

◆ MOSAICS ◆

University of Missouri | College of Arts and Science | Summer 2015

Being a land-grant university in the AAU



Looking back
at the past

Looking ahead
into the future

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On the cover
Postcard of the Quad from 1908 C:0/46/34 Box 2
Courtesy of University Archives, University of Missouri

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PHOTO BY LAURA LINDSEY

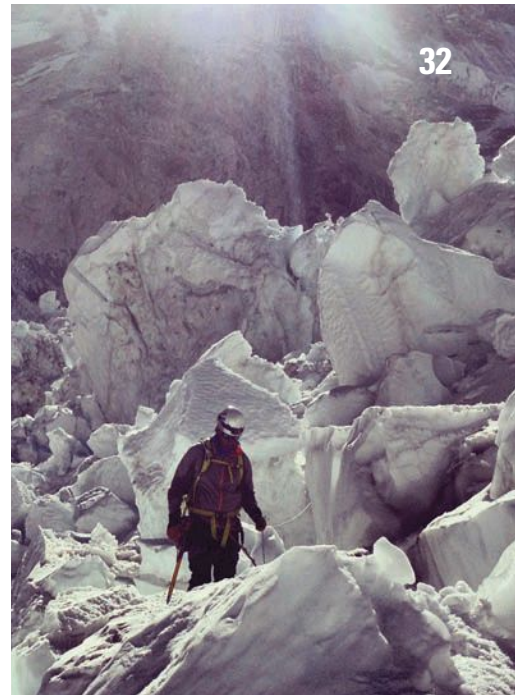


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PHOTO BY NIC BENNER



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Clockwise from top left: Professor Suzanne Burgoyne's gift announcement ceremony; Mark Wilkins on Mt. Everest; Yunxiang Mao and Haohan Li develop remote-sensing technologies.

From the Dean



Welcome to our second issue of *Mosaics* that focuses on the relationship between the College of Arts and Science and the Association of American Universities (AAU).

Wherever I've gone over the last year or so, people—literally hundreds of them—have asked me about MU's status in the AAU and what we're doing to improve it. I'm so pleased that the previous issue of *Mosaics* was able to interest our readers and get our message out there about the importance of our standing in what is, without argument, the most prestigious group of American universities. There are only 62 AAU institutions—60 in the United States and two in Canada—and MU is in great company, given the likes of MIT, Berkeley, Princeton, and Virginia in the group, not to mention all the Ivies and all but one of the Big Ten schools. If you're wondering, the SEC, which includes 14 schools, has only four AAU members: MU, Texas A&M, Florida, and Vanderbilt.

As we did in last year's issue, in this issue of *Mosaics* we're telling stories that we hope will help everyone understand not only what the indicators are that the AAU uses to judge the worthiness of a university for inclusion but the steps we're taking to improve our standing. Universities do not meet certain standards that automatically make them members of the AAU; rather, they must be invited to join, as MU was in 1908. They can also be asked to leave, which would be a huge embarrassment that no one wants.

Like last year, I asked our pal Truman to help out with this issue. As you can tell from the cover, Truman is as proud of this place as you and I are. And there is a real difference between having extreme pride in your university and simply paying lip service to pride. I had a person last year make a statement that MU really belongs to the alums, not to some administrator from the outside. I reminded him, as gently as I could, that he had been at MU only five and a half years; I've been here 35 years as a professor of anthropology, the last eight also serving as dean. This great university is my home, and I'm very proud of it.

Part of that greatness stems from our AAU membership, but to top that off, MU is also a land-grant university. This gives us a special status, as there are only 17 AAU institutions that also have land-grant status. As the article that begins on Page 4 points out, this puts us in a pretty heady group that includes MIT, Ohio State, Wisconsin, Berkeley, and Texas A&M. Our tireless efforts to make MU even greater require your help and support. I hope the stories you read in this issue of *Mosaics* inspire you to become involved. There's plenty of room for you.

A handwritten signature in black ink that reads "Mike O'Brien". The signature is written in a cursive, flowing style.

Mike O'Brien
Dean, College of Arts and Science

A&S and the AAU

BY KRISTI GALLOWAY

Pop quiz: What is the AAU and why does it matter?

In the last issue, we highlighted MU's role in the Association of American Universities (AAU). As any college student knows, it's important to review.

The AAU was founded in 1900 to advance the international standing of America's research universities. Today, the primary purpose of the organization is to provide a forum for the issues that are important to research-intensive universities, such as funding for research, research-policy issues, and graduate and undergraduate education.

The AAU invites only select universities to become members. MU was asked to join in 1908; it is one of only 60 American (and two Canadian) universities that are members of the AAU. Additionally, there are only 17 land-grant universities in the organization.

Membership is not guaranteed from year to year. To assess how well members are performing, the AAU uses two sets of indicators (see the side bar). The association has a standing membership committee that regularly evaluates nonmember universities for possible

membership and current members for continued membership. Members whose research and education fall significantly below that of other members will be subject to further review and possible discontinuation of membership.

The Grade

While the AAU doesn't give out grades in the traditional sense, MU is measured against its peers and must always look for ways

to improve. As the largest college in the university, the College of Arts and Science plays a crucial role in upholding MU's standing in the AAU and strengthening the brand behind an MU degree. The college has a wide variety of liberal-arts programs, pioneering research initiatives, and outstanding graduate programs. In addition, the college is responsible for teaching most of the core courses required of all undergraduate students on campus.

In the past year, A&S helped the university make strides in several areas. Our faculty received significant federal research funding. We also continue to hire postdoctoral students across the college

and strengthen our commitment to undergraduate education. Read more about the specifics in the pages that follow.

The Reward

It is an honor to be among the top 2 percent of American uni-

versities. AAU members have a variety of key advantages. For example, AAU universities consistently set the higher-education and research agendas for the nation. MU's membership enables the state of Missouri to compete at high and impactful levels, with a strong voice in Washington, D.C. In addition, membership encourages faculty and administrative interaction among peers worldwide, furthering the university's teaching and research mission.

When you open doors for the College of Arts and Science, you aren't just assisting today's students and faculty, you are helping uphold the status of your degree for years to come.

1839: MU is founded



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1843: BA degree awarded to first two graduates

1870: MU is awarded land-grant status through the Morrill Act

1900: The AAU is founded



1907: The College of Arts and Science is established

1908: MU joins the AAU



1932: Washington University at St. Louis joins the AAU



1941: Japan bombs Pearl Harbor. MU enrollment is 5,725

-a Recap

AAU status attracts accomplished faculty, postdoctoral fellows, and graduate students to MU. It also adds value to all MU degrees. When an MU graduate applies for admission or for a job at another university, that school understands that the student had a rigorous course load taught by the best professors.

Your Role

If you are in a position to do so, please think about becoming involved with the College of Arts and Science. You may decide to make a gift, join an alumni board, attend an event, read the latest news on our website, sponsor a postdoctoral student, sustain faculty research efforts, or further the visibility of the college through other collaborations.

“When you open doors for the College of Arts and Science, you aren’t just assisting today’s students and faculty,” says Mike O’Brien, dean of the College of Arts and Science. “You are helping uphold the status of your degree for years to come.”



Phase 1 indicators:

- 1. Competitively funded federal research support**
The membership committee looks at federally funded research dollars awarded from competitive organizations such as the National Science Foundation to gauge MU’s research productivity.
- 2. Membership in the National Academies**
Membership in distinguished academies such as the National Academy of Sciences highlights the overall strength of MU’s faculty.
- 3. The number of faculty awards, fellowships, and elected memberships in learned societies**
Data gathered annually provide the AAU with an additional way to assess MU’s faculty.
- 4. Scholarly citations**
The AAU counts each time a faculty member is cited in scholarly research and uses the total number as a measure of research volume and quality.

Phase 2 indicators:

- 1. The amount of research funding from the U.S. Department of Agriculture, state departments, and industry**
These crucial sources of academic research support are used as a secondary gauge to evaluate research productivity.
- 2. The number of doctoral degrees awarded annually**
The AAU looks at the number of PhDs granted each year to evaluate the strength of MU’s graduate programs.
- 3. The number of postdoctoral students**
Postdoctoral education is an increasingly important component of university research and education activities, so these numbers are tracked as well.
- 4. The strength of undergraduate education**
The membership committee assesses MU’s undergraduate programs to determine that the institution is meeting its commitment to undergraduate education. As the largest college in the university, A&S plays a crucial role in this assessment.

1943: MU enrollment is 1,938

1950: Vanderbilt University joins the AAU



1969: Arvarh Strickland is the first African-American professor at MU

1985: University of Florida joins the AAU



2001: Texas A&M joins the AAU



2007: A&S celebrates its 100th anniversary

2014: MU celebrates its 175th anniversary



2014: MU enrollment is 35,441

MU's Role as a Land-grant University

Before MU was a member of the AAU, it was a land-grant university

BY KRISTI GALLOWAY

A land-grant college or university is an institution that has been designated by its state legislature or Congress to receive the benefits of the Morrill Acts of 1862 and 1890. The acts provided each state with federal land under the provision that proceeds from the sale of those lands be used to establish public colleges or universities. The original mission of these institutions, as set forth in the first Morrill Act, was to teach agriculture, military tactics, and the mechanic arts, as well as classical studies so members of the working classes could obtain a practical, yet liberal, education.

The first Morrill Act reflected a growing demand for agricultural and technical education in the United States. While a number of institutions had begun to expand upon the traditional classical curriculum, higher education was still widely unavailable to many agricultural and industrial workers. The Morrill Act was intended to provide a broad segment of the population with a practical education that had direct relevance to their daily lives.

MU's Land-grant History

MU was already established when the act was passed. As the first public university west of the Mississippi River and the first state university in Thomas Jefferson's Louisiana Purchase territory, MU was awarded land-grant status in 1870. The College of Arts and Science is central to the university's land-grant mission because it provides all students with a practical liberal-arts education as the act mandates.

There is at least one land-grant institution in every U.S. state and territory, as well as the District of Columbia. There are only 17 land-grant universities in the AAU. As one of the few, MU is in elite

company along with institutions such as MIT and Ohio State.

David Baker, assistant dean of agriculture and natural resources in MU Extension, says, "As a land-grant university and a member of the AAU, MU has a responsibility to explore our uniqueness and further our expertise in key areas that are important to society."

There are countless examples of such opportunities within the College of Arts and Science.

"Just look at the opportunities for interdisciplinary research that build on our land-grant legacy and the expectations of the AAU to address societal challenges, such as feeding 9.5 billion people by 2050," says Baker. "This is not just a production-agriculture issue; it has scientific, policy, transportation, and nutrition implications that build on our rich history of interdisciplinary research. What makes MU unique is our ability to translate and address these issues through an integrated approach, combining all the areas of expertise our land-grant university boasts."

