

Spartan Geographer

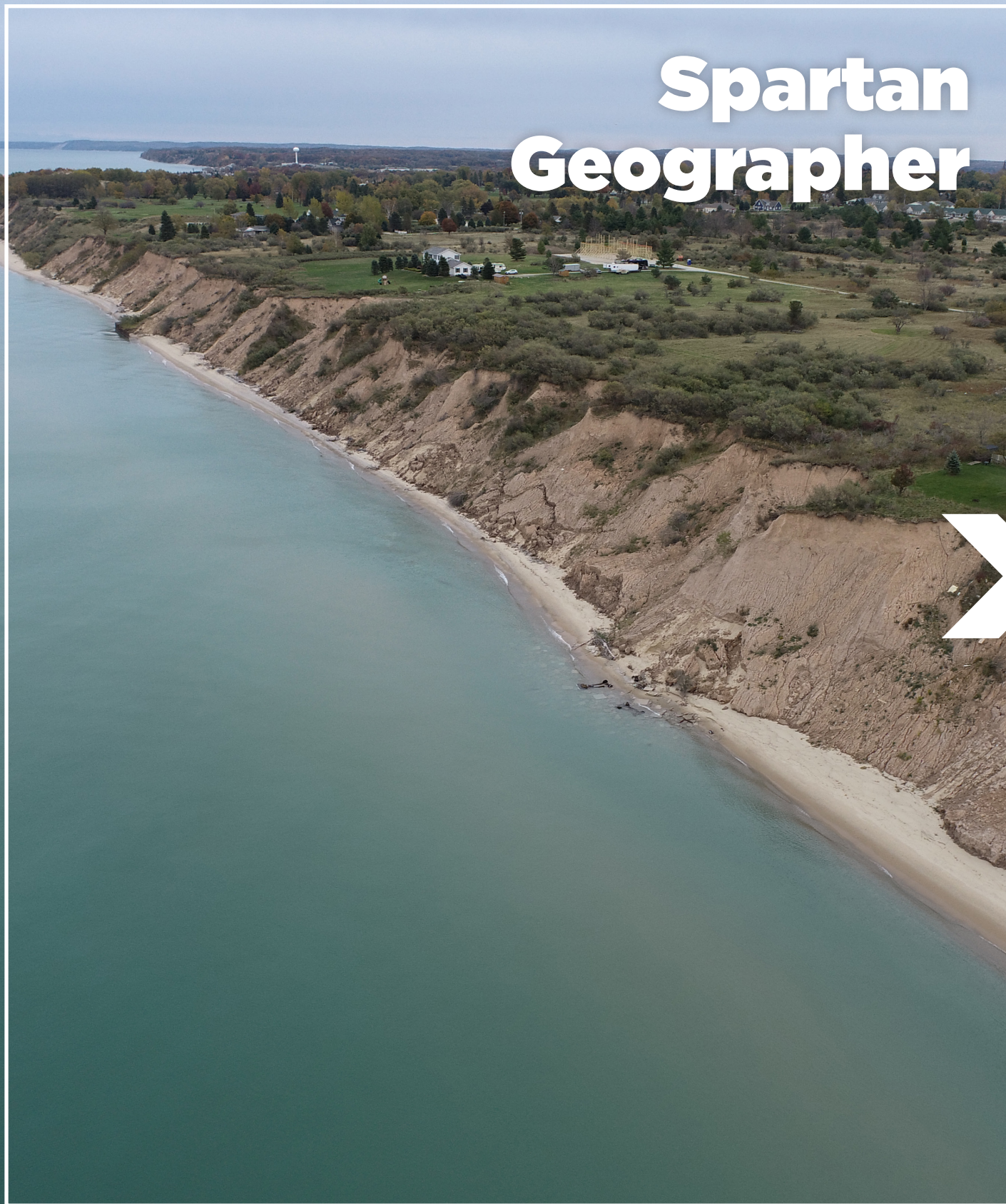


Photo by Ethan Theuerkauf



Sustainability Statement

Last year, we committed ourselves to reduce the environmental impact of the *Spartan Geographer*. We were pleased that the nearly 2,000 copies of the publication that we mailed to our friends and alumni were printed on 100 percent recycled paper. In our efforts to continue improving the sustainability of this newsletter, and in light of the current budgetary constraints we find ourselves in, we have decided to forgo physically printing the *Spartan Geographer* altogether this year. Not only will this action continue to reduce the carbon footprint of this publication significantly, but it will reserve much-needed funds for our most important asset—the next generation of Spartan Geographers.



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Message from the Chair



ALAN ARBOGAST PROFESSOR AND CHAIR

Hello Spartan Geographers!

On behalf of the Department, I hope all are doing well, especially at this very difficult and challenging time. It's comforting to know that we can still produce our annual newsletter even in this COVID world we now occupy. This year, it's a little on the thinner side, primarily because many of the yearly activities we normally report were canceled entirely or severely curtailed this cycle. As you can imagine, it's a challenging time at MSU, and with everyone working remotely, it's hard to pull things together efficiently sometimes. Nevertheless, the unit is still moving forward, and we want to inform you of what's happening the best we can.

As far as COVID is concerned, the pandemic is certainly the proverbial elephant in the room. Everyone's life has been turned upside down, and it's sure no different at MSU and in our Department. The beginning of the pandemic occurred about halfway through the 2020 spring semester. As geographers, we talked a lot in the hallways about the spread of the virus and how long it might take to reach the US. Once cases began to emerge in the state of Washington, the conversation shifted to what impact it might have on MSU as it spread. Then, in the second week or so of March, the lockdown began. All classes suddenly transitioned to remote (on-line) format, and the focus shifted to pretty much getting through the semester. It was pretty chaotic for a while, but I have to say that the unit handled it pretty well, all things considered. We got through the rest of our business that term, and classes wrapped up without a lot of drama.

