

DEPARTMENT OF GEOGRAPHY & GEOGRAPHIC INFORMATION SCIENCE

Breaking New Ground in Geospatial Data Science

Our department, in conjunction with the School of Earth, Society, & Environment, and the campus CyberGIS Center for Advanced Digital & Spatial Studies, founded and directed by Professor Shaowen Wang, are thrilled to announce a new online master of science degree program with an expected launch date of Fall 2022!

A proposal for this program was selected for funding by the Office of the Provost, whose Investment for Growth Initiative encourages departments to develop new sources of sustained revenue and increased student enrollments in high-demand fields of study. The School of Earth, Society, & Environment will receive approximately \$1.5 million over a three-year period to recruit new faculty and staff and build an online instructional and collaboration platform.

Our graduate program will be the first to offer a specialized curriculum in cyberGIS and geospatial data science. CyberGIS represents a growing interdisciplinary field that combines advanced computing and cyberinfrastructure, GIS, and spatial analysis and modeling to tackle our most pressing global issues, such as climate change, population growth, and public health. Graduates will be prepared for careers in sectors including agriculture, data science, analytics, urban and regional planning, and health care. This program will also benefit working professionals who seek to add to

their geospatial data science skillsets.

Professor Wang's lab is the birthplace of cyberGIS, which is recognized internationally for its innovative research and education, spatial problem-solving tools, and outreach programs. This past summer, the CyberGIS Center, in collaboration with the American Association of Geographers (AAG) and the University Consortium for Geographic Information Science (UCGIS), hosted a one-week summer school here at the Natural History Building.

Over 30 students from across the country attended, working together to solve complex geospatial problems and provided feedback about the educational materials. The program's high attendance and student engagement illustrated the rapidly growing demand for educational programs in geospatial data science, and several lectures and labs presented during this summer school will be incorporated into our new online master's program curriculum. ✨



Shaowen Wang welcomes participants to the 2019 Summer School at NHB.

2019 Early Career Distinguished Alumnus: Kory Konsoer (PhD, 2014)

We proudly present the 2019 Early Career Alumni Achievement Award to Kory Konsoer (PhD, 2014), assistant professor in the Department of Geography and Anthropology at Louisiana State University. Kory began teaching at LSU the same year he graduated from Illinois and has already garnered considerable scholarly recognition in the field of river science.

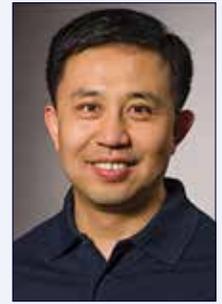
Kory has published in major journals, including *Geomorphology* and the American Geophysical Union's (AGU) *Water Resources Research*; and has presented at conferences in the U.S. and abroad. His new research program examines interactions among flow, vegetation, and bank morphology and how these interactions cause meandering rivers to migrate across floodplains over time – a fundamental mechanism by which these rivers shape and reshape Earth's landscapes.

As a PhD student, Kory studied the dynamics of meandering rivers with advisor **Bruce Rhoads**. Together they participated in a National Science Foundation (NSF) project led by Professor **Jim Best**, for which Kory received an additional NSF doctoral dissertation research award. Kory also started looking beyond Earth's surface, studying river confluences and channel form in reduced-gravity environments, including Mars. He has since published articles based on this research.



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From the Department Head



Dear Geography & GIS alumni and friends,

I am very delighted to extend my warmest greetings and cordially invite you to attend to several upcoming and ongoing departmental events:

Mondays at 2 p.m.: Coffee Hour
Room 2049 Natural History Building – Russell Seminar Room
1301 West Green Street, Urbana

If you live in Urbana-Champaign or happen to visit our campus on a Monday afternoon during the fall or spring semester, please stop by the Russell Seminar Room for our weekly coffee hour! It's a great opportunity to meet our faculty, graduate students, and staff and catch up with the department.