Research Connection

Michael Quart, former vice provost for Extension and professor of animal sciences, expands on Baker's point. "One of the characteristics that makes a land-grant education unique is our connection to research," he says. But simply conducting the research isn't enough. Most major federal-funding sources such as the National Institutes of Health and the National Science Foundation require evidence of broader impacts. There has to be an integration of research and edu-

cation. "The research we are doing at the university is worth something in peoples' lives," says Quart.

These opportunities are not just limited to the sciences; they are also plentiful in the social sciences and arts. "Extension is the loop that connects people," says Quart. "We can distribute anything that this university does with

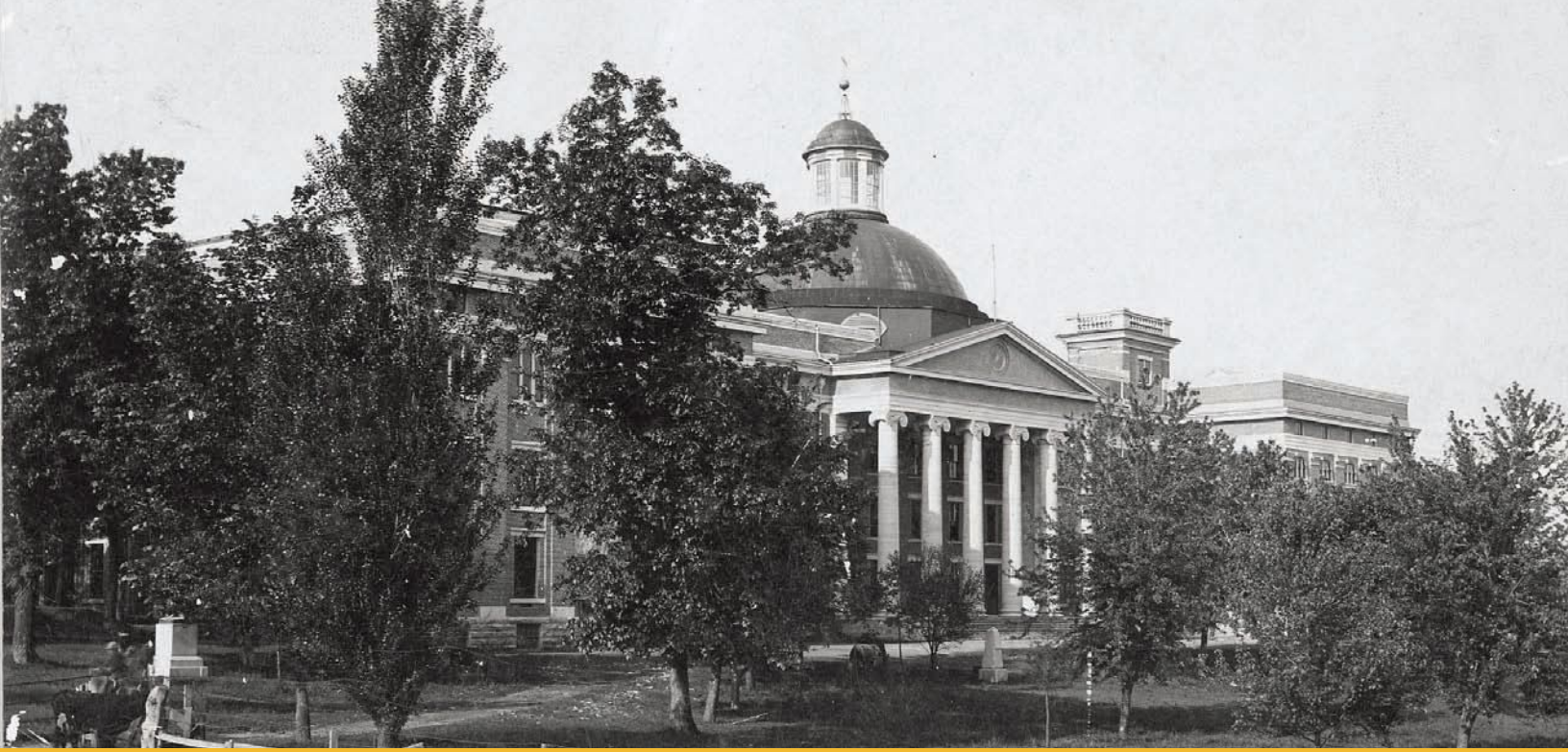
MU has a federally mandated mission to carry the benefits of the university beyond campus.

a practical application." This distribution takes many forms. One example is the MU Community Arts Pro-

gram, which connects A&S faculty and students with people in Missouri communities to use music, theater, and art to enrich the social, physical, and economic well-being of the region.

Much has changed since MU was awarded land-grant status in 1870, but the fact remains that MU has a federally mandated mission to carry the benefits of the university beyond campus. In his inauguration speech, Chancellor R. Bowen Loftin said, "Land-grant universities like MU have gone far beyond what Rep. Justin Morrill probably thought when he wrote the Morrill Act, or President Abraham Lincoln foresaw when he signed it. In fact, our land-grant universities have really become the exemplars of what universities elsewhere want to be like."

The research and creative activity taking place on MU's campus, and specifically within the College of Arts and Science, is exemplary. Read more about it in this issue. By keeping our mission as a land-grant university in mind, MU will continue to improve quality of life in Missouri, the nation, and the world.



Top to bottom: The historic columns are all that remain of MU's original Academic Hall. This photo shows the addition of the wings that were added in 1872. Academic Hall burned down in 1892.

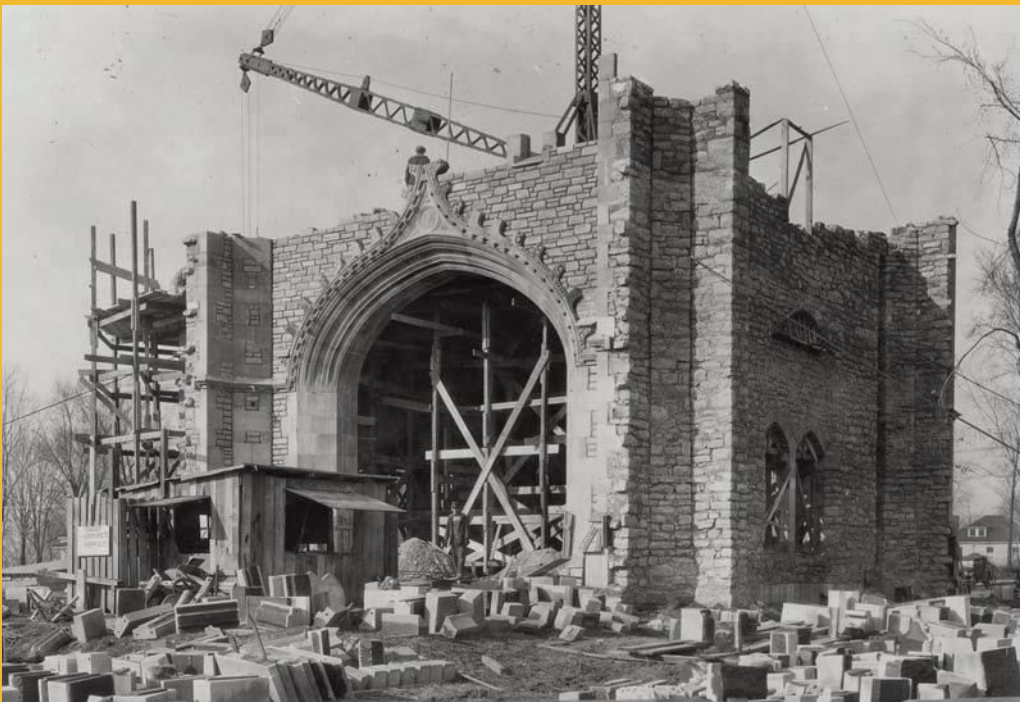
C0/3/8 BOX 4, COURTESY OF UNIVERSITY ARCHIVES, UNIVERSITY OF MISSOURI

The Beef Barn was constructed in 1922 to house cattle and winter feed. MU's roots as a land-grant university emphasized the key area of agricultural education.

C3/1/39 BOX 4, COURTESY OF UNIVERSITY ARCHIVES, UNIVERSITY OF MISSOURI

Following World War I, students launched a penny and a nickel fundraising drive to honor the 117 MU students killed in the war. Memorial Union was built in memory of them and was rededicated after World War II.

C0/47/12 BOX 1, COURTESY OF UNIVERSITY ARCHIVES, UNIVERSITY OF MISSOURI



Finding the Means

All of A&S stands to benefit from the support generated by supplemental fees

BY MELODY GALEN

The College of Arts and Science is just like every other unit at the university in that it has to find ways to make available dollars stretch as far as possible. One of those avenues is through supplemental fees.

A fee of \$30 per credit hour is added to tuition for A&S students, but only for undergraduate classes at the 2000 level or above—basic classes are exempt. The University of Missouri Board of Curators approved the college's use of supplemental fees in February 2014.

Twenty percent of the revenue from the fees goes into the campus scholarship fund, and 80 percent comes to A&S. The fees benefit the college in several ways, among which are faculty fellowships, renovations to classrooms and undergraduate laboratories, and increasing the numbers of students who can study abroad. By using the money creatively, A&S is doing the most it can to benefit all the populations it serves.

Nice to Be Appreciated

Ninety-two faculty fellowships of \$5,000 were given last fall to faculty members across the college, essentially as a way of saying, "We appreciate you. And, please, stay a while." Universities everywhere are constantly trying to lure everyone else's best and brightest away. We want those superstars to come to MU, and once they do, we really want them to stay.

Peter Miyamoto, associate professor of piano, is using his fellowship to help fund travel expenses as he performs at recitals around the world. Julia Gaines, director of the School of Music, explains that performances are to music what published articles are to the sciences and humanities. "The prestige of a particular venue is equivalent to the prestige and prominence of a journal," she says. "The more off-campus performances a professor can do, the better—which is why these fellowships are so useful for us."

Tim Langen, chair of the Department of German and Russian Studies, says, "It's part of our core mission to be the kind of place where people can go as far as their abilities will take them. We succeed at it because of our faculty, and the faculty fellowships provide one way of recognizing the importance of their work."

What's Old Is New Again

Mizzou has been educating students for 175 years, and although none of the buildings is quite that old, even the newer buildings must be renovated periodically to keep pace with demands on the space. This past year, the supplemental fees helped pay for renovations of physics labs that serve four introductory physics courses, making room for an additional 760 students.

