Institutions, the Diplomatic Corps, International Nongovernmental organizations and others. During that time, she was the primary author of Rwanda’s first National Human Rights Policy, the second Universal Periodic Review report and several other country reports in compliance with the nine core UN Human Rights Conventions. She also represented Rwanda at various multinational meetings like the UN Human Rights Council, the Committee on Civil and Political Rights and the African Human Rights Commission. Olivia’s career has taken her to over eight countries and across four continents.

“I came to Thunderbird with the aspiration of having a global career, at Thunderbird I learnt what it means to be truly global.”

Youssef Selim (Egypt)
Marketing and supply chain management, BS
Youssef was recruited by ASU’s head diving coach Mark Bradshaw. In Cairo, Youssef had been a member of the Egyptian Swimming Federation and an Olympic diver. His goal is to earn his degree from the W. P. Carey School of Business and to represent Egypt in Tokyo for the 2020 Olympics. His teammates note that he is a good-natured ‘machine at practice and just keeps on grinding, even through adversity.’ When he graduates, he’ll return to Egypt to serve in the military.

“I came to ASU to pursue my goal for Tokyo 2020. That’s the highest goal for me so I’m working for that. It’s going to be great.”
Alumni

ASU alumni chapters
There are ASU alumni chapters in Egypt, Ghana, Liberia, Madagascar, Morocco and South Africa.

ASU Thunderbird alumni chapters
Thunderbird alumni chapters are active in Egypt, Ghana, Kenya, Nigeria, Tunisia and South Africa.

The African continent is #6 for international students attending ASU.

756
ASU alumni from Africa earned a degree between 2012 and 2020.

1,656
ASU alumni from Africa have graduated since 1981.

Charity Bhebhe (Zimbabwe)
Molecular biology and biotechnology, BS

Originally from Zimbabwe, Charity pursued her degree through Barrett, The Honors College as a Mastercard Foundation Scholar. She was also a research intern in the Biodesign Institute. Noted for her thirst for knowledge and “brain for soaking up scientific information,” Charity was awarded a Gates Cambridge Scholarship as she completed her studies at ASU. She is presently pursuing her doctorate in pharmacology at the University of Cambridge and will graduate in 2022. She investigates the mechanisms of hypersensitivity in gastrointestinal disease, which is a leading cause of child morbidity and mortality worldwide.

“There is a big international community at ASU, and that gave me an opportunity to work with people from diverse backgrounds. I became more accepting and open to learning about different cultures and trying new things.”
Alumni

Madit Deng Ring Yel (South Sudan)
Global affairs and management, MA

Madit, who is from Wunrok, South Sudan, plans to use his business degree and leadership skills to set up a reliable college preparatory program in Africa to connect promising students to education opportunities within and beyond their home countries. Madit was a Mastercard Foundation Scholar and SHARE Fellow, which is a scholarship and mentorship program for exceptional Thunderbird students from developing countries.

“The Mastercard Foundation Scholars Program gave me and others the opportunity to help younger people in South Sudan, and it will also help educate people in other parts of Africa. Having more citizens who are well-educated will aid countries’ economies and the daily lives of citizens there.”

Abdelhamid Hamouda (Libya)
English (linguistics), MA

Abdelhamid came to ASU on a Fulbright Scholarship in 2012. However, circumstances caused by the war in Libya required his return home. Immigration considerations further complicated his return to the U.S. Then, he lost his scholarship one month before completing his master’s degree as he worked with the International Committee of the Red Cross in his city. He reached out to his thesis advisors at ASU for help. The Department of English offered him a fellowship to cover his tuition while he completed his thesis remotely. To do his thesis defense online via Skype, he had to travel to Tunisia due to the intermittent internet in Libya. Hamouda has gone on to teach English with the University of Bengazi and the Higher Institute of Comprehensive Professions in Benghazi, Libya.

“I felt privileged to study with some of the finest linguists in the world at ASU. I cannot emphasize enough how grateful I am to the entire ASU community for standing by me and helping me finish my studies.”
Alumni

**Balanding Manneh** (Gambia)
Biological sciences, BS

Balanding, originally from Gambia, made much of his time at ASU. Aside from his degree in biological sciences with a concentration in genetics, cell and developmental biology, he earned the President William Jefferson Clinton Global Hunger Leadership Award, he started a nonprofit organization to assist women in farming in his native country, he spoke at a conference of TEDxASU innovators in 2018 and received the Outstanding Graduate Award. Now with the University of British Columbia, he completes his master’s degree in public health in 2020.

“For me, coming to ASU was a huge opportunity that has transformed my life. Besides the theoretical scientific knowledge I have acquired, my daily interaction with people from all over the world here at ASU has taught me so much. I learned there is always someone out there who has the solution or knows someone who has the solution to a problem you might encounter. This knowledge has significantly transformed the way I interact with people.”

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**Shantel Marekera** (Zimbabwe)
Criminal justice and law enforcement administration, BA
Justice studies, MS

A Mastercard Foundation Scholar and Barrett, The Honors College graduate, Shantel completed her bachelor’s and master’s degrees in four years at ASU. She was awarded a Rhodes Scholarship in 2019 to continue her studies at the University of Oxford, where she is now pursuing her JD. While at ASU, she founded the Little Dreamers Foundation, a subsidized preschool for low-income children in Zimbabwe, and co-founded the Female Dreamers Foundation with classmate Ntombizodwa Makuyana, which focuses on creation of jobs and helping parents of those children to be financially self-sufficient.

“As the current Global Peace Ambassador for Zimbabwe, I want to help create a culture of transparency and accountability to the law, as well as challenge existing practices against women.”
Alumni

**Mohamed Vall Ahmed** (Mauritania)
MBA

Mohamed was born in Mauritania, speaks Arabic, French and English, and chose Thunderbird School of Global Management when he read the school’s mission statement.

“When I read Thunderbird’s mission, ‘We educate global leaders who create prosperity worldwide,’ I immediately felt this was the school I was looking for; the school that would prepare me to make changes to the world and help in the sustainable development of my country.”

He received a SHARE Fellowship, a scholarship and mentorship program for exceptional Thunderbird students from developing countries. His long-term career goal is to create a management consulting company in West Africa to help companies improve their performance. He is presently a marketing science senior analyst with Critical Mass, a digital experience design agency in Canada.

“The great opportunity to network with alumni all over the world is a unique feature of Thunderbird that is unmatched by any other business school.”

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**Thato Seerane** (South Africa)
Counseling psychology, undergraduate

Thato is a Barrett, The Honors College graduate and Mastercard Foundation Scholar from South Africa. Thato’s honors thesis focused on understanding reading comprehension and using a game-based curriculum called iSTART to improve the learning experience for students in South Africa. Performing her research in South Africa was extremely important to Thato, and she conducted her thesis research in her hometown of Soweto. She’s gravitated toward the idea of combating the negative assumptions about mental well-being and creating awareness around its importance.

