

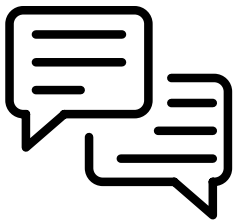
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CLAS RESEARCH RESOURCE

February 2022





Welcome to our first CLAS Research Resource newsletter of the spring semester!



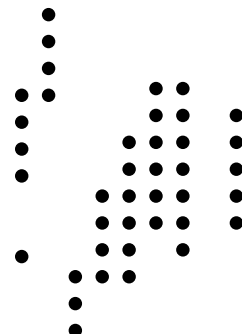
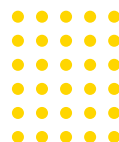
This issue of the CLAS Research Resource is the first since we welcomed Ben Hill, our new Senior Director for Strategic Communications and Marketing, to our College. Ben comes to us from the central Office of Strategic Communications, where he was instrumental in building the university's brand. I am looking forward to working with Ben to expand the ways through which we communicate the excitement of your research, scholarship, and creative activity within our university and out to the wider world. Please feel free to reach out to Ben (benjamin-hill-1@uiowa.edu) if you have a great research story to tell!

We continue to have much good news to report on the CLAS research front. Seven months into the fiscal year, we have already topped the entire FY21 in grant dollars proposed (\$116M) and the entire FY20 in grant dollars awarded (\$48M). We are on track for FY22 to be another record year in the latter category, following the 73% increase we saw in FY21. Articles in this issue detail some outstanding arts and humanities fellowship activity, with our outstanding scholars receiving new awards from the NEA, the NEH, the Russell Sage Foundation, and the McNeil Center for Early American Studies. Five of our faculty were named fellows of the American Association for the Advancement of Science (AAAS) this year, an honor bestowed upon them by prominent peers within their disciplines.

CLAS Director of Facilities Eugene Buck and I continue to advocate for improvements to our many buildings, and with the partnership of Campus Planning and Facilities Management, good things are happening. In Eugene's report, you can read all about the exciting plans for a new home, situated near Dey House and the President's Residence, for our Nonfiction Writing Program. The 10-year facilities master plan for the university recently approved by the Board of Regents includes many components that will improve CLAS research space as funds become available: modernization of the Pentacrest buildings, beginning with MacLean Hall; renovation of the Old Museum of Art to provide a new home for the Department of Dance; and new construction on the west side of campus that will house our Departments of Communication Sciences and Disorders and Health and Human Physiology. Finally, substantial funds have been allocated for improvements to Van Allen Hall that will support the impactful work of our pioneering Space Science group in the Department of Physics and Astronomy.

In parallel with the broader society, our college has faced many challenges over the past two years: the pandemic has impacted our research, reduced enrollments, created staffing disruption, and affected our budgetary outlook. The vitality of your research, scholarship, and creative activity in the face of these headwinds continues to inspire those of us in the Dean's Office, and we produce this newsletter to disseminate that inspiration far and wide. Enjoy the articles in this issue and stay in touch!

Joshua Weiner
Associate Dean for Research
Professor of Biology
College of Liberal Arts and Sciences
joshua-weiner@uiowa.edu



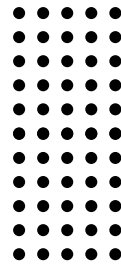


CLAS RESEARCH AND INFRASTRUCTURE UNITS

[Associate Dean for Research](#)

[CLAS Technology Services](#)

[Space, Facilities, and
Equipment](#)



[Grant Support Office](#)

[Office of Sustainability and
the Environment](#)



FEATURED FUNDING OPPORTUNITIES: ARTS & HUMANITIES FELLOWSHIPS

For every field of study within the arts and humanities, there are a variety of fellowships to help you pursue your scholarly work. Fellowships are short-term awards, sponsored by federal or private organizations, that support scholars and their academic pursuits; these can span from summer workshops to full-year funding for scholarly research and creative work on campus or elsewhere. Note that CLAS supports fellowship seeking by providing a stipend supplement to the recipient if the fellowship does not cover their full salary, as it typically does not. A selection of fellowship opportunities is included below, but there are many more opportunities out there that may suit your specific interests! Please contact Ann Knudson for assistance in finding opportunities, developing fellowship applications, and ensuring internal routing procedures are completed at the time of application.

[National Endowment for the Humanities Fellowship Program](#)

NEH Fellowships are competitive awards granted to individual scholars pursuing projects that embody exceptional research, rigorous analysis, and clear writing. Applications must clearly articulate a project's value to humanities scholars, general audiences, or both.

[National Endowment for the Arts Grants for Individuals](#)

The National Endowment for the Arts Literature Fellowships program offers awards in prose (fiction and creative nonfiction) and poetry to published creative writers that enable the recipients to set aside time for writing, research, travel, and general career advancement.

[American Council of Learned Societies Fellowship Program](#)

ACLS accepts applications from all disciplines of the humanities and social sciences. Fellowships support scholars so that they can dedicate time to a major piece of scholarly work. ACLS funds fellowships in a variety of fields, such as Buddhist Studies and the History of Art.

[John Simon Guggenheim Memorial Foundation Fellowship](#)

The Guggenheim fellowship offers a year of funding for advanced professionals with a significant record of publication and scholarship to pursue independent projects.

[Fulbright U.S. Scholar Program](#)

The Scholar Program offers diverse opportunities for U.S. academics, administrators and professionals to teach, research, conduct professional projects, and attend seminars abroad. The program offers over 800 awards annually to 135+ countries.

[Russell Sage Visiting Scholars Program](#)

The Visiting Scholar Program is a residential program in New York City to support research and writing in the social sciences. This program constitutes an important part of the Russell Sage Foundation's ongoing effort to analyze the shifting nature of social and economic life in the United States.

[Harvard University's Radcliffe Fellowships](#)

Radcliffe fellows are exceptional scientists, writers, scholars, public intellectuals, practitioners, and artists whose work is making a difference in their professional fields and in the larger world. With access to Harvard's unparalleled resources, Radcliffe fellows develop new tools and methods, challenge artistic and scholarly conventions, and illuminate our past and our present.

[Stanford Humanities Center Fellowships](#)

The Humanities Center offers approximately twenty-five residential fellowships for the academic year to Stanford and non-Stanford scholars at different career stages. Fellows work on individual projects and the center aims to provide a supportive community.

Many CLAS Faculty have been successful in seeking fellowship support recently. For example, **Melissa Febos** received a National Endowment of the Arts fellowship to work on a book project that examines the history of celibacy as a route to women's liberation and bodily sovereignty, from the lives of medieval female saints to contemporary movements and personal experience. **Colin Gordon** received a Russell Sage fellowship to complete a book manuscript on the origins, diffusion, and impact of racial restrictions on property in St. Louis and St. Louis County. Also please see the recent [IowaNow article](#) featuring four CLAS faculty members who received funding from the National Endowment of the Humanities. We're here to help you be successful too!



Kristi Fitzpatrick
Director, Grant Support Office

Please see the [Department Grant Support Directory](#) for contact information



UPCOMING GRANT AND FELLOWSHIP DEADLINES: MARCH AND APRIL

This is a list of selected grant and fellowship programs that have deadlines in March and April. For a more comprehensive list of active grant programs, please visit the [UI Grant Bulletin](#).

UI Internal Programs

03/01/22 – [Arts & Humanities Initiative \(Office of the Vice President for Research\)](#)

03/11/22 – [Injury Prevention Research Center Pilot Grant Program](#)

04/01/22 – [Provost's Global Forum Award \(International Programs\)](#)

04/01/22 – [Heartland Center for Occupational Health & Safety Pilot Project Research Training Program](#)

Rolling - [International Travel Awards \(International Programs\)](#) (deadline last day of each month)

Rolling - [Special Projects Awards \(International Programs\)](#)

UI Limited Submission Programs

03/03/22 – [NSF: Expanding Capacity in Quantum Information Science and Engineering](#)

03/04/22 – [HRSA Establish a Children and Youth with Special Health Care Needs Research Network](#)

03/08/22 – [HRSA Telehealth Strategies to Maximize HIV Care](#)

03/14/22 – [CDC Drug-Free Communities Support Program](#)

03/15/22 – [Max and Victoria Dreyfus Foundation Grants Fall 2022 Award](#)

04/06/22 – [ALDI Smart Kids Grant Program](#)

04/11/22 – [HRSA Early Childhood Developmental Health Systems: Evidence to Impact](#)

04/11/22 – [Pew Biomedical Scholars Program 2022-2023](#)

National Endowment for the Arts

03/10/22 – [Creative Writing Fellowships](#)

03/28/22 – [Research Grants in the Arts](#)

04/11/22 – [Challenge America Grants](#)

National Endowment for the Humanities – [All Grant Program Opportunities](#)

