A&S marquette

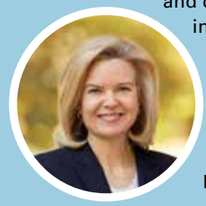
MARQUETTE UNIVERSITY KLINGLER COLLEGE OF ARTS AND SCIENCES MAGAZINE 2022

BRINGING *clarity* TO THE CONVERSATION

Marquette's political scientists offer context and scholarship to some of today's most prominent societal and political matters.

FROM THE DEAN

Dr. Heidi Bostic
Dean, Klingler College of Arts and Sciences



Thinking about the past year and reading the stories in this magazine, I reflect upon what a privilege it is to work alongside such talented faculty, staff and students. They accomplish remarkable research, teaching, learning and community engagement. And they do it all in the spirit of Marquette's Catholic, Jesuit mission, seeking to contribute to the common good. I am so grateful. A heartfelt thanks goes to our alumni and friends for your steadfast support. You help to make this transformational work possible.

In the Klingler College of Arts and Sciences, the difference is in the *and*. Many of our students are multiply interested and talented, leading them to pursue double majors and minors. We work across disciplines and areas to foster integration on campus and beyond. The 2022 issue of *A&S* magazine illustrates several examples of this integration.

> ***"I reflect upon what a privilege it is to work alongside such talented faculty, staff and students."***

Our cover story examines how our political science faculty use their scholarly expertise in the public realm to help explain and better understand crucial contemporary issues locally, nationally and internationally. The launch of the Center for Data, Ethics, and Society this year provides space to gather a broad community to examine challenging questions about how our personal data is collected and used. Other stories highlight faculty research and awards, efforts to support secondary school science teachers, the study of Indigenous histories, the commitment of our alumni to creating opportunities for the community, and the transformative experiences that emerge when students become involved in research thanks to the mentoring of our extraordinary faculty and staff.

Student success is a top priority in Arts and Sciences. We continue to deepen our interdisciplinary research and teaching strengths in areas like data science, sustainability, mental health and social justice. The Klingler College is looking forward to a wonderful year. The achievements highlighted here are just a sampling of the excellence we seek to foster and sustain across our college.

Thank you for your active engagement with the Klingler College of Arts and Sciences. I would love to hear from you!

Heidi Bostic

IGNATIAN MOMENT

To accompany young people (in the creation of a hope-filled future) demands of us authenticity of life, spiritual depth and openness to sharing the life-mission that gives meaning to who we are and what we do.

— Superior General of the Society of Jesus Rev. Arturo Sosa, S.J., from his Letter to the Society of Jesus on the Universal Apostolic Preferences

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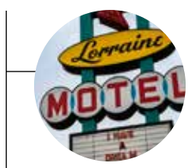
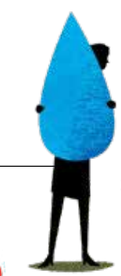
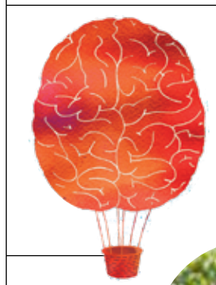
INSIDE ARTS AND SCIENCES

FEATURES







¿HABLAS ESPAÑOL?

NEW CONCENTRATION AIMS TO FILL THE DEMAND FOR MORE SPANISH-SPEAKING HEALTH CARE PERSONNEL.

Noting the growing need for Spanish-speaking professionals in health care environments to improve care outcomes and quality, Marquette's Department of Languages, Literatures and Cultures has developed a new concentration to provide the chance for students with little to no previous language education to acquire the skills they will need to become culturally competent Spanish-speaking health care professionals.

Introductory Spanish for Health Care, available this fall, is designed to help students with no or basic knowledge of Spanish to develop listening, speaking, reading and writing skills in the language. Students will learn how to navigate straightforward social situations and predictable topics often encountered in health care settings, as well as to demonstrate cultural awareness and respect toward the Spanish-speaking communities.

Students choosing this educational path may complete the concentration or carry on their studies toward a major or minor in Spanish for health care. Students taking the concentration will be advised to take a Medical Seal of Biliteracy test at the end of the program.

"We hope that this new concentration opens a pathway to majoring or minoring in Spanish for health care, which is one of the most popular programs at Marquette and one that is addressing an urgent community need," says Dr. Eugenia Afinoguénova, chair and professor of Spanish.

Lemonis Center for Student Success in Memorial Library, courtesy of Workshop Architects

DESTINED FOR SUCCESS

KLINGLER COLLEGE ENSURES THE SUCCESS OF ALL STUDENTS IS A TOP-LEVEL PRIORITY.

BY ALY PROUTY, COMM '19

Alumnus Marcus Lemonis, Arts '95, star of HGTV's *The Renovator* and CNBC's *The Profit*, made a $15 million gift to the university this past February to cultivate student success at Marquette. His motivation: "As an alumnus who got the most out of my experience, it was paramount for me to highlight the things that worked and to strengthen the things that could get better. This initial gift is the start of building the road for others."

The Lemonis Center for Student Success, to open in a renovated Memorial Library in 2024, is just one stepping stone to ensuring every student prospers at Marquette. The Klingler College of Arts and Sciences is also prioritizing its efforts to drive student success, from high-touch recruitment events to graduation and beyond. New this fall, first-year students are required to take a one-credit course showcasing all that the college has to offer — from advising and course-specific tutoring to Arthur Vining Davis Foundation-sponsored internships, which offer stipends to juniors and seniors in otherwise unpaid internships.

Dr. Nakia Gordon, faculty fellow and associate professor of psychology, coordinates student success initiatives for the college. She explains that by fostering a sense of belonging in the classrooms and demonstrating the university is there to support every student, Marquette will further increase its retention and six-year graduation rates. The goal is to help all students find what they need.

Ultimately, engaged students are successful students. "We want to make sure students are equipped," Gordon says. "Student success programs offer them freedom and space to have great experiences and broaden their horizons. That's what college is supposed to do."

RETRACING HISTORY

TO EXPERIENCE THE QUEST FOR RACIAL JUSTICE IN AMERICA, THE CENTER FOR PEACEMAKING TAKES STUDENTS ON A PILGRIMAGE TO REVERED CULTURAL SITES OF THE CIVIL RIGHTS MOVEMENT.

BY LORA STRUM

To stand in the place where Dr. Martin Luther King, Jr., was assassinated or where four Black children were killed in the 16th Street Baptist Church bombing is to be immersed in a significant chapter of America's history. This is the idea behind Marquette's Center for Peacemaking's donor-supported weeklong pilgrimage traversing the U.S. South to learn about the civil rights movement.

When embarking on the Civil Rights Pilgrimage, students visited museums, churches and memorials that tell the stories of the fight for racial justice in America. They used reflection, journaling, group prayer and community-building to process these experiences. Dr. Cedric Burrows, associate professor of English, proposed the idea of the pilgrimage based on his own extensive research into the civil rights movement.

"These places tell a story," Burrows says. "The pilgrimage allows students to experience a lot of things they'd only read about, especially in the Deep South."

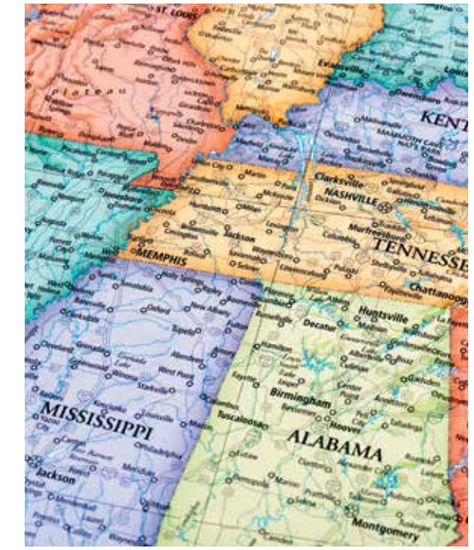
The pilgrimage is designed to challenge students' understanding of the South and of Blackness in America. So much of American history paints Black people as victims of racial violence, Burrows points out. But Black communities have never been passive in their plight. By observing the places — such as the Lorraine Motel where King was assassinated and Bryant's Grocery where Emmett Till's story began — students learn that from tragedy, stories of perseverance, resilience and community are made.