“I came to ASU knowing I wanted to be a counseling psychologist because of my experience in South Africa. I wanted to help victims of traumatic experiences like sexual assault. Choosing a psychology major was a way to equip myself with knowledge before trying to help others. I am passionate about improving the education system in South Africa.”
Partnerships in Africa

10
General collaboration agreements
University-to-university agreements seeking a broad variety of collaboration opportunities across both institutions.

8
International accelerated degree program (3+1+1) agreements
Dual degree plans of study to earn two degrees.

5
Memoranda of understanding
Signed agreements between universities in Kenya, Liberia and Ethiopia.

1
International accelerated degree program (2+1) agreements
Accelerated plans of study for master’s degrees.

University partners
1. Ashesi University
2. Gambella Teachers Education and Health Science College
3. Hassania Library in Rabat
4. Kenyatta University
5. Kwame Nkrumah University of Science and Technology
6. Pan Atlantic University
7. Stellenbosch
8. University of Eastern Africa Baraton
9. University of Liberia

Other institutions:
10. Danish Refugee Council
11. Ethiopian Orthodox Church Development and Inter-Church Aid Commission

African countries with agreements:
Ethiopia, Ghana, Kenya, Liberia, Morocco, Nigeria and South Africa
Thunderbird in Africa

ASU Thunderbird School of Global Management leadership

Sanjeev Khagram is the director general and dean of ASU’s Thunderbird School of Global Management and the Foundation Professor of Global Leadership and Global Political Economy. He is a world-renowned scholar and practitioner in the areas of globalization, transnationalism, leadership, strategic management, entrepreneurship, social enterprise, cross-sector innovation, public-private partnerships, inter-organizational networks, good governance, the global political economy, sustainable development, human security and the data revolution. He has worked extensively with global start-ups, corporations, governments, civil society groups, multilateral organizations, cross-sectoral action networks, foundations, professional associations and universities all over the world from local to international levels. He has lived and worked for extended periods in Brazil, India, Kenya, Mexico, Nigeria, South Africa, Thailand, Germany and the United Kingdom. Khagram is of Asian Indian heritage, a Hindu, and a refugee from Idi Amin’s Uganda, which brought him to the U.S. in 1973 via refugee camps in Italy.

Landry Signé is a world-renowned expert and award-winning professor of global politics. Born in Cameroon, he lived in Cameroon, France and Canada before coming to the United States. At ASU, Signé is the founding co-director of Thunderbird’s Fourth Industrial Revolution Initiative and Globalization 4.0 Initiative, and is respected worldwide for his grasp of the political economy of growth, sustainable development, governance, fragile and failed states, regional integration, and business in Africa. He is also a senior fellow in the Global Economy and Development Program at the Brookings Institution, a distinguished fellow at Stanford University’s Center for African Studies, chairman of the Global Network for Africa’s Prosperity and a World Economic Forum Young Global Leader. In addition to the initiative, he will teach courses on global business, world governance and disruptive technologies.

DreamBuilder for women entrepreneurs

DreamBuilder, a Thunderbird for Good’s program for training women entrepreneurs, was chosen as the central curriculum for the Academy of Women Entrepreneurs in the U.S. Department of State’s Bureau of Educational and Cultural Affairs global initiative. While this initiative will reach 2,000 women in 26 countries, Africa is a focus for the inaugural cohort and will include women from Ghana, Kenya, Nigeria, Rwanda, Senegal, Tanzania, Uganda, Zambia and Zimbabwe.

Thunderbird Regional Center of Excellence in Nairobi

The Thunderbird Regional Center of Excellence in Nairobi was established in February 2019 to bring the vast resources and expertise of Thunderbird’s more than 73 years as a leader in global leadership and management education to serve the needs of the African continent.

“Through a new international hub system, Thunderbird School of Global Management provides opportunities for understanding technology through knowledge and continuous collaboration.”

– Philip Thigo, Nairobi technology leader
ASU researchers received 63 grants totaling more than $22 million from sponsors in Africa, the U.S. and other regions. In addition, the Mastercard Foundation has pledged more than $59.9 million for three projects at ASU that support education and leadership in Africa: Mastercard Scholars, Mastercard Strategic Initiative and the Baobab Scholars platform.

More than 75 faculty and staff members from more than 20 colleges, schools, centers and institutes at ASU published articles, books and reports on topics and issues related to Africa, and led or supported projects based in the continent as well.

**2017–2020 papers co-authored by ASU and Africa researchers**

ASU faculty members have received 63 grants totaling more than $22 million.

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<tr>
<th>Field</th>
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<td>Engineering</td>
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<td>Physics and astronomy</td>
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<td>Environmental science</td>
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<td>Chemistry</td>
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<td>Earth and planetary sciences</td>
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<td>Other</td>
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Institute for Human Origins
One powerhouse pursuing work in Africa and other continents is ASU’s School for Human Evolution and Social Change and its Institute for Human Origins. The institute is one of the preeminent organizations in the world devoted to the science of human origins. Directed by Professor Bill Kimbel, Virginia M. Ullman Professor of Natural History and the Environment, its prominent researchers include 18 ASU faculty members who work internationally on 16 field sites, which include sites in Ethiopia, Kenya, Malawi, Morocco, South Africa, Tanzania and Uganda.

The institute was founded at ASU more than 30 years ago by ASU Foundation professor Donald Johanson, who discovered the 3.2-million-year-old fossil bones of a new species, Australopithecus afarensis, popularly known as “Lucy.” Lucy was called the “Queen of the Hominid Skeletons” by the journal Science, which reflects the scientific position of this discovery, often used as the yardstick by which every discovery in human origins science is measured.

Other pivotal discoveries made in Africa by Institute for Human Origins researchers include:

- A 2 million-year-old skull, the earliest known skull of Homo erectus in South Africa, the first of our ancestors to be nearly human-like in their anatomy and aspects of their behavior. Research findings were published in 2020 by an international team that included ASU Associate Professor Gary Schwartz.

- Pinnacle Point, site of ASU’s South African Coast Paleoclimate, Paleoenvironment, Paleoecology, Paleoanthropology project, has become one of the world’s most important localities for the study of modern human behavioral and cultural origins. Established by Foundation Professor Curtis Marean, scientists at this site have discovered the earliest evidence for symbolic behavior, complex pyrotechnology, projectile weapons, and the first use of ochre and foods from the sea.

- A fossilized lower jaw that pushes back evidence for the human genus, Homo, to 2.8 million years ago. The jaw predates the previously known fossils of the Homo lineage by approximately 400,000 years. The discovery was made in 2015 by President’s Professor Kaye Reed, Associate Professor Chris Campisano and then ASU graduate student Chalachew Seyoum, part of a field team working in the Ledi-Geraru research area in Afar, Ethiopia.
ASU’s Biodesign Institute addresses critical global challenges in health care, sustainability and security. Researchers work to translate discoveries from bench to bedside, from understanding cancer to personalized medicine and infectious disease. The Biodesign Institute created a saliva-based test for COVID-19, and the origins of the world’s first vaccine for Ebola in 2014 had its roots in a high-risk, plant-based therapeutic research program conducted at the institute.