03/02/22 – [Institutes for Advanced Topics in the Digital Humanities](#)

03/15/22 – [Fellowships Open Book Program](#)

04/13/22 – [Fellowships](#)

04/20/22 – [NEH-Mellon Fellowships for Digital Publication](#)

04/27/22 – [Fellowships for Advanced Social Science Research on Japan](#)

National Institutes of Health – [Complete list of standard due dates](#)

03/05/22 – Research Grants (R01-renewal, resubmission, revision)

03/05/22 – Research Grants – Cooperative Agreements (U01-renewal, resubmission, revision)

03/12/22 – Research Career Development (K Series-renewal, resubmission, revision)

03/16/22 - Other Research Grants (R03, R21, R33, R21/33, R34, R36 – renewal, resubmission, revision)

04/08/22 – Individual National Research Service Awards (F Series – new, renewal, resubmission)

04/12/22 – Conference Grants and Conference Cooperative Agreements (R13, U13 – all)

National Science Foundation – [Active Funding Opportunities](#) (several deadlines each month; selected programs below)

03/01/22 – [Organismal Response to Climate Change \(ORCC\)](#)

03/01/22 – [Understanding the Rules of Life: Emergent Networks \(URoL:EN\)](#)

03/14/22 – [Cultural Transformation in the Geoscience Community \(CTGC\)](#)

03/22/22 – [Racial Equity in STEM Education \(EHR Racial Equity\)](#)

03/25/22 – [Partnerships for International Research and Education \(PIRE\)](#)

03/25/22 – [Innovations in Graduate Education \(IGE\)](#)

04/04/22 – [EPSCOR Research Infrastructure Improvement Program: Bridging EPSCoR Communities \(RII-BEC\)](#)

04/14/22 – [Signals in the Soil](#)

04/28/22 – [ADVANCE: Organizational Change for Gender Equity in STEM Academic Professions \(ADVANCE\)](#)

US Department of Education – [Upcoming Grant Programs](#)

03/10/22 – [IES: Education Research: Research Networks Focused on Critical Problems of Education Policy and Practice](#)

04/06/22 – [OPE: IFLE: Fulbright-Hays Doctoral Dissertation Research Abroad \(DDRA\)](#)

National Historical Publications & Records Commission

04/01/22 – [Major Collaborative Archival Initiatives \(LOI\)](#)

Administration for Children and Families

04/04/22 - [Secondary Analyses of Data on the National Incidence of Child Maltreatment](#)

Administration for Community Living

03/10/22 – [Innovations in Nutrition Programs and Services Research](#)

Society for Research in Child Development

03/01/22 – [Towards 2044: Horowitz Early Career Scholar Program for Graduate Students](#)

American Philosophical Society

03/01/22 – [Native American Research – Philips Fund](#)

Evolving Earth Foundation

03/01/22 – [Research Grant Program for Students](#)

Robert Wood Johnson Foundation

03/16/22 – [Health Policy Research Scholars](#)

Rolling – [Evidence for Action: Innovative Research to Advance Racial Equity](#)

Rolling – [Pioneering Ideas: Exploring the Future to Build a Culture of Health](#)

Harpofoundation

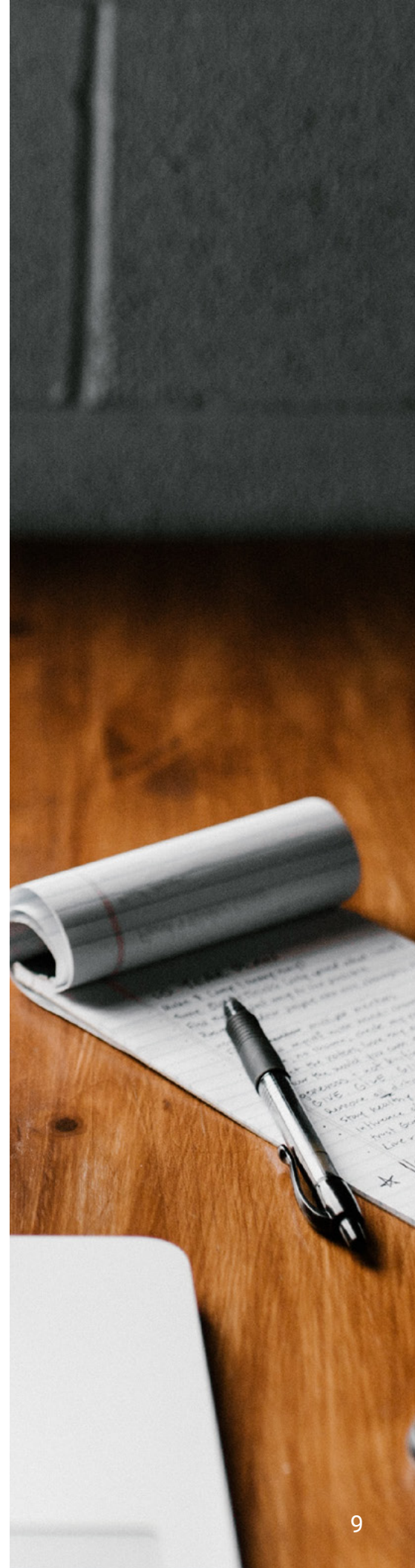
04/29/22 – [Grants for Visual Artists](#)

Alternatives Research & Development Foundation

04/15/22 – [Annual Open Grant Program](#)

American Association for the Advancement of Science

03/18/22 - [Women in the Chemical Sciences – Marion Milligan Mason Award](#)



A NEW HOME



Architectural rendering of the future home of the Nonfiction Writing Program, courtesy Neumann Monson Architects

FOR NONFICTION



A square plot sits at the southeast corner of North Clinton and Church Streets. Facing the President’s House, the land acts as a pedestrian walkway for those walking to and from campus. By this time next year, that plot of land will be transformed into a home for the Nonfiction Writing Program (NWP) in the College of Liberal Arts and Sciences. President Barbara Wilson will soon have new literary neighbors across the street.

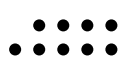
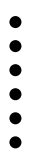
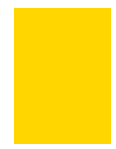
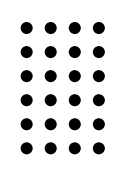
Amid what is sometimes referred to as the “Writing Corridor,” the new NWP house will fit along Clinton Street, joining the Iowa Writers’ Workshop in the Dey House and the International Writing Program in the Shambaugh House. The metal- and slate-clad building will include eight offices for Nonfiction Writing Program faculty, workspaces for graduate teaching assistants, three seminar classrooms and an open library/ lounge space, which will open to an outdoor patio.

Contractors will begin construction in mid-March, with expected completion by the end of 2022. This showcase house is being designed by Neumann Monson Architects and built by McComas-Lacina Construction. The 3,500 square foot house will be two stories tall and is designed to fit in with the architecture of the surrounding buildings, including the Obermann Center to the east, Delta Delta Delta house to the south, Dey House to the west and the President’s House to the north.

Construction costs of the new building are being covered by fundraising efforts, led by the University of Iowa Center for Advancement and aided by the vision of John D’Agata, Professor of English, who served previously as NWP director and is a faculty member in NWP. Consistently ranked as a top MFA program, the NWP is a three-year graduate program in the Department of English that explores new approaches to creative nonfiction, while also developing an appreciation for the deep history of the genre. Its synergies with the Writers’ Workshop and the International Writing Program make it the perfect new neighbor on North Clinton Street.



Eugene Buck
CLAS Director of Facilities



CLAS LINUX GROUP

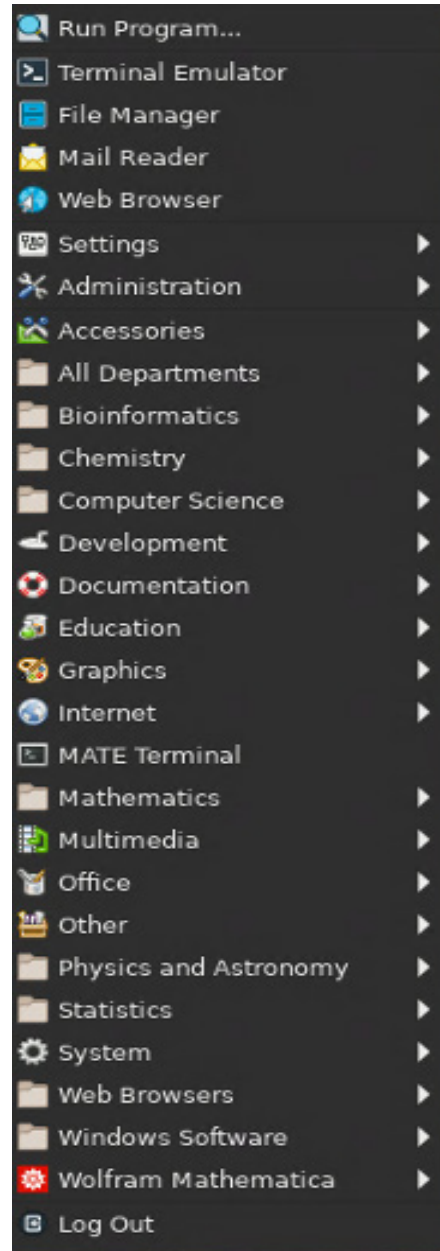
Did you know CLAS Technology Services supports a self-service remote Linux access service? While there are many applications for which Linux excels compared to MS Windows or Apple macOS, it is especially popular in academic research due to scientific, engineering, and mathematical software solutions. Many of these solutions are open source and strongly supported by active research and application developer communities.

