









A street-wide illuminated book installation titled "Literature vs. Traffic" from October 2018. The piece was created in eight days by the anonymous art collective Luzinterruptus, which is based in Spain, and 90 volunteers from Ann Arbor as part of the "Humanities and Environments" theme semester organized by LSA's Institute for the Humanities. Photo by Scott C. Soderberg





# CONTENTS

## Last Words

100 years ago, their ancestors escaped across the Atlantic. Now, their language is almost gone.

[ PAGE 04 ]



## Near Scrapes and Daring Escapes from...

gravity!

[ PAGE 31 ]

bad friends!

[ PAGE 58 ]

sea level!

[ PAGE 35 ]

reality!

[ PAGE 60 ]

toxic discourses!

[ PAGE 45 ]

mysterious and slightly gross public health threats!

[ PAGE 52 ]

campus!

[ PAGE 39 ]

pirates!

[ PAGE 48 ]



**[PLUS]** A special **thank you** to all of the **donors** who helped with the Victors for Michigan campaign

[ PAGE 64 ]







### Upstarts

The stratospheric rise of a hometown tech company.

[ PAGE 24 ]

### In the Public Eye

An innovative new history program empowers students by placing them where they can do good — and build the future.

[ PAGE 16 ]





BY BRIAN SHORT  RICHARD FINN GREGORY

# LAST WORDS

**LSA researchers work to document a lesser-known version of the Afrikaans language before the last generation of speakers is gone.**

---







**It's an early morning in June in Comodoro Rivadavia, a coastal city in eastern Argentina about halfway between Montevideo and Cape Horn. The city grew by about 50,000 residents between 2000 and 2010, and the next census could reflect even more. The air is brisk, the waves white-topped. Three LSA linguists—professors Nicholas Henriksen, Lorenzo García-Amaya, and Andries Coetzee—are in their hotel rooms preparing for the day. ¶ Coetzee gets coffee for the team. García-Amaya always gets a double espresso, and he taught Coetzee, the only non-Spanish speaker on the trip, how to order one. When Coetzee shows up with coffees in hand, that's the signal for the rest of the team that it's time to go.**

The three researchers load into a car and drive three hours west, deep into the Patagonian foothills where there's not much around except long-haul delivery trucks and wide fields dotted with pumpjacks bobbing their heads up and down as they draw oil from the ground.

"You can't really call them roads, when you get far enough up there," says García-Amaya, an assistant professor of Romance languages and literatures, of the rutted ground the team's car bumped across. "It's really like flattened earth. You look for the places where the grass is worn away and you drive there."

While they're in the car, the group plans out their day: who they're going to talk to, what data they'll be searching for. Then, finally, they arrive at their destination, a small village in the central corridor of Patagonia: Sarmiento.

For over a hundred years, Sarmiento has been home to a number of Afrikaner families whose grandparents and great-grandparents immigrated to Argentina from South Africa after the turn of the century. Sarmiento's linguistic situation is unique. Because the community was isolated for 50 years, their language didn't change in the typical pattern most immigrant communities follow. And because the group left Africa before Afrikaans was standardized, the language they speak is different in many ways than the version of the language spoken in South Africa today.

The slow adoption of Spanish as a standard spoken language, the archaic form of spoken Afrikaans that the community speaks, and other factors make the community a treasure trove of linguistic data that the professors are analyzing with support from LSA's Humanities Collaboratory.

But time is running out to document this unique variety of Afrikaans.

"This community lived in isolation for about 50 years," says Henriksen, an associate professor in the Department



CASTALINA DICKASON (previous page), HOLDING A PORTRAIT OF HER ANCESTOR ON HORSEBACK, AND AGUSTIN DICKASON (right) ARE MEMBERS OF A COMMUNITY OF AFRIKAANS SPEAKERS LIVING IN PATAGONIA. THEY ARE THE DESCENDANTS OF PEOPLE WHO INITIALLY IMMIGRATED FROM SOUTH AFRICA TO SOUTH AMERICA AFTER THE TURN OF THE CENTURY.





of Romance Languages and Literatures, “and they’ve spent another 50-plus years assimilating. Usually, right away in communities like this, there’s integration. Here it’s taken a lot longer, and that has allowed us to communicate with them in ways that wouldn’t have been possible with typical third-generation speakers.

“But the generation that is now between 60 and 90 years old are the last ones to speak this older form of Afrikaans. There are only about 40 of them left, and we wanted to meet and record as many of them as we could while we still can.”

# B

British and Boer colonies in southern Africa were in conflict throughout the second half of the nineteenth century. As the British moved into the south, many Boers moved north, eventually discovering diamonds and gold in the areas where they settled and lived until 1899, when more than 400,000 British troops fought against the much smaller Boer army. The British eventually took control of two areas the Boers had occupied: the Orange Free State and South African Republic.

In 1902, when a formal peace was struck between British and Boer authorities, 600 Afrikaans-speaking families left Africa for South America. The Argentinian government had promised fertile farmland to entice

disaffected Boers to settle across the Atlantic, but the land they found when they got there was dry and difficult to farm. About half of the original 600 colonists eventually returned to South Africa. The rest remained, and persevered.

The Boer colonists spent their first 50 years in Patagonia in relative isolation, which meant their linguistic evolution didn’t follow the typical pattern linguists see in immigrant communities.

Typically immigrant communities lose their language in about three generations. The first generation speaks the native language fluently. The second generation is usually still fluent because they speak it at home. The third generation knows a few words, but mostly speaks in the language of the larger community or society. But since the Boers were isolated for their first 50 years, that typical three-generation process has lasted five generations, leaving a community who speaks an archaic form of the language. After a century of living in a new land, the community is a kind of linguistic time capsule.

“They didn’t begin to speak Spanish until industry came to the area,” says Coetzee, a professor in LSA’s Department of Linguistics and director of U-M’s African Studies Center. “Then there was mining and drilling and suddenly they needed Spanish.”

The research team has been able to document the way economic factors have fueled a new pattern of language assimilation. The community is also the only place in the world where communities of Afrikaans and Spanish speakers have come into direct contact with each other, and the ways in which the languages have affected and influenced each other are absolutely unique.

The community’s amalgam of identities – African and South American, Boer and Argentine – also created a unique social environment. The conversations that the team was having with members of the community touched on powerful ideas about race, culture, history, religion, community, connection, and personal identity. These stories were fascinating, but they were also far beyond these professors’ expertise as language specialists. The group began to wonder what they could do to take advantage of the data they were collecting, and how they could expand their project to include research on regional culture, national histories, and religious studies.

One thing was clear: They needed a bigger team.

**AFTER A CENTURY  
OF LIVING IN A NEW LAND,  
THE COMMUNITY IS A KIND OF  
LINGUISTIC TIME CAPSULE.**





# T

The team brought on two additional LSA faculty members and a graduate student to help explain and explore the in-depth interviews they were collecting: linguistic anthropology Ph.D. candidate Joshua Shapero; Paulina Alberto, professor of history and Romance languages, who researches racial identity and race relations in Argentina; and Ryan Szpiech, professor of Romance languages and Judaic studies, who offered insights into the community’s Dutch Reformed Church traditions—especially as they interacted with predominantly Catholic Argentinians.

Alberto and Szpiech have worked to help the linguists craft more directed and thorough interviews with community members, and the interviews themselves have become source material for new research by Alberto and Szpiech.

“In the beginning, I kind of thought that my role would be a little more contained,” Alberto says. “I thought I would point out a few things that the team could think about and give them a few reading suggestions. But the more I read the documents and the more I listened to the transcripts, the more interested I became in the ways that the community talked about their own and other people’s races and identities, and how these ways of describing themselves and others changed over time. And I thought, that’s great. That’s really the stuff that I’m interested in.”

“The Dutch Reformed Church, the Calvinist Afrikaans church most community members belong to, is pretty conservative,” Szpiech says. “And in the middle of this sea of Catholicism, it’s really the only group like this in all of South America. I expected them to be

kind of like this island apart from their neighbors, but they’re really hybrids. Most of the younger generations are losing the Dutch Reformed Church’s view, and that was really unexpected.”

To support this larger research group and a set of even more ambitious project goals, the team applied to and was awarded a spot in LSA’s Humanities Collaboratory. The Humanities Collaboratory supports multidisciplinary projects touching on various areas of the humanities that look for innovative ways to conduct and communicate scholarship. The Humanities Collaboratory provides a walk-in office and lab space on the first floor of the Hatcher Graduate Library and two years’ worth of project funding.

LSA PROFESSORS ANDRIES COETZEE (second from left), LORENZO GARCÍA-AMAYA (third from right), AND NICHOLAS HENRIKSEN (second from right) SHARING A MEAL WITH COMMUNITY MEMBERS. “IT WAS ALWAYS COFFEE AND DESSERT,” SAYS GARCÍA-AMAYA. “WE WOULD HAVE DESSERT FIVE TIMES IN A DAY BECAUSE THAT’S WHAT THEY GAVE US WHEN WE VISITED. WE ALWAYS FELT WELCOME.”









THENIS "TY" DICKASON (left) AND HIS BROTHER OSVALDO (right) WERE FEATURED IN THE 2015 DOCUMENTARY *BOERS AT THE END OF THE WORLD*, WHICH RECORDED THE COMMUNITY AND THE LSA RESEARCH TEAM'S EFFORTS TO STUDY THE VERSION OF AFRIKAANS STILL SPOKEN IN PATAGONIA.



With Alberto's help, the linguistics group crafted a new approach and a new set of questions to take back for another round of interviews in Patagonia. The group used archival material, pulling out quotes and photos and newspaper clippings from the settlement's early years to prompt more fully developed reflections from members of the community. And almost immediately, it became clear that the collaboration was producing more together than it could have separately.

"I was interested in designing questions that would help make visible some of the internal, tacit assumptions that people sometimes have about people from other ethnic or cultural groups," Alberto says. "Thanks to the fact that the team filmed the interviews, and guided partly by Lorenzo [García-Amaya], whose work has to do with the quality of people's intonations and hesitations, you can really see when they're pausing, when something is really hard to explain. And that's something that a historian might have a harder time seeing if it were just a printed source."

"The community isn't monolithic," Coetzee says. "They don't have one conclusion about their identities as Afrikaners or Argentinians, but identity is very important to all of them. They are all of them actively working to make sense of it."



"We're doing ten different research tasks at a time," Henriksen says, laughing. "But if you ask any other Humanities Collaboratory team, they're all doing ten things. What I think is unique about our project is that in addition to all of this great intellectual work, we are also trying to reimagine how we can do undergraduate education in the humanities."

From the beginning, undergraduate students have been involved in the Humanities Collaboratory phase of the project. Students tagged, labeled, and organized linguistic data for faculty review. They processed and reported statistical results. In all, more than 30 students have contributed their time, skill, and expertise to the project, and many cite their experience as helpful or necessary to positions that they've since taken at Amazon, Apple, and highly competitive graduate programs. Ella Deaton (A.B. 2017), who contributed to the project before she graduated, now works as a project employee, working closely with faculty and co-writing some of the group's papers. LSA senior Sean Lang wrote his Honors thesis on linguistic research that he did with the group—work he largely conducted on his own with the help of two other undergraduate students and under the supervision of a graduate student and faculty members.

"All of the undergraduates are doing important work and they're all getting a chance to have responsibility," says Lang. "Discomfort is such a cornerstone of growth. This project has meant a lot of autonomy, a lot of responsibility, and, for me, not always when I wanted it. But I think it's a good thing to adjust to."

"I was having trouble finding a lab position," says LSA junior Tony Tran, who worked with the research team as part of the Undergraduate Research Opportunity Program. "There were a lot of labs where you just do one thing and it's very repetitive. And sometimes you don't even meet the professor. I was really surprised by how close everyone was and how often I was having conversations with Nick [Henriksen] and Lorenzo [García-Amaya]."

"What makes us really different from other labs is the idea of community," Henriksen says. "There are labs where hierarchy is necessary. But in our case, we think that it's really important for all of us to understand the big picture. And I think that having everyone on the same page about this has really helped us do great work."

"I also think that this approach is part of what has made our students so successful after they leave," Henriksen continues. "Employers are looking for graduates who are broad thinkers, who can work collaboratively, who can be mentored and who can also mentor others. Our students learn how to take directions from faculty. They learn how to be organized. They learn how to negotiate when they feel like the work isn't on the right track. All of these are vital skills for success in employment and in life."









SONGS, CELEBRATIONS, AND RELIGIOUS HERITAGE REMAIN A PART OF THE AFRIKAANS-SPEAKING COMMUNITY'S LIFE, BUT THE LANGUAGE IS DISAPPEARING. IT IS ESTIMATED THAT FEWER THAN 50 SPEAKERS OF THIS VERSION OF AFRIKAANS ARE ALIVE TODAY.