Tuesday, November 12: GIS Day 2019
10 a.m. – 2 p.m.
Illini Union, Rooms B&C
1401 West Green Street, Urbana
RSVP: go.illinois.edu/GIS-Day-Registration

Join us for a campuswide exploration of the dynamic applications and transformative impacts of geographic information science (GIS) and geospatial technology. This free event will include a keynote by Dr. Kumar Navulur, Senior Director of Strategic Business Development at DigitalGlobe; a GIS Career and Internship panel, student map and poster competition, and lunch for registered presenters and guests. *We have reserved a block of rooms at the Illini Union Hotel so please contact us if you need accommodations for Monday and/or Tuesday evening (November 11-12).*



April 2020 (Date/Time TBD):
Alumni Reception at AAG Annual Meeting in Denver, CO

If you are planning to attend the AAG 2020 Annual Meeting, please visit this link to share your contact information and receive an invitation once we finalize the reception date, time, and venue.
go.illinois.edu/AAG-Denver-2020

2019-20 Geospatial Data Science Distinguished Speaker Series

This year, our department is hosting the Geospatial Data Science Distinguished Speaker Series. We have invited leading scholars and practitioners to share how they are gathering and analyzing geospatial big data, and to explore the future of data-driven decision making. The speaker series is part of a campuswide initiative, sponsored by the Office of the Provost, to encourage collaboration among disciplines that work with location-based data. You can view the entire series online at: **go.illinois.edu/geodatascience**

FALL 2019

Department of Geography & Geographic Information Science
School of Earth, Society and Environment

College of Liberal Arts & Sciences, University of Illinois at Urbana-Champaign

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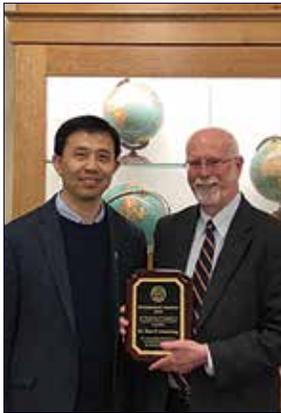
Please visit illinoisalumni.org to update your contact information, submit a class note, and check out the latest news and events for and about Illinois Alumni.

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 [LinkedIn: Geography & GIS—University of Illinois](https://www.linkedin.com/company/Geography%20&%20GIS-University%20of%20Illinois)

ALUMNI AWARDS AND HONORS



2018 Distinguished Alumnus visits campus

Marc Armstrong (PhD, '87) returned to campus this spring to officially accept his Geography & GIS Distinguished Alumnus Award and present his research during our Friday afternoon colloquium series. His talk was entitled *The Multiple Dimensions of Extensive (Big) Geospatial Data: Retrospect and Prospect*. Dr. Armstrong is professor of Geographical and Sustainability Sciences, Collegiate

Fellow, and associate dean for research and infrastructure at the University of Iowa. ✨



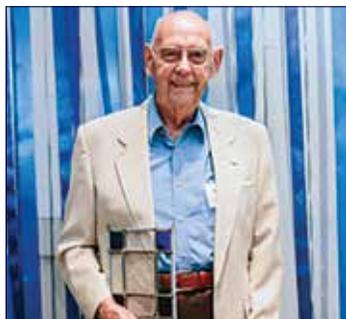
2017 Distinguished Alumna receives AAG Creativity Award

Janice Monk (MA, '63; PhD, '72) received the 2019 AAG Stanley Brunn Award for Creativity in Geography, given annually to a geographer who has demonstrated originality, creativity, and significant intellectual breakthroughs in the discipline of geography.

Dr. Monk is renowned for her advocacy and research related to women's employment, education, and health. She has also contributed to the improvement of graduate-level education and mentorship in geography through the AAG's Geography Faculty Development Alliance. Jan is currently research professor in the School of Geography and Development and Research Social Scientist Emerita at the Southwest Institute for Research on Women (SIROW), University of Arizona. ✨

Bier Honored for Japan House Gardens Design

By Cynthia Voelkl



James Bier (MS, '57) received a 2018 Illinois Arts Legacy Award from the College of Fine & Applied Arts to recognize his design and dedicated stewardship of the grounds, gardens, and ponds at Japan House on our south campus. Bier has been integral to the development of the grounds since its inception as a permanent facility in 1998, designing and planning the ponds and creating the traditional tea and *karesansui* (dry) gardens.