The CLAS Remote Linux Access is powered by a commercial product called FastX. FastX gives you remote access to Linux systems by running from your regular web browser and provides a full Linux experience and graphical user interface (GUI). If CLAS Remote Linux Access might be useful for your research, you can read about it and get started with FastX here: <https://clas.uiowa.edu/linux/help/fastx>. Self-service is accessed by using your HawkID and password across secure https protocols. This first login creates your account, taking 3-10 seconds, and then gives you access to hundreds of software titles pre-loaded into the environment and available to your private home directory. The screenshot to the right shows folders from several departments that are using the service; each department has many common and specific titles available for use to researchers in CLAS.

Learn more about all of the services the CLAS Linux Group offers at <https://clas.uiowa.edu/linux>.



Lance Bolton
Senior Director,
Technology Services



THREE CLAS FACULTY WIN OVPR EARLY CAREER SCHOLAR AWARDS

An Early Career Scholar program was recently launched as part of the [Seeding Excellence Initiative](#) by the OVPR's Research Development Office (RDO). Following a competitive evaluation process, ten assistant professors – including three CLAS faculty – received awards of up to \$30,000 to help them develop competitive proposals to secure an externally funded award. The awarded funds can be used by the scholar for equipment, supplies, travel, and student support; awardees will also receive individual grantsmanship consulting and additional funds to visit program officers at appropriate funding agencies.

The CLAS Early Career Scholars are:

Tara Bynum (English and African American Studies)

"Six degrees of Phillis Wheatley"

Wheatley is the first black person to publish a book of poetry in colonial America, an accomplishment that has been considered miraculous given the society of that time. Bynum's work, however, argues that Phillis Wheatley was a member of a community with an abundance of both care and creativity. Her proposed work challenges our understanding of what black colonial and creative life abundantly possessed and provides a new and different story of the nation's founding.

Dorit Kliemann (Psychological and Brain Sciences)

"Causal networks of the social brain"

Interacting with others lies at the core of human behavior and individual well-being. Socio-cognitive abilities are often impaired in psychiatric disorders, such as Autism Spectrum Disorder (ASD). Using a combination of neuroimaging methods, Kliemann will investigate how the human brain processes the cognitive information needed to guide social behavior. She will study this in control subjects, in patients with brain lesions, and in subjects with ASD.

Erin Talbert (Health and Human Physiology)

"TGF- β -dependent activation of MEK signaling causes cancer cachexia"

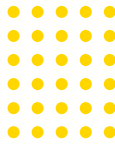
The loss of skeletal muscle in cancer patients, called cancer cachexia, is a significant healthcare problem with few treatment options. Up to 50% of all cancer patients are affected by cancer cachexia and that muscle wasting, not tumor burden, is the cause of death for at least 25% of all cancer patients. Talbert hypothesizes that an unexplored potential cause—activity of the cellular TGF- β signaling pathway—results in dysfunctional muscle repair processes and thus muscle wasting.



Sara Mitchell receives Board of Regents Faculty Excellence award

Sara Mitchell, the F. Wendell Miller Professor in the Department of Political Science, is one of six University of Iowa faculty members honored by the Board of Regents, State of Iowa, for their exceptional contributions and sustained record of excellence.

<https://now.uiowa.edu/2022/02/6-faculty-members-awarded-excellence>



MEET THE RESEARCHER: KRISTY NABHAN-WARREN

What is the focus of your work?

My work focuses on how people participate in meaning-making and identity formation. I am especially interested in the relationship between humans and the larger cultural and societal milieus in which we are enmeshed. I have always been interested in the role that faith plays in people's lives, and my lifelong curiosity about religion and spirituality led to a Ph.D. in Religious Studies.

My academic training in the socio-cultural history and anthropology of religion and my own personal interests in ethnicity, religion, and place has most definitely impacted my teaching and what I research and write about. Most of my academic work has focused U.S. Latina/x/o Christianities in the United States and how Latinx craft religious communities. I grew up in a part of the Rustbelt where there were many Puerto Rican and Mexican-descent families, and my lived experience most certainly led me to my academic work. As an ethnographer of religion, I search for compelling stories, akin to what investigative journalists do, and my scholarship has featured the ways in which underrepresented people carve out meaning in the midst of difficult lives. What I have discovered in my research within Latina/x/o and other self-consciously ethnic communities is that many migrants and refugees draw on their religious faith to survive, persevere, and even thrive.

My fourth and most recent book, *Meatpacking America: How Migration, Work, and Faith Unite and Divide the Heartland* (UNC Press, September 2021) is a deep dive into the grittiness of everyday life for recent arrivals to the state of Iowa as well as longtime white residents of our state. In *Meatpacking America*, I try to convey how recent migrants to Iowa and the broader Midwest come to our state for work and to provide opportunities for their families. A goal of my scholarship is that the reader will come away with a deeper understanding and empathy for what migrants and refugees experience each and every day. I want my readers to feel the sting of discrimination and the thrill of everyday triumphs. and to see their struggles as well as their dreams and hopes as similar to their own.



As an ethnographer, I embrace thick description, and try to write vividly in order to bring the reader into the communities my interlocutors inhabit. For example, In *Meatpacking America*, I describe two Iowa meatpacking plants in detail as they are the places where my interlocutors work. I describe the smells, the sounds, and sights of packing plants and focus on conveying the difficulty and danger of these workplaces. I want to transport my reader into the bowels of these workplaces because they are the places where migrants and refugees work to harvest and package the meat that is prepared and eaten in homes across the United States.

Tell us about the broad impact it has/ could have.

I hope that at the very least, those who read my books and articles will come away with a deeper understanding of the challenges facing migrants, refugees and the working poor.

I hope that readers of my work can feel and experience the beauty and awe of the religious faith that sustains many of the people I have been privileged to meet. A goal of mine is that my research and writing can garner empathy and a willingness for us to advocate for change. The reviews of *Meatpacking America* have been really positive, and what excites me the most about this is that the book has ignited a conversation about what the next steps are—what do we do now, armed with the knowledge that some of the most vulnerable people in our state of Iowa work at incredibly dangerous jobs? How do we draw on our positionality as scholars in a privileged position to make change? It is daunting as well as exciting to work toward solutions and that is where I am now post-*Meatpacking America*. I am currently collaborating with scholars here at the University of Iowa across disciplines to work toward policies that will benefit vulnerable populations in our state. Stay tuned!

What excites you about the environment in CLAS?

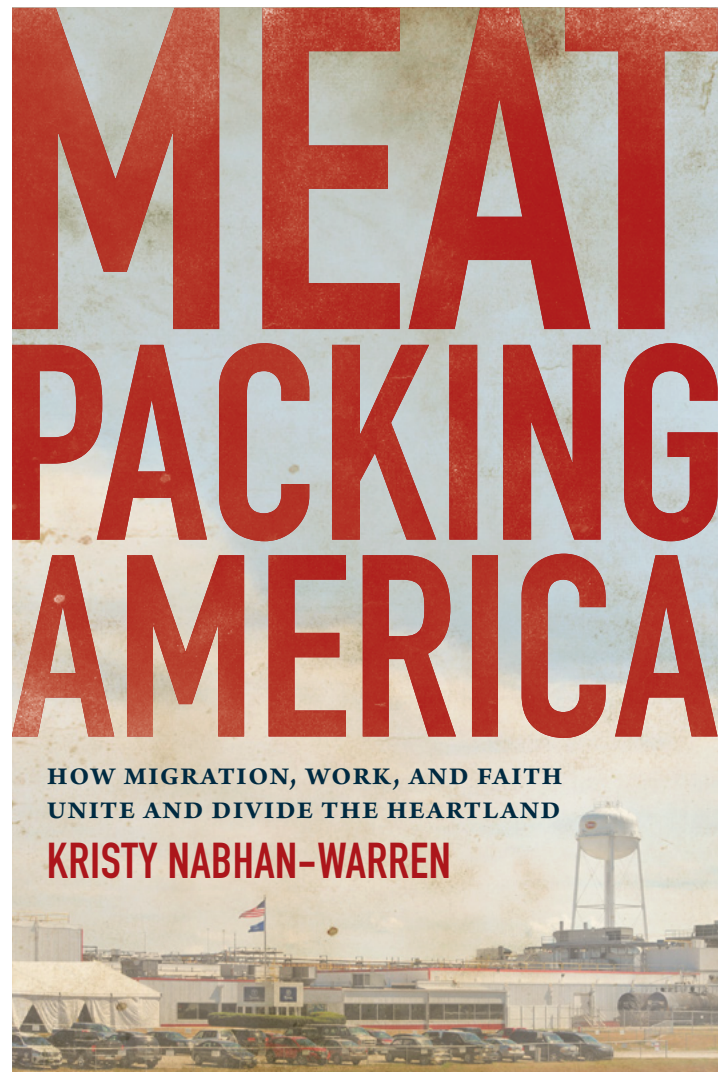
I am all about working across our disciplinary silos and learning from each other, and I love that there are possibilities for collaboration in CLAS. I have gotten to know colleagues in many departments across CLAS and find that we share interests and passions. And we have a fabulous Obermann Center and OVPR that supports interdisciplinary work and collaboration. I think that helps makes the University of Iowa a special place.