# T

The research team is working to get its thoughts down on paper now, writing a series of academic articles documenting their research findings but also working to record the process of their collaborations so that other programs and teams can benefit from their expertise.

“How can this become a model for other people who are doing something similar in the humanities?” García-Amaya asks. “I don’t think we have the full answer yet. We know what worked for us, but I hope we can think about it a bit more and then extrapolate what we are doing to give some guidelines to other people.”

“Collaboration isn’t easy,” Coetzee says. “It takes conscious thinking and negotiation between all participants about the process. And in a humanities project, what you’re talking about are ideas. You have to be open to hearing those ideas, to participating in in-depth discussions, and to confronting things you’re uncomfortable with.”

“It’s really important to have outreach,” Henriksen says, “to talk to people and to make them realize what it is that we do. I think a lot of people don’t realize what we do in the humanities.

“Of course we want students to develop critical thinking skills, to be able to see beyond a text, to read something and say, ‘Well, this person said this today, but they really meant that.’ But on a higher level, the humanities are really about realizing the importance of the human experience, and we have gotten our students to do that. We have been able to give them the context to think more broadly, to expand their viewpoint beyond their own personal perspective.


“I think that sometimes gets missed in the way that the humanities gets pitched,” Henriksen says. “Because if we’re not able to have empathy toward other people, then it’s very difficult to make change.” ■












# IN THE PUBLIC EYE

**A new Department of History initiative is committed to making the value of a history degree easier to see and understand by contributing to the common good.**

BY SUSAN HUTTON  JULIA LUBAS





Justice, eley

DATE OF COMPLAINT  
TYPE OF CASE

NAME *Mr. [illegible]*  
ADDRESS *[illegible]*  
OCCUPATION *[illegible]*  
AGE *[illegible]*  
DATE OF ACCIDENT *Dec 1*



SE

*Claimed she was in many  
The girl was taken to  
blood pressure was taken  
The girl was taken to  
The girl was taken to  
The girl was taken to*

DISPOSITION:

INTERVIEWED BY *[illegible]*



national conversations about higher education, humanities get a bad rap. As popular targets in the culture wars, they're derided for cultivating useless knowledge. It's a mischaracterization, but there is reason to be worried about the future. Since the Great Recession, humanities enrollments have fallen starkly. According to the American Academy of Arts & Sciences, the humanities constitute about five percent of all conferred degrees—the fewest since 1949. This decline has sparked conversations on campuses across the country, and it has inspired LSA's Department of History to chart a different course with a new initiative called U-M History in the Public Service.



“We want to make an affirmative argument about why history matters,” says Professor of History and American Culture and Department of History Chair Jay Cook. “We want to push back against the devaluation of the humanities and mobilize the power of historical thinking and its potential to change lives. Historians have lost their place in the highest levels of public discourse, and we need to clearly communicate the work we do that contributes to the public good.”

The department has developed a new type of collaborative, project-based course it calls HistoryLabs. Rooted in publicly engaged scholarship, HistoryLabs are practicums in which students apply the knowledge and skills they’ve honed through their history courses to complex social problems. “They demonstrate—in the most concrete terms possible—the broader value of our research, expertise, and training,” Cook says.

The American Historical Association (AHA) bolstered the department initiative with early financial and institutional support. The initiative was also supported by a major gift from Catherine and Gary Andrejak in honor of Catherine’s father, former member of the history faculty Gerald Saxon Brown (1911–1999).

“We want HistoryLabs to arm our students with impressive dossiers. We want to make their skills legible and to effectively position them for multiple career paths beyond their degrees at U-M,” Cook says. “They may generate work that overturns convictions or contributes to the rapidly evolving body of immigration law. These are impacts that go way beyond saying a student wrote a great senior honors thesis or published a really good term paper in a history journal.”

The first two HistoryLab courses launched in fall 2018, but they originated in two large-format lecture classes from the winter before: “Crime and Drugs in Modern America,” taught by Arthur F. Thurnau Professor of History Matthew Lassiter; and “Immigration Law,” taught by Jesse Hoffnung-Garskof, professor of history and American culture. The lecture courses laid much of the foundation on which Lassiter’s “Policing and Social Justice Lab” course and Hoffnung-Garskof’s “Immigration Law Research Clinic” course were built.

“My large lecture class covers the war on crime and the war on drugs in the twentieth century,”

Lassiter explains. “The majority of the students in my first lab course were recruited from that class. The scale of the lab’s work is so ambitious that it’s difficult to cover the background content they need to know. The lab is more about presenting the students with a question or a problem and having them investigate it.”



In his fall 2018 course, Lassiter’s students investigated police shootings of civilians in Detroit and the anti-police-brutality movement that emerged between 1957 and 1973. As they dug in, students were soon grappling with deeper questions that resonated with the Black Lives Matter Movement, too: How did policing work in the city of Detroit? How many people did the police kill?

In Detroit, the history of police violence is long. In the late 1950s, the large number of police brutality incidents against African Americans caused Detroit’s civil rights groups to demand a civilian review board. The county prosecutor had ruled, with one exception, that every police killing between 1957–1973 was justified. In a way, says Lassiter, the HistoryLab became the civilian review board itself.

“Police brutality and police killings of black people have faced more scrutiny these past few years than it has in my age group’s collective memory,” says LSA senior Mahal Stevens, a student in Lassiter’s HistoryLab. “And as with any current issue, it’s important to trace its history.”

“Our research was primarily conducted in archives,” explains LSA junior Jack Mahon. “A research project of this style hasn’t been produced to date, and most likely would not have surfaced without the work of this lab. By creating a concrete history of police violence and racial injustice in Detroit, we present key resources for progress in criminal justice reform.”

“It could be tedious,” admits LSA senior Jamie Murray, “but going through all the information was crucial.” She was struck by police complaints filed 50 years ago. “The language they used to describe police behavior was so similar to many of the cases we hear about today.”

The students collected their findings and presented them on a website, which included an interactive map of Detroit that recorded where police-civilian encounters happened. The encounters are recorded in different colors to distinguish them by type, e.g., a killing is marked with one color, an assault with another. The locations are recorded on historical maps because many neighborhoods were destroyed when interstate highways were built.

African Americans are disproportionately the targets of police violence, and one explanation is the community violence hypothesis. The hypothesis posits that because black neighborhoods typically have higher crime rates, police spend more time patrolling and interrupting crimes in these neighborhoods, which results in more violent incidents.



DETROIT  
POINTS OF INTEREST.

### Key Witness At Hearing



# STOP POLICE BRUTALITY!

KEY WITNESSES during Trial  
Michael...  
Bob...  
...

STREETS.



JOIN THE M...  
ON THE...  
7th PREC...  
TO FOLLOW PICKET...



DETROIT POLICE HEADQUARTERS





But Lassiter says the lab's maps reveal something surprising: Most police shootings didn't happen in the neighborhoods with the highest crime or poverty rates. They happened in white neighborhoods, in the midtown corridor, or on the racial color line.

The lab hopes this and other findings will provide a community resource and, in some cases, help to correct the record, too.

"There are people whose relatives were classified as criminals at their death. Our research shows that some of them died as a result of police misconduct," Lassiter says. "That's not true in all cases, of course. There's a broad spectrum of things that happened, but I think we've researched several specific cases, such as the case of sex worker Cynthia Scott who was killed by police, that might merit official apologies."

## SECURING ASYLUM

Even when it's not the focus of a presidential administration, immigration law is often in flux, as are the groups that are eligible for asylum. To make an asylum claim, you need well-documented evidence that you will face persecution if you return to your country of origin — persecution that meets a specific legal definition. You might have scars, medical or police records, or a threatening letter, but you are only eligible for asylum if you can show a well-founded fear that you'll be targeted again because of your race, religion, nationality, political opinion, or membership in a particular social group. A successful asylum application requires objective evidence about conditions in your community of origin: the existence of your social group, general persecution against members of that group, and the failure of your government to protect members of the group. This is the kind of research that students in Jesse Hoffnung-Garskof's HistoryLab are trained to do.

Hoffnung-Garskof wondered if his students could research and write up the legal evidence that courts use to establish grants of asylum. Working in partnership with the Michigan Immigrant Rights Center (MIRC), a local nonprofit organization that provides pro bono legal services to immigrants, students began to research and compile data MIRC's lawyers could use to file asylum cases.

Working with individual, anonymized cases, the lab identified and assembled the materials MIRC's lawyers requested for cases focused on unaccompanied minors. "We were responsible for background research for various asylum cases," explains Jesse Yeh, a Ph.D. student in the Department of Sociology. "The lawyers sent us basic facts about the case and the broad questions that needed research support. We also responded to specific questions that the lawyers had."

People seeking asylum frequently come from the same places, and, not surprisingly, they're often fleeing from the same persecutions. Of the 14 undergraduate students in Hoffnung-Garskof's lab, 11 had also taken

"WE'VE TRIED TO CREATE AN AFFIRMATIVE ARGUMENT ABOUT WHY HISTORY MATTERS," SAYS PROFESSOR JAY COOK. "THAT DEMONSTRATES — IN THE MOST CONCRETE TERMS POSSIBLE — THE BROADER VALUE OF OUR RESEARCH, EXPERTISE, AND TRAINING."





“AT U-M, WE WERE TRAINED TO WRITE ESSAYS AND THINK ANALYTICALLY,” SAYS LSA SENIOR SAFIA SAYED, “BUT THIS LAB REQUIRED WE LEARN TO THINK AND WRITE FOR A SPECIFIC, PRACTICAL CONTEXT.”

his immigrant law lecture class last winter. One student had expertise in database technology, so when two graduate students and a library science intern added their skills to the pot, the lab was poised to start building a country conditions database for use in future asylum cases.

Once they found the material, they tagged it by country or region; by gender, sexual orientation, ethnic group, or race; or by the nature of a crime. But effectively identifying such information requires more than research skills. It also relies on understanding the history of northern Central America, where most of MIRC’s cases come from, in order to provide the proper context. Having access to material written in different languages was also essential, and the lab worked with LSA’s Language Resource Center to build a network of volunteer translators with expertise in Latin American studies.

Though it’s still under construction, the database has reached a prototype phase. The students



continue to refine their research while being careful to be consistent. They hope to fill the database with rubrics of information that can be easily found and used in cases that are filed around the country.

“If someone looks in the database by gender or indigenous status, they can check those boxes and, hopefully, our research will pop up,” explains LSA senior Safia Sayed. “The whole idea underlying the database is that once a piece of information has been identified as useful in establishing a particular social group, then every lawyer should be able to access that same piece of information. That work shouldn’t need to be done over and over.”

“We have gotten to work with MIRC attorneys to figure out how could this work,” says LSA senior Yezenia Sandoval. She also notes that they must continue to scrutinize new information they find to detect similarities in individual cases and establish a country or region’s broader patterns.

The stakes were different from typical work in humanities classes. “When we found something that was particularly horrible, we got excited,” says LSA senior Sophia Lusk. “We’d say, ‘Oh, this gang has been terrifying this specific neighborhood! That’s perfect!’ We were excited because we had this source, which could help our client, but the excitement also felt strange and misplaced.”

“We were doing something real with history and making an impact on children’s lives,” Sayed says. “At U-M, we were trained to write essays and think analytically, but the lab required we learn to think and write for a specific, practical context.”



The U-M History in the Public Service Initiative considers the situation of its graduate

students, too. As the history department’s then director of graduate studies, Rita Chin, history professor and current associate dean for social sciences at Rackham, convened a group of faculty and students at U-M to explore the ways that transferable skills and public service could be further integrated into the graduate curriculum.

Out of those discussions, Chin and Jeffrey Veidlinger, Joseph Brodsky Collegiate Professor of History and Judaic Studies, developed a graduate-level HistoryLab, which launched in the winter 2019 semester. Partnering with the United States Holocaust Memorial Museum, two teams of LSA graduate students are working to create two collections for the museum’s *Experiencing History* online teaching tool: a comparative fascism exhibit and an exhibit that examines what Americans knew about the Holocaust while it was happening, about American anti-Semitism, and about support for Nazi Germany.

“The students – many of whom have no training in Holocaust history – are learning how to apply their research and analytic skills to unfamiliar topics,” Chin says, “and they are learning to communicate complicated historical arguments to audiences beyond academia.”

“Since the Holocaust museum is an independent establishment of the United States government operating as a public-private partnership, there are a whole bunch of stakeholders involved,” Veidlinger explains. “Students are not accustomed to negotiating what to say with different groups of people, but that’s very much what public historians do.

“Typically, we encourage our students to find something new, to be creative and original,” he continues. “This work is very different. Here we’re trying to teach them to reach a common view, to present something that everybody – including the United States government – can say is accurate, to articulate a consensus viewpoint.”