Fifteen students participated in this first pilgrimage, and Burrows hopes even more will journey with him next time. While traveling in the South, some students were concerned about racism. It was enlightening for them to discover how friendly communities in Tennessee or Alabama could be. "Sometimes we read about things, and we forget there are people who live there," Burrows says. "But the constant here is that there's a human aspect to every story."

"We need our past to enhance our present. … The trip really connects the notion of history is important and vital to keeping our communities thriving," says participant Saúl López, Arts '19, Grad '20, an educational policy and leadership doctoral student.

While the pilgrimage is formulated to show how major moments in the movement were geographically close, it also reveals how the South is evolving. In some places, Confederate statues may exist down the street from a lynching memorial or Black history museum. These conflicting narratives reflect how a community is educating itself on its past and designing a different future.

Burrows hopes students can reflect on what they observe and use that knowledge to pursue any racial justice activism from a place of understanding and openness. "What you've read or heard about a person or place may not be the reality," Burrows says. That's why it's essential to "not make what you think is the truth your reality. You have to be willing to learn from and listen to other people."



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STUDENTS PARTICIPATED IN THIS FIRST PILGRIMAGE, AND BURROWS HOPES EVEN MORE WILL JOURNEY WITH HIM NEXT TIME.

A CONSCIENCE AMID THE DATA REVOLUTION

NEW CENTER EXPLORES THE ETHICAL, SOCIAL AND POLITICAL DIMENSIONS OF AN INCREASINGLY DATA-DRIVEN SOCIETY.

BY JENNIFER ANDERSON

Concerns about how companies and institutions capture, analyze and use people's personal data are countless, and new ones arise every day. It's part of what Dr. Michael Zimmer, associate professor of computer science, calls "the Faustian bargain of technology," whereby every advantage provided has a corresponding disadvantage. Data tracking meant to monitor COVID-19 outbreaks, for example, can quickly become intrusive surveillance that violates personal privacy. Facial recognition technology helps identify criminals but doesn't work well on darker skin tones, sometimes leading to wrongful accusations. Statistics gathered by law enforcement for sentencing recommendations can be incorrectly interpreted, resulting in biased judgments.

In early 2022, Marquette established the Center for Data, Ethics, and Society within the Klingler College of Arts and Sciences to explore the challenges and consequences of using the vast supply of personal information that is being collected on all of us via the internet. Under Zimmer's direction, the center's programs are designed to look at some of the thorniest issues facing society today and to do so through a Jesuit lens that prioritizes social justice and serving others.

"Marquette is uniquely suited to tackle these issues," explains Zimmer. "We endeavor to educate students to do good in the world, and teaching them to focus on how ethics and data are going to connect with their jobs and their lives fits with Marquette's vision."

> ***Our goal is that when Marquette students go out into the broader world, they'll be primed to think about some of the social and ethical consequences surrounding the issues of technology and personal data collection.***
>
> **DR. MICHAEL ZIMMER**

The center is committed to creating public forums where students, scholars, policymakers and industry leaders can gather to "have the hard conversations," says Zimmer. For this challenge, the Klingler College has a head start with its annual Ethics of Big Data Symposium, now in its seventh year. But Zimmer hopes to use his extensive network to also host guest lecturers for frequent talks throughout the year.

Fitting the breadth of the Klingler College, Zimmer will bring an interdisciplinary approach to these conversations by involving other centers on campus, such as the Center for Peacemaking and the Center for the Advancement of the Humanities, to investigate how issues of data and privacy connect with their individual missions. That approach fuels one of the center's other goals, which is to carry out research on these issues by facilitating engagement between disparate campus groups and programs.

The center will also offer courses to students at all levels and across disciplines that focus on the tricky ethical issues of the day, such as Elon Musk's attempted purchase of Twitter and Facebook's inroads into the metaverse. All this preparation is vital for today's graduates, says Zimmer.

"Our goal is that when Marquette students go out into the broader world, they'll be primed to think about some of the social and ethical consequences surrounding the issues of technology and personal data collection."

HOW TO LIVE A MEANINGFUL LIFE

VOCATIONAL DISCERNMENT COURSES PROVIDE STUDENTS WITH REFLECTIVE OPPORTUNITIES FOR SELF-DISCOVERY.

BY HAL CONICK

Dr. Melissa Shew always aims to teach classes she would have wanted to take as a student. But if she had been offered a class in vocational discernment, that would have intimidated her.

"It would have terrified me the same way that it terrifies many of our own students," says Shew, a teaching associate professor of philosophy and senior faculty fellow. "This class allows for and pushes a high-impact teaching and learning experience."

Vocational discernment classes are offered as options of Marquette's CORE 4929 courses, which all Marquette undergraduate students are required to take. CORE 4929 courses, taught most often by theology and philosophy instructors, allow for a range of curricula developed under the umbrella of "service of faith and promotion of justice."

Vocational discernment helps students think critically and make ethical decisions in their personal lives, Shew says. Unlike the usual class with standard assignments at its core, in Shew's CORE 4929 classes this fall, she will focus on this central question: How do you deliberate carefully and soundly about what you want and need to do in your life to make good, hard and meaningful decisions?

Shew teaches students that making meaning takes deliberative practices, such as finding values and thinking critically. To this end, she challenges students with exercises. In one exercise, students create a values inventory and then think about how to align those values with careers, service activities and ways to help improve societal problems.

"Underlying all of this is my desire to let students know that not everything is meaningless and hopeless," Shew says. "They can make a difference and help make positive change in their communities."

Dr. Elizabeth Angeli, Arts '06, associate professor of English, also teaches vocational discernment courses at both undergraduate and graduate levels. In her classes students write about important influences in their lives, how they make decisions, and what values they take into the world. She gives personalized feedback to the students, recognizing important themes and guiding them to write more deeply about these themes.

Vocational discernment courses are taught by faculty members (l to r) Drs. Melissa Shew, Elizabeth Angeli and Jennifer Henery.

Students are often frustrated by chewing on deep questions, but Angeli says that she hears positive feedback from students who have completed the class. An undergraduate engineering student emailed her at the end of last semester with a simple note: He was glad to have taken the class and now looks differently at his future.

"It's great to watch them grow and develop their confidence," says Angeli, who hopes this class can bring authenticity and freedom to the lives of students. "It takes practice to trust yourself."

Shew has also loved watching her students creatively blossom. Her favorite example from this past year, when she co-taught with Dr. Jennifer Henery, Grad '00, '12, teaching assistant professor of theology, was a student who created an illustrated children's book detailing her immigration story and how it aligns with her vocational desires in the legal profession. Stories like this are exactly why Shew and Henery love teaching this class — self-discovery can be terrifying, but it can also help students make important decisions.

"I want this class to be able to help them to live more meaningful lives," Shew says.

A HARBINGER OF HOPE

AN INSPIRED BUSINESS SPREADS A MESSAGE OF MENTAL HEALTH ADVOCACY.

Physiological sciences major Rebecca Odeh nearly lost a family member to suicide. The relative, she says, suffered a mental health crisis in silence. The experience inspired her to create a mental health apparel company, The Good Vibes Club, to "provide an affordable way to show those struggling in silence that there are people that care. Wearing our apparel provides a non-spoken allyship for those struggling internally."

This spring, Odeh took her advocacy vision to Marquette's Brewed Ideas Challenge, a student-business pitch competition that provides seed money to budding entrepreneurs. She won $2,000 as the second-place awardee in the Social Innovation category.

As Odeh grows her business and spreads her message, she also volunteers for Marquette's On Your Marq program, which supports neurodivergent students through their college journeys. After graduation she has plans to attend the Marquette University School of Dentistry where she hopes to "continue to spread good vibes on campus and branch out to other campuses around the country."

The Good Vibes Club hoodies can be purchased by direct messaging the company's Instagram account: @goodvibesclubco. A portion of the company's profits support mental health organizations.

BECOMING CYBERPATRIOTS

CAMPS AND COMPETITIONS PROMOTE CYBERSECURITY AND STEM PROFESSIONS TO STUDENTS FROM UNDERSERVED COMMUNITIES.