What are your hobbies and pursuits outside of work?

I am a former avid runner turned avid walker (out of necessity—middle age, old injuries...) and you can find me out and about Iowa City with my Vizsla Rosie and mini-dachshund, Kipo. I also really enjoy biking to work and hiking. I enjoy cooking with and for my teenaged sons and tween daughter, and I love baking cookies and Pyrex casseroles.

Favorite things to do in Iowa City?

I love walking around town and strolling along the Iowa River at City Park. I enjoy eating out and getting coffee at Cortado, Tru, and Starbucks. It is a delight ordering a cheese platter and a glass of chilled wine at the Brix with friends and my husband, and I really enjoy frequenting FilmScene. I love our city!



MEET THE RESEARCHER: OMAR CHOWDHURY

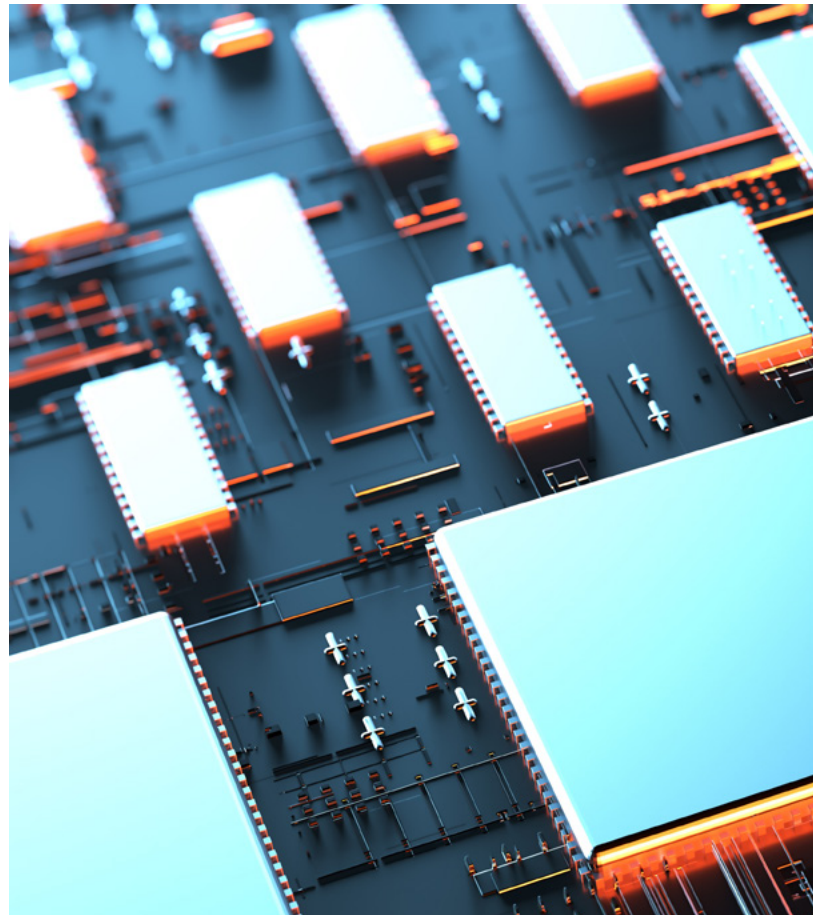


Tell us about the broad impact it has/ could have.

My research findings have brought in many changes in designs and implementations of widely used deployed protocols and software such as 4G LTE, 5G, X.509, Enterprise Wifi, Amazon Music Prime, and Mobile browsers, improving the overall security and privacy postures of the cyberspace. In the case of 4G LTE and 5G, my group's research revealed several highly critical vulnerabilities, including the malicious fabrication of Presidential/Amber alert messages, the leakage of persistent identifiers like IMSI and IMEI, the leakage of a cellular device's location from phone numbers and social media profile, and planting fake location traces. Responsible disclosures of such high-profile vulnerabilities have been acknowledged by GSMA (<https://www.gsma.com/security/gsma-mobile-security-research-acknowledgements/>) and brought in

What is the focus of your work?

My work focuses on the general area of cybersecurity and privacy. In this broad area, my group has been developing principled approaches for automatically analyzing and strengthening the desired security and privacy properties (e.g., confidentiality, integrity, authenticity) of emerging networks, software, and systems (e.g., 4G/5G, cryptographic software libraries, embedded systems). A unique feature of my work is viewing the automated analysis of the relevant security and privacy properties of a system, network, or software through the lens of computational logic. Embracing such a view for security and privacy analysis requires developing an abstract mathematical model of the system-under-analysis, which is then analyzed using automated logical reasoning approaches while capturing the system's desired security properties in some mathematical logic. The main challenge then boils down to managing the inherent computational complexity of automated reasoning, which my research addresses through the careful use of system-specific abstractions, insights, and optimizations.



changes to the 4G LTE and 5G protocols. I have also advised Federal Communication Commission (FCC), Qualcomm, Intel, Naval Information Warfare Center (NIWC) Pacific, and GSMA in the context of cellular network security and privacy. In addition, our security analysis of the enterprise Wifi in educational institutions around the world (i.e., eduroam) revealed and suggested fixes for several high-severity vulnerabilities that allowed adversaries to steal user credentials. Overall, my research aids system designers and developers in performing automatic security and privacy analysis of systems before deployment, allowing them to avoid debilitating attacks in production.

What excites you about the environment in CLAS?