Things calmed down some in the summer, which is usually a slower time anyway. Everyone continued working from home, but we found a rhythm that seemed to work. If we needed to meet personally, we could do it outside safely distanced. Not ideal, but doable. Questions abounded about the nature of classroom delivery in the coming (fall) term, and for a while, it looked like some traditional (face-to-face) offerings might be in the mix. In the end, however, such hopes gave way to pandemic reality, and classes were again delivered remotely in the fall. The same goes for this term. Few want that, of course, because we all love the buzz of campus life with folks zipping around between classes and the interactions with students. Something important is also lost in the Department because we miss the social glue that casual chats in the hallways with colleagues bring. It isn't easy to replicate that on Zoom, which is now a pervasive part of life at MSU, but it's the responsible thing to do.

Another way the pandemic has impacted the Department is through the cancellation of many activities. We had to cancel our speaker event during Geography Awareness Week, for example, which has grown in popularity over the years and has provided excellent visibility for us at MSU. Similarly, we usually plan a big celebration of the Department at

Nevertheless, the unit continues to make progress and, from a disciplinary perspective, it is now viewed as one of the most prestigious departments at the University.

the end of the school year to acknowledge student accomplishments, present awards, and much more. That event has grown a lot over the past few years, and we had planned to move it to the Broad Art Museum last spring to really do it right. We also had to cancel our annual Career and Job Fair, which has brought employment for many students over the past few years. Our alumni advisory board organized our first and highly successful golf outing in the fall of 2019, raising about \$2,000 for our scholarship fund. We really looked forward to growing that event in 2020 but just couldn't swing that club.

So, it's been a tough go. The pandemic has also had a significant financial impact at MSU, and the budget is much leaner. Nevertheless, the unit continues to make progress and, from a disciplinary perspective, it is now viewed as one of the most prestigious departments at the University. We are again ranked in the top 5 geography research departments nationwide because our faculty produce at a fantastic rate. Last year our faculty collectively published well over 100 peer-reviewed papers and obtained millions in grants. Proposals for outstanding research keep flying out the door, and I know that our national profile is now very high. The faculty is also tackling a number of difficult issues within the Department, such as how to increase the diversity of the unit, create an environment respectful of all people, and do so in sustainable ways that move the Department forward. Even in this remote environment, I'm happy to say that progress is being made.

On the student front, our current group of graduate students is doing great work. We brought in a strong new cohort of 10 in 2019, including four individuals associated with our efforts to enhance diversity within the discipline. Although they could not participate in our annual GeoCamp in August along the AuSable River due to COVID, we conducted a slimmed-down, socially-distanced version at MSU over two days. On the other end of the spectrum, we collectively graduated 12 students from the program last spring and fall, with six achieving PhD degrees and six MS degrees. Congratulations to all! In addition to these successes, our graduate program is in a transitional stage as far as its administration is concerned. Nathan Moore, who has effectively led the program as our Graduate Program Director the past three years, is stepping down from the job this coming summer. He will be replaced by Lifeng Luo, who I know will do a great job. On a more somber note, our ever faithful and remarkable Graduate Administrative Assistant, Sharon Ruggles, retired in early January. Many of you know Sharon, who has

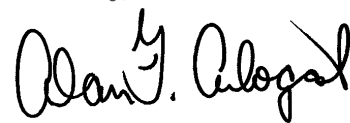
worked in the unit for about 30 years. Her departure leaves a huge hole in the program and Department, one that we will only partially fill in our ongoing search for her replacement. Good luck, Sharon!

With respect to our undergraduates, we continue to have about 100 in the program. Most are enrolled in our Environmental Geography and Economic Geography majors. We've graduated approximately 25 students from each in the past two years, so the program has definitely grown in what seems to be a sustainable way. We were sad to say goodbye to Gary Schnakenberg, our former undergraduate advisor, who retired last spring. He did an awesome job in that role. Fortunately, we were lucky to hire Ryan Shadbolt a year ago to shadow Gary for a while and become the new advisor. Ryan earned his PhD in our unit some years ago and returned home to mentor undergraduates. He's off to a great start, and I know the program is in good hands.

So the message is that we are in an uncertain time, full of transitions, but we keep plugging along in a productive fashion that speaks well of everyone affiliated with the Department. Speaking of transitions, this is the last time I am introducing the department newsletter, for I've decided to step down as Chair this coming August. We are currently searching for a new Chair, and I'm confident that the transition will be a smooth one. I've had the pleasure and honor of filling this role since 2012. In that time, we've grown tremendously in many ways, and I've really enjoyed being in the middle of it. One of my favorite parts of the job has been getting to know many of our alums and working with them in a variety of capacities. It's been a lot of fun!

In closing, remember that the newsletter is a representative slice of life in the Department. I want to thank our awesome staff, including Becky Young, Claudia Brown, Tamsyn Mihalus, and Ana O'Donnell. They've worked hard and often at duress during the pandemic. I also want to welcome Diane Huhn, who is our new communications coordinator and led the production of this year's newsletter. In short, although this past year was challenging on campus, our Department remains a wonderful place to work!