Part of the AHA grant the department won to develop its public service initiative included a provision for a career diversity fellow – a graduate student or a postdoc who absorbs some of the administrative work implicit in developing such a program and gains valuable administrative experience while doing it. The department hired Ph.D. student Matt Villeneuve as its first career diversity fellow. He believes non-academic audiences change the story you tell, and he sees the department’s openness to shifting its perspective as a significant change.

“My generation grew up understanding you can transmit rigorous ideas through different mediums,” he says. “We know you can do really robust scholarship through a podcast or a documentary. For a long time, if you wanted to hang in the academy, your ticket was a formal dissertation, which might realistically have an audience of as few as a dozen experts in the field. Demonstrating your expertise to your colleagues is important, but that kind of presentation just isn’t really satisfying anymore.” Villeneuve sees the value in addressing such a narrow, specific audience, but he also sees its risks.

“My dad is an enrolled member of the Turtle Mountain Chippewa Tribe of North Dakota,” he says, “and I work on Native American history, particularly around education. One thing that comes up in my work is the damage that so-called experts can do to people who are historically excluded from centers of knowledge production.

“Listening to diverse groups of people makes us better historians,” he concludes. “I think that’s the larger value.” ■





BY ELIZABETH WASON  JEREMY WHEELER

## Upstarts

A company founded  
by two LSA alumni  
and headquartered  
in Ann Arbor

recently sold  
for \$2.35 billion.

(Yes, billion.)


**What did they do right?**







**Our business fundamentally builds trust, so people can do what they're supposed to do.**



Enter the offices of Duo Security in downtown Ann Arbor, and you could be fooled into thinking you're at a tech startup in Silicon Valley. In the company's green-tinted space, refrigerators are stocked with drinks.

Filled fruit baskets crowd the kitchen counters. Vanity throw pillows themed with Star Wars and vintage gaming consoles scatter across mismatched furniture. Skateboard decks with Duo logos dangle from a few of the walls. Board games lean on shelves along with books like the *Wu-Tang Manual*. People with headphones look up as you pass their standing desks, and huddle rooms line the halls, filled with furrowed brows and grins.

These casual Duo digs disguise the unicorn hidden inside.

Because a unicorn earns its nickname as a privately held company worth more than \$1 billion, this cybersecurity company counts as a double unicorn: Duo sold late last year for \$2.35 billion. That's billion with a "b," for a business built in Michigan by two LSA alumni. Duo is a unicorn made even more magical for having emerged out of the Midwest, its main hub in a small-ish town of 120,000 people, one of fewer than 150 unicorns in the entire United States.

Duo specializes in making digital security effective and easy, offering convenient methods to securely log into networks on and through computers and mobile devices. Duo mediates half a billion logins per month for about 14,000 customers, including Facebook, Yelp, Paramount Pictures, Twitter, and U-M. After logging you in, Duo gets out of the way so you can do your work. "Our business fundamentally builds trust, so people can do what they're supposed to do," co-founder Dug Song (B.S. 1997) says.

Duo became an incredibly successful security company in part by adhering to values besides the bottom line, such as inclusion and community. But before they knew where they would end up, the founders first rolled out their startup.

(LEFT) Being punk doesn't mean that Dug Song (B.S. 1997) can't start a successful tech business, living and working by the mantras "be kinder than necessary" and "assume positive intent."

### Unicorns and Owls

If you applied to work at Duo in the early days, you had to learn to draw an owl.

Applications posed this prompt: Share a picture of a badass owl. Co-founder Jon Oberheide (B.S. '06, M.S. Engineering '08, Ph.D. Engineering '12) knew someone was right for the position if they gamely improvised a hand-crafted attack owl; he'd dock them if they copied and pasted any old image plucked from a Google image search.

A classic joke on the internet shows the two-step process for drawing an owl: Step 1. Draw two circles to approximate the body shape of the animal. Step 2. Just go ahead and draw the rest of the freaking owl *in painstaking detail*. When Duo started as a small company, all employees had to fill all roles. The silly owl tutorial demonstrated as much: First, understand the basics of the work, the company culture, and the mission. Then, go and figure out how to fill in all the rest of the details to create an impossibly beautiful end product.

In the middle of a traditionally scary and unwelcoming industry, co-founders Song and Oberheide created an accessible company that customers and employees love to love. Duo's net promoter score, a measure of customer feedback, rivals major tech companies like Apple. Literally all recent Duo interns rate their experience at the company as a ten out of ten. And since its humble beginnings, Duo has checked in regularly with the team through company surveys; employment websites show consistent positive feedback from hundreds of current and former employees.

At work, they've created an atmosphere of acceptance and aligned values, hiring for cultural contribution instead of cultural fit. At national conferences, Duo



regularly sponsors inclusive events that celebrate women coders and queer programmers.

“You can follow the same recipes that other companies have taken, just as a cookie-cutter approach,” says Oberheide, “but you’re only going to be as successful as those organizations. We intentionally took different paths to success.

“We were optimistic that it would be successful, but we were also just trying to do something that was very different in the security industry,” Oberheide continues. “Not only solving the right problems with our technology, but building a different kind of company, in the way that we communicate and the way that we market and sell our technology.”

“We work very hard to think about how we align individual incentives toward the organizational outcomes that we want to achieve,” adds Song.

In other words, he says, “If you’re building teams or doing joint research, you don’t really get to tell people what to do. If they want to join a shared journey that we’re on, with some larger purpose and mission — which in Duo’s case is to protect others from harm — then what they want to do can contribute to and develop their careers.”

Song learned how to collaborate while cutting his teeth on open-source projects as one person on a team of many autonomous, impassioned volunteers. Hanging out in hacking communities as a youngster, he learned from the “general spirit of a true collaboration of peers, because that’s what the internet was, and that’s what a lot of the hacking community is,” he says.

Song and Oberheide first met when, as the chief security architect at a company called Arbor Networks, Song caught the younger Oberheide hacking into the company’s system.

**More than technical solutions, Duo brings better design to the interface of humans and technology.**

Song admired Oberheide’s spunk and hired the high schooler for his hacking skills.

Since then, Oberheide has chalked up more exploits, which have resulted, for example, in a ban from making any purchases through Google; stern phone calls from detectives in the Ann Arbor Police Department; and free candy bars from a vulnerable vending machine.

### Department of Yes

As an LSA student studying computer science, Oberheide loved the classes he took for his liberal arts degree. “I had a psych class about brain chemistry and everything behind what drives human psychology,” he says. “It was like trying to understand how a different computer works — the computer in your head.”

After undergrad, Oberheide had a choice: “Do I go and work full time at a company like Arbor Networks, or do I go into the Ph.D. program?” Either way, he would be working with entrepreneur-minded Engineering Professor Farnam Jahanian, who both led a lab at U-M and ran Arbor Networks.

Oberheide chose the research track. He ended up working with graduate student colleagues who went on to form other hugely successful tech companies. “We didn’t want to just do some research and then publish it,” Oberheide says. “We wanted to build technology and deploy it — to see it in real life.”

As for Song, “My other hobbies tend to be things without too many rules or regulations,” he says, citing skateboarding, graffiti, hacking, and punk rock. “Those kinds of activities attract certain types of folks that are a little bit more transgressive, and more diverse because of that — folks who find the edges to be more interesting.”

After working together at Arbor Networks, and as Oberheide worked on his Ph.D., the two searched for ways to collaborate again. But the projects Song suggested, such as internet television company Zattoo, didn’t appeal to Oberheide.

(RIGHT) Jon Oberheide (B.S. ‘06) has a longtime interest and formal research background in offensive security research, which means that he’s made a habit of “exploring systems around us and finding unique ways to break them.”







**We're engineering different outcomes and effecting change in society through what we do.**

Eventually, the timing was right. Oberheide graduated, and Song was ready to build something new. Together, they ended up building Duo.

Both co-founders brought their computer science expertise to the company, but, Oberheide insists, “The technology that has traditionally been used to solve these problems was invented in 1985 and really hasn’t changed for 30 years.

“The *what* we are doing is not anything new – it’s *how* we’re designing it, how we’re delivering it, and how we’re building security for *people*, rather than for machines,” Oberheide says. More than technical solutions, Duo brings better design to the interface of humans and technology.

Instead of defaulting to what Oberheide calls a “Department of No,” which might involve guarding a perimeter to keep threats out, Duo helps create an environment of trust that brings good users in. “Let your people use the devices they love and the apps that make them productive, but in a safe way,” says Oberheide. “Otherwise, if they have to jump through 20 hoops to share a file, they’ll just use some app that’s not secure.

“Organizations can focus on building a paved path for their employees, to make it easy to do the right thing. And then if they start doing the wrong thing, they have some guard rails and friction.”

### **All Up in Your Business**

Figuring out frictionless solutions as a business is where Oberheide and Song see the biggest return on their liberal arts background. They talk about designers at Duo, some of whom delve into user research and do the “anthropology of security with communities that we serve.” Because the design has as much importance as the tech, Duo hires one designer

for every five engineers at the company – a huge ratio compared to the 1:30 or even 1:200 engineer-heavy ratios at other organizations.

“But I think so much of what we do in life, including the humanities, is a kind of engineering,” Song says. “We’re engineering different outcomes and effecting change in society through what we do. And that’s where I feel like my own education in the liberal arts is probably some of the most useful and grounding in the business of company-building, versus product-building.

“We’ve done a great job building product and technology,” Song continues. “But just as much, I think we’ve hopefully done a very good job in building a better kind of company as well.”

Duo now has more than 700 employees with hubs in San Francisco, Austin, Detroit, and London. To this day, the co-founders still meet with new hires to demo the owl cartoon, but they’ve turned their attention to more fundamental questions, too. “Dug and I focus a lot on why we started the company, why Duo exists as an organization, and what we’re trying to achieve as a company for our customers, for the market, and for the communities we operate in,” Oberheide says.

Beyond Duo, they’re interested in modeling a pay-it-forward culture that can nurture other area startups and benefit the Ann Arbor community generally.

“It’s just sort of the way we have always operated,” says Song. “Even when we started the company in the Tech Brewery, there was a community of startups that we were able to draw upon and draw from. Just the detritus and the life cycle of startups growing, dying, becoming part of the soil again, and feeding what does survive. We’ve brought into Duo a number of folks who were part of some of those companies.

“I guess we’re something special, in terms of a large exit,” Song admits about the recent sky-high sale of the company, “but there’s tremendous depth to the community that exists in Ann Arbor. There’s a heritage of ideas and organizations here, and Duo is part of that long lineage of people, programs, groups, ideas, and companies.

“It’s like every few years, people say, ‘Oh, now there’s tech in Ann Arbor.’” Song throws up his hands. “And I’m like, ‘There’s always been tech here!’” ■

FACULTY BY ELIZABETH WASON

# Surviving the Sun

Recently launched: the closest trip to the Sun ever attempted by the fastest object ever made. Meet the Parker Solar Probe, the spacecraft designed to survive certain death.





**T**HE SUN IS a dangerous place. Charged particles burst from its molten plasma at millions of miles per hour and millions of degrees Fahrenheit. Those solar winds, flares, and coronal mass ejections can tear through outer space, all the way to Earth, and fry our global electrical grid, GPS navigation systems, and long-distance communications.

Up close, the danger is even more immediate. But up close is exactly where Justin Kasper wants to be.