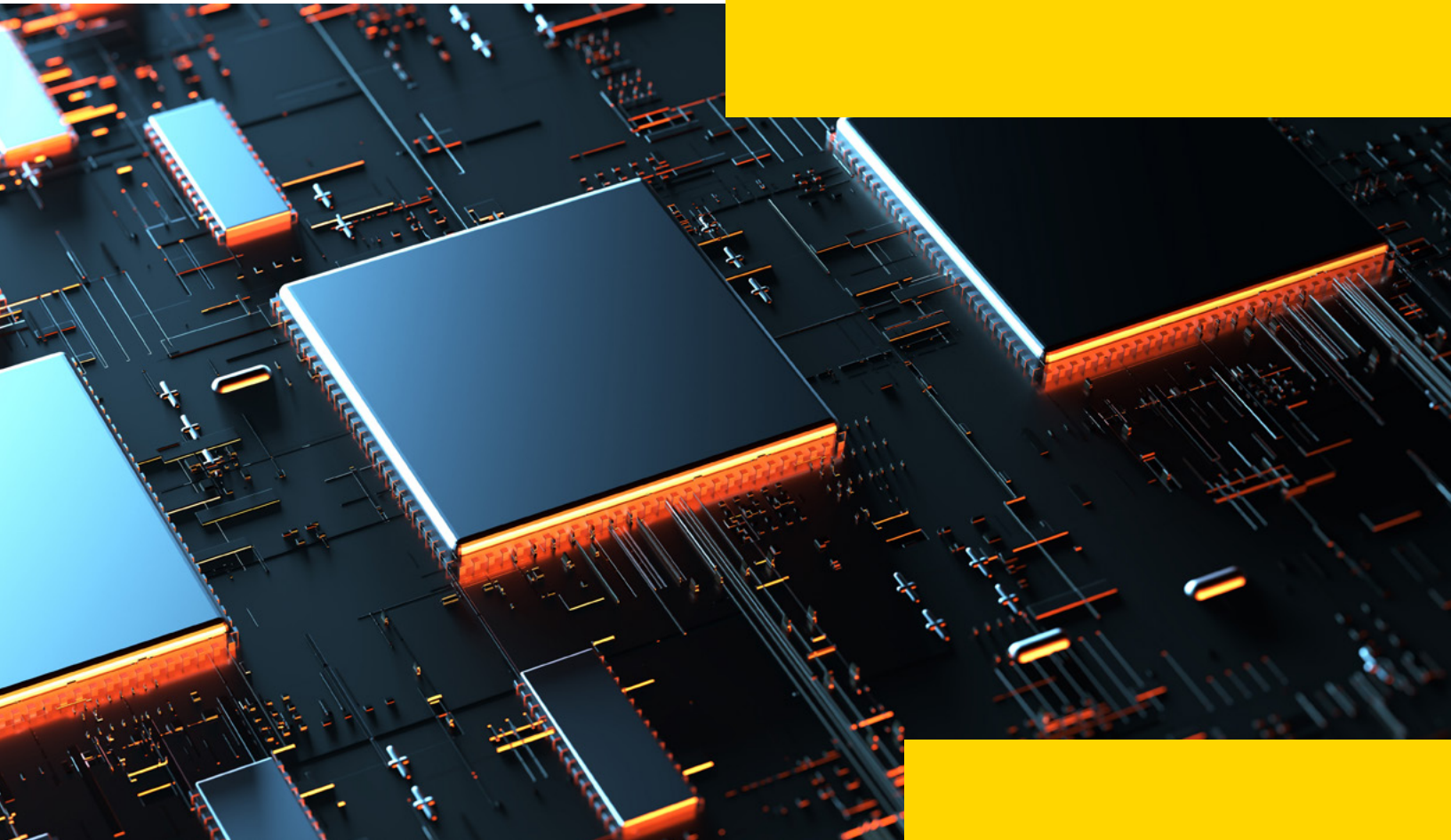
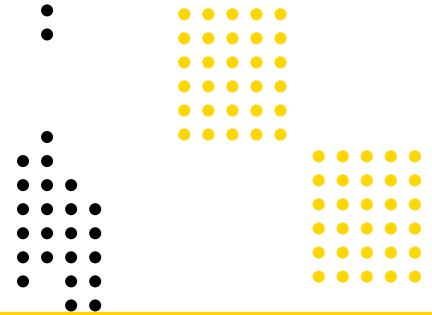
CLAS being a college with many different disciplines naturally provides a breeding ground for truly interdisciplinary research. The different activities and initiatives arranged by CLAS allowed me to meet colleagues from other departments. In many cases, such meetings enabled me to learn and share ideas about problems that are truly interdisciplinary in nature.

What are your hobbies and pursuits outside of work?

I love baking and cooking. Most of the time, I will just follow recipes downloaded from the Internet or collected from friends. I have, however, recently started experimenting with different recipes. Some of the foods resulting from these experimentations were truly pleasant surprises, whereas others simply left a bad taste in the mouth, triggering an order to a food delivery service.

Favorite things to do in Iowa City?

Before the pandemic, my favorite things to do included exploring the restaurant scene and going to theatres. During the pandemic, I have been enjoying taking walks in the different parks and trails.





MEET THE RESEARCHER: WILLIAM MENEFIELD



What is the focus of your work?

As a musician, I focus mostly on composing and performing. Currently, I am in the planning stage of a new recording project. My goal is to make it as consumer focused as possible. The majority of my research will be survey-based. My plan is to create one or more questionnaires asking potential listeners about their musical preferences. I intend to use the information I gather to create content that serves the audience in the best way possible. I'm also excited about the world premiere of my first opera! In 2018, I was commissioned by the Cincinnati Opera to compose an opera for their 100th Anniversary season in 2020. Like many other things that year, the project was postponed due to the pandemic. I am pleased to announce the new performance dates have been scheduled for July 6, 9, & 10, 2022.

Inspired by the real-life testimonies of young ladies from the Cincinnati area, *Fierce* is a story of four girls learning to face their individual challenges and overcome them. The music consists of a variety of styles including traditional opera, jazz, R & B, hip-hop and more! I like to call it "Genre Salad."

Tell us about the broad impact it has/could have.

Both projects have the potential to have a very broad impact. My goal is to serve as many as possible. By creating content that is consumer focused, the likelihood of more listeners enjoying and connecting with my music increases.

What excites you about the environment in CLAS?

CLAS has a very family-oriented environment. I've felt this since the moment I arrived on campus for my first interview. This is very exciting for me! I enjoy working with people who genuinely care about the well-being of students and colleagues alike. I'm also excited about the direction of our college. We've got some amazing things brewing, and I can't wait to see how we continue to grow!

What are your hobbies and pursuits outside of work?

My hobbies include basketball, exercising/weight-training, and dancing.

Favorite things to do in Iowa City?

I've only been here for a short time, so I'm still learning the city. In addition to teaching, I enjoy a nice plate of French toast at the Encounter Cafe or a good meal at the Goosetown Cafe.

CLAS PSYCHOLOGIST ED WASSERMAN INVESTIGATES THE ORIGIN OF INNOVATION

The Ponseti Method. The butterfly stroke. Field of Dreams. These are just a few of the Iowa-hatched ideas that have changed the world during the University of Iowa's 175-year history. A UI scientist studies how creative breakthroughs like these evolve—and tells us why the eureka moment is a myth.

Inside the University of Iowa's gleaming new Psychological and Brain Sciences Building, experimental psychologist **Ed Wasserman** and his laboratory team put their unique research subjects through their paces. Test takers stand inside a small cubicle known as a Skinner box, where they face a glowing screen displaying a series of ultrasound videos. Some videos show an isolated ventricle of a human heart expanding and contracting normally. Others show a constricted ventricle struggling to pump blood.

The research subjects tap a blue or yellow button on the touchscreen to identify what they're seeing—a healthy or constricted ventricle. When they answer correctly, a device on the back wall drops their reward into the cubicle. The beady-eyed test takers—part of Wasserman's flock of research pigeons—nosh on the fresh pile of birdseed before returning their attention to the screen.

The study is the latest in Wasserman's long career investigating the cognitive processes behind animal behavior. Currently, his laboratory is studying whether pigeons can be trained to diagnose heart disease in much the same way that artificial intelligence can be fed data to learn to detect disease.

Humans aren't the only clever organisms under the sun, says Wasserman. Psychological researchers have found that pigeons and other animals can exhibit behaviors that a casual observer might declare to be insightful or even creative. "There's a lot more going on in that little noggin than you might otherwise

suspect," Wasserman says. "You would never guess that they can do the things they do. But, of course, from just watching people on a daily basis, you wouldn't know that we can do Boolean algebra or write stage plays either."

Wasserman, who began his 50th year in the classroom and the laboratory at Iowa this fall, researches intelligence in pigeons, as well as baboons, dogs, parrots, and other animals. In recent years, Wasserman's team has published findings as varied as proving that pigeons can understand abstract ideas like space and time, to demonstrating the birds' ability to identify signs of breast cancer on X-rays. His most recent study has shown that these pigeon pathologists can achieve human-level accuracy in diagnosing heart disease from ultrasound images—though the birds require much more training than their human counterparts.

Through animal research, Wasserman works to reveal the processes behind human learning, memory, and cognition. It also gives him unique insight into some of psychology's biggest mysteries, including one at the heart of his new book, ***As If By Design: How Creative Behaviors Really Evolve*** (2021, Cambridge University Press). In it, Wasserman tackles a profound question: Where does innovative thinking come from? Are some people creative geniuses who have the unique ability to conjure new ideas? Or are there simpler, more scientifically observable mechanisms at play?

As it turns out, we may not be that much different than Wasserman's feathered research partners.

Pigeon-Guided Missiles and the Myth of Genius

Not only does Wasserman study innovation, but he's also an innovator in his own right. One of the world's most respected learning scientists who's admired by colleagues for his methodological creativity, Wasserman has made headlines since the 1980s, when *The New York Times* first noted he had trained eight pigeons to recognize human emotional expressions, including on the faces of people they had never seen before.



Ed Wasserman in the UI's Psychological and Brain Sciences Building.

"Ed is one of the most committed, intellectually engaged psychologists I know," says UI professor **Mark Blumberg**, chair of the Department of Psychological and Brain Sciences and a longtime colleague of Wasserman. "He knows how to do the research that he does better than anyone in the world. He's still at it and as excited about it as he was when he started. He cares deeply about behavior, which is at the heart of what our department studies."