Qiang Chen
Professor, School of Life Sciences and Biodesign Center for Immunotherapy, Vaccines and Virotherapy

Chen is a molecular biologist who specializes in developing novel human therapeutics and cost-effective vaccines in plants to combat infectious diseases, cancer and biological warfare reagents. His research aims to ameliorate diseases and improve human health, as well as to contribute new knowledge to the basic understanding of how gene expression and protein modification are regulated in plants. Among the disease targets he studies are West Nile virus, Dengue and Chikungunya virus, Zika virus, Ebola virus, and colorectal cancer.

Arvind Varsani
Associate professor, School of Life Sciences and Biodesign Center for Fundamental and Applied Microbiomics

Varsani works across ecosystems — from plants to animals, from the tropics to the Antarctic — with a strong focus on viral evolution and dynamics, and viral metagenomics. His research uses a combination of traditional virology, microscopy, molecular and cellular biology techniques in conjunction with modern techniques, including next-generation sequencing, synthetic biology and bioinformatics. One of his projects is with South African researcher Darren Martin. They have set up a worldwide collaborative network of scientists to study viral evolution through recombination, viral phylogeography and global viral movement patterns of the plant-infecting geminiviruses and nanoviruses. Their research was based in Africa and South America, but recently it has extended to include Asia-Pacific region. As a team, this group is attempting to identify drivers of viral emergence in plant ecosystems.
Featured faculty

**College of Global Futures**

The College of Global Futures’ three schools bring leaders together, including 500+ sustainability scientists, to develop practical solutions to environmental, economic and social challenges.

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**Arianne Cease**  
Associate professor, School of Sustainability  
Director, Global Locust Initiative

Locusts and grasshoppers have a long history of coexisting with humans, but outbreaks and their management continue to have devastating impacts on human livelihood and the environment. The Global Locust Initiative is designed to help researchers, international agencies, government organizations, agribusinesses and farming communities address and mitigate the effects of locust plagues and outbreaks. The initiative combines lab science, fieldwork and data modeling to help reduce locust outbreaks and the effects of plagues, with the goal to improve the well-being of farm communities and global sustainability. This initiative and its partners work to fundamentally change the way the world addresses locust plagues — collaborating across borders to manage pests and improve communities. The initiative’s current USAID project in Africa focuses in Senegal. Other projects are ongoing in Australia, China, Argentina, Bolivia and the United States.

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**Timiebi Aganaba-Jeanty**  
Assistant professor, School for the Future of Innovation in Society

Aganaba-Jeanty is an expert in space law and international governance. She is also the project lead for ASU’s Interplanetary Initiative Space Advisory project, designed to ensure diversity and inclusion, showcase talent and provide opportunities to students of African descent. In partnership with Space in Africa, the Lagos Court of Arbitration and the Outer Space Institute, the advisory project launched the 2020 Space Governance Innovation Contest. The contest challenges interdisciplinary teams of innovators who compete to address policy gaps in international space law and bring fresh ideas and perspectives to old and new governance problems of space.
Desi Usman
Associate professor, School of Social Transformation
Usman's research is in Nigeria. He is currently conducting ethnographic and archaeological research in the Niger-Benue Confluence, looking at settlement evolution, sociopolitical and economic organization, early European contact, and the nature of power relations prior to 1900. An anthropologist, Usman is also involved with developing undergraduate curriculums in history, anthropology and archaeology at the Kwara State University and the University of Ilorin in Nigeria.

Heather Switzer
Associate professor, School of Social Transformation
Switzer’s book, “When the Light is Fire: Maasai Schoolgirls in Contemporary Kenya” (University of Illinois Press 2018) uses qualitative data gathered through an ethnographic case study of Maasai schoolgirls’ perceptions of education and development in their everyday lives. The book is based on in-depth interviews with more than 100 Maasai girls ages 10–20 enrolled in nine rural co-ed government-run primary day schools in Kajiado County, Kenya and key adults in their lives, including 30 mothers and 30 teachers, along with 10 months of fieldwork observations. Switzer theorizes “schoolgirlhood” as a relatively new socio-cultural space that creates unprecedented opportunities for the negotiation of gendered and generational relations of power and new forms of regulation for Maasai girls who go to school.

Chouki El Hamel
Professor, School of Historical, Philosophical and Religious Studies
El Hamel specializes in West and Northwest Africa. His research interests focus on the spread and growth of Islamic culture and the evolution of Islamic institutions in Africa. He is particularly interested in the subaltern relationship of servile and marginalized communities to Islamic ruling institutions. His research into these relationships revolves around issues of power and class, slavery, race, gender, and social justice.
Souad T. Ali
Professor, School of International Letters and Cultures

A professor of Arabic literature and Middle Eastern and Islamic studies in the School of International Letters and Cultures, Ali is also the founding chair of the Council for Arabic and Islamic studies at ASU. A native of Sudan, Ali established the council to acknowledge the significant contributions of Arabic studies and Islamic civilization and cultures to the world both historically and in the modern age. The organization promotes cross-cultural understanding, multiculturalism, interfaith dialogue and diversity at ASU, as well as collaboration between ASU and groups throughout the Arab and Muslim worlds.

“Education — and education is the key word — to help people understand both cultures.”

Abba Gumel
Foundation Professor, School of Mathematics and Statistical Sciences

Gumel is actively involved in numerous science and technology capacity-building efforts within the continent of Africa, notably via the African Institute of Science and Technology project — a Pan-African project spearheaded by the Nelson Mandela African Institute of Science and Technology to build world-class centers of academic excellence in research and training in science and technology — the U.S.-African Biomathematics Initiative and the African Institute for Mathematical Sciences. He is a fellow of the Arizona State University-Santa Fe Institute Center for Biosocial Complex Systems, African Academy of Sciences and Nigerian Academy of Science.
Nathan Johnson
Assistant professor, Polytechnic School
Director, Laboratory for Energy and Power Solutions

Johnson and his team of researchers will bring stable power, clean water and an increased capacity to deliver health care to the Ayilo II Refugee Settlement in the Adjumani district of northern Uganda. The settlement serves more than 12,000 South Sudanese refugees and administers care out of a cement block building and tented structures. The new structure designed by ASU researchers will come in the form of a 40-foot shipping container converted into a self-sustaining clinic. The rapidly deployable, turnkey, off-grid, solar-powered medical clinic is part of a $2 million, four-part research project funded by the U.S. Office of Naval Research Defense University Research-to-Adoption program.

Crista Johnson-Agbakwu
Associate research professor, School of Social Work
Director, Office of Refugee Health in ASU’s Southwest Interdisciplinary Research Center

Johnson-Agbakwu is an obstetrician and gynecologist at Valleywise Health, where she is the founding director of the Refugee Women’s Health Clinic that addresses the medical needs of refugee women and girls in Arizona. She is also a clinical researcher and director of the Office of Refugee Health with the Southwest Interdisciplinary Center at ASU. She received the 2017 Jacque Steiner Public Leadership Award.