Credit: Justine Bursoni

A native of Cleveland, Bier graduated from Western Reserve University with a degree in geology and was then drafted into the U.S. Army, stationed in Tokyo with the 29th Engineer Mapping Battalion. After completing his master's degree, James served as staff cartographer and lecturer in our department until his retirement in 1989.

Bier produced nearly 3,000 maps and atlases for publishers and authors throughout the United States during his career. His interest in Hawaii and the Pacific island nations began as designer and cartographer for the *Atlas of Hawaii*, followed by the *Reference Maps of the Islands of Hawaii* (University of Hawaii Press).

In retirement, Bier continues to maintain the Japan House grounds two days a week and pursue his interests in the cartography of Hawaii and the study of Japanese gardens. ✨

Konsoer, continued

"I am deeply honored to receive this award, and certain that without the excellent education, training, and scientific research opportunities I received from Dr. Rhoads, Dr. Best, and other great geography faculty, my career path would be much different than what it is right now.

"At Illinois, I was taught how to think critically about Earth's dynamic surface processes and trained in state-of-the-art field surveying techniques, which opened my eyes to new research possibilities that drive my curiosity about rivers to this day.

I am also very thankful that my experiences at Illinois allowed for interdisciplinary collaborations with faculty in geology and civil engineering, especially Drs. Gary Parker and Marcelo Garcia," said Konsoer.

Dr. Kory Konsoer is an emerging scholar producing work of exceptional creativity and we are excited to welcome him back to campus to accept this award and present during our Friday colloquium series. ✨

ALUMNI NEWS

Congratulations to our newest alumni, the Class of 2019!

Bachelor of Arts / Bachelor of Science

Stephanie Abdullah
Asif Ali
Kayla Bishop
Adam Camp
Nicholas Chiavini
John Eastman
Austin Handler
Jacob Hesslau
Aaron Hoyle-Katz
Samuel James
Claire Kredens
Geyang Li
Rory Shanley

Andrew Stencel
Zana Van Der Smissen
Sijia Wang
April Wendling
Tony Zheng

Professional Science Master's (PSM)

Tong Gong
Nattapon Jaroenchai
Nurlan Khamzin
Kaixian Yang
Yatong Zhang
Guimin Zhu

Master of Arts

Erron Perez

PhD

Elizabeth Breyer
Yoo Min Park
Rebecca Shakespeare
Ryan Stock
Priyam Tripathy
Jue Wang
Dandong Yin
Mingjing Yu

PhD graduates begin careers as educators and researchers

Special congratulations to our 2018-19 doctoral degree recipients, who have already begun careers in higher education and industry:

Betsy Breyer is a visiting assistant professor in the Department of Geography at Texas A&M University. She teaches human geography and cartography courses and researches topics in urban geography, including climate change adaptation through outdoor water conservation and processes of demolition and vacant land re-use following the Great Recession.

Quinn Lewis (MS, '14; PhD, '17) is completing his postdoctoral research appointment at the Department of Earth and Atmospheric Sciences, University of Indiana-Bloomington, and will start in January 2020 as a tenure-track assistant professor in the Department of Geography and Environmental Management at the University of Waterloo, Canada.

Yoo Min Park is a tenure-track assistant professor in the Department of Geography, Planning, and Environment at East Carolina University in Greenville, North Carolina. Her research uses geospatial and environmental sensing technologies to examine public health disparities and promote health care equity.

Rebecca Shakespeare is a full-time lecturer in the Urban and Environmental Planning and Policy Department at Tufts University. She uses qualitative GIS methods to examine housing affordability, residential mobility, and processes of urban change.

Ryan Stock began this summer as a tenure-track assistant professor in Northern Michigan University's Department of Earth,

Environmental and Geographical Sciences. Ryan's dissertation investigated solar farm development in India, and he is broadly interested in issues related to social power and the political economy of environmental change.

Priyam Tripathy is a postdoctoral research fellow at Durham University, UK, where she is working on the "Density in a Global Urban Age" project funded by the European Research Council.

Jue Wang is now a tenure-track assistant professor at the University of Toronto, teaching and researching topics in health geography and GIS. Jue will continue his research in environmental context profiling and environmental influences on physical activity.

Dandong Yin started this summer as a software engineer with Google. His research at Illinois focused on creating large-scale computational models to discover, analyze, and solve complex geospatial problems.