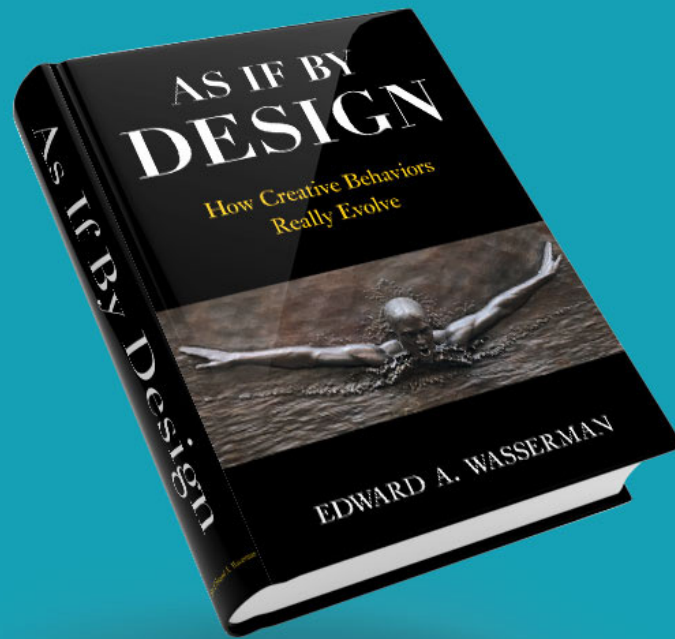
A Los Angeles native, Wasserman first studied physics as an undergraduate at UCLA before taking an elective in the psychology of learning that changed the trajectory of his career. The course opened Wasserman's eyes to the scientific possibilities of psychology and appealed to his penchant for precise methodology. Today, Wasserman teaches a class by the same name—Psychology of Learning—to undergraduates at the UI, where he's mentored generations of students and budding scientists.

Wasserman earned a PhD at Indiana University, traveled for a postdoctoral fellowship at the University of Sussex in England, and, in 1972, joined the University of Iowa's faculty. The teaching post was an attractive one for the promising young researcher; Iowa's storied tradition in psychology dates to 1887 and included some of the leading psychologists of the 20th century, including **Kenneth Spence**, **Leon Festinger** (40MA, 42PhD), and **Albert Bandura** (51MA, 52PhD). "I bet on tradition, and it was a very good bet," says Wasserman. Wasserman founded the Comparative Cognition Laboratory during his early days in Iowa City, and he's been developing experiments that probe the animal mind ever since. Collaborating with

institutions around the world, Wasserman's team has produced key findings in human and animal object categorization, including breakthrough studies that proved pigeons can learn several new object categories simultaneously and selectively ignore irrelevant information.

As novel as his pigeon studies have been, Wasserman is quick to note that he's hardly the first scientist to work with the birds. B.F. Skinner, for instance—the pioneering behavioral psychologist for whom the Skinner box was named—first taught pigeons to peck small discs for food and even trained them to guide missiles for the U.S. military during World War II. While "Project Pigeon" was never deployed in battle, Skinner later became one of the world's most influential thinkers and a pioneer in the school of psychology known as behaviorism.

In contrast to the introspective, psychoanalytic approach of Sigmund Freud and Carl Jung, Skinner theorized that all behaviors, in animals and humans alike, are learned through interactions with the environment and conditioning. Wasserman, who as a graduate student met Skinner in 1970 when the famed psychologist received an honorary degree at Indiana University, follows in that behaviorist tradition. "Much of my analysis pays homage to Skinner because he was particularly interested in applying the basic principles of behavior that you learn in the laboratory to the things that you and I do every day, as well as the exceptional things that some people do," says Wasserman. "But if you ask me, what is it that's so exceptional about some people? I would say, not really so much."



Just as his own creative research has built upon the work of Skinner—and just as Skinner’s research stood on the shoulders of earlier psychologists like Edward Thorndike and Ivan Pavlov—Wasserman argues that all innovations, no matter what the field, are evolutionary. In recent years, Wasserman has devoted time beyond the laboratory to researching and reporting on dozens of creative breakthroughs for his new book, including Iowa-centric inventions like the Ponseti Method, the butterfly stroke, and the Field of Dreams. (See “*Three Iowa Innovations and Their Evolutions*” below.) The deeper he dug into the histories behind innovations, the more evidence Wasserman found refuting the “eureka!” moment—a concept that he dismisses as a naïve and fanciful explanation for human progress.

“We’ll say someone’s creative or a genius,” Wasserman says. “Well, that doesn’t explain anything. They’re just words that carry no explanatory meaning. People have this idea of the moment of epiphany, but most moments of epiphany go right into the trash. We have a selective memory problem. We forget about the ideas that fail and remember the ones that succeed.”

When Innovations Stick

Down the long hallway from the pigeon laboratory, Wasserman plucks a canary yellow slip of paper from the side of his computer. It’s a Post-It note. “Look at how purposeful it is,” says Wasserman, holding it in front of him like Steve Jobs showing off a new iPhone. “I’ve got it stuck right here so I don’t forget my password. I have it in books where I’ve marked passages. What a beautiful design.”

As with many things, Wasserman is something of an expert on Post-It notes. He’s been researching the history of the ubiquitous office product for his latest case study on the psychology of innovation. While the Post-It note today may seem perfectly designed in its simple utility, Wasserman explains that wasn’t always the case. Instead, like so many other innovations, it evolved out of circumstance, trial and error, and a good deal of luck.

Wasserman sits back and tells the story. The Post-It note’s origins can be traced back to Spencer Silver, who in 1968 was a young chemist at 3M working to create a heavy-duty adhesive for aircraft construction. But what he concocted in the laboratory was the opposite: an adhesive that stuck to surfaces but peeled off easily. Silver’s discovery was novel, but its usefulness wasn’t readily apparent.

Years later, a colleague named Art Fry was in church one fateful Sunday when the torn slips of paper he used as bookmarks fell out of his hymnal. Fry had once attended a presentation Silver gave on his peculiar adhesive, and the idea stuck with him, so to speak. What if he used Silver’s adhesive for bookmarks? He pitched the idea at 3M but was initially told there wasn’t a market for it.

Fry once said the real “aha!” moment came when he sent a report to his supervisor with a note scrawled on one of his prototype sticky bookmarks. His supervisor sent the folder back and added his own handwritten note on the sticky paper. “What we have here isn’t a bookmark,” thought Fry. “It’s a whole new way to communicate.” After 12 long years of development and marketing research at 3M, the rest of the story is now office supply cabinet history.

"This may look like it was intelligently designed and planned from the inception," Wasserman says, still holding his Post-It note. "But it wasn't. My argument is that nothing is. That's the starkest way I can put it. But that doesn't in any way diminish the achievements—the contributions are all wonderful."

Edison, Darwin, and the Three Cs

So, if innovations like the Post-It note aren't the result of ingenious foresight and design, where do they come from?

Wasserman turns to Thomas Edison, America's most celebrated inventor, for answers. Edison not only gave us the incandescent lamp, the phonograph, and the motion picture camera, but also a glimpse into the workings of his creative process. It turns out there was no lightbulb moment when Edison invented the lightbulb—or his 1,092 other patents. "I never had an idea in my life," Edison once said. "I've got no imagination. I never dream. My so-called inventions already existed in the environment—I took them out. I've created nothing. Nobody does. There's no such thing as an idea being brain-born; everything comes from the outside. The industrious one coaxes it from the environment."

Edison likewise shrugged off the notion of genius, declaring it to be "1 percent inspiration and 99 percent perspiration." Wasserman agrees that the strongest creative forces come from outside of us, not within. In fact, he says, there's a fundamental law of behavior behind all innovation known as the law of effect. Developed by psychologist Edward Thorndike in 1898, the law of effect asserts that behaviors resulting in successful outcomes are likely to be repeated, while behaviors with poor outcomes are less likely to continue. Wasserman calls it perhaps the most central law in all of psychology—one so simple that it hardly needs to be stated, yet it pulls at the strings of all human endeavors, from sports to politics to technology. In Wasserman's laboratory, this principle is demonstrated when his pigeons learn to peck the appropriate buttons to earn more food. In history books, Wasserman sees it play out time and again in human stories of what's often characterized as ingenuity, but what is in fact the cumulative nature of repeated successes and discarded missteps. Wasserman draws a parallel between the law of effect and the law of natural selection—the cornerstone of Charles Darwin's theory of evolution. The legendary naturalist, as it happens, was a pigeon keeper too. A fashionable hobby in Victorian England, pigeon fanciers bred birds with unique plumages and varied acrobatic abilities. While the finches of the Galapagos Islands are the birds most often associated with Darwin, the biologist's work with pigeons in his garden may have had an even greater influence on his *On the Origin of Species*. In his revolutionary 1859 book, Darwin—inspired in part by his experiments with artificial selection in pigeon breeding— theorized that organisms adapt to their environments over time through natural selection.

Wasserman says creative ideas develop through a similar mechanical process of variation and selection. Context, consequence, and coincidence—the Three Cs, as Wasserman calls them—work together to produce innovations that radically change the course of human history. In the case of the Post-It note, the context was a workplace culture at 3M that encouraged experimentation, Silver's training as a chemist, and his desire to create a new adhesive. Consequence came into play with the trial-and-error efforts to find a practical application for Spencer's sticky-but-not-too-sticky substance. And coincidence arose when Fry's hymnal bookmarks tumbled to the church floor after he attended Silver's presentation.