Sincerely,



Alan F. Arbogast



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Reflections

JOE T. DARDEN

PROFESSOR

On the Eve of Retirement

As I approach 50 years of research, teaching, and outreach in the Department of Geography, Environment, and Spatial Sciences at Michigan State University, I was asked to reflect on what has been accomplished, what still needs to be done, and what my plans are for the future. After receiving my doctorate in geography at the University of Pittsburgh, I accepted a position as Assistant Professor at MSU in 1972. At the time I received the degree, I was only the ninth African American in the United States to earn a doctorate in geography. Since then, I have continued my research on race, class, and place, which has always been my passion. The class, “GEO 418, The Ghetto,” which I created after arriving at MSU, has been taught using the theoretical framework of race, class, and place. I also use this framework in my “GEO 413, Urban Geography” and “GEO 813, Seminar in Urban-Economic Geography” courses.

Importantly, the idea that place of residence matters—especially a resident’s neighborhood socioeconomic characteristics—has formed my overriding search for answers during my entire career. I am also a firm believer in the geography of opportunity. This search for answers led me to develop a model called the “Darden-Kamel Composite Socioeconomic Index,” to assist me in understanding the nature of racial and class residential segregation and spatial inequality in Metropolitan areas, especially in Detroit.

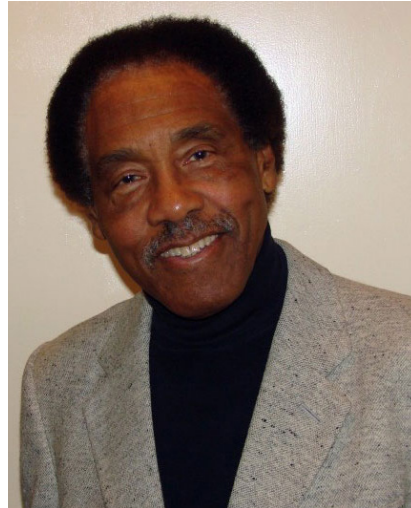
Administratively, I served as Dean of Urban Affairs Programs from 1984 to 1997, led the annual publication of the State of Black Michigan report, and served as an expert witness in several housing and school desegregation lawsuits. My geography training proved to be very helpful to lawyers. In addition, I served as a consultant to several municipalities and authored several “Fair Housing” reports.

Finally, throughout my years at MSU, I have tried to get geography departments around the country, including MSU, to recruit and fund more graduate students who are Black, Hispanic, and/or Native American. I was finally successful. On December 7, 2018, the Department passed a policy to recruit and

fund at least one graduate student each year who is an American Citizen and is African American, Latinx, and/or Native American. This has been one of my most important accomplishments.

However, what remains to be done is the hiring of a faculty member who is from one of the underrepresented groups to replace me after retirement. As the Department becomes more racially and ethnically diverse, a faculty member from such a group is critical for graduate students.

What are my plans after retirement? After my third book on Detroit, entitled *Detroit after Bankruptcy*, has been published, and I have no pending obligations to graduate students, my plan will involve remaining in Michigan but traveling to places that are a “must-see.” Some are domestic, some international. This exploration may lead to more questions about race, class, and place that may, in turn, lead to more answers.



Recent PhD graduate Dee Jordan with Dr. Joe Darden during the 2019 Geography Awareness Week festivities on campus.

SHARON RUGGLES

ACADEMIC PROGRAM COORDINATOR

On the Eve Following Retirement

I worked in several departments on campus while completing my bachelor’s degree in Psychology. My last position before Geography was with what is now the Human Research Protection Program and Institutional Review Board (HRPP/IRB). It was then housed in the office of the Dean of Social Science. When IRB moved, I was out and searching for a job. I interviewed in Geography with then Chair Dr. Judy Olson and Supervisor Ms. Marilyn Bria. At that time, Geography was located in the Natural Science Building. I was shown the office where I would work. It was on the third floor with windows overlooking the beautiful garden and fountain by the Student Services Building. I wanted that office (superficial, right?), and happily, they wanted me. It is now some thirty years and 125 doctoral and 165 master’s graduates later. I am fortunate to have worked with a very dedicated faculty and staff. And the students, the very best! So thankful to have been a small part of their journey. I am profoundly grateful to have found a place where I feel appreciated, heard, and where I felt like I made a difference.

Most importantly, I want to take this opportunity to thank Dr. Alan Arbogast, Dr. Ashton Shortridge, and Ms. Claudia Brown for nominating me for the 2018 Jack Breslin Distinguished Staff Award.



I cannot adequately put into words my surprise and delight that I received this award. The award ceremony was something I will always remember, a very special event that I was able to share with family, friends, and co-workers. With sadness, gratitude, and satisfaction, I leave Geography and look forward.



EMILIO MORAN

JOHN A. HANNAH DISTINGUISHED PROFESSOR

I have had the pleasure of working for several decades in the Amazon. I began to study the impact of roads on the Amazon back in the 1970s during my dissertation research. At the time, the government viewed the ambitious three-thousand-mile Trans-Amazon Highway equivalent to putting a man on the moon—but way more transformative. Thousands of homesteaders came to farm the land along the roads, deforesting and burning the vegetation in order to establish their farms. Subsidies fueled much greater deforestation by financing the expansion of pastures and cattle in the region over the following decades. My work was first on how people from all over Brazil would adapt to farming in the region, given the proverbial poor soils. I found poor soils, but also much richer soils, and farmers varied in their abilities to manage the farms and hang on to their homesteads.

Over the years, I have studied issues such as the relationship between population and environment, land use and land cover change, and the way El Niño or El Niño-Southern Oscillation (ENSO) events affected farmers in the region. On the latter, we found that the extreme drought events that accompany an ENSO event can lead to a much greater increase in the area of forest that burns when intentional fires spread into the dried-up vegetation, especially at the forest edges. We showed a doubling of the burnt area on ENSO years as compared to normal years. This work was funded by the National Oceanic and Atmospheric Administration (NOAA). On land use and land cover change, through work funded by the National

Science Foundation (NSF), we tried to understand what explained the differential rate of growth of secondary forests following deforestation as affected by land use and the inherent soil qualities areas. The work on population and environment was funded by the National Institute of Health (NIH), under their population and social science study group. We challenged the notion that population necessarily leads to deforestation (and is explained by it) and got into the details of how the demographic structure of households changing over time led to different patterns of land use and deforestation as a product of the developmental cycle of domestic groups.