Supplemental fees were also used to renovate the stage at the Missouri Theatre and improve acoustics. Gaines says that the musicians who have used the stage have been pleased with the improvement. Before, sound from the large ensembles escaped up into the fly space above the stage. With no hard surface above them, it was very difficult for the musicians to accurately hear what they were presenting to the audience. Three large acoustic clouds over the stage now direct sound out to the audience while providing a better resonant chamber on stage.

Mind Expansion

The study-abroad program at Mizzou has grown significantly in the last nine years. In 2006, about 400 students studied abroad; this year, it is estimated that the number will be around 1,400. The MU Strategic Operating Plan, as of fall 2013, has set a goal to increase undergraduate participation to 30 percent from 23 percent. A&S is doing everything it can to help more students have that opportunity, too.

Linda Reeder, associate professor of history, realized a few years ago that something needed to be done after her proposed study abroad to Rome didn't get the minimum number of students required. Other colleges had successful study-abroad courses; why was it so difficult to get them launched in A&S? Reeder and several other faculty members who had noticed similar problems formed the A&S Study Abroad Committee, and they are actively trying to ensure that study abroad becomes an integral part of an undergraduate's college experience. "We need to get into the A&S culture and tell people how important it is. It isn't on their radar," says Reeder.

The committee realized that money was probably the number one factor behind students not studying abroad. Dean Mike O'Brien had come to the same conclusion and was able



The acoustic cloud at the Missouri Theatre, made possible through supplemental fees, improves performance sound.

PHOTO BY NIC BENNER

to provide a portion of the supplemental fees to give 38 A&S students scholarships for study abroad this summer and next academic year.

Jim Scott, director of the International Center, is a firm believer in the merits of study abroad. He says that for a large number of students from rural parts of Missouri, they have never contemplated going outside of the U.S. And, while the expense is an understandable obstacle, the exposure to new perspectives and cultures is mind broadening, and it results in the kind of graduate that more and more companies are actively seeking out.

Reeder agrees. "If the liberal arts major has any substance and significance, which I certainly believe it does, it's to create thinking people," she says. "And travel makes you think."

"We don't need more STEM majors. We need more STEM majors with liberal arts training."

Scott recently read and tweeted about an article from *The Washington Post* titled, "We Don't Need More STEM Majors. We Need More STEM Majors with Liberal Arts Training."

According to the article, those with broader arts and humanities educations tend to come at problems from a different perspective. They observe and analyze things in a different way than someone who only studied his or her own field might do.

All of these efforts are more than just examples of A&S helping students learn smarter and work better—they represent the spirit of improving the university for the entire community. "If you're going to be an AAU university, you have to operate with global partners," says Scott. "This is just a way of saying we all need to be ready to be global."



Senior journalism major Christianna Weiss in London. "Today, I made the climb to the top of St. Paul's Cathedral. It was one of my favorite days with the most extraordinary views! My parents were in town, and my father took this wonderful picture."



Junior classical studies major Alexandra Henning, at right, in Athens. "I bought the flag for this once-in-a-lifetime photo opportunity with the Parthenon. Got away with one heck of a great memory!"

Photo of John Mitchell, BA '14, international studies, political science, in Wadi Rum, Jordan. "Had the privilege to travel the majestic desert of Wadi Rum and gaze at its vastness while wearing the national Jordanian keffiyeh (red-and-white scarf)."



Better Together

Federal research funding encourages collaboration on climate change

BY KRISTI GALLOWAY

This past fall, MU, the Missouri University of Science and Technology, the University of Missouri—Kansas City, the University of Missouri—St. Louis, the Donald Danforth Plant Science Center, Washington University, Lincoln University, the Saint Louis Science Center, and St. Louis University joined forces to form the Missouri Transect: Climate, Plants, and Community project.

The project received a five-year, \$20-million grant from the Experimental Program to Stimulate Competitive Research (EPSCoR), a program initiated by the National Science Foundation. The goal is to better understand and predict the responses of plants and society to climate change. The research and education activities are focused on understanding, modeling, and predicting short- and long-term trends in temperature and water availability; evaluating the impact of these trends on the productivity of native flora and agricultural crops; and assessing how different stakeholder communities are likely to respond to changing climate.

John Walker, Curators' Professor of Biological Sciences and director of the Division of Biological Sciences at MU, serves as principal investigator for the project. Walker says, "There will be interactions among the social sciences, life sciences, engineering, and education. The primary emphasis on multi-disciplinary collaboration is what makes this project unique and exciting for our state."

This award is especially important for MU because it will help strengthen the

university's standing in the AAU. The EPSCoR award is substantial, and federally funded research is an important indicator of research success. Another key indicator is the number of scholarly citations earned by faculty. "In a few years, there ought to be many publications from this project," says Walker. "This area of study is broadly considered one of the grand challenges our society is facing, so I'm hopeful that it will lead to more interest and citations in the future."

The project is made up of five teams in the areas of plant biology, climate, cyberinfrastructure, community resilience, and education.

Plant Team

Using innovations in the plant sciences and high-performance computing, the plant team will try to understand how plants are impacted by climate and ultimately develop more drought-tolerant crops. The plant team spent most of the winter in greenhouses preparing seeds for spring planting. Members are also developing high-tech cameras to generate field data. The results collected during the first planting and harvest season will help inform the rest of the project.

Climate Team

The overall goal of the climate team is to quantify and model daily, seasonal, annual, and future variability in climate. Research will cover changes in temperature and precipitation across temporal and geographical scales—from days to decades and from acres to regions. Soon after the grant was announced, the team

got busy installing additional weather stations around Missouri to collect information that will allow the team to examine microclimate data sets and enhance prediction of climate variability and extreme events.

Pat Market, professor of atmospheric science at MU, says, "We're hoping to connect the dots between climate and precipitation to provide better guidance to the agricultural community in terms of short- and long-term climate forecasts so stakeholders can prepare for the upcoming season and the years to come." Data will be made available online along with streaming provided by the Missouri Climate Center.

Cyberinfrastructure Team

The cyberinfrastructure team will assist all program elements of the Missouri Transect. A strong cyberinfrastructure is required to support the diverse project elements and to integrate computational resources. The challenges of dealing with large, diverse data sets will be addressed by the cyberinfrastructure team in collaboration with the other investigators. MU Associate Professor Christine Elsik, the team lead, will work closely with Walker to assure that cyberinfrastructure needs are identified and addressed as the project develops.

Anna Waldron, associate director of the Missouri Transect, keeps all components of the project on track. She meets regularly with the teams to work through challenges and encourage collaboration. "We all know that our plan is really ambitious, but the researchers remain positive," says Waldron. "They



Missouri Transect researchers gathered for a strategic planning meeting on Aug. 20, 2014, at Bradford Farms just east of Columbia. It takes a large research team to carry out the mission of the Missouri Transect; the researchers truly are better together.

Right: Pat Market, middle, MU professor of atmospheric science, launches a weather balloon with Katie Crandall, left, and Josh Kastman, right, as part of his climate research.

are excited to get to work together and finally have the funding they need to travel, hire graduate students, and purchase supplies to conduct this exciting research on climate change.”

Community Team

Community-team researchers will strive to understand how Missouri communities can manage a changing climate characterized by increased periods of drought, flooding, and prolonged summer heat. For example, the team is collaborating with the Missouri Division of State Parks to survey land managers and tourists about topics such as water usage and climate change.

Charlie Nilon, MU professor of fisheries and wildlife, says, “I think climate change is often portrayed as something that is inevitable and that people can’t do anything about it. I’m interested to see what people are already doing and what solutions we can implement.” The team will create habitat models to share with landowners and stakeholders to project what things might look like under dif-



ferent climates, with the goal of helping communities better prepare to face the impacts of climate change.

Education, Outreach, and Diversity Team

The education, outreach, and diversity team will develop learning tools and opportunities that inform individuals of all ages about climate variability and its predicted effects on agriculture and the natural environment.

The team will focus on traditional education in the K-12 and undergraduate settings, but there is also an emphasis on public outreach programs such as a citizens’ science project and a special exhibit at the Saint Louis Science Center, which has nearly 1 million visitors each year.

The initial designs for the agriculture exhibit are being developed. The exhibit will coincide with one at the Smithsonian Institution called “Dig It,” which will help the public learn more about the impact a changing environment has on plants and society through interactive displays, hands-on models, and videos about soil.

The Missouri Transect project has far-reaching implications for each institution involved, and the collaboration between teams will allow groundbreaking discoveries to be made that will touch the lives of Missouri residents for decades to come by giving people the tools to predict the impact of climate change on plant productivity.

Documenting Language

MU linguistics professor heads research team studying four varieties of Luyia

BY KRISTI GALLOWAY



Michael Marlo, assistant professor of English, has made multiple trips to Kenya as part of his ongoing language-documentation projects.

Across the globe, larger languages are replacing smaller ones at an alarming rate. More than half of the world's languages may disappear by the end of this century. Oftentimes, these smaller languages aren't documented at all. When a language dies, the many concepts, knowledge, and traditions encoded by the language die with it.

Michael Marlo, assistant professor of English, received a four-year National Science Foundation (NSF) grant to address the global loss of linguistic diversity as head of a team researching four underdocumented varieties of Luyia, a group of Bantu languages in Kenya and Uganda. The team has a wide variety of specialties. Collaboration among members will allow specialists in syntax (sentence structure) and specialists in phonology (sound systems) to study each of the four Luyia varieties: Bukusu, Logoori, Tiriki, and Wanga.

Collaborative Research

The project uses a team-based model and relies heavily on data-rich and theoretically informed linguistic description and analysis. Marlo says, "We aim to have a holistic and comprehensive approach. By bringing expert linguists in multiple subfields together, we are able to focus on some very specific issues that are difficult to get at without collaboration."