Tony Hu
Associate professor, School of Biological and Health Systems Engineering and the Virginia G. Piper Center for Personalized Diagnostics

The Eunice Kennedy Shriver National Institute of Child Health and Human Development awarded Hu $2.7 million to develop a new rapid tuberculosis test for children. He has partnered with Stellenbosch University’s Desmond Tutu Tuberculosis Centre in South Africa to test blood samples from infected patients. Currently, South Africa has one of the highest rates of tuberculosis in the world. The grant aims to validate and develop a quantitative model for active TB in which they could potentially test the effectiveness of treatment and blood at various time intervals throughout treatment.
Featured faculty

New College of Interdisciplinary Arts and Sciences

Duku Anokye
Associate professor, School of Humanities, Arts and Cultural Studies
Director, New College International Initiatives and the Office of Interdisciplinary Global Learning and Engagement

A sociolinguist, Anokye’s research focuses on African diaspora orality and literacy practices, folklore, discourse analysis, and oral history with a specialization in Ghanaian culture, religion, storytelling and dance. As director of New College’s international initiatives, she also supports student internships with agencies working with victims of human trafficking and refugees seeking asylum. Students volunteer 60 hours with a local organization working to combat human and sex trafficking. Students then work an additional 75 hours in Ghana with a nongovernmental organization, Challenging Heights, while also continuing with their ASU courses via Canvas and Zoom.

Walter Cronkite School of Journalism and Mass Communication

Dawn Gilpin
Associate professor, Walter Cronkite School of Journalism and Mass Communication
Barrett, The Honors College

Gilpin and graduate student Rian Bosse are leading the Narrative Geographies of Coronavirus project. The production and consumption of media narratives are geographically and culturally situated phenomena, as is the act of reading and interpreting scientific information. This research examines the ways in which contextual factors influence the construction and reception of narratives and counter narratives amidst the global health crisis of the coronavirus pandemic. They will work to identify patterns based on semi-structured qualitative interviews with media professionals and scholars in at least 23 countries, primarily in the global south. Among those interviewed are past Humphrey Fellows and Study of the United States Institutes scholars. Data has been collected from South Africa and Zambia, with more contacts from African countries proposed.

The interviews explore topics such as institutional trust and vulnerability to malicious or conspiratorial narratives. The study also examines the impact of preexisting cultural and political relationships with neighboring countries and how the pandemic might be reasserting or reinforcing dominant power structures in relation to migrant labor and refugee populations.
Preparing the next generation of African leaders

The Watts College of Public Service and Community Solutions at ASU takes part in the Young African Leaders Initiative’s Regional Leadership Center program, a network of four centers serving as regional hubs across the continent of Africa to encourage transformational learning and enhance leadership skills. For the past year, ASU faculty have traveled to the East Africa Regional Leadership Center in Nairobi, Kenya, every month to deliver civic leadership courses in person as well as online. The center serves 14 countries in East and Central Africa.

A political scientist, Aubrey does community-embedded work related to reconnecting peoples of the African diaspora to their heritage lands of Cameroon, Nigeria and Ghana. She is also a key player in ASU’s prestigious Mastercard Foundation Scholars program. She involves ASU students in her work, which brings to life historical knowledge of forgotten slave trade sites in Cameroon and links slave ship records to current family history research. She was a Fulbright U.S. Scholar at the University of Yaounde I in Cameroon in 2014 to 2015 studying the transatlantic slave trade. With her students, Aubrey was able to trace almost 200 enslavement ships that left Cameroon territory bound for more than 30 countries. In her publication, “Sankofa to Bimbia, Cameroon: Little Known and Largest Site of Transatlantic Slavery in Africa Exposed,” Aubrey offered a scholarly and personalized journey of tracing roots and reconnecting to Africa. The study also examined the importance of Bimbia in the last presidential election in Cameroon in October 2018, on the eve of the 400-year commemoration of transatlantic slavery in the U.S.
Student exchange programs

ASU in Tanzania HIV/AIDS and Public Health Education

Service-Learning Internship

This internship program is managed by HEAL International, a nonprofit organization founded in 2007 by Damien Salamone and Bertram Jacobs, both professors with ASU’s School of Life Sciences. The organization provides study abroad and research opportunities. Students are involved in community engagement and public health: educational, cultural and service experience in Tanzania such as capacity-building in rural public health and teaching public health lessons.

East African Endeavors in Community Engagement and Health Development

ASU’s Edson College of Nursing and Health Innovation faculty partner with University of Eastern Africa, Baraton to provide an immersive experience centered on community engagement and health development. The UEAB has a significant international student body with students from up to 20 countries, which provides ASU students with valuable learning experiences. The purpose of integrating UEAB and ASU students is to facilitate peer-to-peer intercultural discussions on course topics. This program combines didactic and experiential learning in the field.

The Role of Tourism and Park Management in Sustainable Community Development in Kenya

This program blends together all that the country of Kenya has to offer, from the great migration through its Serengeti plains to its white sand beaches along the Indian Ocean, with academic experiences that will change students’ lives forever. Through the lens of sustainable tourism and park management, students will learn how they can play a part in solutions to pressing sustainability issues. Students will receive lectures from professors at Kenyatta University and officials from Kenyan Wildlife Service while helping with some of the ongoing community projects.
Hadar Paleoanthropology Field School, Ethiopia
The Institute of Human Origins and the School of Human Evolution and Social Change offer a field school in paleoanthropology at Hadar, Ethiopia. Hadar is home to the world-renowned Lucy skeleton and one of the richest areas in the world for fossil remains of our ancient human ancestors. Fossils of the species Australopithecus afarensis have been recovered from the time period 3 to 3.4 million years ago, including the skeleton of Lucy. Early Homo remains are associated with Oldowan stone tools in Hadar sediments older than 2.3 million years. The five-week-long field school offers undergraduates the unique opportunity to work alongside ASU faculty in recovering some of the oldest fossil and archaeological evidence of our evolution on the continent of our birth.

Preparing the next generation of African leaders
Young African Leaders Initiative Regional Leadership Center in East Africa
The Watts College of Public Service and Community Solutions at ASU takes part in the Young African Leaders Initiative Regional Leadership Center program, a network of four centers serving as regional hubs across the continent of Africa to encourage transformational learning and enhance leadership skills. For the past year, ASU faculty have traveled to the East Africa Regional Leadership Center in Nairobi, Kenya every month to deliver civic leadership courses in person as well as online. The center serves 14 countries in east and central Africa.

Expanding access to education
Collaborations with Kenyatta University (Kenya)
ASU and Kenyatta University signed a collaboration agreement in July 2018. This followed a symposium attended by faculty and leaders from both institutions. The agreement expands academic and nonacademic collaboration with Kenyan partners, pursuing research in the area of disability studies and humanitarianism.