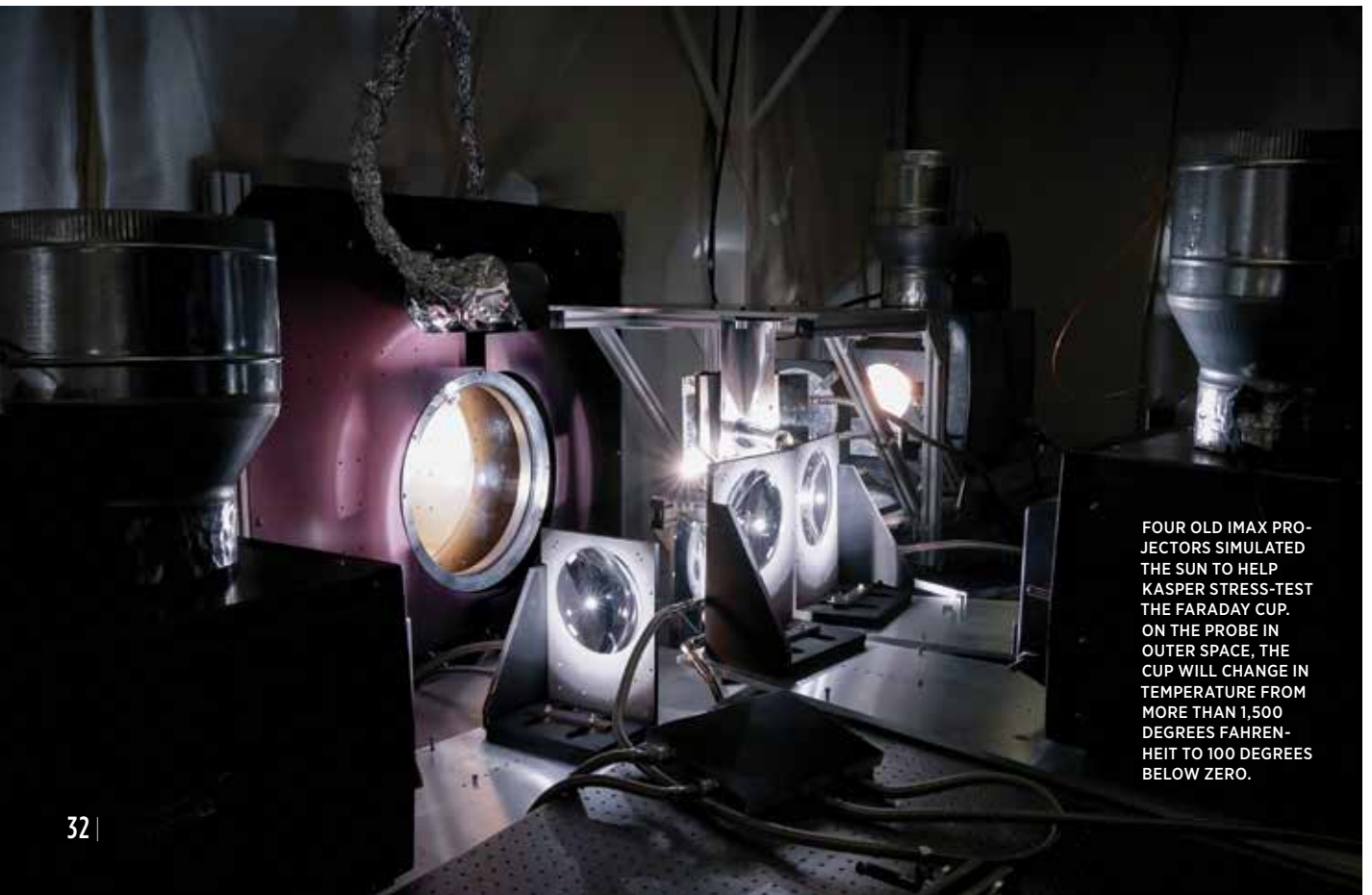
A professor in the Applied Physics Program in LSA and the Department of Climate and Space Sciences and Engineering, Kasper has a seat on the executive committee of the Michigan Institute for Research in Astrophysics. He's well aware of the intractable problems that have prevented space missions from approaching the giant fiery center of our solar system. But he's always wanted to send a probe to the Sun, anyway. And now he and an international team of researchers finally have figured out how to do it.

THE LAUNCH FELT MORE DANGEROUS TO KASPER THAN TOUCHING THE SUN, IN TERMS OF INSTRUMENT SURVIVABILITY. HIS INSTRUMENT ON THE SOLAR PROBE CONTAINS CERAMIC BALLS THAT RATTLED DURING LAUNCH TO ABSORB EXCESS VIBRATIONS, PREVENTING ELECTRONICS FROM TURNING TO DUST.

Last August, they launched the Parker Solar Probe, a NASA spacecraft that will carry four sturdy instruments close enough to the Sun to extract secrets about how it works. They've sent the probe in the second-largest rocket that exists, the Delta IV Heavy. Only such a large rocket could give the car-sized probe enough speed to bust out of Earth's orbit and veer in the direction of the Sun's certain danger.

During its seven-year mission, the probe will revolve around Venus for seven gravity assists, which will boost the probe into closer and closer orbits around the Sun. All told, the probe will circle the Sun 24 times, with a top speed of about 430,000 miles per hour and a closest approach less than four million miles from the Sun's surface—about double the speed and seven times closer than the prior records set by the Helios 2 spacecraft in 1976.

The solar probe itself is well equipped for protection against the Sun's destructive powers, even at that close a range. A heat shield protects much of it from direct contact with the Sun's strong rays. Mostly carbon composite, the thick



FOUR OLD IMAX PROJECTORS SIMULATED THE SUN TO HELP KASPER STRESS-TEST THE FARADAY CUP. ON THE PROBE IN OUTER SPACE, THE CUP WILL CHANGE IN TEMPERATURE FROM MORE THAN 1,500 DEGREES FAHRENHEIT TO 100 DEGREES BELOW ZERO.

(LEFT) Levi Huttmacher/Michigan Engineering (RIGHT) Elizabeth Wason

shield bears a coating of white ceramic paint and crushed sapphire to reflect light and heat. Amazingly, instruments in the shadow of the shield don't get much warmer than room temperature.

A cooling and heating system gives the solar probe consistent conditions even within a wildly fluctuating temperature range—from the beyond-boiling heat of the Sun to the frigid emptiness of outer space. Circulating water sheds extra heat through radiators, and the spacecraft can rotate to thaw instruments in the warmth of a distant Sun. Kasper says that the probe thus regulates its own temperature “just like a warm-blooded animal.”

The spacecraft flies with an autonomous correction system on board, designed to detect and respond immediately to any predicaments. Urgent problems would take mission control on Earth too long to even notice on a probe so far away, making the option of manual corrections impossible.

## KEEP IT TOGETHER

Four sets of scientific instruments attached to the probe have been specially designed for the task of sending data back to Earth without becoming a blobby mess. One takes photos, a second measures electric and magnetic fields, and a third tracks energetic particles flung from the Sun.

## THE PROBE WILL — AND ALREADY HAS — SET NEW HISTORICAL RECORDS FOR CLOSEST ENCOUNTER WITH THE SUN AND FASTEST OBJECT EVER CREATED.

As for the fourth set of instruments on the probe, Kasper leads the team in charge of scooping particles directly from the Sun's roiling atmosphere. The instruments include what they call a Faraday cup, about the size and shape of a roll of packing tape, which can measure the speed, temperature, and direction of particles in the solar wind.

A more primitive model of the Faraday cup has floated near Earth since its launch in the mid-1990s to intercept solar wind samples. By collecting the



AN EARLY PROTOTYPE OF THE FARADAY CUP. AMAZINGLY, KASPER FOUND THROUGH EXPERIMENTS THAT CONTACT WITH THE SUN WILL CLEAN THE CUP, NOT DESTROY IT: HOT TEMPERATURES BAKE OUT THE METAL'S IMPURITIES, WHICH IMPROVES HOW THE INSTRUMENT FUNCTIONS.

particles with the two Faraday cups stationed at two different points in space, Kasper and his lab hope to witness how the solar wind starts at the Sun before striking the Earth.

“We can take those measurements right at the source and compare them with what we see close to Earth, to learn something about how the wind evolves along the way,” says applied physics Ph.D. student Ben Alterman.

Data from the Faraday cup and the other instruments on the solar probe will be the first of their kind, incredible for their novelty. The hope is that this new information will give a better idea of how to spot worrisome wind with more advance warning, and to help solve other lingering mysteries about the Sun's atmosphere and whipping wind.

## TEST IT OUT

Earlier designs of the Faraday cup led to the harder, more advanced instrument that Kasper hopes will survive the Sun's punishing atmosphere. He has reason to believe that the Faraday cup on the solar probe will stay intact and take good data throughout the mission: He and the team hunted down the strongest materials on Earth to build the instrument, and they subjected it to brutal stress tests years in advance of the probe's launch.

“Gold, steel, aluminum, or copper would vaporize at much lower temperatures,” Kasper says about materials commonly used in spacecraft. Nearer the Sun, “It's not like, ‘Uh-oh, my instrument's gotten goopy, and it's not staying together.’ It's more like the instrument is just *gone*.”

Kasper noted that high-heat objects, like rocket engine nozzles and nuclear reactor fuel rods, have materials in common, which come from a narrow range of refractory metals in obscure parts of the periodic table. Those materials informed the new design of the Faraday cup: An exotic alloy of molybdenum, titanium, and zirconium forms the cup.





Synthetic sapphire crystals support other pieces in the instrument. Niobium metal tubes shield wires that run from the scoop of the Faraday cup to its electrical box.

Satisfied with the prototype, Kasper took it to a custom facility of giant mirrors in the French Pyrenees. All the reflective surfaces focused the Sun's distant rays at the target, producing a blindingly hot beam to mimic a close approach.

But simulating the Sun nearer to home would be more convenient. The team bought old IMAX film projectors on eBay to stock their special lab in the United States. Improbably, xenon bulbs in the old projectors can heat up to about the temperature of the Sun's surface (9,800 degrees Fahrenheit) and emit light that resembles the natural solar spectrum. Four IMAX projectors, all focused on the Faraday cup, could approximate the scorching heat and light that would bombard the probe as it plunges through the solar atmosphere. Pumping out all the oxygen in a chamber to form a vacuum, and shooting particles at the Faraday cup with an ion gun, completed the effect of contact with the Sun in outer space.

"We developed a facility that worked really well," Kasper says, "but it took a ton of trial and error," with plenty of broken glass and mangled equipment along the way.

After years of exhaustively applying stress tests, creative solutions, and contingency plans, the team launched Parker Solar Probe safely to space after just a few false starts at Cape Canaveral. What

ALL THINGS CONSIDERED, THE SOLAR PROBE IS PRETTY SMALL—ABOUT 1,300 POUNDS AND THE SIZE OF A SMALL CAR. SOME OF ITS INSTRUMENTS INDIVIDUALLY COULD FIT INSIDE A SHOE BOX.

started out decades ago as pipe-dream plans finally became real. The probe will—and already has—set new historical records for closest encounter with the Sun and fastest object ever created.

As the probe completes its mission in the coming decade, researchers hope to have the data they need to figure out how to shield technology on Earth from solar-flare shock waves, why the solar atmosphere is so scalding hot, how solar wind accelerates to supersonic speeds, and what it takes to build a craft that won't blister in the Sun.

## STARTING STRONG

When the time came to wake up the probe and watch for the first bits of data, the team wasn't expecting to see anything interesting the very first time they switched on the sensors. "But then the instrument scientists suddenly said, 'Hold on—it's reporting that it's tracking on the solar wind!'"

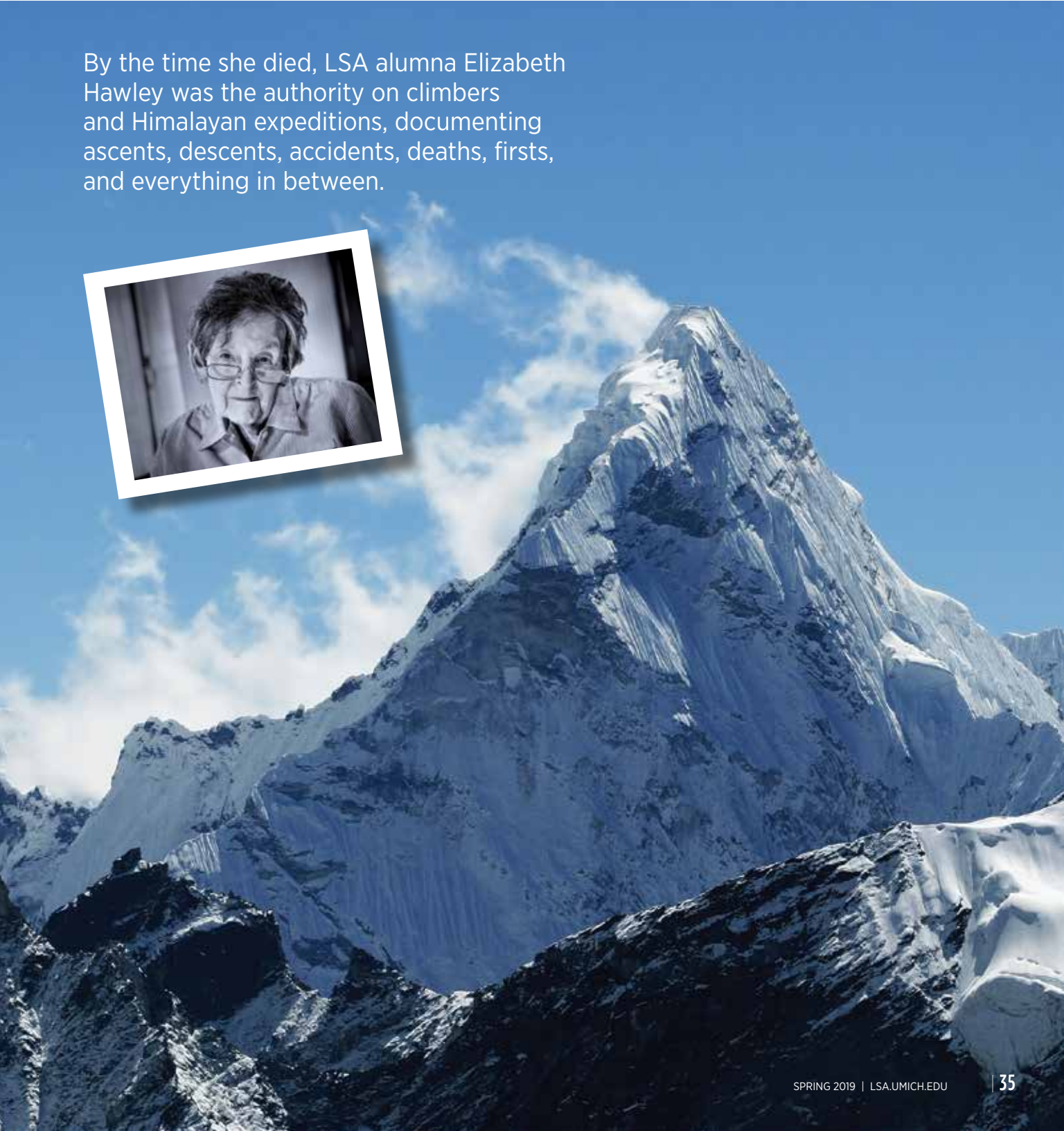
"We looked more closely, and the signal got even stronger." Which was crazy, Kasper says, because the spacecraft was still far from the Sun and facing away from its rays.