Before the grant had even officially begun on June 1, 2014, the team had already launched the project. Marlo is working with co-principal investigator Vicki Carstens, professor at Southern Illinois University, Carbondale; Michael Diercks, assistant professor at Pomona College; Kristopher Ebarb, postdoctoral researcher at Mizzou; Christopher Green, associate research scientist at the University of

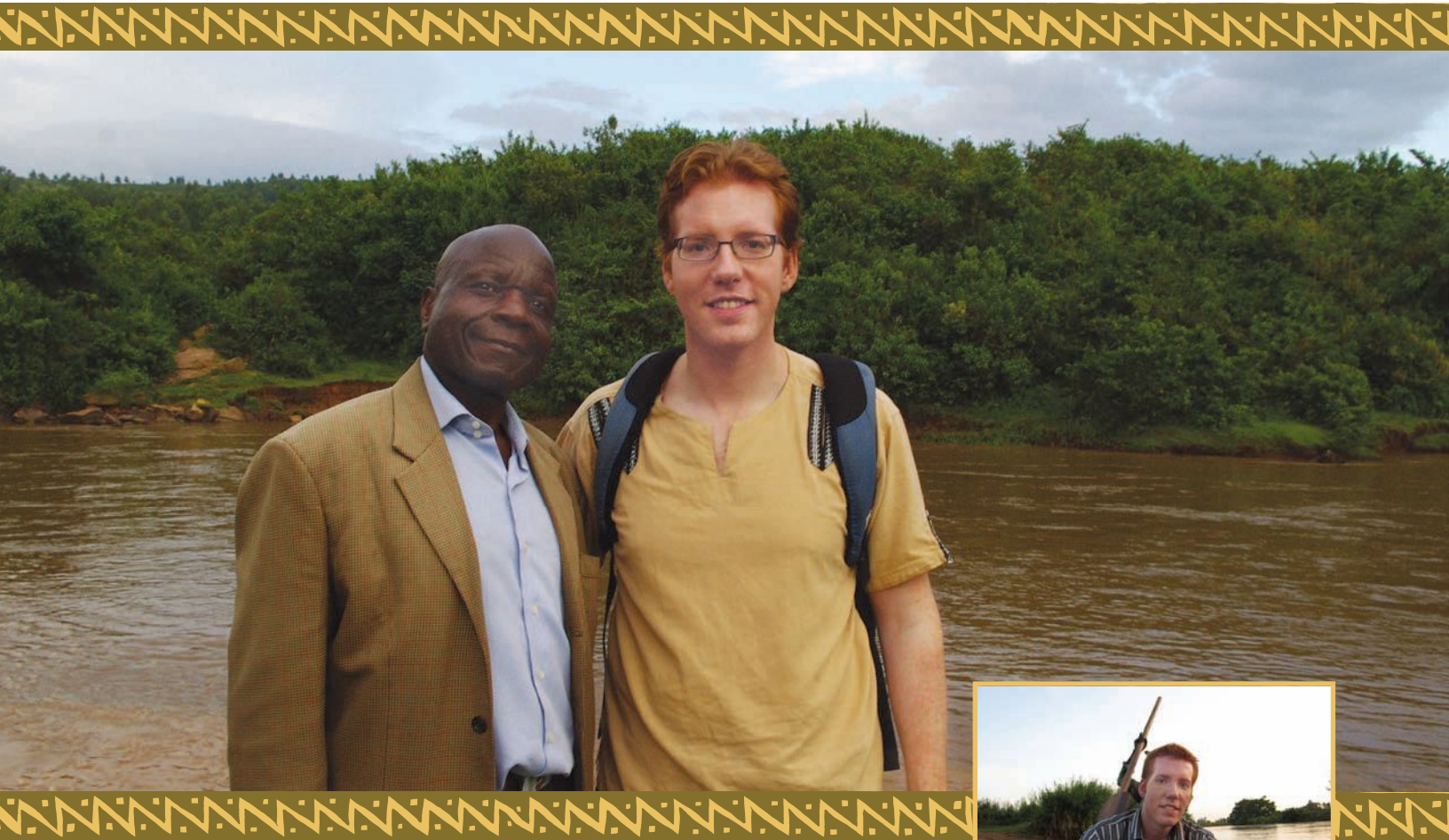
Maryland; David Odden, professor emeritus at The Ohio State University; and Mary Paster, associate professor at Pomona College.

In Kenya, the team has already collected more than 130 hours of oral narratives. But not all the research takes place in Africa; a great deal can be conducted in the United States as well.

Odden has been collecting new data from two speakers of Logoori in Seattle. At Pomona College, Diercks and Paster have carried out two different field-methods classes on Logoori and are supervising ongoing student research on the language.

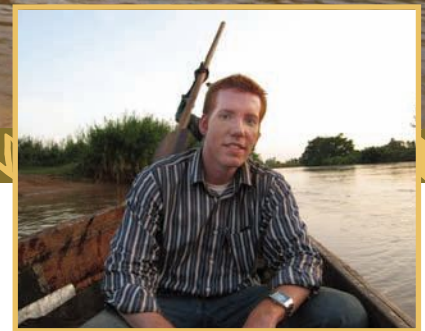
Marlo has been doing the same in his field-methods course. He brought a colleague from Kenya, Maurice Sifuna, to MU as a visiting scholar to serve as the consultant for his class. Marlo and 23 students are working with Sifuna to create a Bukusu dictionary, write a grammar sketch, analyze stories, and create an audio archive of recorded words and phrases. Their work will directly benefit the grant, but it also has personal significance. Sifuna says, "It is interesting to see

"We're not trying to save the varieties—we're trying to document them. But in documenting them, we're helping to reaffirm the value of their languages."



Above: Michael Marlo, right, and Harun Inyanje Masambu, a Tiriki consultant for the storytelling component of the project, standing near the Yala River in Luyialand.

Right: Michael Marlo on a river that runs into Lake Victoria, near the town of Port Victoria in Luyialand.



my own language being studied. I have a background in linguistics, and I know how important this will be for my community, so I am happy to help.”

There is very little written about the varieties of Luyia, and there is some threat to the long-term vitality of the languages because there are no published dictionaries, grammar manuals, or learning materials. Marlo explains, “We’re not trying to save the varieties—we’re trying to document them. But in documenting them, we’re helping to reaffirm the value of their languages.”

Anticipated Results

The team will produce monographs on each variety, including a grammatical

outline, a detailed description of the tonal system, in-depth studies in syntax, a collection of texts, and a dictionary. Much of the project will be freely available online, and relevant materials will be disseminated within the appropriate local communities. Marlo and team have already collected a diverse array of oral narratives, including descriptions of traditional practices, interviews with local artisans, folk tales, songs, proverbs, and riddles. These texts provide further data for the team’s linguistic descriptions. They are also of interest to other linguistics scholars and specialists in fields such as history and anthropology.

Marlo says, “There is a lot of enthusiasm about the project, especially about

the text collections and dictionaries, because they are tangible products that will help document the languages for future generations and pass on the traditions, stories, and information contained in the narratives.”

The \$343,479 NSF grant will continue through May 2018. David Read, chair of the English department, says, “This grant is the largest that we’ve ever had in the department. NSF grants are hardly ever housed in English departments, which makes this especially impressive.”

There is still much to be done, but the team is ready to devote the necessary energy to the project, which will benefit MU, the academic linguistic community, and Luyia speakers around the globe.

Now Hiring

A&S attracts world-class faculty

BY KRISTI GALLOWAY

The College of Arts and Science actively recruits the very best historians, scientists, artists, authors, performers, and innovators from around the world. In doing so, it often competes with other institutions for top candidates. What attracts high-caliber faculty to MU? Some come to MU because of the university's research reputation, others are wooed by competitive compensation, and some are attracted to the area because of personal connections.

Wesley Bernskoetter has always wanted to work at a research-focused midwestern university such as MU. He is currently an assistant professor of chemistry at Brown University and will be joining the MU faculty in July. Bernskoetter is originally from Jefferson City, Mo., so this move is like coming home for him and his family. "It was always my ambition to come back to Missouri," says Bernskoetter. "I think this is a wonderful place to raise a family and live. In addition, the University of Missouri really focuses on its research enterprise—having an infrastructure in place that emphasizes research will be a great advantage for my work."

Bernskoetter received his bachelor's degree in chemistry from Benedictine College in Kansas and his doctorate from Cornell University. After completing a postdoctoral fellowship at the University of North Carolina—Chapel Hill, he was hired by Brown University. His research focuses on using organome-

tallic chemistry to address challenges relevant to sustainable chemical synthesis.

Essentially, his lab takes waste molecules such as carbon dioxide and converts them into more-useful chemical commodities such as ethylene, acrylates, and formate, which are used to make common products like plastics. His work has extensive economic and environmental benefits. Bernskoetter is part of the Center for the Capture and Conversion of CO₂. Funded by the National Science Foundation and the Alfred P. Sloan Foundation, the center aims to develop new chemical systems that would make it possible to produce some of the world's largest-volume chemicals from a benign, sustainable carbon source that the earth not only has in excess but urgently needs to reduce. Bernskoetter plans to continue his work through the center at MU.

In order to attract faculty such as Bernskoetter to MU, the university must offer competitive salaries, top-notch facilities, and ample research support. Doing so will help solidify MU's place in the AAU and fulfill the university's commitment to produce and disseminate knowledge that will improve the quality of life in the state, the nation, and the world.

The university must offer competitive salaries, top-notch facilities, and ample research support.



Wesley Bernskoetter will join the MU faculty in July 2015.



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Good Science Requires Good Statistics

Chris Wikle helps raise the bar

BY KRISTI GALLOWAY

Professional scientists are expected to know how to analyze data, but statistical errors are alarmingly common in published research. There is widespread concern that basic mistakes in data analysis make many published research findings nonreproducible.

To address this, *Science*—arguably one of the top two scientific journals in the world—has created the Statistics Board of Reviewing Editors (SBoRE). The board is composed of prominent members of the statistical community, and its mission is to help address reproducibility issues and increase confidence in the papers published in the journal.

“So why is *Science* taking this additional step? Readers must have confidence in the conclusions published in our journal, and that we have taken reasonable measures to verify the accuracy of those results,” said *Science* Editor-in-Chief Marcia McNutt in a recent editorial. “We believe that establishing the SBoRE will help avoid honest mistakes and raise the standards for data analysis, particularly when sophisticated approaches are needed.”

Professor of Statistics Chris Wikle was named one of five inaugural members of SBoRE by *Science*. “I believe this is really

“It’s up to us to help maintain the integrity of the science.”



Chris Wikle is proud to help *Science* ensure the statistics published in the journal are accurate.

something that our profession needs to do to make sure people aren’t misusing statistical tools,” Wikle says. “It’s up to us to help maintain the integrity of the science, and I’m honored to be a part of this inaugural board.”

Wikle was appointed to the board by the American Statistical Association. His specialty is in environmental science, so he primarily reviews papers related to climate, weather, ecology, and oceanography but has seen papers from many other disciplines as well. The reviewing process is time-sensitive. If one of the editors sees a potential issue with the statistical methodology in a paper, he or she sends it to Wikle or another member of the SBoRE for review. The statisticians have 48 hours to read the paper, determine if there is a problem, and provide feedback or suggest specific statistical experts as additional reviewers.