Credit: GradImages

From left: Shaowen Wang, Mei-Po Kwan, Dandong Yin, Yoo Min Park, Jue Wang, Ryan Stock, Rebecca Shakespeare, Trevor Birkenholtz, David Wilson

Current Geography & GIS faculty and graduate students connected with several alumni at the 18th International Medical Geography Symposium in Queenstown, New Zealand.

From left: Varun Goel (MS, '13); Aida Guhlincozzi; Sara McLafferty; Sandy Wong (PhD, '17); Dr. Michael Widener (BA, '07); Arrianna Planey



ALUMNI PROFILE



Illinois native **Ivan Gamboa** (BA, '02) has a passion for strengthening neighborhoods. He is senior vice president of Tri City National Bank in Oak Creek, Wisconsin, where he focuses on business and community development. Ivan has taken on multiple roles over his 13 years with the bank and has always appreciated how his work and civic duty are intertwined.

Ivan also serves as Board President for Harbor District Inc., which is leading revitalization efforts in Milwaukee's inner harbor. In May 2016, Governor Scott Walker appointed Ivan as chairman of the board of directors for the Wisconsin Housing and Economic Development Authority (WHEDA), whose mission is to stimulate the state's economy and improve its residents' quality of life by providing affordable housing and business financing products. He was reappointed by newly-elected Governor Tony Evers in March 2019.

What attracted you to the field of geography and what is your favorite geographic concept?

I have been attracted to neighborhoods my entire life. I remember as a child my parents driving us into the south side of Chicago every Sunday to visit my grandparents. I would just stare out the car window watching the neighborhoods change. Back then, I was enamored with the physical place of neighborhoods but as I got older I realized the human aspect was more beautiful. I transferred into geography in the middle of my college life and just tried to absorb everything. I was especially drawn to GIS and started to understand how we can learn more about cities by layering data over the neighborhoods we are studying.

What role does geography play in your current work?

Geography is vital to everything I do, and my foundation for understanding what makes neighborhoods tick was laid during my time in the department. As a commercial real estate lender for a community bank, I have helped finance the wave of redevelopment that has arrived in Milwaukee. A lot of times we are redeveloping older buildings that were past their useful life, which I believe preserves and strengthens a neighborhood's character.

Geography also plays a big role in my board work, especially as chair of WHEDA. Geography is key as we set

policy for the Low-Income Housing Tax Credit and New Market Tax Credit programs. Tri City National Bank is also one of the state's largest multi-family and first-time home buyer lenders. Looking ahead, we are faced with the changing dynamics of rural Wisconsin and the challenge of bringing in new investment. Downtown Milwaukee has seen the city's most significant change over the past decade with new office towers, hotels, a sports arena, and multi-family developments. That development has not yet spilled over into the surrounding neighborhoods, so we must understand which public investments can be made in neighborhoods that can attract more private investment.

What is your fondest memory of your time in the department and on the Illinois campus?

I have many fond memories of my time at Illinois and just as many good friends. I grew up so much between my freshman and senior year, which I financed as a pizza delivery driver for Bonnie Jean's Pizza above the Illini Inn. My roommates loved me! I didn't know anything about the geography department until stumbling upon "Earth's Physical Systems," an intro level class taught by Professor (Bruce) Rhoads that included a field trip to a nearby stream. I quickly realized that I wanted to switch my studies and dive deep into every aspect. It has been a blessing. ✨



Harbor District, Inc. constructed and partially funded the newly-opened Harbor View Plaza to provide public park space and water access along Milwaukee's inner harbor. (credit: Bobby Tanzilo - OnMilwaukee.com)

FACULTY AWARDS AND HONORS



Julie Cidell was awarded a Campus Research Board grant for her project entitled “Student Mobilities: Learning Independent Mobility and Navigation at the University of Illinois.” Part of the Institute for Sustainability, Energy, & Environment’s (iSEE) Campus as a Living Laboratory program, the project will explore how domestic and international students learn to be independently mobile on and around campus. Data from this project will contribute to campus initiatives on reducing carbon emissions and research on the travel behavior of young people. The seed grant funding is designated for research equipment and a graduate assistant to help develop an NSF proposal.