Dr. Emilio Moran with project postdoc Vanessa Boanada at the site of the Belo Monte hydropower dam on the Xingu Basin. The study addressed the social and environmental impacts brought about by the dam.

More recently, my work has focused on studying the social and environmental impacts of large hydropower dams in the Amazon. We began by examining Belo Monte, the third-largest in the world and largest in the Amazon in terms of installed capacity (11 GW). One graduate student from the department, Cristina Gauthier, developed her dissertation in this region examining the challenges of clear water and sewage exacerbated by the dam. The work in Belo Monte has, in turn, developed into an NSF-funded project still on-going that is developing alternative solutions for communities in the region. To do so, our interdisciplinary team of geographers, engineers, economists, and ecologists has worked on alternatives. One solution that the engineering team has worked on is the development of in-stream turbines that would not require damming up the river, produce sufficient energy for local communities, and with photovoltaic supplementation, could meet the needs of people left behind by the builders of large dams. It was shocking to find in the earlier project that people sitting underneath the huge powerlines from the nearby dam were completely bypassed and paying a premium for diesel power, and also who had experienced serious negative impacts from the construction of the dam, including resettlement. The current project tries to address this oversight not only in the Belo Monte dam on the Xingu Basin but also in the Santo Antonio and Jirau dams on the Madeira Basin. The next step will be to figure ways to work with local communities so that they can choose what combination of sustainable power sources can best meet their needs.

We are very excited about this work because we are still addressing those fundamental questions about land use and land cover change, using satellite data, that are at the heart of geography and spatial sciences—but in a more expansive way that takes seriously the hydroclimatology of the region (yes, the team has both climatologists like our own Nathan Moore; and colleagues in earth system science), the economics and livelihoods of local and regional communities, and the engineering of sustainable energy that is necessary for a more sustainable future.

FRITZ NELSON

ADJUNCT PROFESSOR

Partly because the COVID-19 pandemic all but eliminated the 2020 field season in Alaska and British Columbia, the MSU permafrost group's publication output increased markedly in 2020. Adjunct Professor Fritz Nelson reports that many of the NSF-funded Circumpolar Active Layer Monitoring (CALM) program sites were serviced on Alaska's North Slope through the good offices of former grad student Heath Sandall of Fairbanks, AK. Other sites were serviced by staff at the University of Alaska's Toolik Lake Field Station and the Ukpeaġvik Iñupiat Corporation.

Raven Mitchell successfully defended her MS thesis in June and is now enrolled in the PhD program. Raven was a winner of the Flash Freeze presentation competition at the American Geophysical Union's 2020 Fall Meeting in December. Her presentation was based on her thesis work, part of which has been submitted for publication in a peer-reviewed journal. Earlier in 2020, Fritz and Raven were awarded the Mel Marcus Physical Geography Award by the American Association of Geographers (AAG) for their geomorphology project in the mountains of northwestern British Columbia.

With Kelsey Nyland (PhD, MSU '19), Raven and Fritz are also planning a project to monitor air and soil temperatures and map periglacial landforms at high elevations in the Appalachian Mountains along a transect from North Carolina to Maine. Kelsey, a research scientist for the CALM program, has published several chapters from her dissertation in the peer-reviewed journals *Earth Surface Processes and Landforms*, *Quaternary Research*, and *Canadian Journal of Earth Sciences*.

Clayton Queen (MS, MSU '18) recently published a chapter from his master's thesis in the peer-reviewed journal *Permafrost and Periglacial Processes*. Clayton currently works as an environmental consultant in Burlington, VT.

Vasily Tolmanov (BS, MS, Moscow State University) has been accepted into the MSU doctoral program in geography. A permafrost specialist, Vasily has extensive field experience in Siberia and Alaska and is currently employed by the CALM project. He will join us in person at MSU for the Fall 2021 semester.



"On the beach" with the MSU permafrost crew near Ukpeaġvik (formerly Barrow) Alaska, August 2019. Left to right: Raven Mitchell, Vasya Tomanov, Carly Finnegan (BS, MSU Geology, '19).]

RANDY SCHAETZL
PROFESSOR

At 63 years young, I can see the light end of the proverbial tunnel (read: retirement). Thinking back over my career, what comes to mind are all the excellent students that I have been fortunate to have worked with. Many have gone on to productive and rewarding careers. I hope that their time within GEO helped not only with basic “informational” stuff but also gave them great memories and friends that they can connect to from time-to-time. I know I would not be where I am without the students who helped conduct the research we’ve done. Thank you all for sharing a part of your life and career with me.

My work on loess continues. I was recently awarded a position as Vice President of the Loess Focus Group – an international organization dedicated to loess resources and research. Our President is from China, and our other two Vice Presidents are from Poland and France. Yes, it is an international crowd. But then, those of you who know me remember my innate cosmopolitan nature! Our biennial loess meetings are quite fun and occur at a variety of locations. I attended the last one, in southern Russia, with Alan Arbogast and former student Bradley Miller (Iowa State).