Wikle usually receives two papers each week; it is time consuming, but he finds the process worthwhile. “It’s a chance to give back,” he says. “I’ve also learned new things while reviewing the papers because whenever I encounter a statistical method that I’m less familiar with, I take time to learn more about it.”

Proper data analysis is a critical part of research, but errors can often be missed if the statistical method isn’t accurate. “I’ve discovered two things,” says Wikle. “There is a lot of really good science taking place, but there are also a lot of really inappropriate statistical approaches being used, even by really good scientists.” It is Wikle’s job to point out those statistical errors so the scientists can revise and adapt their papers as necessary, ultimately resulting in more significant, accurate, and reproducible research findings.

While it may seem like an additional step for all involved—it is necessary. Wikle hopes that other publishing venues may want to model their approach after *Science*, thus raising the bar for researchers in a variety of fields around the world.



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Partnerships Pay Off

New research data center will help ease the burden of research and make new data available

BY KRISTI GALLOWAY

Every 10 years, the U.S. Census Bureau conducts a population census. The most recent census was held in 2010, with the next in 2020. Researchers around the country would love to get their hands on the data because the survey collects a wealth of useful demographic information. However, the census is highly confidential and, by law, no one is allowed to reveal identifiable information about any person, household, or business collected through the census.

The census bureau also collects millions of records on individuals and businesses based on a large number of other specialized surveys. In addition, it provides access to data maintained by a variety of government agencies. A large portion of the data contains sensitive information, such as Internal Revenue Service and medical records, which must remain confidential.

Gaining Access to Coveted Data

In order to access these sensitive data for sociological, economic, and public health research, scientists are required to receive certification from the census bureau and travel to a Research Data Center (RDC), where they are closely monitored by government officials. For example, one MU researcher conducted a study about the impact Hurricane Katrina had on retail firms. She traveled to Washington, D.C., to access census bureau data so she could learn where the firms were located, gauge the severity of the storm in a particular area, and then evaluate the impact Katrina had on a firm's activities.

Before researchers can even be admitted into the RDC, they must submit a proposal describing what data they will use and why they will use them. Then, once their research is complete, the census bureau reviews it. Because the process is so strict, and access to the data must be closely monitored, there are fewer than 30 RDCs in the country. Earlier this year, the University of Missouri received approval from the National Science Foundation to become a satellite location for a new RDC to be located in Kansas City.

The primary RDC, which will be housed in the Federal Reserve Bank in Kansas City, Missouri, is funded by the Federal Reserve Bank of Kansas City, the Kauffman Foundation, the University of Missouri–Kansas City, and the University of Kansas in Lawrence. While the MU RDC is technically a satellite center, it will allow the same access to census bureau data as the primary RDC in Kansas City.

The closest RDC used to be in Chicago, and MU researchers have traveled as far as Washington, D.C., for access and to conduct research. The burden of travel can significantly slow down the research process. "Spending time traveling hundreds of miles to gain access to this invaluable database can be quite expensive and time consuming," says Colleen Heflin, an associate professor in the MU Truman School of Public Affairs and co-director of the satellite RDC. "With this resource on campus, MU scientists can perform their research much more cheaply and quickly than they could formerly."

Ultimately, this center will be a research hub for people across campus.

MU's Own Research Data Center

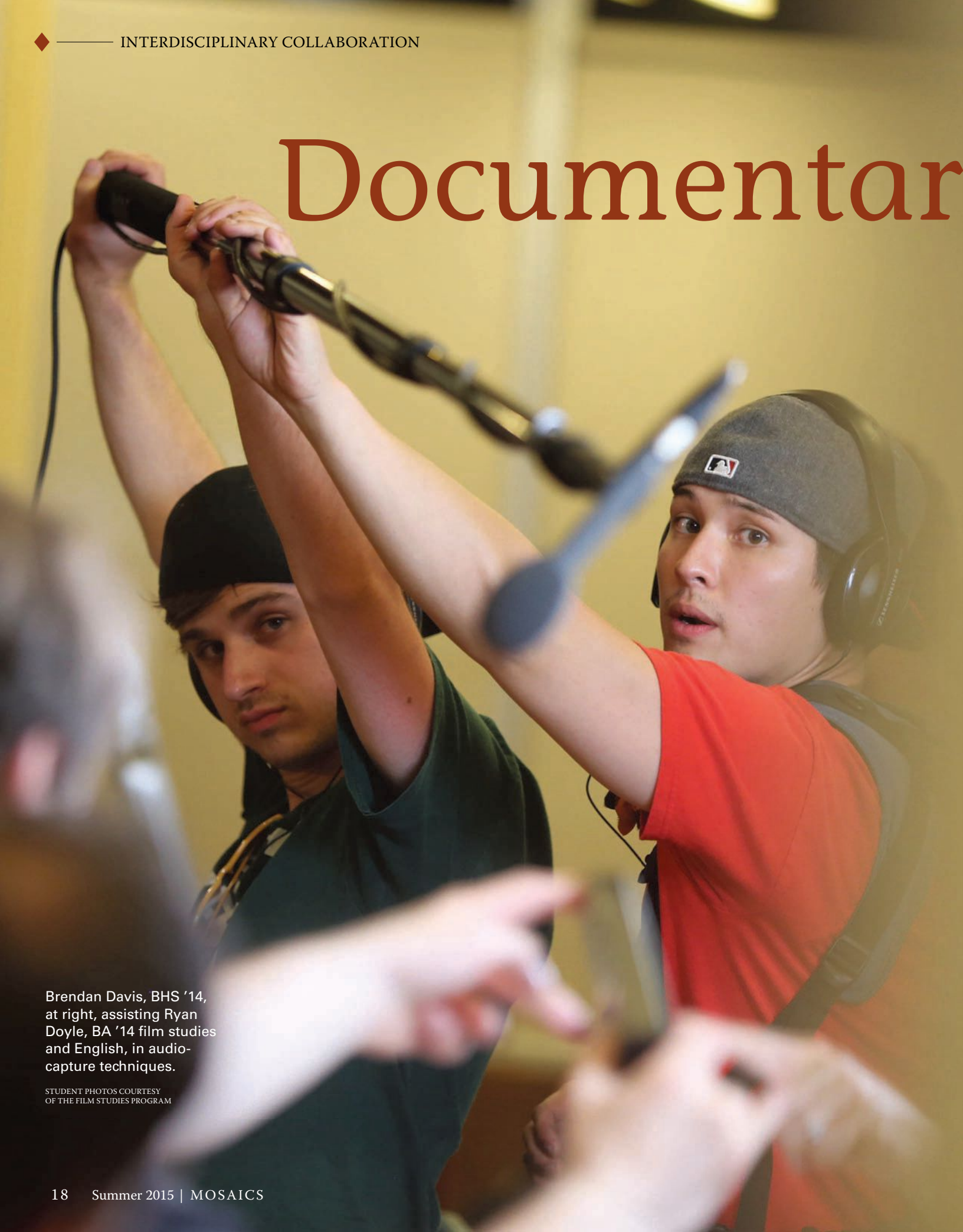
The MU RDC will be located on the second floor of Ellis Library. Construction plans are already under way, and the center should be up and running by the end of 2015. Peter Mueser, a professor in the Department of Economics and co-director of the MU RDC, is confident the center will get plenty of use. "Ultimately, this center will be a research hub for people across campus from a variety of departments and schools," says Mueser. "This will open up a whole new set of possibilities that just weren't feasible before."

MU public-health researchers are eager to gain access to some of the health surveys, and there is a team of statistics researchers working on an extensive five-year project who can't wait to have the RDC on campus. "It will certainly benefit a wide variety of disciplines and strengthen our research reputation as a university," says Mueser.

The MU RDC will also help the university recruit new faculty and attract top researchers. Because there are so few centers around the nation, having easy access to one is a major draw for anyone who has knowledge of the RDC system.

The University of Missouri has dedicated \$1 million from its general operating budget to finance the new facility. Funds will be used to pay a census bureau employee, assist faculty in their efforts to receive approval to use the RDC, provide doctoral fellowships to train students, and support a seminar series promoting research options through the RDC. The benefits of this investment and interdisciplinary collaboration are numerous, and the university will see the impacts of this investment far beyond the next census survey.

Documentar



Brendan Davis, BHS '14, at right, assisting Ryan Doyle, BA '14 film studies and English, in audio-capture techniques.

STUDENT PHOTOS COURTESY OF THE FILM STUDIES PROGRAM

y Filmmaking + Journalism

This interdisciplinary collaboration could lead to remarkable things

BY MELODY GALEN

What began as a seed of an idea a couple years ago has now come to fruition. Documentary filmmaker Robert Greene, perhaps best known for his 2014 critically acclaimed film, *Actress*, will teach his first classes this fall in a collaboration between the College of Arts and Science Film Studies Program and the School of Journalism's Jonathan B. Murray Center for Documentary Journalism. Greene's official title is filmmaker-in-chief, which was chosen by design.

"It's taking the in-chief concept of journalism and putting filmmaker in front of it. I think that is a good sort of entryway into thinking about what the position should be," Greene says. He will teach two classes a semester, one each in film studies and journalism. He will train students to be filmmakers and journalists, and his classes will be governed by the principles of both fields. "For me, it's a way of taking the ideas of cinema, which is celebrated by film studies, and using those to match and mix up with the ideas of the journalism school and teach students more complicated ideas about filmmaking."

Greene acknowledges the conflict between the art of filmmaking and the rigors of journalism, and he looks forward to helping his students bridge the gap between the two disciplines. "I don't think I would feel so free to explore if it weren't for the collaborative aspect of it," he says.

In the Beginning

The idea was to have someone who could teach some classes in documentary journalism and could also teach film studies. Jonathan B. Murray, BJ '77, funded the Center for Documentary

Journalism with a \$6.7-million endowment. He is a co-founder of Bunim-Murray Productions, which brings us *The Real World*, *Project Runway*, and the Kardashian shows. With the funding portion of the equation in place, journalism moved forward to initiate a documentary-journalism major.

At about the same time, the Film Studies Program also was trying to work out funding for a documentary filmmaker. Fortunately, Mizzou Advantage, an MU program fostering interdisciplinary and intercampus research, was able to help with the money, and the collaboration between A&S and journalism was born.

The Filmmaker

A committee comprising two members from film studies, two from journalism, and Paul Sturtz from the True/False Film Festival in Columbia, began the search process to find the perfect candidate to teach the documentary classes. Greene holds a master of fine arts in media-arts studies from City College in New York, and three of his feature films have made it to True/False. He writes for *Sight and Sound*, an international film magazine, and he's edited about a dozen films.