Piotr Cienciala received a Campus Research Board grant to support his research project entitled “Biogeomorphic Controls on Storage of Particulate Organic Carbon in River Corridors and its Transfer at the Terrestrial-marine Interface.” This project examines how inorganic sediment and organic matter are transported downstream in rivers, how these materials are deposited and stored within the channel and on the floodplain, and how vegetation cover can influence these phenomena. This

grant award will enable the collection of pilot field data and support a graduate research assistant to help with data analysis.



Chunyuan Diao is principal investigator on an NSF-funded project entitled “Real-time Computational Modeling of Crop Phenological Progress towards Scalable Satellite Precision Farming.” Dr. Diao and her graduate research assistants will use project funds to develop a real-time parallel computational framework capable of modeling seasonal crop variations and life cycle events.



The International Association of Hydrological Sciences (IAHS) has launched the Sivapalan Young Scientists Travel Award (SYSTA), named in honor of **Murugesu Sivapalan**. This new annual €30,000 travel award will provide travel support for 15 young scientists from developing countries to attend international IAHS-related conferences. The first featured conference was the International Union of Geodesy and Geophysics (IUGG) Congress, held this past July in Montreal. ✨

FACULTY PROMOTION



Brian Jefferson has been promoted to associate professor with tenure. He was also named a 2019-2022 O’Connell Scholar by the College of Liberal Arts and Sciences. Brian joined the department in 2014 and has taught a wide range of courses in urban and social geography, the geography of incarceration, and international conflicts.

He has made many strong connections across the Illinois campus in his role as our department’s Colloquium Coordinator and as a member of the Organizing Committee for *Racial Capitalism*, a March 2019 conference hosted by the Unit for Criticism and Interpretive Theory. Brian’s first book *Digitize and Punish: Racial Criminalization in the Digital Age* will be published this fall by the University of Minnesota Press. ✨

NEW FACULTY PROFILE



Mark Lara began this fall as a tenure-track assistant professor with a joint faculty appointment in the Departments of Plant biology (75%) and Geography & GIS (25%). He teaches courses in environmental GIS and is researching how arctic and boreal ecosystems respond to climate change and disturbances such as permafrost degradation and wildfires. ✨

Thermokarst pit formation in northern Alaska’s Arctic polygonal tundra. Mark is circled.



FACULTY NEWS

Professor Kalipeni Retires *By Tom Bassett*



Dr. Kalipeni showcases his corn storage bin in Malawi

Ezekiel Kalipeni joined the department in 1994 as assistant professor and became full professor in 2008. He also served as interim director of the Center for African Studies in 2001-2002 and as director of the National Science Foundation's Geography and Spatial Sciences Program from 2009-2011.

"Zeke" gained an international reputation for his mapping and spatial analysis of the HIV/AIDS epidemic in Africa. This

work developed from his field research in southern Africa where he examined the demographic, cultural, political, and geographic contexts of the disease and its diffusion. In 2014, he was awarded the Kwado-Konadu-Agyemang Distinguished Scholar in African

Geography Award by the AAG African Specialty Group.

He taught Geography 101— Global Development & Environment for many years and will be remembered for introducing (with colleague Dr. Tom Bassett) computer mapping skills to hundreds of students every semester. Zeke also regularly taught Cities of the World, Population Geography, and the Geography of Sub-Saharan Africa.

Over the years, Zeke has maintained strong research and mentoring relations with the University of Malawi, where he began his teaching career in 1986-88. Upon retirement, he donated his entire personal library of nearly 2,000 volumes to the Department of Geography and Earth Sciences at Chancellor College, University of Malawi.

Zeke and his wife Fatima have built a retirement home in her village in southern Malawi and he has begun working the 11-acre farm he inherited from his father. This past year he planted corn, sweet potatoes, and peanuts, and plans to rotate corn and soybeans in the coming years. It seems his 25 years in east central Illinois have made a lasting impression! ✨

IN MEMORIAM: MARILYN O'HARA RUIZ

By Sara McLafferty



Dr. Marilyn O'Hara (BA, '82; MA, '85), clinical associate professor in the Department of Pathobiology and affiliate professor in our department, died in an automobile accident in rural Illinois on September 30, 2018,

at the age of 58. After completing her BA and MA here, she went on to earn a PhD in geography from the University of Florida where she specialized in GIS and medical geography.