Education for Humanity (Eritrea, Ethiopia, Kenya, Rwanda, Uganda)
The Education for Humanity initiative leverages the educational resources and digital strengths of ASU to extend education access to more than 2,000 refugees and communities in eight countries affected by displacement. The initiative focuses on the distribution of digital tools in a blended learning model to enable admission to the university and proof of academic and workplace readiness. The program seeks to work in close collaboration with both local partners and implementing organizations to offer a comprehensive and holistic learning ecosystem that addresses the critical barriers refugees face when trying to pursue a degree.

Fostering economic development
GlobalResolve program (Ghana and Kenya)
GlobalResolve connects ASU students to local communities to design solutions that help relieve the effects of poverty in impoverished nations. Students can create business ventures from the solutions and aid in the sustainable economic development of underserved communities. Since 2006, GlobalResolve has expanded partnerships and projects in
13 countries across the continents of Asia, Africa, and North and South America. Projects include the development and installation of an ethanol gel fuel production plant in Ghana and a Maasai-owned auto repair facility with a training curriculum in Kenya.

Promoting sustainability

**Household Water Insecurity (Ethiopia)**
Researchers at ASU’s Center for Global Health co-led the Household Water Insecurity Experiences Research Clinical Network, a consortium of 19 universities that have collaborated to develop the HWISE Scale, the first-ever tool to reliably compare household water access across diverse international settings. The HWISE network worked across 28 sites in 24 countries and more than 8,000 households to create, implement and validate the tool’s survey research questions. The HWISE Scale enables rapid access to actionable data for water insecurity-related development interventions and policy change. ASU researchers are using the tool to unravel the complicated relationships between food and water insecurity and health, as well as develop longitudinal studies in partnership with research institutions in Ethiopia. The HWISE network is currently partnering with USAID’s Demographic and Health Surveys Program to implement the HWISE Scale to provide the first standardized picture of global water insecurity.

**Ngogo Chimpanzee Project (Uganda)**
The Ngogo Chimpanzee Project, co-directed by ASU Professor Kevin Langergraber, is a long-term field project devoted to the scientific study and conservation of the Ngogo community of chimpanzees living in Kibale National Park, Uganda. Ngogo is the largest known chimpanzee community, and much of the research there has focused on explaining the ecological reasons for this unusual demographic situation and its influence on chimpanzee behavior. The project also employs a team of local Ugandans who work alongside local law enforcement officers (Uganda Wildlife Authority) to collect snares and curtail illegal hunting within the park. Additionally, the project uses available funds to grant scholarships for Ugandan graduate students to research Ngogo during their postgraduate training through Makerere University in Kampala. Langergraber also takes part in local conservation-focused events such as U.N.I.T.E. for the Environment and others organized by local NGOs.

Advancing health innovation

**Adoption of HIV-related technology (Tanzania)**
ASU staff and students work toward determining what barriers might prevent the adoption of HIV/AIDS prevention and treatment in Tanzania. The project involves meeting with various local stakeholders working in Northern Tanzania to assess priorities and willingness to adopt a new HIV viral load test. ASU also created a private Google map to dynamically plot the location of HIV clinics in the area. In partnership with nonprofit HEAL International, founded by ASU’s School of Life Sciences faculty members, faculty and students travel to Tanzania to teach basic public health and HIV/AIDS prevention. ASU will continue to work with local medical professionals to gather information on patients’ adherence to the newly introduced treatments.
**Burundi women's health study (Burundi)**
In partnership with the Refugee Women’s Health Clinic of Valleywise Health, this project advances knowledge about health issues faced by women survivors of war who are either internally displaced, affiliated with ex-combatants or repatriated returnees. The long-term goal of this health education initiative is to reduce health disparities through culturally and gender-specific health interventions sustainable in the urban and rural communities of Burundi. Using a community-based participatory research approach, the program focuses on several culturally sensitive dimensions of wellness (spiritual, mental and physical) important for health behavior.

**Medical care off the grid (Uganda)**
Professor Nathan Johnson and his team of researchers will bring stable power, clean water and an increased capacity to deliver health care to the Ayilo II Refugee Settlement in the Adjumani district of northern Uganda. The settlement serves more than 12,000 South Sudanese refugees and administers care out of a cement block building and tented structures. The new structure designed by ASU researchers will come in the form of a 40-foot shipping container converted into a self-sustaining clinic. The rapidly deployable, turnkey, off-grid, solar-powered medical clinic is part of a $2 million, four-part research project funded by the U.S. Office of Naval Research Defense University Research-to-Adoption program.

**Needs assessment and efficacy trial (Kenya)**
In partnership with the African Institute for Children Studies in Nairobi, Kenya, the Global Center for Applied Health Research and the Center for Child Well-being are facilitating community needs assessment and an efficacy trial of a prevention program. The project begins with a community needs assessment to identify and better understand substance use behaviors, attitudes and resistance strategies among adolescents in Nairobi, Kenya. The goal of this project is to understand perspective of adolescents in Kenya to help inform a future effective and evidence-based prevention intervention for this age group. The second phase of the project is to test the efficacy of the school-based drug prevention program to inform potential cultural adaptation of the program and examine whether desired outcomes of the program are related to the social-emotional well-being of youth participants.

**Conserving and understanding history**

**Hominin Sites and Paleolakes Drilling Project (Ethiopia and Kenya)**
The Hominin Sites and Paleolakes Drilling Project, funded in part by the National Science Foundation’s Frontiers in Earth Systems Dynamics Award, is a multinational research effort led by the University of Arizona, ASU and 22 other institutions. The project aims to fundamentally transform the debate concerning how environmental dynamics at global, regional and local scales may have shaped hominin evolutionary history. The project has collected approximately 2,000 meters of lake sediments from key localities in Kenya and Ethiopia to vastly improve the understanding of the paleoenvironmental and paleoclimatic context of human evolution.
Regional North Africa

Promoting scholarly exchange and collaboration

Historic roles of the Maghreb region
The Center for Maghrib Studies at ASU produces knowledge and understanding of the Maghreb region, which consists of North African countries west of Egypt. The center focuses on the historic roles of the Maghreb society over the centuries to increase understanding of and insight into this understudied and pivotal region. The center has a pedagogical mission to promote educational innovation, research and dialogue between the U.S. and the Maghreb region. Their goals are implemented through conferences, newsletters and collaborations with scholars and institutions of learning in the U.S. and North Africa.

Sustainability

Feed the Future of Egypt, Food Security and Agribusiness Support
ASU partnered in 2015–2020 with the Cultivating New Frontiers in Agriculture nonprofit organization to conduct cost benefit analyses, develop methodology and track on-farm net present value indicators for the Feed the Future of Egypt, Food Security and Agribusiness Support program. The program’s goal is to increase incomes and improve food security for at least 14,000 Egyptian smallholder farmers across seven locales by 2020. The expected impact includes a 12% annualized increase in incomes and up to 50% of increased yields in selected crops, such as basil. ASU’s project was initiated by Rajesh Buch, the director of sustainability practice with ASU’s International Development.
Region
North Africa

Sustainable Cities workshop in Cairo
The National Science Foundation funds more than 22 workshops on sustainable urban systems. This workshop was funded by the NSF’s Office of International Science and Engineering through a grant to the University of Alabama Birmingham’s Sustainable Smart Cities Research Center and sponsored by the Egyptian Housing and Building Research Center and Alexandria University. Participants came from ASU, Georgia Tech, MIT, UC Berkeley, and UAB in the U.S., Canada, U.K., Germany (German International Cooperation Program in Egypt), and several Egyptian universities, governmental, and nongovernmental organizations. The products of each working group were potential collaborative proposals.