"So the fact that we saw the solar wind was very exciting," he says, especially because the instruments had not even come close to their most sensitive vantage point. "And we knew that eventually we'd reach a point near the Sun where signals will be 16 times stronger.

"Clearly, this is a very well-functioning instrument," Kasper says. "Now we just need it to, you know, not melt and all that." ■

# Cold Mountain

By the time she died, LSA alumna Elizabeth Hawley was the authority on climbers and Himalayan expeditions, documenting ascents, descents, accidents, deaths, firsts, and everything in between.





**ON DECEMBER 8**, the **BEACH BOYS** release their first single, “Surfin.” On December 11, Aleksandr Solzhenitsyn receives the first acceptance of a fictional piece that will become the novel *One Day in the Life of Ivan Denisovich*. And on December 31—New Year’s Eve—at a glittering gala at the Royal Hotel in Kathmandu, Nepal—explorer and climber Edmund Hillary is introduced to Elizabeth Hawley (A.B. 1944, M.A. ’46). The year is 1961.

Less than a decade prior, Hillary and Nepalese Sherpa Tenzing Norgay had successfully summited Mount Everest for the first time. Now, here was Hillary, fresh off a new climb in search of a Yeti (as in Bigfoot) and claiming to have found the mythical creature’s hide. (Spoiler alert: It was a bear skin.)

That night, as champagne glasses clinked and music played, a whip-smart and sharp-tongued Hawley held her own with Hillary. Hawley was on her own in Kathmandu, patching together a living as a stringer for Time, Inc., reporting on Nepalese politics. But as Hawley’s time in Nepal wore on, her world became more and more intertwined with the world of climbing. Newspapers abroad couldn’t get enough of the bold new adventures happening in this part of the world.

Something in the steep peaks and larger-than-life climbing personalities called to her. It may have been that she herself shirked conventional boundaries so often that she couldn’t help but connect to that same inclination in others. She had traveled the world, lived for long stretches of time overseas, and was at the beginning of a remarkably successful career as an archivist and journalist. She spent her life elbowing her way again and again into male-dominated arenas. She was a feminist, a pioneer, and an unparalleled archivist.

To be fair, she never would have said any of that herself. She might even chastise you for suggesting it.

### PEAKING EARLY

Elizabeth Hawley was born in Chicago on November 9, 1923. Her grandmother and mother were both college educated, and Elizabeth grew up with a firm sense that education led to opportunities. In high school, she refused to take typing or shorthand. Whatever she became, she knew it wouldn’t be “someone’s secretary.” These and other stories about Hawley’s life and career are collected in biographer Bernadette McDonald’s book *I’ll Call You in Kathmandu: The Elizabeth Hawley Story*.

In 1941, Hawley came to U-M, where she discovered her love for history, all while struggling socially. She rushed several sororities, but none chose her. She became president of the Post-War Council, only to be demoted—twice.

Academically, however, she excelled. Her honors work in history proved to her that “she could work independently,



**REINHOLD  
MESSNER**

**Summit May 8, 1978**

The first Everest ascent without supplemental oxygen.



**JUNKO  
TABEL**

**Summit May 16, 1975**

The first woman to summit Everest.

do her own research, and come to her own coherent conclusions,” writes McDonald.

In 1946, Hawley took her newfound skills to New York City and became an editorial researcher for *Fortune* magazine, but found little opportunity for advancement in the role due to gender discrimination. At *Fortune*, all the researchers were women and all the bylined writers were men. Hawley lived simply, saved her money, and traveled whenever she could.

By 1956, Hawley was ready for an adventure that didn’t lead straight back to a desk job. She cashed out her profit-sharing

# FIRSTS *of* EVEREST



**ERIK  
WEIHENMAYER**  
Summit May 25, 2001  
The first blind person  
to summit Everest.



**ANDRZEJ  
ZAWADA**  
Summit May 19, 1980  
The first winter ascent  
of Everest.



# 29,029

FEET ABOVE SEA LEVEL



# 1 *in* 10

SUCCESSFUL CLIMBS TO  
THE SUMMIT END IN DEATH



# 20,000

CALORIES BURNED ON  
THE DAY OF THE SUMMIT CLIMB



“SHE BEGAN MEETING ALL THE EXPEDITIONS COMING INTO KATHMANDU AND KEEPING FILES ON THEM,” WRITES BIOGRAPHER BERNADETTE MCDONALD. “THIS WORK, AND THE PERSONALITIES INVOLVED, BECAME A BIGGER PART OF HER LIFE EACH YEAR.”

---

funds from Time, Inc., and went on an around-the-world journey alone.

By February 1959, she found herself in Nepal as the country made its first steps toward democracy and instituted its constitution. Hawley raced to the Time, Inc. bureau in Delhi, India, and asked the correspondent there if he wanted her to do some on-the-ground work for him in Nepal. He agreed, and suddenly Hawley had paid work in a country she'd fallen in love with nearly on sight. She was determined to make Kathmandu her long-term home.

By 1960, Hawley was in Kathmandu full time working two jobs: one as a stringer for Time, Inc., and one writing reports for the Knickerbocker Foundation, a nondescript nonprofit that some suspected was a cover for the CIA. No matter to Hawley. She was exactly where she wanted to be. Her work introduced her to Nepalese royalty, diplomats, Queen Elizabeth and Prince Charles, Mother Teresa, and, of course, the climbers there to tackle some of the most dangerous ascents in the world.

### **DESCENTS, DERRING-DO, AND DATABASES**

By the mid-1960s, trekking had become a full-on enterprise in Nepal, and mountaineering was a growing part of Hawley's reporting. “She began meeting all the expeditions coming into Kathmandu and keeping files on them,” writes McDonald. “This work, and the personalities involved, became a bigger part of her life each year.”

There was Hillary, who would become Hawley's close friend and with whom she would help run the Himalayan Trust, which built roads and schools

and more across Nepal. There was Reinhold Messner, who made the first Everest ascent without oxygen, and Andrzej Zawada, who made the first winter ascent. There was Junko Tabei, the first woman to climb Everest, and Erik Weihenmayer, the first man to climb Everest blind. She met them all. She talked to them all. She recorded it all.

Her research and attention to detail made her a formidable investigatory force. Did the climber reach the summit? How did they know they had reached it? What did the terrain look like? Did they have evidence? Chris Bonington, who led a successful summit of Everest's southwest face in 1975, called her interviews “very intense.”

In 1992, Hawley teamed up with climber and University of Michigan computer analyst Richard Salisbury (M.B.A. 1968, M.A. '70) to put all of her reporting into the Himalayan Database, which records details of every single known expedition into the Nepalese Himalayas. The database is a massive trove of information including records of climbs from 1903, and draws on hundreds of detailed interviews done by Hawley over the course of her professional career. “It was a major effort to organize and enter the massive amount of information that she had collected, all in paper format from her files,” Salisbury says.

In 2004, the Himalayan Database was published by the American Alpine Club as a commercial CD. The information in the database became downloadable for free in 2017, when the Himalayan Database became a nonprofit. Salisbury says that in its first year, the data were downloaded more than 3,400 times.

Salisbury, who retired from U-M's Computing Center in 1998, still works on the database for a few hours every day.

By the time she died in 2018 at the age of 94, Hawley was the preeminent authority on climbers and Himalayan expeditions, and her dedication to detail leaves behind a wealth of information about climbers and their world. ■



ALUMNI BY BRIAN SHORT

# 'Tis the Season

Every summer, LSA students intern all over the country and around the world with support and guidance from the LSA Opportunity Hub. And students don't just get a lot out of it—they also provide incredible value to the organizations they work for.

**FOR Kuhu SAHA (A.B. '08)**, there was a lot of anxiety around what to do after college.

“When everybody asked me what I was going to do after school, I was sort of like, ‘Yeah, I don’t know what I’m going to do! I guess I can do anything!’”

After graduating, Saha worked with AmeriCorps and with the Ann Arbor Area Community Foundation while working with former U-M basketball captain and current Detroit pastor and entrepreneur David Merritt (Kines. A.B. '08) to start Merit. Merit makes and sells clothing, and a whopping 20 percent of sales goes toward Give Merit, Merit’s non-profit arm, which is dedicated to empowering Detroit high school students. Saha now serves as the executive director of Give Merit.

The program works with a select cohort—approximately 75 high school students from ninth to eleventh grade are in





the current groups—for four years starting in ninth grade. The students participate in weekly workshops during the school year, practicing professional and academic skills, networking with industry insiders from across the city, and getting a sense of what a successful post-high school life and career can look like.

“Every 60 seconds in America, a student drops out of high school,” Saha says. “Merit is really committed to making sure that our students can be successful in high school and beyond.”

That means supporting students not just while they’re in the cohort, Saha says, but after they graduate and get to college, too.

“We had a 100 percent graduation rate for our first cohort of high school students,” Saha says. “First-generation students can have a hard time adjusting to college. Low-income and minority students can have

a hard time adjusting. We knew these students for four years, and we knew how bright their potential was, but we didn’t fully know until they started college the variety of challenges they would face.

“We wanted to uncover how we could continue to best support these students and also how what we’re learning can inform what our high school program looks like so that we can provide the best programming possible to help all of our students be successful once they get to college.”

### HIT THE GROUND RUNNING

Saha worked with the LSA Opportunity Hub to place three LSA students with the organization to tackle these problems.

First, the LSA students learned everything they could about what makes first-generation students successful at college. Next, they created a series of resources including handbooks for students and skills to practice that would empower students to be prepared for the transition to college and to continue being successful once they were there.

“The project was really open ended,” Saha says, “and our LSA students just ran with it. They created documents and systems and activities that we could start implementing in our workshops right away.”

Saha says this was the most successful summer that Merit has ever had because of student internships made possible by

**“EVERY 60 SECONDS IN AMERICA, A STUDENT DROPS OUT OF HIGH SCHOOL,” SAYS Kuhu SAHA, THE EXECUTIVE DIRECTOR OF GIVE MERIT. “MERIT IS REALLY COMMITTED TO MAKING SURE THAT OUR STUDENTS CAN BE SUCCESSFUL IN HIGH SCHOOL AND BEYOND.”**

THE DETROIT-BASED MERIT CLOTHING BRAND DONATES 20 PERCENT OF ITS PROFITS TO COLLEGE SCHOLARSHIPS AND FOR ACADEMIC AND PROFESSIONAL DEVELOPMENT PROGRAMMING FOR A SELECT COHORT OF HIGH SCHOOL STUDENTS.





# CITY OF THE FUTURE

The Applebaum Internship Program at the LSA Opportunity Hub connects LSA students to many of Detroit's most enduring cultural institutions and innovative nonprofit organizations. The fellowship also provides a series of events that gives the Applebaum fellows an insider's understanding of various facets of the city, from local government to philanthropy.

The Eugene & Marcia Applebaum Family Foundation made the program possible through a generous gift that will power the program this year and beyond. Through it, the foundation hopes to inspire the next generation of city leaders, innovators, and cultural stewards.

"We're so excited to be launching the second cohort of the Applebaum Program," says Pamela Applebaum, president of the foundation. "My family has long been devoted to enriching our community, and the Applebaum Internship Program at the University of Michigan links the passion of our family to motivate the talents of the next generation with the opportunity to appreciate the value and importance of being professional leaders at these organizations and institutions."

Merit's collaboration with the LSA Opportunity Hub. And that group of students included one who interned as part of the Applebaum Internship Program. The Eugene & Marcia Applebaum Family Foundation gave a generous donation to make the fellowship — an innovative partnership between the LSA Opportunity Hub and the foundation — possible.