While Wasserman continues to search for clues about the nature of creativity in his laboratory and history books, he says the science of innovation remains largely untapped. "We have a lot of research looking for personality variables in people, but we don't have such a rich literature about creative behaviors," he says. "We still have a lot to learn."

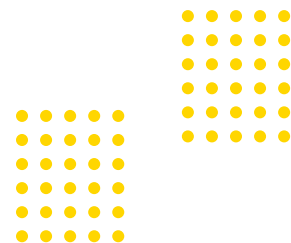
Like all innovators, Wasserman has made an impact that neither began, nor ends, with his own work. Countless students—many of whom are now accomplished scientists in their own right—have emerged from under Wasserman's wing ready to innovate in psychology and beyond. "Ed is a demanding mentor, but one who is generous with praise and proud of his mentees' accomplishments," says Blumberg, the chair of the psychology department. "I have interacted with many of these trainees over the years—both during and after their time here—and I am always impressed by the degree to which they've channeled Ed's values and rigor in their own research."

It's safe to say that when Wasserman arrived 50 years ago in Iowa City, he never could have imagined where it would lead him.

Story by Josh O'Leary

from *Iowa Magazine for Alumni and Friends*, November 2021

[LEARN MORE ABOUT ED WASSERMAN](#)



ART AND TECHNOLOGY FOR

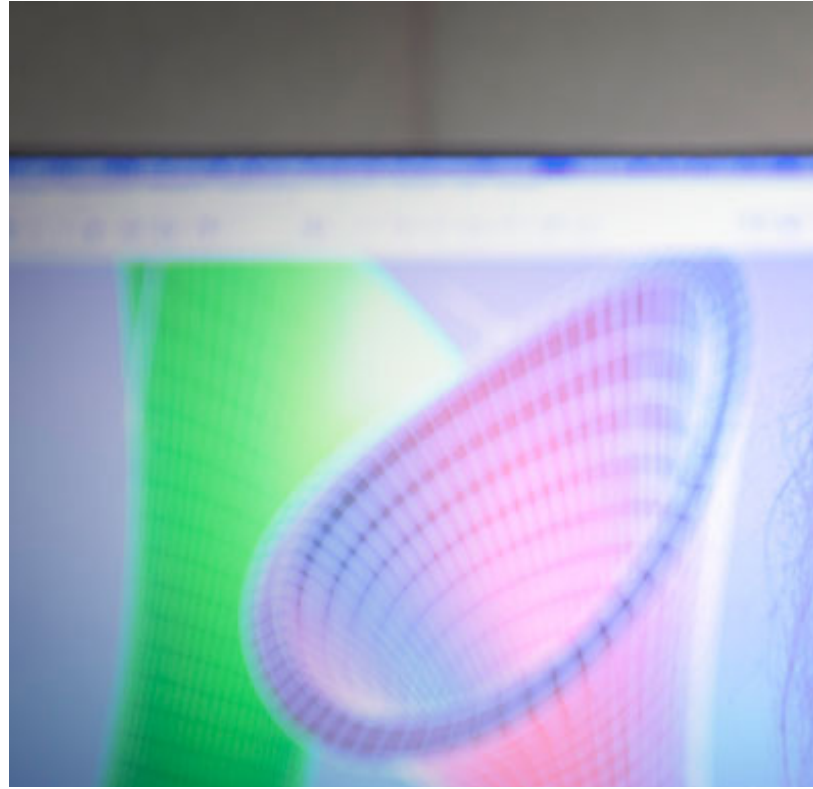
Late last semester as the days drew colder and shorter, a colorful exhibition of work by the students and faculty of Iowa's acclaimed 3D design program brought people together for a celebration of creativity at the Drewelowe Gallery in the Visual Arts Building.

Professor Monica Correia, Director of Undergraduate Studies for the Studio Division and Head of the 3D design program, talked about what it meant to be able to share their work again, and how art, technology and teaching converge here at Iowa.

For those who might have missed the 3D Design Junction, how did the exhibition come to be?

It really started with how the COVID-19 pandemic impacted the 3D design discipline, nationally and internationally, and our program. In 2020, we had three shows canceled: one in Milan, the Salone Del Mobile which expects 320,000 people in attendance; the International Contemporary Furniture Fair, in New York; and the other one was the SOFA, in Chicago. That was somewhat traumatic for the students; they understood, but they were very disappointed, because those events are an opportunity for them to create important connections.

Not having these events really had such an impact on our students that when the university and the school began to reopen, I thought we had to do something to bring the morale back and have our people engage in some kind of collaboration. So, I proposed we have an exhibition showcasing the work of students, graduate students and faculty, all together. I called the other faculty that teach in 3D design- Vako Darjania, Suzanne Bradley, and Steve McGuire- and we all had our work up, which was exciting because my own shows had also been cancelled. But it was especially an opportunity to have our students get together and look at what they were making; and the majority was actually brand new BFA students. They got to look at what their peers were doing in the classes, organize the space and plan how to hang the majority of the work and make the space cohesive.



It was really great because it gave the students that are new to the program an idea what the atmosphere of working together in collaboration looks like. The students invited their families, and we had a packed gallery.

I know that an important piece of technology for the 3D design program that factored into the exhibition was the BigRep large-format 3D printer. What drew you to this technology, and what does it make possible?

It was actually a dream of mine for a long time, because with that scale you can actually print furniture like a chair, but the cost put it out of reach in the past. Then I was in London the year before COVID to exhibit my work and I saw this printer in the design museum in London, and thought we really needed this in Iowa. So, I wrote a (Student Technology Fees) grant and had to make a strong case, but ultimately the college saw what the significance and benefits of this tool were.

I made a new assignment for our students to design hanging lamps, fixtures- not chairs yet, because it's a different approach- but gave the students the restrictions and they made shapes for lampshades, and it was very exciting for them. This show highlighted the very first pieces that were made with this printer, which is a pretty cool thing, and now I feel stronger moving into the seating assignment.

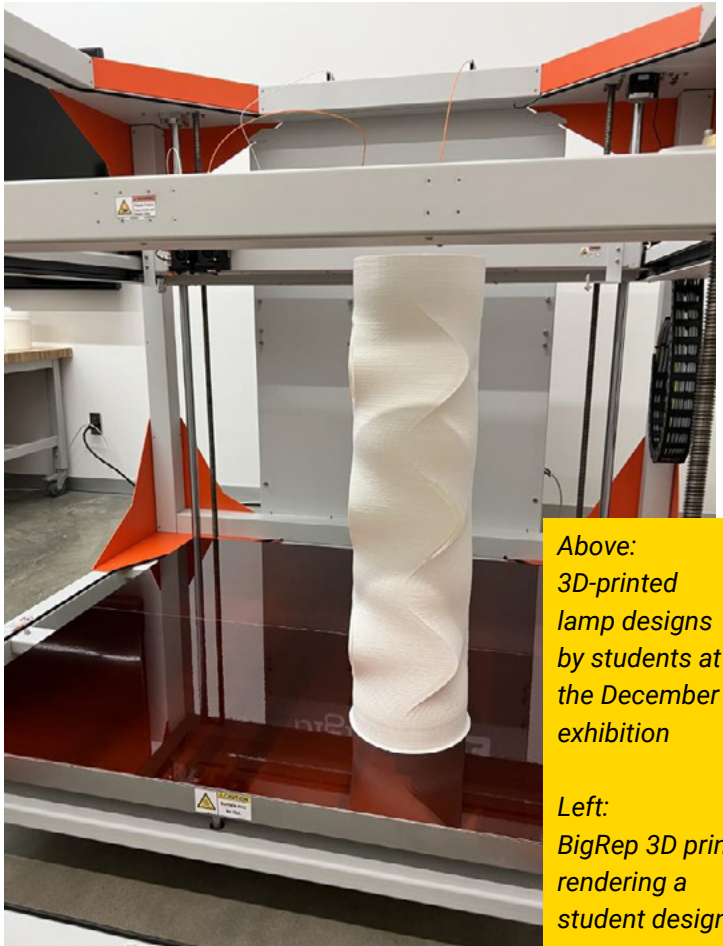
GE FUNCTION AND FORM



Tools like this printer are important for their career too- our students are able to get training on sophisticated equipment, and with training some are running these machines, as an undergraduate. When we give tours to prospective students, they see we have tools like this that other schools in the state don't. The exhibition was also a highlight of what a resource like this makes possible for our students.

Can you talk about how your research and creative work informs and influences your undergraduate instruction?