Perhaps one of the most rewarding projects of my career is yet to come. First, some background. As an undergrad in 1973 at UW-Madison, I was given a work-study position with Professor Francis Hole, a soil geographer there. His influence on me, as it was for so many others, was long-lasting. Dr. Hole had produced the first map of the “Aeolian Sand and Silt Deposits of Wisconsin” way back in 1950. This map still stands as the gold standard, despite its antiquity. Well, just recently, the Wisconsin Geological and Natural History Survey asked me to update this map and create a new, digital one. For me to be the person who updates the famous Hole map, well, that’s quite an honor. I know that somewhere, Francis is smiling. So am I.



Randy Schaetzl with Alan Arbogast and Bradley Miller, in front of a loess exposure on the Russian Steppes. Can you find the buried paleosol?

On the education front, work is well underway on a new geomorphology textbook. Again, first, the background. Colleagues and I have long lamented the fact that most geomorphology books are written at a level that is too advanced, too quantitative, for many undergraduate students. And so Dick Marston (a geomorphologist at Kansas State) and I developed a plan to produce a truly introductory geomorphology textbook. We’re not sure there has actually ever been one. The book, on contract with Cambridge University Press, has 23 chapters and 20 authors – all esteemed geomorphologists from around the world. Look for the book sometime in 2022. You’ll know it’s done when you hear me exhale.

On the family front, my wife Julie Brixie, and I have watched our three children grow up and graduate from college. Each has a good job and is starting on a promising career path. Julie is the State Representative for greater East Lansing and Meridian Township, having just started her second term. Having someone in the Capital makes for good discussions at the dinner table. I wish you all well and good health. I am easy to reach – soils@msu.edu Please stay in touch.

ARIKA LIGMANN-ZIELINSKA
ASSOCIATE PROFESSOR

My research focuses on studying how various individual decisions collectively affect the environment and how these environmental changes alter subsequent human decisions and activities. To study these interactions, I employ a social science simulation method called agent-based modeling (ABM). In this modeling approach, small computational entities (called agents) situated in a virtual world behave like humans would do in reality. When these agents execute their decisions, they change their virtual world. This altered virtual world feeds back into agents’ future decisions, drafting complex and often surprising potential environmental change stories.

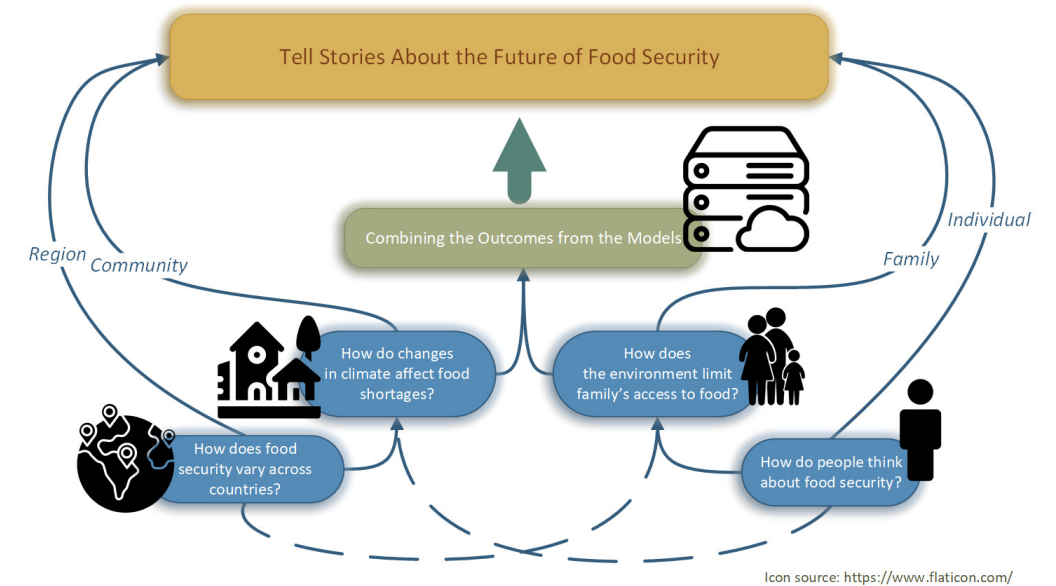
In collaboration with Dr. Vojnovic and his lab, I’m involved in studying disadvantaged households’ food access in Detroit. We have been building an extensive and well-informed ABM that will study various aspects of food security in metropolitan communities in poverty. Under my supervision, four doctoral students have been involved in various projects that utilize ABM to study human-environment interactions. Projects include evaluating household vulnerability to food insecurity in Mali, the impact of farmers’ cultivation decisions on algal blooms in Lake Erie, social norms dynamics of herds-men in Inner Mongolia, and adolescent physical activity in the US. The project on food security, funded by the National Science Foundation (NSF), is fascinating since it involves applying various models (not just ABM) to create scenarios that can be easily communicated to stakeholders in the form of storytelling.

I am mainly a methodologist. I like developing tools that evaluate various uncertainties in ABM, addressing questions like How do agents make decisions? How do they communicate these decisions to other agents? What happens with the environment if a particular behavior is triggered? Handling these uncertainties is vital to generate credible solutions to real-world problems and identify solutions that may hold in unlikely but consequential events like economic recession or pandemics. More technically, I formulate algorithms that allow rigorous evaluation

of how model input affects its results. This analysis is crucial in model building since we can identify the weak points in a model that need further refinement. Ultimately, we want to build the right model before using it in problem-solving.



To end on a high note, the ESPP’s Modeling Certificate Program is now in full bloom. It took us almost ten years to build and refine, with ups



and downs on the way. We have already graduated over 40 students. It is gratifying to mentor a new generation of modeling experts. Their skills will be invaluable to tackle the challenges of the next decades at all spatial scales and all over the world.