Expanding access to education

Higher Education Partnership — Morocco
Partners will support Morocco faculty in designing and piloting a comprehensive systems approach to primary teacher preparation that bestows a license in primary teaching, and associated yearlong preparation in pedagogy and one-year apprentice teaching qualifications. The degree is offered by ASU’s Mary Lou Fulton Teachers College and will reference international standards in inclusive education, and will pay particular attention to gender equity. The principal investigator leading this $5 million USAID-funded program is Associate Professor Nicole Thompson.

Preparing the next generation of leaders

Leadership Through Problem-based Learning Initiative (Egypt)
Peter Rillero, associate professor of science education at ASU, created the Leadership Through Problem-based Learning Initiative, a grant-funded STEM (science, technology, engineering and mathematics) program to teach high school girls to solve complex problems involving biology and physics. The program is available to young women at Xavier College Preparatory, a private Catholic high school in Phoenix, and Al Farouk Islamic Language School in Cairo to work together through virtual, collaborative, problem-based learning in science. The students communicate virtually through WhatsApp, Dropbox and social media websites like Facebook. For both physics and biology classes, each student partners with one or two girls from the other country to solve real science problems.

Stevens Initiative
The Stevens Initiative is an international effort to build career and global competence skills for young people in the U.S., the Middle East and North Africa by growing and enhancing the field of virtual exchange: online, international and collaborative learning. It prioritized virtual exchange projects that focused on science, technology, engineering and math (STEM); projects that are rooted in hands-on learning; projects that support the education of refugees across the MENA region; and projects that propose an in-person exchange to complement the virtual learning experience.
**Student exchange programs**

**Ancestors, habitats and changing climates of South Africa**
South Africa has much to offer about how humans from the present and the past are linked through their relationship to the environment. In this program, students conduct research for the Hominins and Habitats Project, visit ancient fossil localities and see the actual fossils. Cultural immersion activities include exploring how migrations and colonization created strife, marginalization and apartheid, and examining struggles against the apartheid government through an understanding of the life of Nelson Mandela.

**Sustainability challenges of the wildlife economy in South Africa**
This unique program will immerse students in the social, cultural, environmental and economic conflicts and opportunities in and around Kruger National Park, associated with the government’s wildlife economy policies, from both sustainability and conservation biology perspectives.

**Sustainability, wildlife and conservation in the Okavango Delta (Botswana)**
This unique study abroad program is offered in cooperation with the PLuS Alliance, a consortium of ASU, University of New South Wales Sydney and King’s College London. ASU students will be joining students and faculty from these leading global universities as well as from the University of Botswana. This is an interdisciplinary experience centered on water resource management that takes place in the Okavango Delta near Maun, Botswana. The delta is one of the last free-flowing river systems in the world and is designated as a UNESCO World Heritage site. The complex dynamics among social, economic and environmental issues provide students an unparalleled opportunity to study sustainability, community development, tourism and transboundary river management.
Expanding access to education

Global Sport Institute exchange
(South Africa)
ASU’s Global Sport Institute, established in 2018 to bring diverse disciplines together to examine critical issues impacting sport, partners with South Africa’s Stellenbosch University. The institute works with Stellenbosch’s Centre for Human Performance Sciences to exchange faculty and research staff, jointly develop research programs and projects, and explore opportunities for student exchanges, professional and academic events, and other areas of interest or collaboration.

Strengthening Higher Education Access in Malawi
The Strengthening Higher Education Access in Malawi Activity is an ASU-led partnership with five Malawian universities, supported by a $9.5 million grant from USAID and led by ASU’s Associate Professor Samuel DiGangi. The effort aims to transform higher education in Malawi and promote local ownership through a “radical collaboration” model that ensures long-term sustainability and impact. The program improves post-secondary education access through technical assistance in the uptake of innovative technologies and mentoring in instructional design to improve the scale and impact of distance learning. The program prioritizes the needs of Malawi’s most vulnerable students, including adolescent girls, young women and people with disabilities, and creates new employment pathways for students.

Fostering economic development

Financial literacy experiment
(Mozambique)
In collaboration with the Mozambique Ministry of Agriculture and the World Bank, ASU seeks to determine whether consultants can help communities with their investment and savings goals. Through the study, ASU research faculty will implement a randomized control trial to examine whether a financial literacy program combined with follow-up consulting visits from Ernst and Young inclines communities to achieve successful matching grant applications.

Promoting sustainability

ASU Environmental Humanities Initiative
Directed by President’s Professor Joni Adamson, the Environmental Humanities Initiative and the Institute for Humanities Research at ASU are collaborating with the University of Texas Humanities Institute in a grant awarded by the Consortium of Humanities Centers and Institutes. The grant, funded by the Andrew W. Mellon Foundation, is for the purpose of conducting a Global Humanities Institute in summer 2021 on climate justice and problems of scale. The institute will also advance the ongoing work of humanities faculty at the University of Pretoria and ASU, who are researching ways to increase food sovereignty and ensure climate justice in two distinct regions in the “global south” and “global north.” In South Africa, this work includes working around drought-resistant crops.
Region
Southern Africa

Coastal City Adaptation Project (Mozambique)
Chemonics International, a global development company, tapped anthropologists from ASU’s School of Human Evolution and Social Change to help with its five-year, USAID-funded effort called the Coastal City Adaptation Project. The ASU researchers were brought in to help find smarter, more cost-effective research methods that allow development professionals to track how communities are understanding and responding to projects in real time and provide opportunities for quick iterations. CCAP aims to help neighborhoods preserve nearby mangrove forests, which protect against erosion and encourage the construction of climate-smart homes and latrines, built high off the ground to prevent typhoid and cholera spread after a flood.

Okavango Delta river management (Botswana)
In 2018, students participated in an inaugural study abroad trip to a critically important ecosystem with some of the top experts in the world. Through a new immersive three-credit research course titled “Intersection of Water, Ecosystems and Governance,” students traveled to the Okavango Delta in Botswana to study aquatic ecosystems, ecology, management and tourism. The course is a new project of the PLuS Alliance, a partnership between ASU, King’s College London and the University of New South Wales Sydney in Australia. The experience will include students and professors from the University of Botswana.

Reducing scarcity through irrigation monitoring (Mozambique)
In collaboration with the Mozambique Ministry of Agriculture, the World Bank, and Hydrosolutions, Assistant Professor Valerie Mueller in the School of Politics and Global Studies and other ASU researchers developed a two-year pilot study to understand water use practices and develop water conservation techniques for farmers. Researchers developed monitoring protocols to collect daily water measurements and identify where there was waste. This data is then used to inform farmers where they can apply relatively less water, benefiting those who face regular water shortages.