Everything that I teach, I go to the classroom feeling strong about it because I learn it myself. When I started teaching 3D printing in the classes, I used it in my research- because in order to be able to talk about something you needed to know what you're talking about, especially when you are teaching graduate students. I take this super seriously. And I think one thing about Iowa, I think is this idea of taking a dream and being able to kind of, you have that seed and you water the seed every day, a little bit. That's the process until you get that tree and then you have to take care of the tree. And that's what I find in Iowa- people understand the importance, the value of investing in something, the benefit for the students; I'm here for the students, and I love doing my research.



Above:
3D-printed
lamp designs
by students at
the December
exhibition

Left:
BigRep 3D printer
rendering a
student design

SUSTAINABILITY UPDATE

The Office of Sustainability and the Environment is collaborating with OVPR's Research Development Office (RDO), and researchers from across The University of Iowa and Iowa State University to catalyze collaborative research focused on climate change, health, and sustainability. With the company KnowInnovation, we are initiating Innovation Labs around this subject, which are tied in with the recent announcement of OVPR's Interdisciplinary Research Scholars Awards focused around the "Climate-Environment-Health Nexus".

There is still time to join your fellow researchers to learn about possibilities for collaboration around some of the most important challenges facing Iowa and the world.

Orienting questions:

If climate change is not addressed, what will Iowa look like in 50 years? Do you want to expand your network to explore this topic and capture expected climate change research funding while contributing your talents towards building a more just, healthy, and sustainable future? What are the interdisciplinary climate change and/or sustainability research challenges that Iowa researchers are particularly well positioned to explore in the next three to five years?

The Innovation Labs:

The Innovation Labs will connect UI and ISU researchers and networks to generate novel interdisciplinary research ideas, help refine research questions, build interdisciplinary teams, and begin the important task of writing team-based, impactful, winning research proposals. With your involvement, expertise, and enthusiasm, new and exciting paths can be charted for Iowa researchers leading to the capture of climate change and sustainability science research funding.

Save the following dates! [Register Here](#)

- **Innovation Lab #1** – Network and ideate: Wednesday, February 23 @ 9:30am-11am
- **Innovation Lab #2** – Network and refine ideas: Wednesday, March 2 @ 9:30am-11am
- **Innovation Lab #3** – Network, refine ideas, and pitch ideas: Wednesday, March 9 @ 9:30am-11am

CLAS's Office of Sustainability and the Environment serves as a focal point for sustainability activities on campus and to expedite action and change through:

- Communicating challenges and successes;
- Connecting individuals and organizations to catalyze action;
- Promoting a culture of sustainability;
- Coordinating events and activities to build awareness; and
- Maintaining the credibility and public trust of the University of Iowa.

We look forward to discussing your bold ideas for advancing Iowa's climate change and sustainability research agenda through the Innovation Labs.



Stratis Giannakouros
Director, Office of Sustainability
and the Environment

The Department of Chemistry presents the inaugural

True Lecture Series

Geraldine Richmond

Undersecretary for Science and Energy

Department of Energy

Surf, Sink or Swim: Understanding Environmentally Important Processes at Water Surfaces

Although the special properties of water have been valued and appreciated for centuries, as scientists we continue to be perplexed by the molecular make-up of water in all its forms. Equally perplexing is the surface of water, the entry gate for anything going into our water. In our laboratory we study environmentally important processes at aqueous surfaces using laser based spectroscopic techniques and molecular dynamics simulations. I will focus my talk on what we have learned about of the intriguing molecular behavior of water surfaces, how its behavior plays a role in important environmental processes and how it has guided my career beyond my expectations.



Wednesday, April 6th, 2022 | 4:00 PM

Iowa Memorial Union Main Lounge 180

125 N. Madison St., Iowa City, IA 52242

A meet and greet reception with hors d'oeuvres will directly precede the undersecretary's presentation.

→ <https://chem.uiowa.edu/news/dr-geraldine-richmond>

HIGHLIGHTS



From the Humanities

As recently announced in IowaNow, four College of Liberal Arts and Sciences faculty members received grants from National Endowment for the Humanities (NEH). The NEH awarded a total of \$24.7 million to 208 humanities projects nationwide.

The funding awarded to UI faculty will support projects including completing a book on American public opinion about U.S. foreign policy, creating an undergraduate laboratory space to examine global print and manuscript cultures, and developing a digital resource for teaching health narratives in multiple languages.



Michaela Hoenicke Moore

The [associate professor in the Department of History](#) was awarded a \$60,000 fellowship to complete her book, *The Varieties of American Patriotism*, which examines American foreign policy views at the grassroots level. Ordinary Americans participated in foreign policy debates to a much larger extent than previously recognized, Hoenicke Moore argues. Based on citizen letters, memoirs, and oral histories—from the Munich Crisis in 1938 through the fall of Saigon in 1975—her study is the first to examine in-depth, and with a view to change over time, how citizens responded to their country’s global leadership and military interventions.



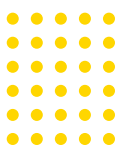
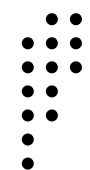
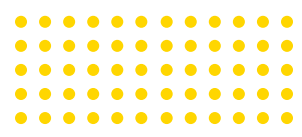
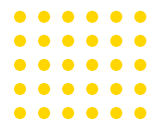
Matthew Brown and Elizabeth Yale

Brown and Yale received a \$150,000 Humanities Initiatives grant for their project titled “Global Book Cultures and the Student Laboratory: Undergraduate Education at the UI Center for the Book.” The co-directors’ three-year project aims to develop an undergraduate laboratory space and related curriculum that will engage students in the study of global print and manuscript cultures.

[Brown](#), director of the UI Center for the Book and associate professor in the Department of English, has been a UI faculty member since 2001. He researches how readers in history have used books. He has written an award-winning book and multiple articles, and has given numerous talks on the subject.



[Yale](#) is a lecturer in the Department of History and an adjunct assistant professor in the Center for the Book. A historian of science and the book in Britain and Europe, Yale is currently president of the Andrew W. Mellon Society of Fellows in Critical Bibliography at Rare Book School.





Kristine Muñoz

[Muñoz](#), professor of Spanish and Portuguese, along with co-director Daena Goldsmith, professor of rhetoric and media studies at Lewis & Clark College, received a \$149,999 Humanities Initiatives grant for their project titled, “Salud, to your Health! Resources for Teaching Health Narratives in English and Spanish.” The three-year project will create a digital database of course materials and other resources for developing and teaching courses in areas of narrative medicine and health humanities to undergraduates and health professionals across the U.S. They also will develop and conduct workshops at conferences and with community groups to encourage the use of oral and written narratives as ways to understand and deal with health, illness, grief, and caregiving.

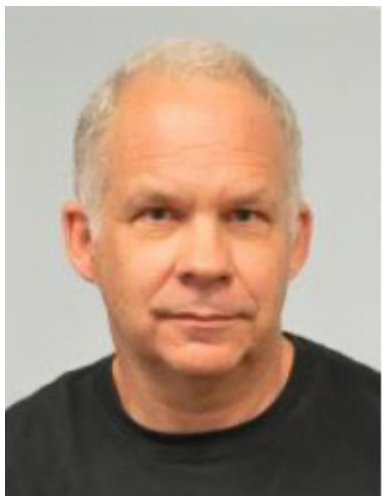


Melissa Febos

[Melissa Febos](#), associate professor in the Nonfiction Writing Program, was awarded a \$25,000 [Literature Fellowship grant for creative writing](#) by the National Endowment for the Arts (NEA).

The goal of the NEA Literature Fellowship program is to encourage the production of new work and allow writers the time and means to write. Many recipients have gone on to receive the National Book Award, the National Book Critics Circle Award, and the Pulitzer Prize in Poetry and Fiction. Febos provided the statement to the NEA:

“What an honor to be supported by the National Endowment for the Arts, for the gift of money which becomes time in which to ruminate, whisper, read, and wander through a set of new ideas. In this case, it will be those pertaining to my fifth book: a long essay that combines memoir and research to examine the global history of female celibacy, and more broadly, divestment as a feminist practice. When I got news of this gift, I almost immediately imagined my child self—who was exactly as prone as I am now to rumination and wandering and craving the time to drift through new ideas—and thought, ‘Look!’”



Colin Gordon

[Colin Gordon](#), F. Wendell Miller Professor of History, was [recently announced](#) by the Russell Sage Foundation as one of their fourteen visiting scholars for the 2022-2023 academic year. The fellowship provides a unique opportunity for select scholars in the social, economic, political and behavioral sciences to pursue their data analysis and writing while in residence at the foundation’s headquarters in New York City. Remarkably, this new award follows the completion of Gordon’s 2021 NEH fellowship; a continuing demonstration of the esteem in which his work is held.

Gordon will work on a book examining racial restrictions on property in the city and county of St. Louis. He will use a mixed methods approach that combines archival work with property records, statistical analysis of race-restrictions in these records, and digital mapping of these restrictions to explore their origins, spread, and impact on racial and spatial inequality.