IGOR VOJNOVIC PROFESSOR

As a social scientist and an urban geographer, it's hard to close this last year without reflecting on the chaos in the U.S., and the world more widely, which has shaped our collective experiences and the reality of 2020. It was a perfect storm of socio-political and public health turmoil; a crisis that encompassed the globe--the devastation of a pandemic, coupled with the ongoing acts of violence against our black and brown family members, friends, neighbors, and colleagues, and combined with an attempted political coup, which tried to overturn the results of a democratic election. This was all coupled with global cultural and political shifts stressing nationalism and driven by increasing hostility to pluralism, difference, and people who are perceived as 'others.' This was perhaps most effectively evident with the cruelty of a policy of separating families at our borders and caging children.

Families, friends, communities, and the world became physically disconnected this year, and we all experienced this new reality, including as teachers, researchers, staff, and students here at MSU. In the midst of the Spring 2020 semester, we were caught in a rapid and somewhat chaotic reorganization as face-to-face classes were abruptly moved online. Many of the non-essential and more risky aspects of COVID-19 university life were placed on hold, from varsity sports to performances at Wharton, to viewings at the Broad Art Museum.

Among the many things canceled in 2020 were MSU's Education Abroad programs, including Social Science in Rome. Social Science in Rome has been run in geography for 28 years, being led by our very own, the distinguished Professor Assefa Mehretu. Since the summer of 2018, Assefa and I have been teaching together in Rome as I transition into the role as program lead. The many days in the classroom and in the streets of Rome, teaching GEO 413 Urban Geography and GEO 453 Metropolitan Environments have been very special experiences over the last two years. Equally as special, and which my whole family has been very grateful to experience, have been the many evenings sitting on patios in Rome with Assefa and his wife Doree, enjoying great food and discussing urban-economic issues.

It was difficult to see Rome canceled in 2020. This is not only because of the students who missed the opportunity to take the program—and there were quite a few who were planning and preparing for this experience for a number of years—but it also impacted colleagues in Rome who rely on us, and many partners like us, to maintain university programs that ensure these international intellectual

exchanges. Particularly for us in geography, we have always had the privilege of interacting across an interconnected world for our work. However, there was a widespread pause in global academic engagement during this last year with the COVID-19 pandemic, as apparent with the cancellations of study abroad programs alone.



Class dinner in Rome, summer 2019. With my dear friends and colleagues Professors Assefa Mehretu and Paolo Bultrini, our wonderful program assistants Colin Cunningham and Jenna Borchianian, and a small group of our terrific program participants.



The city becomes the classroom when teaching Social Science in Rome.

In addition to the Rome program, there were a number of projects that have occupied my time over the last few years. By the summer of 2021, I will have completed my 6th year as Editor-in-Chief of the *Journal of Urban Affairs* (the *JUA*). After serving five years as Associate Editor (2010-2015) of the journal, in 2015, I took over as the Lead Editor. The *JUA* began in 1979, publishing four issues per year, which was expanded to 5 in 2001. One of my key goals was to internationalize the journal and to increase its global impact. An early initiative was to geographically broaden the editorial team. I expanded non-U.S. editorial members roughly 7-fold

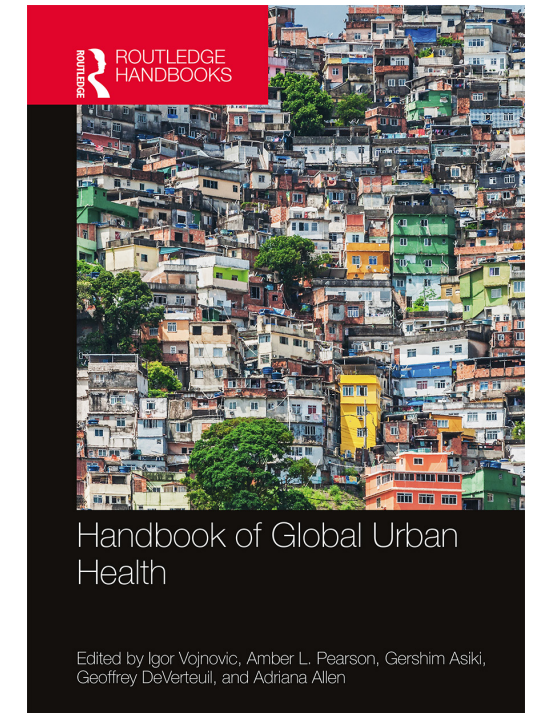
under my term. I also introduced geographic-specific editors, including Africa, Asia, and European Managing Editors. This new global visibility had a major impact on paper submissions and downloads. Paper submissions, including non-U.S. submissions, almost doubled within a couple of years of the move to internationalize the journal.

Due to the increased number of paper submissions, and the improved quality of submissions, in 2017, we shifted production from 5 issues per year (at some 120 to 130 pages per issue) to 8 issues per year (at 160 pages per issue). Along with these initiatives, we also realized a significant increase in article downloads, which was evident globally. Average quarterly article downloads between the first nine months of 2017 and the first nine months of 2019 increased sixfold. Also, whereas in 2017, 50% of the article downloads were in non-U.S. markets, by 2019—along with the increasing number of downloads—64% of the *JUA* downloaded articles were in non-U.S. markets. All of this was coupled with an almost doubling of the *JUA* Impact Factor since I became Editor-in-Chief. This allowed for a new strategic push in 2021, as we again increased *JUA* annual production to 10 issues per year at 160 pages per issue. It was ultimately an ethos entrenched in geography as a discipline that shaped my ideology and management style in running the *JUA*; allow for inter- and multi-disciplinary perspectives, and ensure that voices from all around the world are heard.