Advancing health innovation

Hearing for Humanity (Malawi)
Hearing for Humanity is an ASU program created to provide sustainable humanitarian audioligic and rehabilitative services in Malawi, and clinical training abroad for undergraduate and graduate students in ASU’s College of Health Sciences studying speech and hearing science. Since its inaugural trip in 2010, Hearing for Humanity has conducted annual one-month missions to Malawi, typically in June.

Tuberculosis diagnostic test in children (South Africa)
The Eunice Kennedy Shriver National Institute of Child Health and Human Development awarded ASU researcher Tony Hu $2.7 million to develop a new rapid tuberculosis test for children. Hu, an associate professor in the School for Biological and Health Systems Engineering and the Virginia G. Piper Center for Personalized Diagnostics at ASU, has partnered with Stellenbosch University’s Desmond Tutu Tuberculosis Centre in South
Africa to test blood samples from infected patients. Currently, South Africa has one of the highest rates of tuberculosis in the world. The grant aims to validate and develop a quantitative model for active TB in which they could potentially test the effectiveness of treatment and blood at various time intervals throughout treatment.

**Conserving and understanding history**

**Hydrogen Epoch of Reionization Array (South Africa)**

As a part of a $10 million grant from the National Science Foundation, ASU is participating in an international experiment to explore the first billion years of the universe, a period when hydrogen gas collapsed and led to the ignition of stars and galaxies throughout the universe by utilizing HERA, a radio dish array aimed at the southern sky near Carnarvon, South Africa. The international collaboration is led by the University of California, Berkeley and other partners include Brown University; Massachusetts Institute of Technology; Square Kilometer Array (South Africa); University of California, Los Angeles; University of Cambridge and the University of Pennsylvania. Other collaborators in South Africa include the University of KwaZulu-Natal in Durban, University of Western Cape in Cape Town and Rhodes University in Grahamstown.

**Drivers and consequences of climate-induced migration in sub-Saharan Africa**

Funded by the National Institutes of Health, Professor Valerie Mueller’s project examines the climate determinants of internal migration in eight African countries and the socioeconomic implications of environmental migration in receiving areas. Mueller will look at migration and employment data from 23 censuses, as well as geospatial data on climate, night lights and vegetation to quantify the socioeconomic consequences of climate refugees.

Mueller is an agricultural economist in the School of Politics and Global Studies at ASU. Her research broadly focuses on the drivers and consequences of internal migration, paying special attention to the role of climate change in these relationships. She is also involved in ongoing field experiments aimed to improve the delivery of rural services in Africa. Prior to ASU, Mueller spent a decade at the International Food Policy Research Institute working on policy-relevant research in several African and Asian countries.
**Region West Africa**

**Student exchange programs**

**Human trafficking (Ghana)**
This hybrid course and internship offered by the New College of Interdisciplinary Arts and Sciences requires students to volunteer 60 hours during the semester at a local organization that works to prevent human and sex trafficking. Students also work directly with a Ghanaian NGO, Challenging Heights, to provide assistance to women and children who have been victims of sex and child labor abuses. This program offers opportunities for students to attain a skill set that will allow them to be advocates for such victims as well as prepare themselves for a world that needs to address this important work.

**International Accelerated Degree Programs**
ASU works with leading international partner universities to offer 3+1+1 IADP that allow motivated students to earn undergraduate degrees from their home universities and complete an accelerated one-year master’s degree at ASU. The Thunderbird School of Global Management and Ira A. Fulton Schools of Engineering established collaborative degree programs with Ashesi University and Kwame Nkrumah University of Science and Technology in Ghana. The W. P. Carey School of Business is partnered with Nigeria’s Pan-Atlantic University for one IADP program.

**University Studies Abroad Consortium: Summer in Accra, Ghana**
The University of Ghana at Legon is considered one of Africa’s top universities. Students attending the university can study a wide range of subjects, including courses within its highly regarded Institute of African Studies. The USAC summer program allows students to study in Accra for one or two summer sessions, during which time they can explore diverse cultural and historical sites and experience Ghanaian arts, dance and music through courses and local festivals.
Politics, culture and society (Ghana)
This program combines three-week intensive classroom instructions (by local professors and ASU faculty) at the University of Ghana, Legon with four-week internships with local researchers and faculty or placement in government, private sector, NGO programs, depending on students’ interests.

Sustainable energy in sub-Saharan Africa
The Crozier Research Group at ASU provides opportunities for students to visit sub-Saharan African countries to learn about the design and development of appropriate and sustainable energy technologies. This exchange program provides mutually beneficial opportunities to compare and contrast energy-related research in developing countries with research activity in the U.S. Students gain a unique and global perspective on energy issues and have opportunities to initiate and develop research initiatives. This activity is sponsored by a National Science Foundation-funded program entitled Research Collaboration Network: Sustainable Energy Systems.

Pan-African Materials Institute (Nigeria)
The African University of Science and Technology Abuja is a Pan-African research university that hosts the Pan-African Materials Institute, an Africa Center of Excellence with a focus on materials science and engineering. The institute’s goal is to use science and technology to add value to the abundant materials and mineral resources in Africa, yet it lacks the human capital to do so alone. With 17 partners, including ASU, the institute will engage in training and research on materials science engineering relevant to African development. The institute expects to graduate more than 50 PhD candidates, 200 master’s degree students and 1,000 people with 40 contact hours in hands-on skills that are convertible into products and services.

Expanding access to education
ASU and Liberia partner to strengthen educational ties
In October 2016, ASU President Michael Crow and Liberian Vice President Joseph Bokai signed a memorandum of understanding to strengthen educational and political ties between ASU and the African nation, which is rebuilding its infrastructure and educational systems after a 14-year civil war and an Ebola outbreak in 2014. The MOU allows Liberian and ASU students to attend college in both countries as well as enables the exchange of faculty members interested in global development.

SolarSPELL (Comoros, South Sudan, Ethiopia)
SolarSPELL is a ruggedized, portable, solar-powered digital learning library. Making use of open educational resources and smaller, more efficient technology, SolarSPELL provides an all-in-one, self-powered plug-and-play kit, ready to be deployed with minimal training or maintenance required for start-up and continued operation. Designed and built by ASU faculty and students and led by Associate Professor Laura Hosman in the School for the Future of Innovation in Society at ASU, SolarSPELL provides relevant, localized educational content to assist Peace Corps volunteers and resource-constrained communities around the world. SolarSPELL has initiatives in southeast Asia, Rwanda, Uganda, Comoros, Ethiopia and South Sudan.
**Region**

**West Africa**

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**Fostering economic development**

**Center for Applied Research and Innovation in Supply Chain-Africa**

With a $15 million investment from U.S. Agency for International Development, ASU is embarking on a catalytic partnership with the Kwame Nkrumah University of Science and Technology and multiple public and private sector partners to establish the Center for Applied Research and Innovation in Supply Chain-Africa and advance research, translation and training in supply chain management. The CARISCA center at KNUST is envisioned as a globally recognized, locally owned hub for generating and translating innovative research into positive development outcomes for Ghana and Pan-African supply chains, driving self-reliance and increasing the impact of USAID investments. The CARISCA project leverages ASU’s world-class supply chain expertise and multidisciplinary experience in international research projects. Dale Rogers, ON Semiconductor Professor of Business in the Department of Supply Chain Management at ASU’s W. P. Carey School of Business and director of the Frontier Economies Logistics Lab, is the principal investigator and executive director for the five-year project.