The LSA Opportunity Hub works to give students the vital connections, coaching, and support they need to connect their academic interests to their professional aspirations. The Applebaum Internship Program provides financial support for a cohort of students interning at nonprofit and cultural organizations throughout Detroit, at organizations such as the Detroit Institute of Arts, the Detroit Symphony Orchestra, the Motown Museum, Detroit Public Theatre, and elsewhere. The program broadens students' perspectives on how to engage in Detroit in a meaningful way, by enlisting alumni and area leaders to mentor, network, and speak with students about important issues facing the city.

For Saha, she says that hosting interns provided incredible value to Merit — value that persists even after the students are back on campus.

"All of us here, we've all had internships that sucked," Saha says with a laugh. "We've all had internships where we did nothing but meaningless work. And we were all committed to making sure that every LSA student got the absolute most out of their experience with us.

"We made sure that they got to participate in workshops, and we brought in people doing nonprofit work across Detroit so that students could see how much work it is — and it's really a lot of work — but also how much energy there is around these kinds of impact-based organizations. And I think students really got that.

"Last summer was so great because everyone felt like they were contributing and that their contributions weren't going to be stashed away in a box somewhere," Saha says. "What they did is making a difference right now, and they know that." ■



(Below) Courtesy of Merit

# Make a connection

Learn how you can host an internship with an LSA student.

Internship experience is critical to student success, allowing students to experience a range of industries and work environments while developing skills that are crucial to professional and personal success.

Last summer students interned at organizations that taught coding in Detroit and that studied dolphins in Croatia. They worked in industries as diverse as health care, video games, finance, and environmental stewardship.

And you can help students gain this kind of valuable experience.

The LSA Opportunity Hub works with alumni around the country and all over the world to develop in-person and virtual internship opportunities across all fields, areas, and industries. **To learn more about how you can connect with current students by hosting an internship, go to [myumi.ch/recruitlsa](http://myumi.ch/recruitlsa) or email [lsa-opphub@umich.edu](mailto:lsa-opphub@umich.edu).**



**BLAKE WASHINGTON**  
Coding Education  
Instructor at JOURNI  
Detroit, Michigan



**SOPHIA GEORGINIS**  
Content Strategy Intern  
at Comedy Central  
New York, New York



**GRACE UHL**  
Collections Intern at  
Guggenheim Venice  
Venice, Italy



**SEBASTIAN KASPIRIAN**  
Research Assistant at  
the Blue World Institute  
Veli Lošinj, Croatia





**HANNAH DANG**  
Digital Marketing Intern  
at Fez, Inc.  
Tokyo, Japan

To learn more about how to host an internship, go to [myumi.ch/recruitlsa](https://myumi.ch/recruitlsa).



**JACKIE ERLON-BAURJAN**  
Peacebuilding Intern at  
Post-Conflict Research Center  
Sarajevo, Bosnia and  
Herzegovina



**MICHAEL RADER**  
Intern at Safari4UVet  
Global Vet Experience  
Eastern Cape, South Africa



**AMIR JOSEPH**  
REAL Kids Operational  
Team Intern at DREAM  
Charter School  
New York, New York



**RYAN SMITH**  
Investment Banking  
Summer Analyst  
New York, New York

(RIGHT) Trina Daiziel/Getty Images





**DEAN'S OFFICE** BRITTANY SMITH

# Just Talk to Each Other

LSA's Program on Intergroup Relations has been working for 30 years to empower students to successfully bridge differences and create common ground — building a better and more civil discourse one speaker at a time.

**IT'S A FEW WEEKS** into the winter semester at U-M, and 100 or so students are sitting in a lecture room in Angell Hall, chatting while they wait for their "Intergroup Dialogue" class to start. Some students have on U-M branded maize-colored hoodies and some students have on fit-for-the-winter sweaters or brightly colored cardigans. They have an array of hairstyles, from sleek ponytails to bobs, purple-dyed manes, braids, faux-hawks, and curly twistouts. Some students have laptops on hand while other students have pens and notebooks to write in.

The instructor begins by asking students to raise their hands if they attended a diverse high school, and a few hands go up. Then the instructor asks her follow-up: "What does 'diverse' mean to you?"

One by one, students shout out their answers.

"Diversity of thought." "Racial diversity." "Gender."

The instructor nods, taking in the responses. It's the students' different perspectives, she says, their different backgrounds, values, and ideas that will power the course



U-M SOPHOMORE RASHAD PRENDERGAST LISTENING TO ANOTHER STUDENT TALK DURING IGR'S STUDENTS OF COLOR DIALOGUE IN FALL 2018.



and shape how the students interact with one another. And embracing their differences is vital as, over the next 15 weeks, members of the class work to build bridges and create common ground between groups of people who may see themselves as having little in common.

The course is one of seven offered by the Program on Intergroup Relations (IGR), a social justice education program that supports research and trains students to speak across difference about sensitive topics. IGR's work with undergraduate students focuses on developing three skills essential for successful cross-difference dialogue: listening, empathy, and perspective-taking. In a time when civil discourse suffers nationally, it's more important than ever, says IGR Co-Associate Director Scott Hwang, to empower students to communicate meaningfully, persuasively, and peacefully across differences.

Through this work, IGR hopes to transform heated debates into healthy dialogue.

"The main goal of IGR is to run these dialogues to move social justice forward," says Hwang, who also works as IGR's interim faculty co-director. "So much of this country is polarized politically, and intergroup dialogue helps to pull apart those differences and break down those barriers so students can interact and have more fruitful, productive conversations."

### **A WORLD OF DIFFERENCE**

In addition to its academic courses, IGR conducts research and offers student-centered workshops and community outreach programs on social inequalities and social justice. IGR also runs and hosts the National Institute on Intergroup Dialogue, an event for other institutions to come to Ann Arbor to learn IGR's philosophy and techniques for intergroup dialogue.

Now in its thirtieth year, IGR is the largest and most comprehensive program of its kind in the country. The program currently enrolls nearly 700 students each year in its courses, events, and series, and employs 20 students through its various programs and as research and graduate assistants.

But while IGR has been here for a long time, it has also changed—adapting to match the times. IGR Co-Director Monita Thompson has been with the program since 1993. At that time, the concept of intergroup relations was fairly new in higher education.

"Back then multicultural education was being taught," Thompson says, "but it didn't focus on power and privilege. IGR was a different, new, and innovative educational practice that brought groups together based on social identity to learn about social inequality, to work through conflict, and to address issues of power and privilege in an

effort to promote a more just society.”

It was the intersection of social justice and healthy dialogue that inspired LSA senior Danielle Jahnke to join IGR. During her internship as a peer educator for the nonprofit Uganda for Her in Kampala, Uganda, she found her IGR skills allowed her to be more thoughtful about her actions and motivations, which produced a more impactful experience for herself and for those she worked to benefit.

“I had to take a really close look at my intentions,” Jahnke says. “I had to really think about whether what I was doing was going to benefit other people more than cause harm.”

LSA senior and IGR minor Seth Schostak says that the program has helped him both academically and personally.

“IGR has given me skills that make me feel more confident and credible when discussing certain issues,” says Schostak. “Particularly within a group setting, there are many dynamics at play, and IGR has provided me with real skills to better navigate group settings, for having difficult conversations or working together with a team in a work setting.”

Even as it celebrates its thirtieth anniversary, IGR is preparing for its next phase. The program is expanding its undergraduate research team and creating more opportunities for community engagement while doubling down on its dedication to improving students’ lives through dialogue and social justice education.

“We often hear that other programs or faculty can tell who our students are because they’re more likely to engage in the classroom, ask questions, and bring in a different perspective,” says Thompson. “This is a transformational experience for everyone. They’re challenging the status quo.” ■

## ONWARD AND UPWARD

LSA marks progress on its diversity, equity, and inclusion goals.

2018 completes the second year of LSA’s Diversity, Equity, and Inclusion (DEI) Strategic Plan.

Part of a university-wide effort, LSA’s DEI plan focuses on three main elements: increasing access to resources and opportunities at U-M; creating a culture that includes and values all voices; and strengthening the learning experience for members of the U-M community by harnessing the power of diversity.



**\$1.1**  
MILLION  
awarded for  
**INTERNSHIP  
SCHOLARSHIPS**



**\$1.7**  
MILLION  
awarded for  
**STUDY ABOARD  
SCHOLARSHIPS**



**251**  
PASSPORTS  
TO PELL GRANT-  
ELIGIBLE STUDENTS



**579**  
LAPTOPS  
TO STUDENTS WITH  
FINANCIAL NEED

Increasing dialogue on campus is one of LSA’s major diversity priorities, including curricular programs such as the Program on Intergroup Relations (IGR) and the student-run cross-difference dialogue group WeListen.

The college is taking a multifaceted, multi-level approach to achieving its DEI goals, says Interim Dean and Professor of Afroamerican and African Studies, Psychology, and Women’s Studies Elizabeth Cole.

“We are committed to ensuring our community values and supports all students, faculty, and staff,” says Cole. “Our DEI plan reflects our commitment to creating an environment where everyone feels welcomed and where people use dialogue to work across difference.

**“We have much more work to do,”  
Cole says, “but I’m excited and proud of  
what we’ve accomplished so far.”**



# Hijacked

Most people think pirates are criminals who rob innocent victims on the high seas. But LSA anthropologist Jatin Dua says that's only part of the story. The rest of the tale lies in global trade, British insurance companies, and the idea of protection.



**WHEN REPORTS OF** maritime piracy began to make international news in the 1990s, it struck more than a few people as strange. Didn't marauding on the high seas end back in the nineteenth century, along with Blackbeard and Billy Bones and ships that sailed under the Jolly Roger? In our age of radar and rocket ships, the idea of pirates pillaging across the briny deep seems impossibly anachronistic. But by the late 1990s, piracy really did make a comeback off the coast of Somalia and flourished until 2013, the first year in recent memory when there were no successful Somali pirate hijackings.

People usually think of piracy as an apolitical crime motivated by greed. But Jatin Dua, assistant professor in the Department of Anthropology, says that piracy is more than violence isolated in the vastness of the sea.

Dua researches maritime piracy in the Indian Ocean and its relationship to governance, law, and the economy along the East African coast. The connective tissue that ties these topics together is the concept of protection.

Protection, Dua says, is a historical idea that traces back to the control of ancient trade routes over land and sea. "Arab and Indian traders hired Somalis to take them from point A to point B, and European explorers hired Somalis as guides and protectors," Dua says. "But when Somalis claimed that they were levying a protection tax on passing

ships in the nineteenth century, the British saw them as pirates.

"If you say someone's a pirate, it delegitimizes them," he says. "It's a way of creating hierarchy and sovereignty at sea."

Today in Somalia, the distinction between being seen as a pirate and being seen as part of a volunteer coast guard, Dua says, "is usually tied to how closely pirates relate to the rest of the economy. As long as the pirates are seen as part of a redistributive economic system, then they have legitimacy." But when the redistributive aspect of acts of piracy start to disappear, the pirates' hold on legitimacy starts to disappear, too.

The blunt contrast between Somalia's poverty and the incredible wealth that moves around it makes the issue of wealth redistribution omnipresent. The international community acknowledges it, too. There have been tepid efforts to cultivate economies to replace piracy in Somalia, such as creating fishing

IN THE GULF OF ADEN AND OFF THE EASTERN COAST OF SOMALIA, INTERNATIONAL NAVAL FORCES MONITOR SUSPECTED PIRATE CRAFTS, SUCH AS THIS DHOW, TO PROTECT INTERNATIONAL SEA LANES AND DETER PIRACY.



(LEFT) Will Haigh/Crown Copyright; (RIGHT) Terry Seward/Crown Copyright





## ALL YOU NEED IS THE RIGHT BOAT

---

The ongoing instability in Somalia began when its civil war created a power vacuum that left regional factions clashing with each other and ultimately caused a humanitarian crisis. It also left 2,000 miles of coastline unprotected, and fishing fleets from around the world came to plunder Somalia's fertile coast. The Somali fishermen tried to safeguard their waters against illegal trawlers, and these were the first Somali pirates.

The fishermen who demanded payments from illegal fishing boats quickly received them because the boats didn't want to be caught breaking international maritime laws. The Somali people

considered the coastal pirates heroes.

Over time, these coastal pirates created networks that made them more successful and more efficient. By the mid-2000s, the pirates had set their sights on bigger ships that were farther out—a step they were able to take by hijacking Indian cargo vessels called dhows.

Bigger than fishing trawlers, dhows bring goods to smaller ports along the Indian Ocean where the larger container ships don't go. "The pirates who targeted dhows were typically coastal fisherman who didn't actually know how to get to the bigger shipping lanes where

the larger cargo ships were," says Department of Anthropology Assistant Professor Jatin Dua. The pirates hijacked the dhows and held their crews hostage, but they weren't after ransoms: They were after expertise.

Once they had a presence in international waters, pirates set their sights on hijacking the ships themselves. Stealing the cargo wasn't the goal. Harkening back again to the historic notion of protection, the pirates wanted to control the ships' passage. "It was more saying, 'If you want to reach your destination, you have to pay us,'" Dua says. "And we will hold you hostage until you do."