An expert in vector-borne diseases, Marilyn was widely known for her research on the space-time dynamics of West Nile virus (WNV) transmission and the roles of environmental and socio-political factors in disease spread. She led projects on WNV infection risk and mitigation efforts in the Chicago region, an area hard-hit in recent outbreaks.

Marilyn's research combined field-based investigations of catch basins and other human-created mosquito breeding sites with

GIS-based analyses of disease incidence and people-vector-animal contact patterns. At the time of her passing, she directed the University of Illinois-based portion of the Midwest Center of Excellence in Vector Borne Disease, funded by the Centers for Disease Control and Prevention. She also shared her geographic expertise with local community organizations, including the Champaign-Urbana Public Health District, to address public health inequalities.

Marilyn was an inspiring researcher and teacher whose passion and effective mentorship motivated many students to pursue careers in medical geography and GIS. Known for her intelligence and patience, she was a sought-after advisor and committee member. Marilyn's many publications co-authored with students are testimony to her dedication and commitment to nurturing their success. Her intellect, creativity, and kindness are greatly missed. ✨

GRADUATE STUDENT SPOTLIGHT

By Daniel Gonzalez

When people learn that I am a geography doctoral student, they often ask: “Where is your case study?” To keep things simple, I usually reply “I study the U.S.-Mexico border.” But if they are familiar with geography or fieldwork in general, they often expect my research to be geographically situated in “the borderlands,” in proximity to the 2,000-mile southern border. However, I study places not normally associated with the U.S.-Mexico border, including rural Nebraska, big Midwestern cities, and Silicon Valley.

My research focuses on immigration law and the political economy of information and technology. More specifically, I take on issues related to the surveillance of the U.S.-Mexico border, border spaces, the history of immigration enforcement, data and information infrastructures, and the management of migrant labor. Ultimately, as a political geographer I am interested in how U.S. border enforcement agencies employ technologically-centered practices and how these practices change the nature of border spaces. These state policies directly influence notions and practices of social inclusion for non-citizens and citizens alike.

I earned bachelor’s degrees in human geography and environmental engineering from the University of California, Berkeley, and a master’s in geography here at Illinois as part of our department’s accelerated PhD program. At Berkeley, I researched how California’s water mitigation policies affected migrant farm workers in the Central Valley and how these same policies assigned responsibility of water conservation to California households, despite their accounting for a minor percentage of the state’s water usage.

Moving away from California—both in terms of physical location and intellectual curiosity—my master’s research here focused on urban governance in the city of Chicago. I analyzed the use of multicultural planning interventions in the city’s redevelopment policies and examined how city officials, real-estate developers, and residents negotiated their interlocking concerns for diversity and economic development.

I was drawn to the discipline of geography because it allows me to connect the dots among space, history, politics, and, most importantly, people’s livelihoods. Contrary to the common view of academic geography in the U.S. as simply mapmaking and locating capital cities or mountain ranges, I find that the discipline also provides a crucial interdisciplinary and spatial approach necessary to understanding and developing solutions to our most pressing problems.

Outside of my departmental research and classroom duties, I have had great opportunities to work with historically underprivileged students in several units across the Illinois campus. I worked during my first year in the Office of Minority Student Affairs (OMSA) as graduate student mentor



for the TRIO Student Support Services program; and served last year as a graduate assistant at La Casa Cultural Latina. In both programs, I helped undergraduate students negotiate academic and personal resources provided by the university.

As I work toward a tenure-track professorship, these experiences outside of the classroom have been important to my development as both a teacher and researcher. I have learned that mentorship is never one-way – in many ways the students I worked with have taught me more than I could ever teach them. ✨

NEW GRADUATE STUDENTS

Zhejiang University 3+2 Exchange Program

The three SESE departments (Geography & GIS, Atmospheric Sciences, and Geology) have established an exchange program with Zhejiang University (ZJU) in China. We are inviting high-achieving undergraduates to Illinois to complete their bachelor's degrees during their first year, and then a master of science degree at the end of their second year. We are proud to welcome the first cohort of ZJU 3+2 students this fall:



Weiye Chen plans to concentrate on spatiotemporal data mining and visualization as well as software development for geographic discovery.