Another new responsibility and a terrific experience over the last two-plus years has been my position as Interim Director of the Global Urban Studies Program (GUSP). GUSP is an inter- and multi-disciplinary College of Social Science graduate program intended to promote collaboration, dissemination, debate, and awareness of urban issues in comparative and global contexts. As with the *JUA*, being the Interim Director of GUSP has been a real learning experience, and especially during a pandemic and at a time of serious financial uncertainty. There has also been a great deal of broader program development and intellectual satisfaction involved. One such example was being part of the organizing team of the Cities of the Arab World Conference, a three-day symposium that was headed by GUSP. The conference had close to 200 participants from around the world, with scholars flying in from Asia, Africa, and Europe, and keynote speakers that included Harvey Molotch (NYU) and Mona Fawaz (American University of Beirut).

I was also fortunate over the last few years to have had the opportunity to work on a number of really exciting research projects, ranging in areas of urban public health, urban development processes, and

gentrification. Some of these projects involved working closely with several of my geography colleagues and dear friends Professors Sue Grady, Arika Ligmann-Zielinska, and Amber Pearson, in the area of urban public health. While the projects with Sue and Arika have resulted in a number of recent articles—including in journals such as *PLOS ONE*, *Ethnicity & Health*, and *Public Health Reports*—I am also fortunate that the work with these two outstanding scholars and dear friends continues. Amber and I also recently published an edited volume—a collection of 864 pages—with a group of colleagues from around the world titled *Handbook of Global Urban Health* (2019).



Handbook of Global Urban Health.

I also continue to work closely with several of my former and absolutely brilliant MS and PhD students in research areas that range across a wide set of urban issues, including planning and design, sustainability, urban development processes, public health, and gentrification. Recently published articles with Zeenat Kotval-Karamchandani, Jeanette Eckert, Jieun Lee, Minting Ye, Timothy LeDoux, Anthony Knapp, and Ted Grevstad-Nordbrock have been published across a broad spectrum of disciplinary journals, including *Urban Affairs Review*, *Urban Studies*, *Journal of Cultural Heritage*, *Applied Geography*, *Urban Geography*, *Journal of Urban Affairs*, *Ecological Economics*, *Cities*, and *Transportation Research Part D: Transport and Environment*. I consider myself fortunate and truly blessed to have worked with such brilliant scholars! This is a real advantage of being part of the Department of Geography, Environment and Spatial Sciences at MSU!

Honors & Awards



FRITZ NELSON

Congratulations to Dr. Frederick (Fritz) Nelson on receiving the 2020 American Association of Geographers (AAG) Marcus Fund for Physical Geography Award. The fund's objective is to carry on the tradition of excellence and humanity in fieldwork espoused by Dr. Melvin G. Marcus. Grants from the Mel Marcus Fund for Physical Geography will foster personally formative participation by students collaborating with faculty in field-based physical geography research in challenging outdoor environments. Nelson received the award for his project with graduate student Raven Mitchell *Baseline Data for a Field-Based Critical Geomorphic Experiment in the Juneau Icefield*.



DEE JORDAN

Congratulations to recent PhD graduate Dee Jordan for her selection as a member of the inaugural cohort of MSU Edward A. Bouchet Graduate Honor Society (BGHS) members. The Edward A. Bouchet Graduate Honor Society's purpose is to recognize outstanding scholarly achievement and promote diversity and excellence in doctoral education and the professoriate. The Edward A. Bouchet Graduate Honor Society seeks to develop a network of preeminent scholars who exemplify academic and personal excellence, foster environments of support, and serve as examples of scholarship, leadership, character, service, and advocacy for students who have been traditionally underrepresented in the academy. The BGHS Induction Ceremony was scheduled to take place on the campus of Yale University on April 17, 2020.



GUO CHEN

The last AAG newsletter (December 2020) published that Guo Chen received an Outstanding Service Award from AAG-China Geography Specialty Group. This award is presented to individuals who have provided significant services to the China Geography Specialty Group or made important contributions to the advancement of China geography studies. Guo is extremely humbled and honored to have received this prestigious award given to those who have made significant impacts in the community of China Geography. The China Geography Specialty Group was established in 1979 in Philadelphia and has grown into one of the largest region-based SGs. A dozen scholars have received this award so far. Prof. Jack Williams (MSU Professor Emeritus of Geography) also served as the SG chair 1987-89.



KIONNA HENDERSON

Congratulations to PhD student Kionna Henderson for winning the 2020 East Lakes Division of the AAG Student Poster Award at the Graduate Level. Her poster, "Overview of maternal health disparity in Michigan: pre-and post-Flint water crisis," highlights Kionna's multi-scale research focused on the health impacts of that water crisis. The crisis involved not only the exposure of thousands of Flint residents to high levels of lead in their drinking water, but also to a loss of trust in public health for many more in the community and across the state.

ANA RIVERA & ANGIE SANCHEZ

DIVERSITY TORCH RECIPIENTS

Congratulations to Ana Rivera and Angie Sanchez on being recognized as MSU College of Social Science Diversity Torch recipients.

Ana Rivera is committed to improving urban environments through the use of geospatial science. As our climate changes, social scientists are trying to find ways to make cities and urban communities more sustainable and resilient. As a PhD student in the Department and the Global Urban Studies Program (GUSP), and as a University Enrichment Fellow (UEF), Ana is joining in on this mission and bringing with her a deep understanding of urban sustainability and Hispanic and Latinx communities. Ana's research focuses on urban communities and climate adaptation within different communities - especially the Hispanic community. She studies how cultural practices of different ethnic groups can help individuals and families cope with extreme weather events, as well as how immigration to the U.S. can affect health outcomes. Outside of the classroom, Ana is extremely involved in community outreach programs. She has been involved in recruiting more Hispanic and Latinx students into STEM fields and has helped plan community outreach programs as part of her role as a board member for the Lansing-based Latino Health Alliance (LHA). Ana has also created an exam review method to assist international students in closing the language gap.