**DreamBuilder for women entrepreneurs**

DreamBuilder, a Thunderbird for Good’s program for training women entrepreneurs, was chosen as the central curriculum for the Academy of Women Entrepreneurs in the U.S. Department of State’s Bureau of Educational and Cultural Affairs global initiative. While this initiative will have a global reach, impacting 2,000 women in 26 countries, Africa is a focus for the inaugural cohort and will include women from Ghana, Kenya, Nigeria, Rwanda, Senegal, Tanzania, Uganda, Zambia and Zimbabwe.

**GlobalResolve program (Ghana and Kenya)**

GlobalResolve connects ASU students to local communities to design solutions that help relieve impoverished nations. Students can create business ventures from the solutions and aid in the sustainable economic development of underserved communities. Since 2006, GlobalResolve has expanded partnerships and projects in 13 countries across the continents of Asia, Africa, and North and South America. Projects include the development and installation of an ethanol gel fuel production plants in Ghana and a Maasai-owned auto repair facility with a training curriculum in Kenya.

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**Promoting sustainability**

**Improving the social and economic impact of energy investment (Sierra Leone)**

The collaborative project initiated in Sierra Leone by Clark Miller, a professor in the School for the Future of Innovation in Society, investigates strategies to enhance the social value of energy and incorporate translation of energy use in energy planning. This helps Sierra Leone’s energy sector pursue projects that promote sustainable development and thriving communities.
**Region**

**West Africa**

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**Global Locust Initiative**
Locusts and grasshoppers have a long history of coexisting with humans, but outbreaks and their management continue to have devastating impacts on human livelihood and the environment. The Global Locust Initiative is designed to help researchers, international agencies, government organizations, agribusinesses and farming communities address and mitigate the effects of locust plagues and outbreaks. The initiative, led by Arianne Cease, assistant professor in the School of Sustainability, combines lab science, fieldwork and data modeling to help reduce locust outbreaks and the effects of plagues, with the goal to improve the well-being of farm communities and global sustainability. This initiative and its partners work to fundamentally change the way the world addresses locust plagues — collaborating across borders to manage pests and improve communities. The initiative’s current USAID project in Africa focuses in Senegal. Other projects are ongoing in Australia, China, Argentina, Bolivia and the United States.

**Resource Innovation and Solutions Network Nigeria**
In 2014, Nigerian leaders turned to ASU and the city of Phoenix’s Resource Innovation and Solutions Network to improve Lagos’ sanitation infrastructure by establishing RISN Nigeria, the first international hub of the network. The program accelerates the transition to a circular economy through a global network of public, private and NGO partners. RISN Nigeria is housed in the Sustainability School in Lagos, harnessing the knowledge of local and global academics, practitioners, consultants and students who will help inform Lagos’ waste solutions.

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**Advancing health innovation**

**International Fellows Program and Adolescent Substance Use Prevention (Kenya, Nigeria, South Africa)**
A drug prevention program based on scientific data and respect for local cultures that has been created and tested by the Global Center for Applied Health Research.

**Medical care off the grid (Uganda)**
Professor Nathan Johnson and his team of researchers will bring stable power, clean water and an increased capacity to deliver health care to the Ayilo II Refugee Settlement in the Adjumani district of northern Uganda. The settlement serves more than 12,000 South Sudanese refugees and administers care out of a cement block building and tented structures. The new structure designed by ASU researchers will come in the form of a 40-foot shipping container converted into a self-sustaining clinic. The rapidly deployable, turnkey, off-grid, solar-powered medical clinic is part of a $2 million, four-part research project funded by the U.S. Office of Naval Research Defense University Research-to-Adoption program.

**ShipShape (Ghana)**
A USAID-funded project to develop a mobile education game to teach the basic skills of the supply chain to health care workers in emerging markets, ShipShape empowers health care workers to make more effective decisions to improve health supply chains. ASU is partnering with Kwame Nkrumah University of Science and Technology in Ghana to develop the app for initial release in Ghana, with plans to expand to Nigeria, Kenya and other developing countries in the future.
McCain Institute for International Leadership

The McCain Institute for International Leadership, a Washington, D.C.-based decision tank, is dedicated to advancing human rights, dignity, democracy and freedom in the U.S. and around the world, with a focus on Eurasia, sub-Saharan Africa and East Asia. Through the Institute’s Human Rights and Democracy Programs, it seeks to build public-private partnerships that enhance common understanding of human rights challenges and common responsibilities in addressing them. The Human Rights Defenders Program launched in 2017 provides transition assistance to human rights activists who were forced to flee war, civil unrest and instability in their homelands. The program has supported 14 defenders from Ethiopia, South Sudan, and other countries in Asia, South America and the Middle East. The Human Rights and Democracy Working Group is a nonpartisan initiative that brings together experts and practitioners to promote democracy within U.S. foreign policy. In addition to the Human Rights and Democracy Working Group, the McCain Institute has organized working groups on Russia, the Democratic Republic of the Congo and Azerbaijan.

Saharan Dust AERosols and Ocean Science Expeditions (Senegal, Mali)

Vernon Morris
Director, School of Mathematical and Natural Sciences
New College of Interdisciplinary Arts and Sciences

New to ASU, Professor Vernon Morris has led 11 trans-Atlantic research cruises that study the influence of dust emitted from the Saharan Desert on the global atmosphere. Morris’ research focuses on the chemical evolution of atmospheric particulate in the lower troposphere and its implications to aerobiology, climate and cloud processes. He currently collaborates with colleagues in Senegal, with future studies planned to examine air quality and aerobiological studies in megacities that also experience heavy dust. In addition to his efforts with universities in West Africa, he’s headed a project in Northern Ethiopia that examines the relationship between climate and public health in open air hospitals in the Gondar and Gojjam Zones of the Amhara Region. In these zones, the disruption of the East African monsoon has led to increased erosion, soil mobilization and transcontinental dust transport all of which increase the airborne pathogen load and complicate treatment and care at open air facilities. In 2021, he will host a workshop on African Megacities that will focus on Addis Ababa as a pilot case. Morris is an internationally recognized scholar in atmospheric sciences and physical chemistry and champion in the promotion of broadened participation, equitable access and inclusion, and diversity in STEM fields.
#1 in the U.S. for innovation
ASU ahead of MIT and Stanford
—U.S. News & World Report, 4 years, 2015–2019

#1 in the U.S. for global impact
#5 in the world
—Times Higher Education