BY KEVIN KEENAN AND SHELBY WILLIAMSON

Shortly after Air Force Lt. Col. William "Carl" Lewis became department chair for Marquette's Air Force ROTC in 2019, he ignited an interest in hosting a CyberPatriot competition. Developed by the Air Force Association, CyberPatriot provides materials for cybersecurity camps and administers the nation's largest annual youth cyber competition in an effort to inspire K–12 students toward cybersecurity and other STEM careers.

Partnering with Dr. Tina Boyle Whyte, teaching assistant professor of computer science, and the Klingler College's Center for Cyber Security Awareness and Cyber Defense, the Air Force ROTC began its second venture into the competition in fall 2021 with three sponsored teams of high school students from Cedarburg High School and Upward Bound — a college-prep program for low-income and first-generation high school students. The 18 local competitors played the role of newly hired information technology professionals tasked with managing and securing virtual networks for a small company. Through a series of online rounds, teams were given a set of virtual operating systems and were tasked with finding and fixing cybersecurity vulnerabilities while maintaining critical services. AFROTC provided two volunteer coaches and an additional 10 cadets to mentor the teams.

Lewis says Marquette's CyberPatriot participation and respective collaborations were "founded on the idea of providing additional resources and opportunities to local students who are historically underrepresented in cyber career fields, with more than 80 percent of the participants coming from those communities."

Now retired, Lewis voluntarily ran this year's Marquette CyberPatriot Summer Camp. The college hopes to participate in the 2022 CyberPatriot competition under new faculty leadership and support from the Center for Cyber Security Awareness and Cyber Defense.

INSIDE ARTS AND SCIENCES COLLEGE HAPPENINGS

PREP WORK

MULTIDISCIPLINARY TEAM ASPIRES TO IMPROVE MATH SUCCESS FOR ALL STUDENTS.

For more than a decade, the National Center for Education Statistics has documented growing trends in the number of high school students who enter postsecondary institutions with limited preparation for college-level course work. The long-observed concerns have been amplified by the COVID-19 pandemic.

To promote student success at Marquette, a multidisciplinary team from the Klingler College, the College of Education and the Educational Opportunity Program received the 2022 Way Klingler Teaching Enhancement Award. Their project's goal is to design and implement a six-credit developmental mathematics course to support students in: learning requisite skills and concepts for college-level mathematics courses; successfully completing the Elements of Calculus course; and developing problem-solving strategies and study habits via a supportive student learning community.

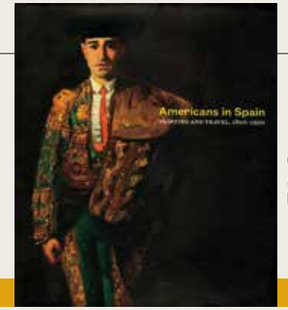
The project team includes Dr. Joshua Burns, associate dean of academic affairs and associate professor of theology; Dr. Nakia Gordon, faculty fellow and associate professor of psychology; Dr. Marta Magiera, associate professor of mathematical and statistical sciences; Dr. Christopher Stocker, assistant chair and teaching assistant professor of mathematical and statistical sciences; Dr. Leigh van den Kieboom, Grad '08, associate professor and associate dean in the College of Education; and Cheryl Brenner, Arts '89, mathematics content specialist in the Educational Opportunity Program.

"This initiative embodies Marquette's commitment to preparing its students for success from the second they step on campus," Provost Kimo Ah Yun says. "Marquette is fortunate to have this committed team of educators."

The Way Klingler Teaching Enhancement Award is an annual $20,000 award given to a team of two or more faculty members to develop, implement and evaluate a specific teaching project.

SHAPED BY CULTURE

SPANISH PROFESSOR EXPLORES THE CROSSROADS OF HISTORY AND CULTURE AND TRANSFORMS HER RESEARCH INTO UNEXPECTED COLLABORATIONS.



Cover art: *El Matador (Felix Asiego)*, by Robert Henri

BY ANNA FUNK

When Dr. Eugenia Afinoguénova, chair and professor of Spanish, was an undergraduate in Moscow, one of her oldest professors had learned Spanish in 1937 to welcome Spanish refugee children arriving in Leningrad. "This very strong tradition of uniting Spain and Russia existed in my mind," Afinoguénova says. Today, Afinoguénova is a leading expert in Spanish culture and history, and this spring received the Lawrence G. Haggerty Faculty Award for Excellence in Research, Marquette's highest research honor.

Her latest work is co-editing *Gastocracy*, a collected volume that examines the intersections of food and governance in Spanish history. For example, *el menú del día* — a large, meat-forward lunch introduced in the 1960s by the government to improve tourism and control prices — is still offered in restaurants today. And its effects are far-reaching: In homes, Spanish cuisine has since shifted to include more meat, with marked consequences for human health and the environment.

"The beauty of these disciplines is that you take the most mundane subjects, and you study the culture from which they emerged and also which they create," she explains. An item on a menu, a museum open during a civil war, a single painting. "It's a product of a certain culture, which also then shapes its own culture."

Studying these connections that weave together history and culture, past and present, is Afinoguénova's specialty. So are unique research applications: Her previously published book, *The Prado: Spanish Culture and Leisure, 1819–1939*, led to her involvement in *Americans in Spain: Painting and Travel, 1820–1920*, a 2021 exhibit at the Milwaukee Art Museum that featured a student-produced digital exhibit and a published catalog (pictured above).

Dr. Joseph LaManna and Emily Dewald-Wang, a research technician, measure a large Douglas fir in the H.J. Andrews Experimental Forest NSF long-term ecological research site in Oregon.

A SCHOLARLY SYMBIOSIS

BIOLOGY RESEARCHER AND SECONDARY SCHOOL SCIENCE TEACHERS SCORE A WIN-WIN BY TEAMING UP ON CLIMATE CHANGE INVESTIGATIONS.

BY HALEY WASSERMAN, H SCI '20

In the lush Andrews Forest of Oregon, Dr. Joseph LaManna prepares for his newest research collaborators: high school teachers. Thanks to a recent grant from the National Science Foundation, LaManna and scholars in the Long-Term Ecological Research Network, or LTER, are poised to welcome cohorts of non-university educators over the next three years to research alongside them.

"We want to immerse these educators into our work and exchange fundamental knowledge of science and education," says LaManna, assistant professor of biological sciences, whose research investigates climate change's effects on biodiversity and biological relationships.

Starting in 2023, teachers will spend part of two summers at an LTER site in Oregon, California or Alaska. During their first summer, the educators will receive field research training and help collect key data for LaManna's research for six weeks. Then the following summer they will return to their original site to train a new group of teachers.

LaManna explains that a team of LTER education specialists will work with teachers to create curricula for these educators based on their experiences in the program. He's primarily recruiting educators from Milwaukee Public Schools, and says he's interested in providing children from under-resourced areas with state-of-the-art science education through their teachers' collaborations with his team.

"This really is a symbiotic, mutually beneficial relationship," LaManna says. "The teachers become part of this incredible network, and we get help with our conservation efforts. Everyone wins."

A GREENER REACTION

DR. CHAE YI IS DEVELOPING MORE SUSTAINABLE CHEMISTRY TO LIMIT TOXIC BYPRODUCTS.

BY SARAH WELLS

Chemical reactions are an essential part of life, both in the wild and in carefully controlled chemistry labs. A domino effect of chemical reactions is often mediated by a substance called a catalyst, which helps to create everything from vaccines and medical drugs to jet fuels and biodegradable plastics. However, the power of these catalysts often comes with a toxic trade-off, says Dr. Chae Yi, professor of chemistry.

Traditional chemical reactions often generate wasteful byproducts like heavy metals, which become a serious concern when these reactions are run on a commercial scale. Yi is no stranger to the study of catalysts and has been researching the subject at Marquette for nearly 30 years. Over that time, Yi says he's noticed a growing need for safer and more sustainable alternatives to traditional catalysis methods.

"I recognized that there has been an urgent need in the community for developing new green chemical methods because of environmental concerns and associated issues of global warming," Yi says. "That's when we decided to investigate and develop new chemical methods that are environmentally sustainable and do not form any toxic byproducts."

Now, armed with a $527,182 grant from the National Science Foundation and support from the foundation's Chemical Catalysis Program, Yi and his lab colleagues are working hard to uncover new kinds of catalysts that can create the same chemical reactions without any harmful repercussions.