"But I think that's less important than the on-the-ground filmmaking, because I shoot and edit, and I do a lot of the process myself," says Greene. "In the end, the hands-on aspect



Documentary filmmaker Robert Greene

PHOTO BY AMY SHAFFER THORPE

is what elevates the program, hopefully. The students are going to be making stuff, and that's really important."

Greene is still actively making films. He knows that if he's doing daily work editing his own projects, then there is a strong likelihood that his students will become involved in his filmmaking. For journalism, Greene will be teaching an editing class that will concentrate on the theory of editing, and he will use hands-on projects to illustrate his lessons. And for film studies, he'll teach a history of the art of documentary class, which means screening films. "You have to watch movies to know movies," he says. "In my line, you need to understand the history of documentary, and you need to understand the history of cinema in general."

Green believes that every university should have a well-supported film-studies program because it teaches media literacy, something he sees as an important cultural issue. "If no one knows how to watch movies, then they don't know how to watch television, therefore they don't know how to read the newspaper, and on down the line," he says. "I totally believe that."

A Meeting of Two Minds

Roughly 2,000 MU students each year are either declared journalism majors or are pre-journalism students. That's not a number to be taken lightly. The reputation of the School of Journalism draws students to MU—obviously a good thing for the university as a whole—and Greene is aware of this.

"Let's build on the fact that the journalism school is great, and let's make journalistically based films that are artful,"

"Let's build on the fact that the journalism school is great, and let's make journalistically based films that are artful," Greene says. "I think collaboration is the key."

Greene says. "I think collaboration is the key. I don't think we would be able to do this if it were just a journalism program." He proposes taking the journalistic impulse and the art-for-art's-sake impulse that film studies propounds and putting the two together to see what kind of great creative work can be done.

Roger Cook, director of the Film Studies Program, recognizes the benefit of a good collaboration, too. "The bulk of our courses are taught by faculty who have other home departments," he says. "Film courses attract

students. It's good for those programs because they attract outside students, and that's what makes our program work."

This collaborative effort is being designed to complement both halves, and Greene says he feels happier knowing he has the dual platform of film studies and journalism to stand on.





The photos for this story all show students and graduates participating in an internship in summer 2014. During the internship, they completed a film, *Bad Day's End*, which competed in the Garden State Film Festival in March.

Top: Ryan Doyle, BA '14 film studies and English; senior English and journalism major Carsen Sikyta; Joshua Noble, BA '15 film studies and English; and Erin Heatherman, BA '12 theatre and bio sci, checking their shooting schedule in preparation for the evening's filming activities.

Far left: Nichi Hoskins, BA '15 film studies, assembling lights for testing prior to the shoot.

Left: Sam Ott, BS BA '12, at left, mentoring Matt Suppes, BA '15 film studies and English, on exposing a shot properly in preparation for filming.

Dishing up Opportunities

BY MELODY GALEN

“So, what are you going to do with that (*insert name of a liberal arts degree here*)?” There are probably more than a few English or anthropology majors reading this who had that question tossed at them. With just a little luck, smart planning, and hard work, two recent College of Arts and Science graduates put themselves on the path to a great opportunity.

Luke Blackburn, BA '15 economics, and Jonathan Lauer, BA '15 geography, were fortunate to not only be in the right place at the right time, but to have a mix of skills and education that eventually allowed them to say yes to full-time positions at a Fortune 250 company upon graduation.

Opportunity Presents Itself

Lauer had been having a difficult time finding internships in geography, especially in geographic information systems, which is his specialty. Blackburn hadn't found one for himself, either, when they were asked to set up an information session with DISH Network.

Lauer, as president of the Arts and Science Student Council, and Blackburn, a past president, planned and publicized a campus visit with students for the corporation. At that time, DISH was looking for full-time hires, but Blackburn was intrigued enough by what he had learned in helping to set up the visit that he inquired about internships. He was told that the company would be back on campus in the spring to recruit

interns. Blackburn and Lauer were both interested by the possibilities, and when the time came, both applied and were accepted for a 10-week summer internship at the company's corporate headquarters in Denver.

Mike McClaskey, MA '87 English, is executive vice president and chief human resources officer at DISH. He's actively involved with the university as a member of A&S' Strategic

Development Board; he's also the executive who ultimately oversees university recruiting and the corporate internships for DISH. “Students graduating from undergraduate programs are in discovery mode,” says McClaskey. “At DISH, we encourage this curiosity and exploration.”

“In the interview, they asked me what my favorite econ class was—they were curious to see what I enjoyed learning about,” says Blackburn. “I don't think I've

ever had another interview where they asked me what part of my education did I enjoy the most.”

One senior executive asked Blackburn if he would be willing to work in the company's information technology department, even though he hadn't indicated a preference for IT on his application. The company is less concerned with a student's degree “as long as you have what they see as energy, intelligence, and a need to achieve. They believe they can teach you pretty much anything in the business as long as you have a passion for it,” says Blackburn.

“We work in a fast-paced environment, and the best way to stand out is by showing you're motivated to do what it takes.”

Seeking an Internship?

The first recommendation may seem obvious, but it's truly the first step: Prepare a thorough résumé, practice interviewing, and do your research on prospective companies. If you need help with any of this, visit the MU Career Center in the Student Success Center.

For a website that's full of information for those searching for an internship (or a job), visit www.HireMizzouTigers.com. There you can view listings and research companies and organizations.

Another excellent site to provide you with more resources is career.missouri.edu/jobs-internships/internships. You'll find links to many internship engines. At the bottom of that page, under the heading “Internships USA,” are links to guides with information targeted to specific areas.

Simple advice from successful A&S graduates on finding that just-right fit

Doing the Work

During the internship recruitment process, DISH matches individual interns to projects in various departments throughout the company. Lauer was placed in the business process and technology department, where he was able to make use of his geography skills working on a project to improve the company’s mapping and address system that is used to send technicians out on customer calls.

“You’re actually working to improve the company as an intern, which is really great. My project ended up being implemented, and they’re actually working on it right now with Google Maps,” says Lauer.

Blackburn explains that each project is given to an individual who has complete ownership of it. It is not team based, but the intern can enlist others to help. The project must be completed by the end of the 10 weeks and presented to the sponsoring department and senior leadership. “They ask questions afterward,” recalls Blackburn. “You really have to know your stuff.”

Branching Out

Lauer and Blackburn both saw opportunities that piqued their interests, and as a result of their efforts and willingness to go in a different direction than they might have expected, they made successful matches for jobs upon graduation.

Blackburn had experienced some doubt about attending career fairs offered by the other colleges and schools at MU, but after seeing the way DISH is able to pluck students from such varied fields and find successful matches, he encourages students to branch out and visit other career fairs.

“I realize now that I could go to a business career fair and have something to say there, something to offer.” says Blackburn. “Be willing to put yourself out there.”

McClaskey agrees. “When looking for an opportunity, it’s important to understand the cultural values of the company as well as the roles available,” he says. “It’s important to do research ahead of time and meet company representatives. We work in a fast-paced environment, and the best way to stand out is by showing you’re motivated to do what it takes.”

Student interns and employees of DISH Network who graduated from Mizzou: Dibjot Singh, MBA ’13; Andy Coulter, BS IE ’15; Luke Blackburn, BA ’15 economics; Jon Lauer, BA ’15 geography; Graham French, BS IE ’14; Caleb Phillips, MBA ’15; A.J. Leap, MBA ’13; Kristina Michalak, BS BA ’15; Aaron Senne, BS BA ’13, MBA ’14; Lucas Hinson, BS IE ’15; Darrien Horn, BS BA ’15; Yuxiang Chen, MS ’15 comp sci; Harshil Shah, MS ’13 engineering; and Alex Lukens, BS BA ’14.



COURTESY OF DISH NETWORK



Vocal Wisdom

Ann Harrell has trained four national voice champions

BY DALE SMITH, previously published in *Mizzou Magazine*

You'd think that Ann Harrell, an associate professor of music, would be the perfect person to sit with at her students' voice recitals. She could offer all sorts of insight into the rarified world of opera singing. Truth is, though, that when her students sing in her studio or in performance, she gets antsy. At times so engaged—swaying with the music, mouthing words from memory, even taking breaths at appointed times—she appears to be giving the concert herself from the 20th row. Especially early in her three-decade career, Harrell says, "I was anxious and wanted them to do well, and I was trying to make a name for myself."

Harrell has more than made a name for herself. In 2014 alone, student Anna Bridgman, BM '13, won the Music Teachers National Association's prestigious Young Artist Performance Competition. The accomplishment of training one champion would appear at the top of any teacher's résumé, but Harrell has tied the national record of training four winners. Also in 2014, she won MU's top teaching award, a William T. Kemper Fellowship for Teaching Excellence.

A Teacher's Art

For Harrell to equip her students with the basic toolkit of a fine-art singer, she must go far beyond vocal technique to impart skills in acting and in understanding and pronouncing foreign languages. Singers must interpret not only the song text but also how the composer reacted musically to the poem. Then they must make the song their own.

"It takes a lot of a certain kind of energy to sing well. But it's not like weightlifting," she says. A singer's energy

is an air column that flows from lungs through vocal cords, which vibrate in the larynx. Those vibrations resonate in the throat and mouth with tongue and lips shaping the words. Pop vocalists use amplifiers to fill concert halls with their voices. But for singers who project their voices from an opera stage, unamplified, to the back row of the balcony, native talent isn't enough.

Forming the Formant

The key to that opera-house sound is a type of resonance called the singer's formant, a ringy-sounding boost in energy at around 3,000 hertz on the sound spectrum. It's not about volume. Because an instrument's size and shape generates its sound, fine-art singers train the vocal tract into shapes that produce that ringy resonance.

To create the special resonance, Harrell teaches a raft of techniques. Here's one example. To create an instrument with better resonance, the larynx must remain low. But in untrained singers, the larynx rises as pitch rises. To experience this yourself, with a finger on your Adam's apple, sing "ooh" on a low note, then slide up on "ee" to a high note. When the larynx rises, the resonating space gets smaller and produces high notes that sound thin and strained.

Harrell must foster vocal tones that the singers themselves cannot accurately hear. "Nobody sounds like what they hear inside their own head," she says. So, although singers must listen for tuning and blending with others, "to listen to the actual tone is a path to nowhere." Instead, they navigate by feel.