## PEOPLE USUALLY THINK OF PIRACY AS AN APOLITICAL CRIME MOTIVATED BY GREED. BUT DUA SAYS THAT PIRACY IS MORE THAN VIOLENCE ISOLATED IN THE VASTNESS OF THE SEA.

collectives, but they tend to be received as either fatuous or tone deaf. “This idea that, ‘Oh, we’ll just start some Somali fishing collectives,’ misses the point that most of the people working in piracy are no longer fishermen,” says Dua.

To Somalis, the more germane question is how Somalia relates to global capitalism, and from the 1990s until 2013, the answer was through its pirates.

### IN THE HOLD

In his research, Dua has spent a lot of time with pirates, but he has never been present, he stresses, during an attack. “There were certain questions that I never asked,” he says, “and one of those questions was, ‘Are you currently negotiating?’ We would always talk in hypotheticals.”

Though the scenarios Dua discussed with the pirates were hypothetical, the experience of being on board was very real.

Part of his research entailed being on board a number of ships, including the Indian dhows pirates used to expand their operations into the Indian Ocean. “It was sometimes a little claustrophobic,” Dua says. “I hadn’t realized that we would all be sitting in a hold and sort of sleeping in this shared space. The pirates often described the dhows as wonderful places, and

SITUATED ON THE HORN OF AFRICA, SOMALIA’S 2,000 MILES OF COASTLINE MEAN FERTILE FISHING GROUNDS. IN THE HARBOR OF MOGADISHU, SOMALIA’S CAPITAL, FISHERMEN BRING THEIR FISH TO SHORE TO BE TRANSPORTED TO MARKET.

very visceral ways – what it does to your body, like seasickness, and also of their loneliness and fear.”

### TERRITORIAL WATERS

In 2008, the UN Security Council passed an authorization for international naval forces to fight piracy off Somalia. American naval forces, which had been battling insurgencies in the War on Terror, were reinvigorated by the call and the chance to demonstrate their relevance by keeping international sea lanes open. The call vitalized other navies around the world, too. As piracy took root and spread, insurance companies recognized they had the opportunity to sell a new type of protection. Private security companies also began to appear, and they provided armed guards for hire.

Because of a significant international naval presence, counter-piracy patrols, and a vigorous private security industry, the number of Somali piracy attacks fell until, in 2013, there were none. There have since been some reports of subsequent pirate attacks, but, overall, piracy has stayed pretty quiet. Though it now looks as if piracy might have been defeated, this level of vigilance is expensive, and, Dua says, piracy never quite goes away.

“Piracy is not just something that happens at sea,” Dua says. “It’s also very much located on land, and it cannot be understood without also implicating British insurance companies, private security contractors, and navies.

“Piracy in Somalia is not just a Somali story,” he concludes. “Because it feels far away and happens out at sea, it disappears from everyday experience. But in fact, it’s deeply connected to so many other things happening in the world.” ■

I guess in comparison to a fishing skiff, where you’re just bobbing up and down in waves and you have no idea where you are, they were.”

Luckily, Dua is not prone to motion sickness. “That would have made research very difficult,” he says. “A lot of pirates are, though, and that was one of the number one complaints. They would often talk about piracy in these







**ALUMNI** BY ELIZABETH WASON

# Disease Detective

As a “disease detective” with the CDC, LSA alumna Jennifer Collins applies her clinical medical skills to help the larger community as a public health hero.

**JENNIFER COLLINS (B.S. '06)** keeps two weeks per year completely free of any plans and obligations, a time when the Centers for Disease Control and Prevention (CDC) can call on her help in case of a public health emergency. The call of duty can take public health private eyes like her anywhere—from a chili and chowder cookoff in Virginia to a school in Somalia.

Collins is a “disease detective,” one of between 70 and 80 physicians, veterinarians, dentists, research scientists, and others who apply their specialized skills each year to solve public health mysteries for the CDC.

“I haven’t gone on any of the outbreak responses for the scarier pathogens,” Collins says, referencing trips that might require her to use exotic equipment like snake chaps or blow guns.

Instead, in the fall of 2017, an emergency sent Collins to a cruise ship. The setting might sound swank, but her job was to figure out the origin of a diarrhea outbreak on board.

On cruise ships, if an illness affects more than three percent of the people on board, then the CDC gets involved. Collins jumped aboard a ship as it reached the Virginia coast sailing south from Canada. “We sailed for three days down to Florida,” she says, “and gathered as much information as we could.”

Members of the team checked the kitchen, coolers, and food-flow process on board. Collins helped analyze data from questionnaires to try to isolate the source of the problem. Stool sample tests initially came up empty, but the disease detectives eventually helped figure out that a toxin from the bacterium *Clostridium perfringens* had beleaguered the passengers.

Luckily, the outbreak already was on the downswing by the time the CDC team reached the boat, in part because the ship’s crew had increased hand-washing stations and otherwise upped their sanitation measures. “We made some recommendations to prevent spread, such as limiting buffets and having staff serve food to passengers,” recalls Collins. “If passengers are ill, and they’re serving themselves, then they may contaminate food or utensils and get others sick.”

Collins finds it satisfying to get to the bottom of public health problems like this that have an impact on so many people.

“Everyone eats and drinks, and people shouldn’t get sick from either,” she says.

### GETTING TO THE ACTION

Collins earned her Honors Biology degree from LSA and went on to medical school, learning to treat infectious and vaccine-preventable diseases in kids. “I became interested in public health while I was still an undergrad,” she says. “At Michigan, I took an awesome course on the anthropology of global health, which was cross-listed in the Department of Anthropology and the School of Public Health.”

In July 2017, Collins started a two-year fellowship with the CDC’s Epidemic Intelligence Service

(EIS), the training ground for the disease detectives who jump at the chance to don hazmat suits, face danger in the field, prevent harm, and save lives. Collins was thrilled about translating her clinical medical training—which involved helping the health of one kid at a time—to solving larger-scale public health problems.

EIS first began as a way to assemble enough smarts to figure out how to deal with the threat of biological warfare during the Korean War. Since then, the program has trained thousands of disease detectives and expanded its scope to respond to public health threats such as rabies, Ebola, food poisoning in prisons, PTSD among humanitarian aid workers, and hepatitis A outbreaks among homeless people.

“One of the hallmarks of EIS is going out into the field to serve at the front lines of public health by rapidly deploying and responding,” says Collins. “I think it draws the type of person who is interested in dropping everything when the opportunity arises to be of service and to help people.”

---

**“IN PUBLIC HEALTH, YOU CAN REALLY HAVE AN IMPACT ON ENTIRE COMMUNITIES. THERE’S SOMETHING VERY REWARDING ABOUT THAT.”**

---

In addition to hopping on cruise ships, Collins also has investigated an antibiotic-resistant bacterial outbreak at a retirement community in Vermont and monitored nationwide datasets of antibiotic-resistant pathogens. She loves applying her knowledge of infectious diseases to answer real-world questions and make a visible impact on public health.

“When you think about the difference between public health and medicine,” she muses, “in public health, you can really have an impact on entire communities. There’s something very rewarding about that.”

When Collins finishes her stint as a disease detective, she hopes to stay with the CDC and find ways to connect clinical work and broader public health efforts.

Her advice to students who might want to do something similar: “If you think you might have an interest in something like public health, find an opportunity to take a class in it and see if you can expand that interest, or help clarify it,” Collins says. “Undergrad is such a rich environment to learn. Take advantage of the opportunities while you’re there.” ■



# Old Bones, New Home



## The new U-M Museum of Natural History, years in development, is open now.

Combining billions of years of natural history, cutting-edge scientific research, Planetarium & Dome Theater, and a café, the U-M Museum of Natural History is open for visitors, with more exhibits opening in November.

Formerly housed in the Ruthven Building, the U-M Museum of Natural History is now right across the plaza in their new home in LSA's Biological Sciences Building (BSB).

There, you can see brand new exhibits such as the airplane-sized *Quetzalcoatlus* as well as fan favorites such as the museum's mastodons and its storied pumas. You can also check out the latest science research on display in the BSB's glass-walled labs, free of charge.

You can learn more at [ummnh.org](http://ummnh.org) or by bringing the family to explore the museum, which is open now!



Check out these videos exploring the museum's older exhibits and its brand new digs at [myumi.ch/lсамuseummovies](http://myumi.ch/lсамuseummovies).



Watch a giant *Edmontosaurus* skeleton's "re-excavation" and see expert paleontologists in action.



See how 3-D printing and state-of-the-art object scanners helped preserve and communicate vital information about the museum's beloved mastodons.



The museum's physical move from its old space in the Ruthven Building to the new Biological Sciences Building parallels a pedagogical shift for the institution. Learn more about these new approaches and other changes.



MUSEUM OF NATURAL HISTORY  
UNIVERSITY OF MICHIGAN





**JEFFREY SELLER**  
Broadway Producer

# all stars

## Shining Bright

At LSA, students can learn anything, go anywhere, and be ready for the next step after college. From music to marketing to media, LSA alums have made their mark in nearly every industry here in the States and around the world.

A new video series called LSA All Stars features alumni from a range of fields sharing advice for students on how to create your own lane—and define success on your own terms.

▶ Watch the entire video series at [myumi.ch/lsaallstars](http://myumi.ch/lsaallstars).



LSA MAGAZINE IS PUBLISHED TWICE EACH YEAR BY THE UNIVERSITY OF MICHIGAN COLLEGE OF LITERATURE, SCIENCE, AND THE ARTS

ELIZABETH COLE  
Interim Dean  
College of Literature, Science, and the Arts

MARTHA LUCKHAM  
Interim Assistant Dean for Advancement

JOHN LOFY  
Director, Marketing and Communications

TAMRA TALMADGE-ANDERSON  
Director of Communications

ANTHONY CECE  
Marketing Director

BRIAN SHORT  
Editor

SUSAN HUTTON, BRITTANY SMITH,  
ELIZABETH WASON  
Editorial Staff

KATHRYN KOPALD  
Creative Director

ALICIA VAZQUEZ  
Art Direction and Design

NATALIE CONDON, LIZ DECAMP,  
LEVI STROUD  
Photography

LYNNE GOULD  
Project Management

©2019 Regents of the  
University of Michigan

ARTICLES MAY BE REPRINTED BY  
OBTAINING PERMISSION FROM:  
Editor, College of Literature, Science,  
and the Arts, University of Michigan,  
101 North Main Street, Suite 850  
Ann Arbor, MI 48104

734.615.6333 | [lsamagazine@umich.edu](mailto:lsamagazine@umich.edu)

REGENTS OF THE  
UNIVERSITY OF MICHIGAN

Jordan B. Acker, Huntington Woods  
Michael J. Behm, Grand Blanc  
Mark J. Bernstein, Ann Arbor  
Paul W. Brown, Ann Arbor  
Shauna Ryder Diggs, Grosse Pointe  
Denise Illitch, Bingham Farms  
Ron Weiser, Ann Arbor  
Katherine E. White, Ann Arbor  
Mark S. Schlissel, *ex officio*

The University of Michigan, as an equal opportunity/affirmative action employer, complies with all applicable federal and state laws regarding nondiscrimination and affirmative action. The University of Michigan is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, national origin, age, marital status, sex, sexual orientation, gender identity, gender expression, disability, religion, height, weight, or veteran status in employment, educational programs and activities, and admissions. Inquiries or complaints may be addressed to the Senior Director for Institutional Equity, and Title IX/Section 504/ADA Coordinator, Office of Institutional Equity, 2072 Administrative Services Building, Ann Arbor, Michigan 48109-1432, 734.763.0235, TTY 734.647.1388, [institutional.equity@umich.edu](mailto:institutional.equity@umich.edu). For other University of Michigan information call 734.764.1817.



# INVEST IN THE FUTURE.

---

On the first day of LSA senior Lahin Amlani's internship in Michigan Medicine's Department of Otolaryngology, he felt like everyone was speaking an entirely different language — and he didn't understand a word. Now, after two summers working as part of a team investigating biomarkers for head and neck cancer, he's heading to medical school to become a physician-scientist.

"My internship showed me how science and medicine intersect in a real-world setting," Lahin says. "I want to continue to help create new knowledge to improve the care physicians can offer their patients."

Cost can be a barrier to taking an internship, but thanks to the generous support of LSA internship scholarship donors, students like Lahin are able to spend their summers contributing to valuable research with immediate practical applications.

**Give today** and help students like Lahin learn how they can change the world tomorrow.



**SUPPORTING EXCELLENCE**

734.615.6376 | [myumi.ch/lsagivenow](https://myumi.ch/lsagivenow)





**FACULTY** BY SUSAN HUTTON

# In the Trap of Luxury

If you're trying to make new friends, you're probably inclined to promote your most attractive qualities. But you might find that packaging yourself in high-status symbols will turn off potential friends before you even say hello.