In particular, Yi's team is working to develop catalysts that can mediate chemical reactions and form water as the only byproduct. Creating such a catalyst is easier said than done, Yi says, because it requires selectively breaking unreactive carbon-hydrogen and carbon-oxygen bonds from organic substrates.

Yi says that the selectivity is the key to solving this problem because to break these strong bonds, catalysts need to be carefully designed so they choose to dismantle the carbon-oxygen bonds.

"We have been able to design catalysts that can do these reactions in a much more selective fashion without forming any toxic byproducts," Yi says.

To widen the applicability of the work, Yi is also working to develop catalysts that can precisely cleave other essential types of chemical bonds as well, including carbon-carbon and carbon-nitrogen bonds.

Because these types of bonds are fundamentally important building blocks in organic materials, Yi says that catalysts targeting these bonds could have wider applications toward development of drug candidates and cleaner methods of reforming petroleum and biomass feedstocks.

Ultimately, where these catalysts find a home will be difficult to predict, Yi says, but he's excited to work toward improving the world of chemistry over the next three years.

FORECASTING DISASTER

COMPUTING POTENTIAL POST-WILDFIRE DESTRUCTION COULD LEAD TO PREVENTIVE SOLUTIONS.

BY HALEY WASSERMAN, H SCI '20

More than 35,000 wildfires have raged across the United States so far this year, destroying more than 5 million acres of vegetation. Aside from stripping the land of vital plants and soil nutrients, wildfires contribute to landslides and mudslides, or post-fire debris flows, typically triggered by intense rain. These flows decimate buildings, infrastructure and lives.

Forecasting a landslide's timing and severity after wildfires is tricky due to dynamic environmental factors, yet Dr. Elaine Spiller, associate professor of mathematical and statistical sciences, is collaborating with other researchers to change that. Spiller approaches this quandary by employing computational models and a mathematical concept called uncertainty quantification.

"This concept accounts for differences in rainfall levels and intensity, soil composition and more, and ensures the models we've developed can inform us about what might happen in both typical and extreme scenarios," Spiller says. Her fellow researchers at the University of Arizona developed a physics-based model of debris flows that takes a supercomputer an entire day to solve. Spiller's work makes this tool practical by developing fast surrogates of this computationally intensive model, so that different scenarios and different potential outcomes can be explored rapidly.

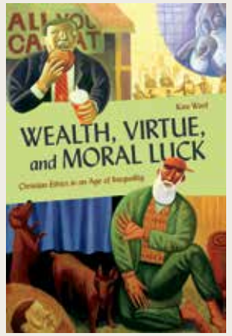
As instances of wildfires increase due to climate change, Spiller's work is imperative to communities affected by fires and landslides as they try to plan for living with such natural disasters. She believes this research can have global applications.

"The goal is not only to help people avoid issues with evacuation and building loss, but to create communities that are resilient in the face of a changing environment," Spiller says.

OF WEALTH AND VIRTUE

DR. KATE WARD'S NEW BOOK EXPLORES HOW INEQUALITY CHALLENGES PEOPLE'S MORAL DEVELOPMENT.

BY ANNA FUNK



The Christian tradition has a lot to say about wealth and poverty. But for people who are neither struggling to make ends meet nor flying private spaceships to Mars, it can be surprisingly easy to underestimate how wealth affects them.

"Most people have a sense that inequality is wrong in some way. But the aspect of how it affects us personally is not one, I think, people think about a lot," explains Dr. Kate Ward, assistant professor of theology. In her new book, *Wealth, Virtue, and Moral Luck: Christian Ethics in an Age of Inequality*, Ward examines how material privilege affects personal virtue — the moral qualities people develop that help them live well — by shaping the opportunities and choices that are presented to them.

Because our society is largely segregated by income, the physical separation of wealthy people from those experiencing poverty can lead to what Ward calls hyper-agency, or people having power over others and taking that power for granted. A simple example of this, Ward says, is the use of Instacart and other shopping services during the pandemic. To most users of these services, they were a way to maintain social distancing and reduce exposure to the virus. But what about the people doing the shopping?

"Inequality is what makes it possible for me to use Instacart and command someone to go risk their life for me," Ward says. "What does that do to me as a person when I have this kind of power over another human being? That's not good for my virtue."

An expert in theological ethics, Ward explores the intersections of Catholic tradition, Christian teachings and modern economics throughout her scholarship. Her next project will examine work and how it fits into a meaningful life.

A COMPLEX PORTRAYAL

A MARQUETTE SCHOLAR'S FELLOWSHIP AT AN INFLUENTIAL CHICAGO LIBRARY BRINGS LIFE TO THE CULTURAL HISTORY OF DEAFNESS.

BY JENNIFER WALTER, COMM '19

Eighteenth-century Europe was a time of renaissance and revolution. It was the heyday of the Enlightenment, when philosophers and intellectuals embraced new ideas about morality, individualism, science and progress.

Even today, Enlightenment-era ideas stick around in our institutions — they influenced the development of modern medicine and democratic governments, for example. They also spurred modern concepts about gender, sexuality, race/racism and disability. "When I read about the social worlds depicted in 18th-century literature, they feel somewhat familiar to our own time, but in other ways they feel so distant," says Dr. Jason Farr, associate professor of English.

Farr's research focus on the portrayal of disabled individuals in Enlightenment-era literature earned him a prestigious residential fellowship at the Newberry's Center for Renaissance Studies to research his second book, *Deaf Resonances: Deafness, Sound, and Multimodal Communication in Eighteenth-Century Literature*.

Farr says the project came about after researching a chapter for his first book, *Novel Bodies: Disability and Sexuality in Eighteenth-Century British Literature*. In the 1720s, several novels and stories were published about a deaf man named Duncan Campbell who was a soothsayer. "After researching the cultural, linguistic and medical contexts of deafness for this chapter, I realized that there was so much more to be said," Farr explains.

Enlightenment-era society largely held ableist views about deaf or disabled people, Farr says. But these portrayals vary widely. In some novels, deaf characters are depicted as heroic or having supernatural abilities. There are instances of physically disabled women running estates without the help of men and having intimate relationships with other disabled women.

"Not all 18th-century literature is subversive, of course, and much of it reinforces dominant ideas about disability," Farr says. "But there's also great complexity and nuance."

Being able to study at the Newberry gave Farr access to an extensive collection of 18th-century writing about deafness, including treatises about some of the earliest mentions of formal education for the deaf. "It was an absolute dream," he says. "To have the time and space to focus entirely on my research is an extraordinary thing, and I didn't take it for granted."

The Newberry, located in Chicago and renowned for its collections in history, religion, arts and culture, has been a research hub for dozens of Marquette scholars since the 1980s. Dr. Albert Rivero, the Louise Edna Goeden Professor of English, was the recipient of a Newberry fellowship back in 1984 that helped him finish his first book. Today, he is one of Marquette's representatives for the Newberry Center for Renaissance Studies Consortium, which provides access to grants, workshops and seminars.

"It's only a handful of schools that are members of a consortium like this," Rivero says. Not only does membership boost access to timeless resources for students and professors, it also denotes Marquette's status as a serious player in the field of Renaissance studies.

A finger spelling chart from John Bulwer's *Chirologia: Or, the Natural Language of the Hand*, the first book in English to advocate for deaf education, published in 1644.

Not only does consortium membership boost access to timeless resources for students and professors, it also denotes Marquette's status as a serious player in the field of Renaissance studies.

UNDERSTANDING A TRAUMATIZED BRAIN

PTSD TREATMENT ISN'T ONE-SIZE-FITS-ALL, AND THE REASON WHY MAY LIE IN OUR NEUROBIOLOGY.

BY SARAH WELLS

Stress can affect the body in several different ways, from muscle tension to throbbing headaches. Even more, when the stress stems from trauma and is particularly intense and unrelenting, people can develop symptoms that last long after the stressful event is over, including flashbacks, nightmares, anxiety and depression.

Such symptoms may lead to a diagnosis of post-traumatic stress disorder, or PTSD, which affects an estimated 12 million Americans — from war veterans to sexual assault survivors to COVID-19 frontline workers. Yet, despite extensive documentation of PTSD symptoms, the brain chemistry driving them is still poorly understood, says Dr. Jacklynn Fitzgerald, assistant professor of psychology.