Bin Su is interested in spatiotemporal data mining and analysis, with a focus on big data and its urban geography applications. ✨

New Doctoral Students



Nattapon Jaroenchai has a BS in computer engineering from Chulalongkorn University in Thailand and just completed his professional science master's in geography in our department. He is interested in deep learning, GIS, and agricultural applications of remote sensing. *Advisor: Shaowen Wang*



Benjamin Liebersohn earned a BS in computer science from Earlham College. He will research high performance geo-computing and digital humanities. *Advisor: Shaowen Wang*



Anurag Mazumdar has a BA in comparative literature from Jadavpur University, an MA in media and cultural studies from the Tata Institute of Social Sciences in India, and an MA in geography from the Ohio State University. He will investigate the social, political, and spatial dimensions of the digital platform economy. *Advisor: Brian Jefferson*



Mishel Melendez has a BS in civil engineering from the Universidad Nacional de Ingeniería in Lima, Peru and an MS in river environments from the University of Birmingham, U.K. She is interested in sediment transport, geomorphology, and hydrodynamics. *Advisors: Piotr Cienciala and Jim Best*



Tanya Shukla has a BS in civil engineering from Pantanagar University of Agriculture and Technology and an MS in earth sciences from the Indian Institute of Technology. She studies morphologic response of rivers to changing external conditions, particularly at the modern timescale. *Advisor: Bruce Rhoads*



Yilun Zhao has a BS in ecology from Sichuan University and an MS in conservation ecology and environmental informatics from the University of Michigan. Her research interests include GIS, remote sensing, and the applications of image processing to understand ecosystems and ecological processes. *Advisor: Chunyuan Diao* ✨

Graduate Student Honors & Awards



Melissa Heil was awarded a 2019-20 Graduate College Dissertation Completion Fellowship. The working title of her dissertation is "Social Accounting in the American Rustbelt: Producing the Uneven Geography of Austerity-Induced Precarity."



Junghwan Kim received a Spring 2019 Graduate College Conference Travel Grant to attend the 2019 Transportation Research Board Annual Conference in Washington, D.C. He also received a Peter Gould Student Paper Award from the AAG Health and Medical Geography Specialty Group.



Lirong Kou received a Graduate College Travel Grant to support doctoral research in Chicago and Guangzhou, China. Her dissertation project

is entitled: "Listening to Urban Sounds: A Comparative Study between the U.S. and China on Geographic Contexts and Residents' Perceptions of Sound."



Arrianna Planey received a Peter Gould Student Paper Award from AAG Health and Medical Geography Specialty Group.



Donald Planey received the 2019 Best Student Paper award from the AAG Economic Geography Specialty Group. ✨

UNDERGRADUATE SPOTLIGHT

Geography and Ecology in the Exclusion Zone

By April Wendling (BS, '19)



A fawn resting in Trelease Woods (credit: April Wendling)

During my time as a student and researcher at Illinois, I got to explore the complex web of interactions between plants, animals, and geographic features that together form an ecosystem. I double-majored in Geography & GIS and Earth, Society, & Environmental Sustainability, which

provided a great framework for understanding how ecosystems can vary based on their unique physical and biological characteristics.

This past summer, I worked with Dr. James Dalling's lab in the School of Integrative Biology. We took a tree census in Trelease Woods, a nearby university-owned deciduous forest, recording species, size, and spatial coordinates. We found that the forest composition is not geographically homogenous; for example, some species common in the south end of the woods are rare in the north, and we saw clusters of similarly-sized trees.

We built on this geographic data to understand the ecological factors that shape the woods. Some areas are densely packed with small trees because there's an opening in the canopy allowing sunlight to reach the forest floor, while massive trees in other areas of the forest compete for sunlight high up in the canopy and leave little sunlight for growth below them.

In addition to my work in Dr. Dalling's lab, the topic of heterogeneous ecosystems has permeated other facets of my studies here at Illinois. I became interested in the Chernobyl Exclusion Zone as an Illinois Program for Research in the Humanities Environmental Humanities intern, and also wrote about it for an environmental writing course.