Feeling the Sensation

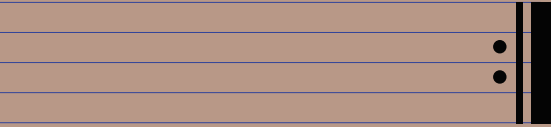
Harrell says the physicality of singing sometimes puts her literally in touch with students. "You can't teach somebody to sing without touching them." For instance, at a lesson with Bridgman, who now studies at Boston Conservatory, Harrell heard something amiss in her student's voice. Harrell knew the edgy sound that a tight jaw adds to Bridgman's singing, but this timbre was different and its source elusive. Harrell stood behind her, laid hands on jaw and neck, and asked her student to sing again. Her diagnosis: Tightness in some neck muscles was diminishing the vocal tone.

The intimate nature of such interactions aligns with the status of voice as the most personal of instruments. "When you come into a lesson and start to sing, it's your voice, your soul, and you are just throwing yourself out there to get criticized," says Kaitlin Foley, BS Ed '11, one of Harrell's former students who is a vocal artist in residence at Rockefeller Memorial Chapel in Chicago. "You feel so vulnerable. You need to have a teacher you respect and trust."

Not Strictly Musical

So, in the world of fine arts, singers are something of a special case. Students stand exposed before audiences and bare their souls using techniques they cannot see in order to utter sounds whose true character they cannot hear. Learning to sing turns out to be an exercise in trust, a leap of faith that the teacher's every sensibility—musical, literary, linguistic, theatrical—is spot on.

And that is why the keystone of Harrell's teaching talent is not strictly musi-



cal. Students and colleagues alike cite her gift of knowing what each student needs and mustering the response that provides it. But perhaps most of all, she connects with students in ways that launch the leap of faith in their abilities.

“We laugh about my being part mom, part psychologist, part best friend, and certainly part voice teacher,” Harrell says. “I start out pretty no-nonsense because I want to make sure the line is established between student and teacher. Students are different, so I’m not the same person, the same teacher, with each one of them. Some need encouragement, and some need a little more tough love.”

One of her champions, Neal Boyd, BA '01, who won the NBC show *America's Got Talent* in 2008, needed a lot of work on pronouncing foreign languages, for instance. And he was overly emotional on stage. “She was always telling me to suck it up or rein it in,” says Boyd, a touring singer who is at work on his second album.

Another of her champs, Emily Bennett, BM '08, now performs with the Lyric Opera of Kansas City chorus and studies for a doctorate in vocal performance at the University of Kansas. When she arrived at MU as a freshman, she had limited musical background, Harrell says. “Her first year here was very hard, but she’s a smart girl, and she had to figure out that she was smart enough to do it. So I needed to nurture her and allow her to feel good about herself.”



PHOTO BY NIC BENNER

Ann Harrell, associate professor of music, trains national voice champions.

Just Sing

Despite possessing warmth and light-heartedness in musical matters—Harrell has been known to dance in the kitchen with her husband to rock 'n' roll oldies—the native Texan can deliver a serious ego check. Her typical lessons are a steady flow of singing and feedback, so students vividly recall the discomfort when everything comes to a halt. They shuffle nervously through stretches of dead silence as the teacher considers her next move—perhaps a posture correction or advice on forming a better musical phrase.

Michael Snider, BM '02, a former student who went on to work in administration for the Metropolitan Opera Guild, recalls how Harrell's blue eyes could open wide with intensity. Her studio class, where students take turns singing solos while she offers instruction, was occasionally a crucible. At one point,

Snider says, a student started singing and stumbled through some difficult language. “She stopped and just came apart. She said, ‘I’m really sorry. I’m just an emotional mess. I had a fight with my boyfriend this morning.’ And Mrs. Harrell said, ‘Darling, I don’t care if you had a fight. Your job right now is to sing.’”

True Voice

In the end, Harrell's quest is to cultivate whatever is special to each student's talent. “I work hard to find my students' intrinsic sound and encourage it. I'm always listening for the sound I think sounds true. The phrase ‘speaking with your own voice’ means saying what you really mean—but in singing it's more literal than that. I believe students will sing with greater honesty if they feel like they are singing with their own voice.”

Delightful Discoveries

BY KRISTI GALLOWAY

The Missouri Review publishes talented authors first

Since its founding in 1978, *The Missouri Review* has become one of the most highly regarded literary magazines in the United States. Editor Speer Morgan says, “*The Missouri Review* is best known and appreciated for being the literary magazine that discovers early-career talent in fiction, poetry, and nonfiction.”

The dedicated staff members at the review take their reputation for finding and publishing the very best writers seriously. They read, recommend, and reread more than 12,000 submissions each year to find the best stories, essays, and poems to fill four issues annually. Their ability to discover talented authors and select outstanding content has been confirmed time and time again. Many of the authors recently published in the journal have gone on to receive the highest praise and acknowledgement in their respective areas.

Recent accolades are printed on the right—the list could go on for pages. These examples prove what subscribers have known for 37 years: the magazine has a knack for finding and publishing the very best. Morgan says, “We are open to new talent and don’t care about reputation or fame, so just about every issue has a previously unpublished author.” In many instances, the review helps authors kick start their careers.

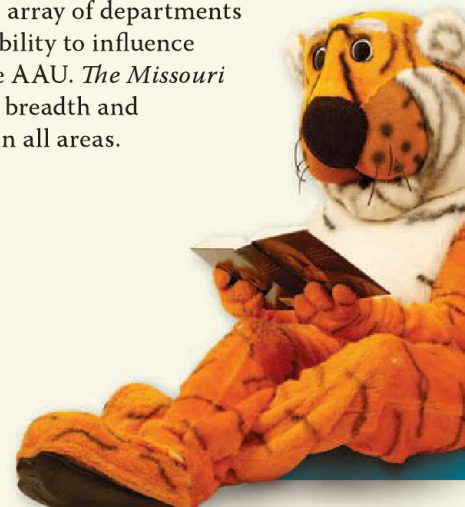
The magazine is also an incredible educational tool at the university because of its valuable internship opportunities. Morgan says, “We are one of the few—if not the only—literary magazines with a professional and highly recognized editing internship for both graduate

students and undergraduates.” The interns gain valuable experience and get to witness all the hard work that goes into each issue of the magazine firsthand. Many go on to become highly sought editors and respected authors.

Each issue contains approximately five stories, three poetry features, and two essays. In the mid-1980s the magazine launched a found-text series that has often received national publicity for featuring previously unpublished work by literary giants of the past, including Mark Twain, Charlotte Brontë, and William Faulkner. This unique component of the magazine makes it stand out. “For over 20 years, we have been known for our discoveries of previously unpublished work by famous writers,” says Morgan.

These discoveries, of both literary giants and up-and-coming authors, delight readers. Each new issue of the magazine is highly anticipated. As a result, its reputation reflects positively on the College of Arts and Science and the entire university.

The prestigious universities in the AAU are known for their disciplinary breadth and the overall quality of their programs—this is in no way limited solely to the sciences, as some may believe. The College of Arts and Science encompasses a diverse array of departments and programs; each with the ability to influence the university’s standing in the AAU. *The Missouri Review* highlights the college’s breadth and ongoing pursuit of excellence in all areas.



The Missouri Review Author Accolades



- Anthony Doerr, whose nonfiction has appeared in the magazine, was announced as the winner of this year's Pulitzer Prize in fiction.
- Arna Bontemps Hemenway's debut collection, *Elegy on Kinderklavier*, from Sarabande Books was selected as a 2014 Barnes & Noble Discover Great New Writers Selection and won the 2015 PEN/Hemingway Award for a distinguished first book of fiction.
- The Millions—one of the top literary sites in the country—released a list of the most anticipated books of 2015. Six of the authors on the list have published fiction or essays in *TMR*: Mark Wiskniewski, Thomas Pierce, Daniel Torday, Benjamin Percy, Mia Alvar, and Alice Hoffman.
- Several of *TMR*'s poets were named National Endowment for the Arts poetry fellows, including the current poetry editor for the magazine, Chun Ye.
- Alan Rossi's story "Unmoving Like a Mighty River Stilled" was reprinted in the most recent *Pushcart Prize* anthology.
- Two essays previously published in *TMR* were reprinted in *Best American Travel Writing*: "My New York" by Peter Selgin and "Au Train de Vie" by Peter LaSalle. "City of Mary," by Nick Arvin, was mentioned as a notable short story in *Best American Short Stories*.
- The magazine had three pieces shortlisted for *Best American Essays* last year: Alexander Landfair's "Facebook of the Dead," LaSalle's "Au Train de Vie," and Selgin's "My New York."
- Terry Ann Thaxton's essay "Delusions of Grandeur" was listed as a notable in *Best American Nonrequired Reading*.
- Brian Van Reet's story "Eat the Spoil" was recently announced as this year's winner for the Texas Institute of Letters award for the best story of the year.
- Katie Bickham's debut poetry collection, *The Belle Mar*, featuring her Jeffrey E. Smith Editors' Prize-winning poems, was selected by Alicia Ostriker for the Lena-Miles Wever Todd Poetry Prize.
- Edward Hamlin won the Iowa Short Fiction Award for his collection, which includes a story published in the spring edition of *TMR*.
- Christina Hutchins' poetry collection *Tender the Make* recently won the May Swenson Poetry Award from Utah State University Press.

Thematic cover art invites readers into the pages of *The Missouri Review*.

Building a Dream

The Sinquefields make a generous gift to help construct the new School of Music building

BY KRISTI GALLOWAY

Jeanne and Rex Sinquefield recently made a \$10-million gift to help fund the proposed new School of Music building, the largest gift ever to MU to support the fine arts. With it, the Sinquefields have brought the university one giant step closer to constructing the new building, effectively building a dream.

“We want Mizzou to become an international mecca for music composition,” Jeanne Sinquefield says. “Currently, the School of Music is spread out in five different buildings across the entire campus. By giving the school its own facility, we can not only take a large step in positioning MU as a leader in music composition, but also help to create opportunities for the school to become a leader in music performance and education.”

The proposed site for the new building is the northeast corner of Hitt Street and University Avenue. The new School of Music building is a part of a larger project that will include renovation of the Fine Arts Building in order to improve facilities for the theatre and art departments.

Currently, the School of Music uses classroom, studio, rehearsal, and office space in the Fine Arts Building, the Fine Arts Annex, Loeb Hall, Stewart Hall, and McKee Hall. The new building will house all School of Music activities under one roof. Construction is projected to begin in 2016.

“In order to continue to attract the best students and faculty, one of MU’s top priorities is the construction of a dedicated School of Music building and the renovation of the Fine Arts

PHOTO BY NIC BENNER





“We want Mizzou to become an international mecca for music composition.”

—*Jeanne Sinquefield*

Building,” says Mike O’Brien, dean of the College of Arts and Science. “Once completed, this project will facilitate continued enrollment growth, enable more students to explore the fine arts at Mizzou, attract outstanding students and faculty, and enhance the aesthetics of our already beautiful campus. The generosity of the Sinquefields will carry us a long way toward this goal.”