Fitzgerald is a behavioral neuroscientist by training and first became interested in the study of PTSD as a graduate student when she worked closely with an adviser who was a psychiatrist treating patients at a Veterans Affairs hospital.

"One question was: What is the neurobiology of these individuals that manifests the symptoms of PTSD?" Fitzgerald says. "We've been tackling that question for over a decade now."

Psychotherapy and cognitive behavioral therapy along with medication are widely used tools to treat PTSD today, but Fitzgerald says that only about 50 to 70 percent of patients see improvement from these treatments. Part of the research that Fitzgerald and colleagues at Marquette's Translational Affective Neuroscience Lab do is to better understand how someone's unique neurobiology affects which treatments will be effective.

One way Fitzgerald and her research team study the neurobiology of PTSD is by studying stress hormones and stress systems in the body, including the endocannabinoid system, which plays an essential role in the central nervous system.

"One thing we often find in our research is that individuals who have experienced trauma and go on to develop depression look neurobiologically very different from people who have been exposed to trauma and go on to develop PTSD," Fitzgerald says. "One of the clearest neurobiological markers that differentiate the two is cortisol stress hormones that we can collect from the blood."

The lab has also worked with Dr. Rachel Bollaert, clinical assistant professor of exercise science at Marquette, to learn how exercise, like yoga, can alleviate symptoms of PTSD by affecting the endocannabinoid system. Going forward, Fitzgerald hopes that collaborative work like this will give her lab the best opportunity to study both the mechanisms and treatment of PTSD.

"I really do see our future branching in a lot of collaborative ways to try to use what we know about the brain in this disorder to help answer these different nuanced questions that people want to ask about PTSD," she says.

HEAD START

PHYSICS AND COMPUTER SCIENCE PROFESSORS RECEIVE PRESTIGIOUS GRANTS RESERVED FOR ROLE-MODEL ACADEMICS WITH HIGH-PROMISE RESEARCH.

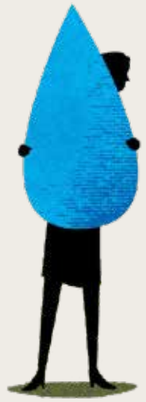
BY SARAH KOZIOL, ARTS '92

This spring a pair of Klingler College early-career researchers received distinguished awards from the National Science Foundation for their promising work. CAREER grant recipients Dr. Karen Andeen, associate professor of physics, and Dr. Satish Puri, assistant professor of computer science, will further their research over the next five years with this notable funding.

Andeen's grant, totaling nearly $870,000, will fuel her project Cosmic Ray Composition Across Five Decades in Energy with the IceCube Neutrino Observatory. The project aims to better understand the transitional zone of cosmic rays between commonly observed low-energy cosmic rays, such as those produced by stars exploding, or supernovae, within our galaxy and the rarer high-energy cosmic rays that are produced outside our galaxy.

Puri's grant, totaling just over $510,000, will support his project Communication-efficient and Topology-aware Designs for Geospatial Analytics on Heterogeneous Platforms. His research focuses on designing systems for more efficient geospatial data analysis that will serve as a crucial tool for solving a wide set of research problems from scientific areas such as sociology, epidemiology, pathology, climate science and solar physics.

The Faculty Early Career Development Program, or CAREER, supports early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization.



DEFENDING WATER

KLINGLER PROFESSORS COLLABORATE ACROSS CAMPUS AND WITH THE U.S. ARMY CORPS OF ENGINEERS TO ADDRESS WATER QUALITY CHALLENGES AND PROMOTE HEALTHIER ENVIRONMENTS.

BY STEPHEN FILMANOWICZ

For about five years, Marquette faculty specializing in water research have been collaborating on research aspirations. The circle of complementary expertise generated its biggest dividends yet when Marquette received a $3.8 million federal award — the largest water-related grant received by the university — to fund an ambitious program, Novel Technologies to Mitigate Water Contamination for Resilient Infrastructure.

Working with the Army Corps' Engineer Research and Development Center, four Marquette multidisciplinary research teams will pursue solutions to high-priority water quality issues, with two of those led by Klingler College faculty.

Under the direction of Dr. Krassimira Hristova, associate professor of biological sciences, one team will address the dramatic and apparently lasting increase in the use of disinfectants during the COVID-19 pandemic, and the rapid rise of illness-causing pathogens that are resistant to antiseptics or antibiotics. The team, which includes Dr. Chris Marshall, assistant professor of biological sciences, will investigate the microbial ecology of biofilms that form on everything water touches in buildings including pipes, sinks and shower curtains. In addition to learning more about what is killed by typical disinfectants and what comes back after their use, they will study UV treatment and novel disinfection materials that efficiently control growth of bacteria and viruses on surfaces and in biofilms.

Another project, led by Marshall and co-investigated by Hristova, will advance the development of an innovative two-step system involving electrochemical removal of PFAS (forever chemicals) and subsequent bioelectrochemical degradation and destruction. The system could be used in drinking water treatment, wastewater treatment and in-place treatment of soils and sediments. Marshall will leverage progress he's made using microbes to degrade halogenated compounds such as PCBs. There are signs the same or related strains of bacteria may help degrade forever chemicals.

SKY'S THE LIMIT

Klingler College undergraduates elevate their educational journeys through challenging research that offers meaning and a sense of belonging.

By Erin O'Donnell

Reflecting on her own college years, Dr. Anita Manogaran, associate professor of biological sciences, pinpoints one experience as pivotal: when she joined a campus lab as an undergraduate and began contributing to research on how gene expression is regulated in insects.

Six months into the experience, she was asked to lead a lab meeting and present her research to the entire team. "I was extremely nervous," she recalls. But her presentation went well and sparked a lot of conversation. "Not only did that presentation boost my confidence about my potential for being a scientist, but it was my first real scientific discussion. It was so exciting, I knew I wanted to try to pursue this more." She credits that lab and the relationships she built there with launching her career.

Manogaran, Grad '03, says research holds the same power for the undergraduate students she teaches at Marquette today. Inviting curious undergraduates to work in her lab provides them with hands-on learning opportunities that bring textbook knowledge to life. "I see it over and over and over again," Manogaran says. "They say, 'Oh, I get it now.' Those connections start making sense, and suddenly their confidence goes up." That's the moment, she says, when students begin to see themselves as scientists.

Undergraduate research is considered so beneficial for students that the American Association of Colleges and Universities classifies it as a "high-impact practice." Mounting evidence reveals that research experience is valuable for students with a range of abilities and at all phases of their education.

"Historically, research has been understood as something you do when you're pretty advanced, when you've done really well and shown great interest in a particular discipline," says Dr. Amelia Zurcher, associate professor of English, director of the University Honors Program and co-director of the MU4Gold Program. The Klingler College of Arts and Sciences is moving away from that model and toward multiple research opportunities for multiple interests.

These opportunities have undergraduate researchers also working closely with faculty mentors and graduate students, Zurcher adds, building relationships that increase students' sense of belonging as well as the chance that they will stay at Marquette and succeed while on campus.

This past summer, for example, Dr. Nick Reiter, assistant professor of chemistry, had four undergraduate students in his lab, working alongside three experienced graduate students and one college-bound high school senior. Helping young researchers develop lab research skills takes effort.

"It's very time intensive," he explains, for the professor and the student. But that time is worth it. Reiter has seen talented undergraduate students take his lab in important new directions, and student researchers get experience that enhances their resumes and helps them decide if they're interested in academic careers. Research also gives students valuable experience on diverse teams, which "bring together more perspectives and therefore more creativity and skills," Zurcher adds.

"What's interesting about undergraduate research is that it breaks

down barriers," Manogaran says. "It is inclusive because you can have all sorts of students in the lab together and they're all working as a collaborative team. These are life skills. You don't get that from a textbook."

Here's a chance to meet four undergraduate researchers at Marquette and get a closer look at all they've gained from their experience.