In 1986, an explosion devastated the Chernobyl Power Plant and the 116,000 people living within a 30-kilometer radius were evacuated. Radiation initially wreaked havoc on the surrounding ecosystem but now wildlife in most parts of the zone are thriving in humanity's absence. Beavers are hard at work building their dams, abandoned gardens have overtaken villages, and packs of wolves hunt without fear of persecution.

It's interesting to see how geographic processes have caused varying levels of radiation throughout the Exclusion Zone. There are hotspots in places where wind and rain have deposited most of the fallout, and cool spots around the Zone's edges. Likewise, many places that suffered the brunt of the initial fallout are no longer particularly dangerous as much of the radiation has dissipated. Some of these low-radiation locations, like the town of Narodychi in the Ukrainian part of the Zone, are slowly being repopulated.

As of February 2019, meetings are being held to discuss shrinking the Exclusion Zone's boundaries. This leads us to a puzzling dilemma: if humanity returns to parts of the Exclusion Zone, what will become of the flora and fauna that call this place home? I explore this topic in more depth in an upcoming issue of Q Magazine, a publication of the Undergraduate Certificate in Environmental Writing at Illinois (q.sustainability.illinois.edu). ✨

Alumni reunion in the French Quarter

By Kristin Jaburek (BA, '01)

Classmates from Professor Donald Johnson's Spring 1999 field course reunited this spring in New Orleans, one of the final stops of our trip. We will always be grateful to Don and the department for all the great education, memories, and lifelong friendships! ✨

From left: Jason Casanova (BA, '99), Lisa Whitenack (BS, Geology, '99), Jillian Elder (BA, '99), Jon Bonjean (BA, '99), Kristin Jaburek (BA, '01), Michelle Suarez Walden (BA, '99).



ROEPKE SCHOLARSHIP RECIPIENTS

Geography & GIS juniors and seniors are eligible for the **Howard Roepke Research Scholarship**, which provides generous financial support as they assist our faculty members to collect and analyze data for their research projects. Students value this opportunity to apply skills they have learned in our courses and refine their own research and career goals.

ANTHONY HALOULOS, (SENIOR, MINORING IN INFORMATICS AND STATISTICS)



Analysis of aerial photography to determine stream channelization over time

I worked with Professor **Bruce Rhoads** to analyze the impact of channelizing streams over time. Our study looked at the Big Pine Creek Ditch in Benton County, Indiana, which required collecting

aerial photography of the river from every decade available. Through the course of this project, I learned how to navigate aerial photography indices and locate the proper archive which will be helpful as I take on future coursework and projects.

One of the biggest challenges of this project was to determine the river's centerpath. Vegetation blocked portions of the river during certain years, so we had to utilize multiple years of imagery in those cases where a single image or even its stereopair were not enough to trace the path. This aerial photography study has enhanced my interest in the field,



A series of aerial photos illustrates how the Big Pine Creek Ditch meandered over time.

and I can see myself pursuing it further. It truly has been a wonderful experience and I am thankful to be a Roepke Scholarship recipient! ✨

SIJIA "JASON" WANG (BS, '19; CURRENT PSM IN GIS STUDENT)



Commuting Time to Work in Houston, Texas

I worked with Professor **Julie Cidell** to analyze work commute times among different social groups in Houston, Texas based on their income level, gender, and race. This project introduced me to the concept of Public Use Microdata Sample

and how it can be utilized to see geographic patterns at the individualized scale.

I also had an opportunity to observe how the Location Quotient spatial analysis method is used to find outstanding and unexpected values, which made this project a helpful addition to Dr. McLafferty's Spatial Analysis course I took that same semester. Although I have not yet decided which aspect of geography I will focus on in the future, this project certainly increased my interest in transportation-related issues as I prepare to continue my exploration of this fascinating and diverse discipline as a professional science master's student in GIS. ✨

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Last fall, the College of Fine and Applied Arts presented James Bier with an Illinois Arts Legacy Award to recognize his design and stewardship of the grounds, gardens, and ponds at Japan House. (Photo by Matt Cohn)

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