**EVERYBODY KNOWS IT'S** always best to make a good impression. Arrive on time. Make eye contact and smile. Wear your snazziest suit, your cashmere coat, your nicest shoes, and the Cartier watch your grandparents gave you. Unless, that is, you're trying to make a friend.

Status symbols, such as expensive clothes and Cartier watches, signal our social value – something that is generally to our advantage, says Stephen Garcia, associate professor of organizational studies and psychology. “In our culture, having status generally has a lot of benefits,” he says. “You might have an easier time getting a job if you went to a really top school, for example. Certain brand names and luxury items can communicate your social value, which can be a good thing because people tend to defer to others who have higher status.”

As a researcher, Garcia investigates social comparison. “Social comparison is the analysis of the self in relation to others,” he explains. “It’s based on the idea that we need to self-evaluate, and so we use other people as benchmarks to try to objectively evaluate ourselves.” But the goal is not simply to compare ourselves to others, he says. It’s also to outperform them, and signaling our social value can help.

There are certainly realms in which demonstrating an elevated social position is useful: scoring a dinner reservation for a promising client at an elegant new restaurant, for example, or pulling up in a shiny BMW on a first date. But people who pile on signs of their cachet when they’re trying to form platonic friendships discover something surprising: Instead of enhancing their appeal as potential friends, displaying their prestige can be a huge turnoff.

### KEEPING UP WITH THE JONESES

In one of several studies related to status signaling, Garcia and his team recruited shoppers in an upscale shopping district to participate in a study. The shoppers were divided into one of two groups: The first group was trying to attract new friends; the other was asked to consider whether they thought people who did certain things would make good friend material.

The researchers asked the first group: If you were going to an outdoor wedding where you hoped to make friends, would you show up driving a luxury car, like a Mercedes, or a more basic car, like a Honda? Nearly 67 percent of the participants said they believed driving the luxury car would be more appealing to potential friends. But the would-be friends in the second group said they preferred someone who drove in a more basic car—a pattern that was confirmed across multiple studies. The researchers also confirmed that their participants were true to their word: They preferred to attract friends from behind the wheel of a luxury car, but were more inclined to seek out a friendship with someone who drove a basic car.

So why are our general assumptions about what would appeal to our friends so off base?

The discrepancy between the beliefs of friend seekers and friend acceptors, Garcia says, lies in our mistaken certainty that our view of the world

## PEOPLE DON’T LIKE IT WHEN THEIR PEERS OUTPERFORM THEM. IF THAT CONSISTENTLY HAPPENS, THEN PEOPLE WILL ALTER THEIR PEER GROUP TO EXCLUDE THE OUTPERFORMER, WHILE ALSO TRYING TO POSITION THEMSELVES NEAR THE TOP.

is objective and one that other people share. In other words, the gap exists because others don’t necessarily see the world in the same way.

People don’t like to feel inadequate, Garcia says, and they don’t like it when their peers outperform them. If that consistently happens, then people will alter their peer group to exclude the outperformer, while also trying to position themselves near the top.

But is others’ aversion to flaunting one’s cachet simply the product of an era that also created Occupy Wall Street and eschews the wealthiest one percent? Not likely, says Garcia.

“Status depends on the context,” he says. “In the early days of hybrid cars, driving a Prius was a status symbol among environmentalists. You can find similar examples throughout history. For example, to support the Napoleonic Wars, wealthy people exchanged their gold jewelry for iron jewelry. Even wearing massive amounts of iron jewelry could have potentially turned off would-be friends.”

But Garcia thinks there might yet be some exceptions to status signaling out there. Working with LSA’s Undergraduate Research Opportunity Program (UROP), which pairs undergraduate students with faculty researchers, he’s currently investigating whether status signaling helps in forming friendships for members of stigmatized groups. “We know stigmatized groups consume status signals at higher rates than groups without stigma, but does it actually help them?” he asks.

He also notes that there are other examples where displaying status seems to cultivate friendly bonding rather than competition, such as within some organizations. For example, in the military, displays of wealth seem to be encouraged, he says, “because they inspire the rank and file that they too can achieve these things. The same is true with Mary Kay Cosmetics, whose internal reward system incentivizes growth and sales with pink Cadillacs—and now even with BMWs.”

A pink Cadillac or a BMW may be pretty sweet to some, but for the rest of us, Garcia says, it’s still better to show up in a hatchback, if the goal is to make new friends. ■





**ALUMNI** BRIAN SHORT

# The Memory Maker

LSA alumnus John Nelson won an Academy Award last year for special effects on *Blade Runner 2049*. He did it by bringing his full self to a tremendously difficult task—to make the impossible seem so real that you felt you could reach out and touch it.

**THE WORLD OF** the science fiction blockbuster *Blade Runner 2049* is tied together with strings of powerful, strange, and disorienting images. There's the stolid, rain-soaked architecture of future Los Angeles and the massive LAPD tower where the protagonist works, its surface pitted and pocked, its roof flat as an anvil. There is the alien look of Las Vegas in 2049, a moonscape of irradiated orange interrupted by toppled columns and cracked statues. There are flying cars and someone who makes virtual reality memories and a tiny holographic Frank Sinatra singing "One for My Baby (and One More for the Road)." The whole movie feels simultaneously impossible and so real you can feel it rush by you.

The film includes almost 1,200 special effects shots. Its two-hour-and-43-minute runtime includes an hour and 48 minutes featuring some amount of special effects—effects all overseen

Images courtesy of John Nelson



LSA ALUMNUS JOHN NELSON (left) WITH DIRECTOR RIDLEY SCOTT (center) AND PRODUCTION DESIGNER ARTHUR MAX (right) ON THE SET OF THE 2000 FILM *GLADIATOR*.



Left: NELSON AND JOE WEHMEYER ON THE SET OF *BLADE RUNNER 2049*. Below: NELSON WORKING ON THE LIGHTING REFERENCES, INCLUDING MADE-UP ZOMBIES AND 18% GRAY AND SHINY BALLS FOR COMPARISON, FOR 2013'S *WORLD WAR Z*.



by longtime visual effects maestro John Nelson (B.G.S. 1976).

"I'm really fascinated with effects work because it really requires a lot of incredible creative and technical problem solving," Nelson says. "You have to be incredibly detail oriented, and you also need that balance between the left and the right sides of your brain if you're going to be able to work effectively."

Nelson has worked as visual effects supervisor on over 20 films including *In the Line of Fire*, *Iron Man*, *Point Break*, and *Gladiator*, for which he won an Academy Award in 2001. But before all of that, he was a student studying everything he could about film and film production at LSA.

### UP AND OVER AND BACK AGAIN

Nelson started as a cameraman, working as a cinematographer on student films at U-M and

as a cameraman at the old University Television Center. One of the films Nelson made as an undergraduate was shown at the Ann Arbor Film Festival, where it was picked up for distribution. Using the film as a calling card, Nelson got work as a cameraman on commercials in Los Angeles at Robert Abel and Associates.

From there, Nelson worked his way up the ladder from cameraman to technical director to director. He eventually moved to Europe for a few years to work at Mental Images in Berlin, then moved back to the States to work for Lucasfilm's Industrial Light and Magic.

Working as an animator, Nelson created many difficult and memorable effects in 1991's *Terminator 2*, including an iconic shot where a cyborg's blown-apart head stitches itself back together. Since then, he has built a reputation for artistry and excellence while tackling the multiplying



challenges of organizing and executing visual effects on films that cost hundreds of millions of dollars and are shown all over the world.

But for someone working in visual effects and blockbuster movies in Hollywood, *Blade Runner 2049* presented its own unique pressures.

“Very early on, I realized that everything needed to look fantastic,” Nelson says, “because for two years every person I met came up to me and said, ‘Don’t screw it up.’”

“We had seen so many visual effects movies that tried to copy the original *Blade Runner* by throwing millions of things on top of each other,” Nelson says. “Your eye didn’t know where to look, and it became more about overstimulating the viewer than being on point with the story. We really wanted to keep the visual effects supporting the story, and this restraint made the film better.”

### IT’S ABOUT THE WORK

In interviews, Nelson consistently brings up three particularly tough effects from *Blade Runner 2049*. The first was creating Joi, the protagonist K’s holographic companion, who had to be shot in a way that made her partly see-through, “like looking through a glass of water, where the front surface rotates in one direction and the back surface counter-rotates to create a volume,” Nelson says.

The second effect also features Joi, who in one scene merges with another character, Mariette, to create a third woman that looks like a mix of both women, seems absolutely real, and looks magical when their eyes line up. The scene also includes moments where the two original characters seem to float through each other, and the movements are so seamless that even after watching behind-the-scenes videos of how Nelson’s team created the effect, its flawless final execution still seems like some kind of spell.

The final effect that made him feel the most pressure, Nelson says, was a scene featuring an exact likeness of the android Rachael, played by actress Sean Young in the original *Blade Runner* film. The new movie needed Rachael to essentially step straight out of her scenes in the first movie into this one—even though Young was over 30 years older than she was when the first film was made.

The scene comes at the emotional climax of the film, and everything—from Rachael’s perfectly



NELSON WORKED CLOSELY WITH ACTRESSES ANA DE ARMAS AND MACKENZIE DAVIS TO COMPLETE THE FAMOUS “MERGE” SEQUENCE IN *BLADE RUNNER 2049*.



matched makeup to her flyaway hairs to the peculiar way that she bobs her head – had to be done perfectly.

Executing the effect involved a live performance from British actress Loren Peta, computer scans of an old Sean Young life cast, input from Sean Young during preparation and during shooting, motion capture shots of both Young and Peta, and lots and lots of time animating the muscles and expressions of the fully computer-generated de-aged Rachael head.

But the desire to nail an effect like this one comes as much from a creative and story-driven focus, Nelson says, as it does from the need to achieve a technically perfect visual effect. And sometimes putting imperfections into the effects make them seem even more real.

“Visual effects, even great visual effects, have to serve the story,” Nelson says. “We’re like the dessert. Story and character are still the meat and potatoes. If you have a great effects movie with

no story or character, you’re going to get a sugar high and crash.”

It was *Blade Runner 2049*’s combined effects of digital matte paintings, miniatures, and three-dimensional computer-generated images that created the holographic companions, brutalist cityscapes, and miraculously de-aged characters that earned Nelson his second Academy Award last year.

His approach to his own career matches up to the advice that he gives to young filmmakers: It’s about the work.

“Anything in filmmaking is about the work,” Nelson says. “You have to find what is special to you in the work and then execute that at a high level over and over and over again. After you’ve done that, then you’ll know what naturally moves you and what your particular muse is. It’ll show itself if you do enough good work, like a moth moving to a flame.” ■

STILL SHOT FROM WHAT WOULD BECOME A BATTLE SCENE IN THE 2000 FILM *GLADIATOR*, FOR WHICH NELSON WON AN ACADEMY AWARD.



# *Hail to the* **VICTORS VALIANT**

In December of last year, the University of Michigan completed its Victors for Michigan campaign.

The tremendous generosity of donors during the campaign means that now more students can attend LSA and take advantage of the endless opportunities inside and beyond the classroom, instead of worrying about tuition costs.

It means more depth and breadth for LSA's excellent academic programs and trailblazing research. And it means LSA students will be ready for the world after graduation, thanks to foundational gifts for the LSA Opportunity Hub.

To everyone who supported the University of Michigan and the College of Literature, Science, and the Arts, **thank you** for all that you have given and for all that you do.

**Hail, Hail, to Michigan,  
the Leaders and Best.**

**39,000+**



**LSA  
DONORS**

*GAVE more than*

**\$ 559  
MILLION**

GAVE *more than*  
**\$279<sup>M</sup>**  
*for* **STUDENT SUPPORT**

*more than* **15K**  
donors made gifts  
of under \$100

*nearly* **1,000**  
LSA faculty and  
staff donors

*more than* **900**  
student support  
funds established

*more than* **16K**  
first-time  
donors

GAVE *more than*  
**\$122<sup>M</sup>**  
*for* **HUMANITIES**

GAVE *more than*  
**\$111<sup>M</sup>**  
*for* **SOCIAL  
SCIENCES**

GAVE *nearly*  
**\$80<sup>M</sup>**  
*for* **NATURAL  
SCIENCES**



University of Michigan  
College of Literature, Science, and the Arts  
101 North Main Street, Suite 850  
Ann Arbor, MI 48104

NONPROFIT  
U.S. POSTAGE  
**PAID**  
ANN ARBOR, MI  
PERMIT NO. 144

## SCIENCE STORIES

Gather 'round the bubbling beaker to listen to some astounding stories from scientists whose research has not gone the way they expected.



 **Subscribe** to the How to Science podcast wherever you get your podcasts and learn more at [lsa.umich.edu/howtoscience](https://lsa.umich.edu/howtoscience).