A Passion to Listen

As a sophomore, Trevor Morris told Dr. Simon Howard, a former Marquette assistant professor of psychology, that he hoped to become a clinical psychologist. Howard asked Morris if he had any questions about applying to graduate school. "I said, 'Well, it seems like I just need to get the grades,'" Morris recalls. "But he said, 'There's so much more to it than grades.'" Howard suggested that Morris apply to the McNair Scholars Program, a prestigious federal program designed to help under-represented students reach graduate school. All McNair Scholars conduct undergraduate research projects with faculty mentors.

Morris was indeed accepted into the McNair Scholars Program and began a research project mentored by Dr. Ed de St. Aubin, associate professor of psychology, this past summer. The project involved interviewing formerly incarcerated people and mental health professionals who work with them. "Our goal was to see: What are the barriers for getting mental health treatment for people who are released?" Morris explains. One of his most powerful findings: Formerly incarcerated people appreciated having a researcher seek out their opinions. "They just want to be heard," he says. Morris recently traveled to Baylor University in Texas for a McNair conference, where he shared his research findings with McNair Scholars from around the country.

He's now applying to graduate programs with even clearer career goals. "I want to be a therapist for minority youth because they are experiencing trauma, but they are not being heard," he says. Morris wholeheartedly recommends undergraduate research and encourages qualified students to apply to the McNair Scholars Program.

"Through research," he adds, "you'll find the things that you're really passionate about."

Hard Work Is Worth the Payoff

Samantha Guereca came to Marquette planning to enter a medical profession. But those plans changed when she began taking biology courses with Dr. Anita Manogaran. Guereca learned that she and Manogaran both attended Washington Park High School in Racine, Wisconsin. "It's inspirational that she started off in the same place that I did," says Guereca, who is a first-generation college student.

She first took a job as an aide in Manogaran's lab, but in summer 2021 she transitioned to research assistant, helping with Manogaran's research on prions, a type of protein that can fold abnormally and clump in cells. These clumping proteins are associated with devastating neurodegenerative diseases such as Creutzfeldt-Jakob disease.

Guereca, who continued her research as a cohort member of the 2022 Undergraduate Summer Research Program, has been conducting lab experiments on mutant yeast cells, an inexpensive stand-in for human cells, to identify which genes are involved in the prion development. "It's a lot of work for sure, but I really enjoy it," she says, and she likes how much she has learned in the process. "After reading about science in books, it's rewarding to see it happening in front of your eyes," she adds.

Her work in Manogaran's lab has been presented to scientists at an international meeting, and she is a co-author in a peer-reviewed scientific article. Guereca has plans to attend graduate school and work toward a doctorate in biological sciences. She sees biological research as one way to be a person for others. "It contributes to society and how we all move forward," she says.

When Research Is Personal

Because she is a first-generation college student, Joceline Helmbreck applied to the federal McNair Scholars Program. One of the application requirements was a research proposal outlining her plan to work with a Marquette faculty member. Helmbreck was reading about the many research interests of Marquette faculty members when she discovered Dr. Nick Reiter's focus. And everything fell into place.

Reiter studies a protein called LSD-1, which in excessive quantities can contribute to certain cancers. Helmbreck became particularly interested when she realized that LSD-1 is involved in the development of Ewing's sarcoma. That cancer claimed the life of Helmbreck's sister, Jessie, in 2016.

"I thought it would be interesting and therapeutic and almost like kismet if I was able to research something related to the cancer that took my sister," Helmbreck explains. "Dr. Reiter was super supportive right away and said, 'Yes, let's create a project about this.'"

Helmbreck has worked to understand how LSD-1 interacts with a fusion protein formed on the chromosomes of people with Ewing's sarcoma. She spent summer 2022 purifying the LSD-1 protein complex for use in other studies; she sent the purified sample to collaborators at Georgetown University who will use it to study the genes involved in Ewing's sarcoma.

Over the last year, Helmbreck has co-authored a forthcoming research article on LSD-1 and participated in the Big East Undergraduate Research Poster Symposium, another opportunity for students to present their research, which took place in March at Madison Square Garden during the Big East men's basketball tournament. Surrounded by hundreds of other student researchers, Helmbreck presented her LSD-1 findings to three judges with expertise in biochemistry. She was also recognized as a Marquette Difference Maker by President Michael R. Lovell.

Helmbreck is now considering one of two paths in graduate school: a doctorate in biochemistry, which would allow her to continue studying Ewing's sarcoma, or a program in genetic counseling. Her experiences with Reiter and the graduate students in his lab have made so much possible, she says. "I'm just really grateful for the connections I've made."

A Brain Stretch Into the Middle Ages

"I would say that I didn't choose undergraduate research," Noah Smith explains. "It kind of chose me." When he applied to Marquette as a high school senior, he also applied, almost as an afterthought, to the MU4Gold Program, which promotes an early introduction to research for qualified freshmen. He'd almost forgotten about it when Dr. Rosemary Stuart, co-director of the program and Wehr Distinguished Professor of Biological Sciences, contacted him days before his first semester and offered him a spot in the program.

As a freshman he and fellow MU4Gold Scholars took a one-credit first-semester seminar about research at the college level. Smith then approached Dr. Liza Strakhov, associate professor of English who specializes in medieval literature, to ask if they could work together on a project about medieval manuscripts and books. Strakhov agreed and began teaching Smith how to read medieval handwriting from different periods and parts of Europe. Smith examined digital versions of medieval manuscripts from around the world and ultimately chose to study one particular antiquarian book, printed in 1489, that is currently held in Marquette's Special Collections and University Archives.

The book is a medieval bestiary, or book about animals. Smith did some detective work, tracing a watermark on its pages to a papermaker in Berlin. He also began researching the history of literature about animals in the early Middle Ages.

Smith is discerning a vocation with the Jesuits after graduation and applying to doctoral programs in medieval history and literature. But undergraduate research — which sharpens critical thinking and problem-solving skills — is invaluable for many careers, he says. "Research stretches your brain in ways you don't expect."

ILLUMINATING INDIGENOUS HISTORIES — PAST, PRESENT AND EMERGING

A novel research and community-building program provides opportunities for Indigenous students to promote a deeper understanding of their shared heritage.

By Diane M. Bacha

Danielle Barrett was a pre-med biology student in her sophomore year when she learned about Marquette's new Indigeneity Lab. It was a way to get research experience and build up her resume, she thought. And it meant she could meet other Indigenous students at Marquette — until then, she thought she might be the only one.

Barrett (pictured left), a member of the Long Hair Clan of the Eastern Band Cherokees, grew up in Texas and Wisconsin with little connection to her heritage. When her Indigeneity Lab application was accepted, she never anticipated just how transformative the experience would be.

"It has meant going from being invisible to being seen, going from uneducated about my culture to being educated," she says.

In two summer semesters with the lab to study the cultural history and then the science of wild rice, Barrett connected with Indigenous people on and off campus, discovered shared experiences, dug deeper into the history of Indigenous peoples and gained a perspective on her own family's past. During that time, she was also involved in the Native American Student Association, of which she is now president. Her worldview shifted — and so did her career ambitions.

"I hope to be a pediatrician and in time open my own practice on a reservation," she says. "It wasn't always the dream, but in learning new things about the Indigenous community, it has become the dream."

Multifaceted goals, outcomes

The Indigeneity Lab was launched in 2020 in response to Indigenous students' requests for more acknowledgment and support. Its purpose is multifaceted: paid, credit-earning research opportunities for Indigenous undergrads; research on topics of relevance to Indigenous communities; partnership and outreach with Wisconsin's Indigenous communities; and a cross-disciplinary structure encompassing history, science, culture and beyond.

Anishinaabe elder Mishiikenh (Vernon Altiman) leads some Indigeneity Lab faculty, staff and students in a wild rice blessing.

The outgrowth of the lab is equally multifaceted, as its first research projects demonstrate.

For an interactive map-making project, students work with Dr. Bryan Rindfleisch, Grad '09, associate professor of history and an expert in Native American history. Their goal: collect and edit content for a web-based resource that documents the many connections between Milwaukee and Indigenous communities, both historic and current.

The map, called Indigenize Milwaukee, has received attention from local news outlets, giving students the chance to be interviewed on camera. The students also presented at more academic conferences than Rindfleisch initially hoped for. "It far exceeded my expectations in terms of the exposure that they got at a professional level," says Rindfleisch. Even more rewarding was working with students as they realized the deep Indigenous roots that existed just around the corner, connecting with their own personal experiences.