The new building is highly anticipated by many. “The idea of having the entire School of Music in one building is a dream come true—a dream that has been talked about for decades,” says Julia Gaines, director of the School of Music. “I can’t even begin to express how exciting this is for the MU music faculty, staff, and students. We’ve had a glass ceiling over us for many years because of our facility limitations. This gift will allow us to grow in so many ways, and we are more than ready for the opportunity.”

The Sinquefields have already created many new opportunities at the university through their ongoing commitment to music and the arts, specifically music composition. More than 10 years ago, they made a gift to establish the Creating Original Music Project, a statewide K–12 competition and affiliated high school summer camp. They also made a donation to create the Mizzou New Music Initiative. This initiative encompasses an array of programs including the Sinquefield Composition Prize, which is the university’s highest honor for a student composer. These programs expanded university scholarships, ensembles, and faculty support, and created an international composer festival at MU.

With their latest gift, the Sinquefields are helping to make the dream of a new music facility a reality. Thanks to their generosity, the arts renovation project will not only raise MU’s stature in music composition, but also across the board in fine and performing arts.

Left: Music students perform at the gift announcement.

Right: Chancellor R. Bowin Loftin, Provost Garnett Stokes, and Senior Vice Chancellor Hank Foley

Faculty in High Places

Many of the University of Missouri’s leaders call Arts and Science their academic home, including the top three administrators.

Chancellor R. Bowen Loftin earned his doctorate in physics in 1978 from Rice University. He is a physicist who specializes in modeling and simulation, advanced training technologies, and scientific/engineering data visualization. His citations and honors include the American Association of Artificial Intelligence Award, NASA’s Space Act Award, and the IEEE Virtual Reality Conference Career Award.

Executive Vice Chancellor and Provost Garnett Stokes earned her doctorate in industrial/organizational psychology from the University of Georgia in 1982, focusing on personnel selection and promotion. Her research has helped government agencies and Fortune 500 companies in the development of their hiring procedures. She is a fellow of the Association for Psychological Science, the American Psychological Association, and the Society for Industrial and Organizational Psychology.

Senior Vice Chancellor for Research and Graduate Studies Henry C. “Hank” Foley is a professor of chemistry at MU and a professor of chemical and biochemical engineering at the Missouri University of Science and Technology. He earned his doctorate in physical and inorganic chemistry from Pennsylvania State University in 1982. Foley was recently named a fellow of the American Association for the Advancement of Science.



Suzanne Burgoyne's Gift Will Spark

BY KRISTI GALLOWAY

Since her college student days, Curators' Teaching Professor of Theatre Suzanne Burgoyne has passionately believed that theater can help create a better world. However, her parents discouraged her from majoring in theater because they didn't think she could make a living. Her friends didn't think that theater was political enough or spiritual enough to change the world. Burgoyne says, "I thought that theater ought to be just as political and just as spiritual as anything else. I vowed to dedicate my life to proving it!"

Following her passion, Burgoyne studied for a post-BA Fulbright year at the National Theater Institute in Belgium. She received her master's degree from The Ohio State University and her doctorate from the University of Michigan. At times, Burgoyne questioned her faith in the potential of theater, but that faith was renewed when she directed Arthur Miller's *The Crucible* at Creighton University in 1980.

To help her actors get into their roles, Burgoyne conducted extensive historical, sociological, and psychological research about the play. She also led her actors through interactive theater exercises that were predicated upon the question *The Crucible* raises: what would make ordinary human beings turn on and destroy each other? "By exploring Miller's insights with our minds, hearts, and bodies, we did confront Miller's vision," says Burgoyne. "I think we all were transformed. Directing *The Crucible* changed my view of the world and confirmed my belief in the power of theater."

Arthur Miller said, "Theater is the way we explore what it means to be human." Having experienced first-hand that theater can ignite creative thinking and personal transformation, Burgoyne agrees. For that reason, she applied for and received a Kellogg National Fellowship, a program intended to develop an interdisciplinary network of leaders who want to make a difference in the world. In her fellowship application Burgoyne pointed out, "The experience of rehearsing a theatrical production is, in itself, a form of active learning for the student artists involved. Engaging in acting exercises can awaken individuals to their own creativity, even enhance that creativity."

Promoting Active Learning

Recent research suggests that active learning is much more effective than lecture. During her time at MU, Burgoyne has expanded her work applying theater as active learning. She co-founded the MU Interactive Theatre Troupe and has been co-investigator on several major grants, such as MU's Ford Foundation Difficult Dialogues grant, an NSF Advance grant, and one using interactive theater to educate medical students on doctor/patient communication about breast cancer. Because of her passion for theater and teaching, she has also

received awards such as an Outstanding Teacher of Theatre in Higher Education Award from the Association for Theatre in Higher Education in 2003 and a William T. Kemper Fellowship for Teaching Excellence in 2004.

Burgoyne proved to her parents, her friends, and herself that theater can have a widespread impact beyond the stage. "I'm not suggesting that theater can save the world. But I'm no longer willing to dismiss the possibility that it could help," says Burgoyne.

With this in mind, she recently made a \$1-million bequest to create the Center for Applied Theatre and Drama Research. "What better thing can I do with my legacy?" asks Burgoyne. "I'm going to invest it in my passion and the students who share it."

Vision and Mission

The center will expand Burgoyne's current research interests, which include the impact of applied theater as pedagogy in a variety of disciplines. Burgoyne has found that applied theater exercises can be used to teach people, including doctors and scientists, to communicate effectively and develop creative problem-solving skills.

For example, Burgoyne teaches a course called Creativity for the Non-arts Major. With the rapid pace of change in the 21st century, employers are beginning to recognize creativity as an essential workforce skill. She helps students find their creativity and learn

"Directing *The Crucible* changed my view of the world and confirmed my belief in the power of theater."



Creativity

to harness it for future success. In one exercise addressing the pervasive fear of creating, Burgoyne has each student imagine and then role play an argument between his or her muse and inner critic. One student wrote in his journal, “I never realized that by being so hard on myself, I was conditioning myself not to take risks.”

Burgoyne wants to see these exercises and active-learning strategies made available to more students, faculty, and community members. Her gift to fund the Center for Applied Theatre and Drama Research will go a long way toward expanding applied theater education and enhancing the college.



PHOTO BY AVIA PHOTOGRAPHY



Suzanne Burgoyne's gift to establish the Center for Applied Theatre and Drama Research was announced at a special ceremony on March 9, 2015, in Rhynsburger Theatre. MU theater students engaged the audience, including Chancellor R. Bowen Loftin, Vice Chancellor Tom Hiles, and Dean Mike O'Brien, in an interactive performance.

PHOTO BY REBECCA ALLEN

Mark Wilkins' Gift Elevates



Mark Wilkins reached the summit of Mt. Vinson in Antarctica after a grueling journey. He knows the sweat and dedication it takes to reach a goal.

It takes significant preparation and commitment to climb a mountain. Mark Wilkins, BA '90 political science, knows the dedication that is required first-hand. Wilkins has climbed Mt. Vinson in Antarctica and Mt. McKinley in Alaska, just to name a few. He sets goals for each climb and trains diligently.

When Wilkins isn't climbing mountains, he works as a private wealth adviser for Merrill Lynch's Private Banking and Investment Group in St. Louis. At Merrill Lynch, Wilkins and his team work with a small number of wealthy families. He helps his clients set goals for their finances, make strategic decisions, and prepare children and grandchildren for the future. "The world is changing at an ever-increasing speed, right before our eyes. Being able to help my clients maximize their impact and make the world a better place is tremendously rewarding," says Wilkins.

Wilkins also finds purpose in his various involvements outside of work, especially his relationship with the university. He is an active member of the College of Arts and Science Strategic Development Board. "I think that much of what I have today is a result of my time at MU and the relationships I formed with faculty and staff when I was there," says Wilkins. "I am living a dream that I could not have even imagined before attending MU! I want to do what I can to share those same possibilities with others and continue to make MU a better place so more students can have the same opportunity that I have."

In many ways, Wilkins' experience setting goals in his personal and professional life have carried over to his philanthropic interests—especially his commitment to his alma mater.

Recently, Wilkins made a generous \$1-million contribution to the College of Arts and Science to help address current and future needs. Wilkins gave because he has made it his goal to see MU uphold and enhance its standing in the AAU. "It should be, by far, the most significant goal for the university because it encompasses so many areas, from research, to faculty recruitment, to student success."

Wilkins is thankful for his time at MU, and he remains engaged in the university's mission and hopeful about its future. When asked why he gave, he says, "Dean O'Brien asked me to." It's a seemingly simple answer, but it reflects Wilkins' commitment to the college and the overall success of the university.

"When the university elevates its status in the AAU, many building blocks will fall into place," says Wilkins. "This one strategic objective will allow us to recruit better faculty, build improved facilities, conduct more research, and ultimately, better educate students."

Right: Mark Wilkins transveres an ice crevasse while climbing Mt. Everest.





Why Give?

Maintaining the University of Missouri's status as a member of the AAU and one of the world's leading research universities requires substantial resources. This is true across the university, and specifically in the College of Arts and Science.

In many ways, the college is the front door to the education that students come to MU to achieve. Every student will take at least one A&S course by the time he or she graduates. We are proud to offer outstanding programs in the arts, humanities, sciences, and social sciences. Because of the college's size and the changing nature of state and federal funding, private support is now more important than ever. Each year, funding streams must be replenished in order to recruit and retain faculty, support research, sponsor new creative work, attract top students, and sustain all the academic activity taking place in the college.

Our alumni, faculty, staff, and supporters have a variety of reasons why they give. Some want to support the generation of new knowledge, others want to sustain the traditions they love.

Whatever the reason, each donation serves as an investment in the college's faculty, staff, and students. Gifts make our diverse college stronger and more vibrant—collectively elevating MU's standing in the AAU.



College of Arts and Science

University of Missouri | 317 Lowry Hall | Columbia, MO 65211



Calling all Tigers!

From the establishment of MU in 1839, its liberal arts and sciences have been the foundation of higher education. Today, the College of Arts and Science is the largest college in the state, with more than 450 tenured and tenure-track faculty members and 9,000 undergraduate and graduate students.

By financially supporting the college, you help us recruit and retain highly sought-after faculty and students who will go on to make great discoveries that can change the world. As our reputation for academic excellence is enhanced, your degree becomes more valuable.

Every gift counts.

To make a donation, please visit giving.missouri.edu/artsandscience or call 573-882-4409.