In another research project, Dr. Michael Schläppi, professor of biological sciences, is working with Native American students to study the DNA of wild rice in hopes of finding clues that can help it thrive again. Wild rice, once abundant along Milwaukee's waterways, is considered a sacred grain to the Native communities of Wisconsin. The research requires an approach that respects the tradition alongside the science. Involving Indigenous students makes that possible.

Schläppi describes how one of the Indigeneity Lab student researchers drove hours north to the Menominee Indian Reservation, with hopes of bringing back samples of natural wild rice plants. Respecting the sensitivity of the conversation, the two agreed that the student would visit the reservation without Schläppi. When the student successfully returned with a few of the plants, they began the process of genotyping them — an initial step toward understanding what makes them tick.

Schläppi worked with Barrett this summer to grow wild rice seeds obtained from a Wisconsin nursery in a small 4-by-4-foot rooftop pond outside Schläppi's lab. They succeeded in getting plants to grow, flower and set seeds, perhaps a first in Milwaukee in decades and a first step to reintroducing the sacred plant back to Milwaukee rivers.

The final lab project is one with timely significance. It is a project that seeks to highlight and contextualize the various documents found in the expansive archival collection from the Bureau of Catholic Indian Missions, or BCIM, one of the organizations that managed boarding schools in the U.S. and Canada from 1880 through the 1980s with the intent to "civilize" Native American children. The records present the BCIM's view of the assimilation project, so the Indigeneity Lab supplementary website aims to synthesize the context, resources and analysis that help various communities reach a more complete understanding of the history.

Housed in Marquette's Department of Special Collections and University Archives in Raynor Memorial Libraries, this massive collection of more than 800 boxes was procured in 1977 by historian and then-Marquette professor Rev. Francis Paul Prucha, S.J. The collection will shed light on an educational movement that came under new scrutiny after the discovery in recent years of mass graves at Canadian and U.S. Indian boarding schools run by the government and faith-based organizations — developments that sparked a flurry of public apologies and initiatives, including from Catholic organizations and Pope Francis.

To Indigenous communities, boarding schools are a familiar shared trauma. "I have yet to meet a Native student who doesn't have boarding school history in their own family history," says Dr. Samantha Majhor, adviser on the BCIM research project and part of the team that helped conceptualize the lab. An assistant professor of English, Majhor covers the history of boarding schools in classes on Native American literature, and it frequently comes as a shock to non-Native students.

"Part of the boarding school history involved brutally stripping away Native identity," says Majhor, whose ancestry is Dakota and Assiniboine. Giving Indigenous students the opportunity to research this history is also an opportunity to connect with their identities in ways they couldn't before, and in an academic setting that validates their own truths. "This is recovery work," Majhor says. "I think it will be powerful for Native and non-Native audiences."

Jacqueline Fontaine Schram, Marquette's director of public affairs and special assistant for Native American affairs, works as a liaison connecting the lab, Indigenous students, and the Milwaukee Indian and tribal communities. She has seen how the lab's research triggers powerful feelings of identity among the students.

"Some of these students haven't really examined their Indigenous identity or their connections with issues that tribal nations are concerned with," says Schram, who is Anishinaabe and a band member of Sagkeeng First Nation in Manitoba, Canada. "And seeing those connection points get soldered through their experience in the lab is such a beautiful thing."

The power of connection

Because the Indigenous student population at Marquette is small — less than 1 percent of undergraduates enrolled full time in fall 2021 identified as Native American — forging a community can be challenging. Although the lab has no physical home, it's helping Indigenous students connect with one other in ways its organizers didn't anticipate.

"We all went into our projects with great zest," Majhor says, "but we didn't fully anticipate how meaningful these connections would be for our students."

"Connection" is a common refrain among the students who participate. "Native students on almost any campus are a small population, and it can be hard to find each other and find that sense of community and home," Majhor adds. The boarding school project, in particular, surfaces meaningful and sometimes difficult shared experiences.

That's true for Barrett, who is deeply grateful for finding a community that understands the narratives of her family's past, is helping her uncover a history she was never taught and is giving her a sense of belonging — all for the first time in her life.

She's not alone, says Schram. "I think my greatest reward in all of this is seeing students really fly. I have cried with students at the end of their time with the lab because it was such a transformative experience for them."

BRINGING *clarity* TO THE CONVERSATION

Marquette's political science researchers offer public audiences context and scholarship amid some of today's most discussed societal and political matters.

By John Blum

Talk about a Hollywood breakthrough.

As a junior academic, Dr. Paul Nolette, now associate professor and chair of Marquette's Political Science Department, was doing the grueling leg work of getting his name out to media professionals to let them know he had relevant expertise to offer on developing news. As his name was slowly working its way around newsrooms, his research happened to be cited in a Pulitzer Prize-winning *New York Times* article exposing the connections between some state attorneys general and the energy industry in rolling back EPA regulations. Although it may not exactly be the plotline from *A Star Is Born*, he certainly had been discovered.

Nolette's forays into the mediascape represent one aspect of "public scholarship," in which academics bring their research and accumulated wisdom to bear on current events and then pass their expertise and perspectives along to various public outlets beyond academia.

According to Nolette, a pride of the department is the faculty's embrace of public scholarship — faculty such as himself, Drs. Julia Azari, Risa Brooks and Philip Rocco, who are "top-notch scholars who publish regularly through traditional scholarly venues, but who also want to have as their audience more general publics."

Scholarship expertise spans several areas, audiences

Dr. Philip Rocco, associate professor of political science, researches American federalism and public policy, which leads him into policy thickets such as Obamacare and the American Rescue Plan Act, or ARPA, as well as the politics of the U.S. census and recent presidencies. He also closely follows Milwaukee city and county politics.

Rocco's work spans multiple public audiences. With his interest in Milwaukee politics, he writes frequently for local publications that appeal to general readers. Rocco's policy research

addresses more specialized publics, such as policymakers and journalists. He is currently researching how state and local governments are allocating ARPA funding to prevent crime and violence. Through the project website, he and his co-investigator, Dr. Amanda Kass of DePaul University, gather and analyze ARPA data and post their findings for a primarily journalistic audience. "Journalists generally wouldn't have the social science tools needed to interpret what these numbers mean," Rocco says. "The website is intended to provide some context and texture."

For political scientists, public scholarship can feel like a natural fit since politics and policy percolate throughout our everyday lives. "If you drive on the road, you're going to care about bike lanes, whether you love them or hate them," Nolette says. "If you care about bike lanes, then you'll care about the policies that bring them into being." Caring about these policies will eventually take you into questions about federalism — the division of political power between a national government and the states, along with other local governing bodies. "Maybe federalism seems like a dry topic. But the skill of a good public scholar is to take that research you've done on federalism and get it across to a broader public, to let them know, 'This stuff matters.'"

Because of his extensive research into the inner workings of state attorneys general, Nolette has become the go-to scholar for media inquiries about their activities. Since the 1990s, attorneys general have been using lawsuits to essentially determine national policy, such as in health care (big tobacco settlements, pharmaceutical companies and the opioid crisis) and environmental protection (the recent West Virginia v. EPA Supreme Court ruling). To further his outreach to the public, Nolette has created a State Litigation and AG Activity Database (attorneysgeneral.org) as a resource for lawyers, journalists, scholars and other interested parties.

> **"Political science can provide a deeper understanding of what's going on, ultimately helping people draw their own conclusions based on their own beliefs and values."**
> **—Dr. Julia Azari**

Providing context, correctives when needed

Providing deeper contexts to political news is fundamental to public scholarship in political science. Dr. Julia Azari, professor of political science, who specializes in the American presidency and political partisanship, notes that in traditional journalism, politics tend to be more focused on individuals: a candidate's gaffe at a debate, a recent comment to the media. Political science, on the other hand, thinks more about how institutions operate. "Political science can provide a deeper understanding of what's going on, ultimately helping people draw their own conclusions based on their own beliefs and values."

Azari noted an uptick in public scholarship leading up to the 2016 elections. "The elections raised the temperature of polarization, and I was getting feedback that people wanted to read pieces that were more measured, more contextual," Azari continues. "Some political scientists were spotting inaccurate stories about what happened during an election and felt they had to push back a bit, to provide some correctives to political journalism."

For Nolette, when public scholars think about big picture questions, these include both "is" questions and "ought" questions. "The 'is' questions help us explain how we got to the point where we are today. But public scholarship also inspires people to talk about the oughts. What ought we do about childhood poverty? What ought the next session of Congress do?" Although political scientists are not advocates or media pundits, "Those 'ought' questions in the backs of our minds connect us with our Catholic, Jesuit mission. Action. Getting stuff done. Improving the community." In other words, following the Ignatian dictum "to go and set the world on fire."

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> **—Dr. Paul Nolette**

Research grounded in values

Public scholarship, rarely recognized a few decades ago, seems to be evolving along with the explosion of social media. Dr. Risa Brooks, Allis Chalmers Professor of Political Science, who specializes in international security, political violence and civil-military relations, took up public scholarship on a bit of a whim early in her career. "There was a time in my career when I would look at some of the *Monkey Cage* postings (a popular political science forum now affiliated with *The Washington Post*). Out of curiosity I would ask myself, 'Could I do that? Could I write that way?'" The answer was "yes," and she has written for the blog several times since.

Although Brooks still writes occasionally for more general audiences, most of her public scholarship is geared toward practitioners — "many of the D.C. people" — so her writing tends to be more prescriptive than descriptive, leaning more toward Nolette's "ought" questions and away from correctives to political journalism. She notes that it's quite a thrill to "realize that your writing is being read by people who

"Having to talk to people outside your profession really grounds you. It helps you understand the work you're doing — and especially the values that are in that work."
—Dr. Risa Brooks

have some capacity to make decisions or have influence." At the same time, the practitioner sites she'll write for — *Foreign Affairs, War on the Rocks, Inkstick Media* — are all open to the public, so she's noticing a wider range of people reading and citing her work.

Doing public scholarship makes Brooks think differently about academic research. It's easy for professionals — whether academic or not — to fall deeply into their niches. "Having to talk to people outside your profession really grounds you. It helps you understand the work you're doing — and especially the values that are in that work. Professions don't always ask you to reflect on values."

Rocco also started his public scholarship by writing for *Monkey Cage*. Over time he came to recognize "the value of communicating political science knowledge in a way that policy-makers and the public could easily understand." But he also found that public scholarship was not just about posting his findings to social media. "It's about applying both general and specific area knowledge to changing or evolving political realities as they emerge, helping to contextualize that action."

Azari fell into public scholarship "by accident" when she started blogging on the political science site *Mischiefs of Faction*, primarily to promote her first book. Moving into political blogging at that time proved to be quite exciting, even if the discipline may have considered it "a weird hobby." "A post on *Mischiefs of Faction* would get something like 500 views, which, of course, is not a lot by internet standards, but it beat having a journal article you wrote get cited just four times." As her public scholarship grows over time, it isn't uncommon for her postings now to have tens of thousands of views.

Like her colleagues, Azari has also discovered that public scholarship can mean more than just promoting a book or putting forth one's findings. She has developed a scholarly reputation for "developing new ideas in real time, applying as much rigor as I can in a short period of time, then linking that up with the published literature that both I've done and what other people have done."

Azari's public scholarship is quite prolific, with her work appearing in not only *Mischiefs of Faction, FiveThirtyEight* and *The New York Times*, but also *Monkey Cage, Politics in Question, Politico,* Georgetown's Government Affairs Institute, and *Prospect* magazine, among others. Azari's novel and dynamic approach to public scholarship has led the American Political Science Association's Information Technology and Politics Section to honor her with its inaugural award for best public-facing scholarship.

Reflections on public scholarship outcomes

Has public scholarship moved beyond a "weird hobby" into academic respectability?

"There is a realization that public scholarship, if done well, can have a real impact, and those impacts are something we should care about, especially as a Catholic, Jesuit institution," Nolette says.

For Brooks, public scholarship might still be seen by some as secondary to academic work, so it may not yet get someone recognition or prestige — "not alone anyway." But these scholars agree that because of Marquette's mission and commitment to servant leadership, it might be more acknowledged here than at other universities.

In addition to the way public scholarship feeds into the Catholic, Jesuit mission, all see it dovetailing with Marquette's teacher-scholar model. Rocco notes that the model is fundamental to his research. "Questions my students ask have prompted me to develop new research agendas." Having students engaged in his public scholarship gives them a sense of the value of learning those research methodologies that help answer those broader, real-world questions that lie beyond campus.

Brooks sees both public scholarship and teaching as noble exercises in translation. In both cases, the scholar must translate specialized academic knowledge for non-specialists. Translating for students makes one a better writer of public scholarship; the better writing one does, in turn, makes for a better teacher. Doing public scholarship requires scholars to reflect upon the values undergirding their work, and, consequently, the values being imparted to both the public and students. This exercise in reflection — a key element in Ignatian pedagogy — is good for teaching. And good for simply being a human being.

The work of these accomplished teacher-scholars and other department faculty members pushes Marquette's mission — to act "for the common benefit of the human community" — into new directions. And through the Political Science Department's commitment to producing high-quality public scholarship, we can see Marquette's vision statement playing out before our eyes: to "reach beyond traditional academic boundaries and embrace new and collaborative methods of teaching, learning, research and service."

Hollywood couldn't have written a better script.

Doing public scholarship requires scholars to reflect upon the values undergirding their work. This exercise in reflection — a key element in Ignatian pedagogy — is good for teaching. And good for simply being a human being.

TURNING RIPPLES INTO WAVES OF CHANGE

By Jack Goods, Comm '17

In his educational leadership roles, alumnus Patrick Landry pushes big ideas to effect positive change for low-income families and communities.

Patrick Landry, Arts '08, was never afraid to throw out an idea, even early on in his career. As a young teacher at St. Gall School in Chicago, he peppered his principal with questions about how to improve the lives of the children and the families the school served.

"Why aren't we doing this?" Landry would ask. "Can we try this? Should we be doing this?"

In those inquiries, St. Gall's principal saw inspiration.

"She said to me, 'If you have all these things you want to do, maybe you should be a principal and think about doing leadership,'" Landry says. "That triggered the thought of, 'You're right. I can manage a classroom as a teacher, but I can have an impact on a whole school as a leader.'"

Landry has followed that calling in the years since, first as an assistant principal at St. Gall before taking on a principal role at a fellow Chicago school serving low-income Latino students, Maternity of the Blessed Virgin Mary. He returned to his hometown to join Notre Dame School of Milwaukee as principal in 2015 and was promoted to his current role as the school's president two years later.

Notre Dame School is a Catholic, biliterate institution originally launched in 1996 as an all-girls middle school with 26 Latina students. During his nearly eight years at Notre Dame, located on Milwaukee's south side, the school has expanded with a primary school and an all-boys middle school, increasing enrollment from 390 to 635.

"I like pushing things forward and discerning what the need is at the time and trying to do something about it," Landry says.

As a first-generation college student, Landry didn't have much of a road map when it came to picking a major at Marquette. Instead, he gravitated to the subjects that interested him, namely political science, philosophy and theology.

"Come junior year, it's like, 'What does this actually mean in terms of a career?'" Landry says.

As he looked to discover his vocation, he reflected on the mission instilled in him through his Marquette education, his time working in the Center for Community Service and his mission trip to New Orleans following Hurricane Katrina.

"I think there's a lot of emphasis on service in college anywhere you go, but I think at Marquette it really pushed the envelope in terms of not just service, but looking at service through the lens of justice," Landry says.

Teaching seemed like the perfect opportunity to address root issues and have an impact on the communities he was able to experience through service.

Landry has been at Notre Dame long enough now to see lasting effects. More than 99 percent of Notre Dame alumni go on to graduate from high school, and 95 percent of graduates are going on to college in some way. This compares with rates of 63 percent and 40 percent respectively for children in Milwaukee. Eight Notre Dame alumni started at Marquette this fall.

"NDSM is truly a beacon of hope for our families and children, and our staff is doing tremendous work," Landry says. "When we impact our children, we truly think and believe that will impact their family, and those families will change our community. That's how we get the ripple change of making Milwaukee a better place."

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