A lifelong Spartan and businesswoman, Angie Sanchez changed the course of her career after overcoming personal struggles breastfeeding her son and resolved to help fellow Indigenous women do the same. For her research in this area, Angie received a grant from the Michigan Health Endowment for almost \$340,000. Angie is working with her faculty advisor, Dr. Sue Grady, to put the funding towards hiring Indigenous lactation consultants who can assist Native American communities throughout Michigan.



RAVEN MITCHELL

Congratulations to Ph.D. student Raven Mitchell for receiving the Cryosphere Innovation Award for Students from the American Geophysical Union (AGU). Raven earned the honor after competing amongst a field of international competitors in the Flash Freeze competition during the AGU Fall Meeting held this past December. The award is granted once a year to students within the Cryosphere Section who exhibit great potential and innovative work within the field. This award is designed to provide the student with resources in the form of a mini-grant to advance their innovation. As part of the competition, Raven delivered a two-minute pitch to a panel of five judges on her research involving the application of environmental isotope tracer sampling to test source water contributions to periglacial features at her field site. The award is presented to support and recognize innovative student-led research in Cryospheric Science. In recognition of her achievement, Raven received an award of \$1,000. Raven plans to use the award to fund the isotope sample analysis costs and hopes to gain a better idea of land formation processes through this analysis.

Graduate News



CHRISTOPHER BAISH

Christopher earned his MS from the Department in 2020 and is now working on his PhD. He is a Physical Geographer interested in studying landscape history and dynamics, primarily through the lens of geomorphology and soils. In a broad sense, his research is focused on understanding the relationships between glacial and post-glacial sedimentological processes and surficial sediment distribution, soil development (pedogenesis) and geomorphic setting, and soil properties and vegetation distribution and productivity, particularly in the Midwest. His graduate thesis work examines the origin and evolution of glossic horizons in northern Lower Michigan's sandy loam soils. Through detailed pedon-scale physical, chemical, and micromorphological analysis, he aims to contribute insight into the mechanisms and external environmental drivers determining

the formation of these unique pedogenic features. The ultimate goal of this work is to enhance the classification, mapping, and management of glossic soils in the Great Lakes region. In addition to his thesis research, he participates in projects focused on the textural characterization and mapping of glacial till deposits in southern Michigan and the stratigraphy and geochemistry of loess deposits in western Wisconsin.

Chris received a BA in Environmental Geography from the University of Northern Iowa. His undergraduate thesis work examined the soil-vegetation dynamics of a restored wetland prairie in northeast Iowa. He also contributed research toward developing a state implemented watershed management plan for Dry Run Creek (Black Hawk County) while serving as an Undergraduate Research Assistant in the Department of Earth and Environmental Sciences. Prior to attending MSU, Chris worked with the United States Department of Agriculture (USDA) as a Soil Conservation Aide on the planning and monitoring conservation practices intended to improve soil and water quality in northeast Iowa.



BREAUNTE BROWN

Breauté earned his BA in Human Geography at MSU in 2017 and has returned as a Master's student. He is interested in researching health disparities due to effects by a number of different variables: political, governance, socio-economic, etc. He is also interested

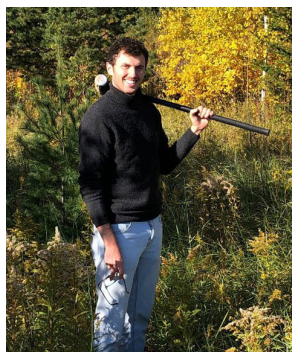
in improving modeling techniques and coding/programming skills.



MEG CASTRO

Meg is a Master's student. Her research focuses on how the morphology of the Great Lakes coastlines is influenced by wetland ecosystems. She is interested in how these processes are influenced by each other and the fluctuations in the Great Lakes' water levels.

The goal of this research is to build a better understanding of this using process-based assessment of areas along the Great Lakes.



LUCAS RABINS

Lucas is a Master's student. His research interests involve using drone imagery and photogrammetry techniques to create 3D models of coastlines used by communities to make data-driven coastal management decisions. His current project focuses on establishing a coastal change monitoring network in the great lakes utilizing citizen scientists as drone pilots collecting aerial imagery of coastlines. This imagery is used to generate products such as orthomosaics and elevation models, which are then disseminated back to the community to drive coastal management policy. By utilizing community members, not only is his team able to rapidly survey dispersed geographic areas in response to shoreline change events, but they aim to increase awareness and engagement in coastal management by involving the community directly in the monitoring process.



HYUNSEO PARK

Hyunseo is a PhD student with research interests revolving around spatial inequality in health and well-being among immigrants and ethnic minorities across different places. Her Master's thesis explored spatial accessibility to health-promoting resources such as primary

healthcare, green spaces, and ethnic food retailers among Korean-Canadians. She plans to examine how the built environment and socio-economic conditions of neighborhoods can be associated with the level of physical activities of people in Detroit.



KARINE TOROSYAN

New technologies have the power of reshaping the nature of work in many occupations. How will this process impact the number and types of jobs available? How will it change the future location of work, and how will households and businesses adjust to

that change? Will it have the power to reshape the urban form? Karine is very interested in studying these and related questions.



JESSIE PINK

Jessie is a first-generation graduate student who has dedicated his undergraduate education to researching the disproportionate impact of environmental hazards on marginalized racial, ethnic communities. His background in Political Science, Africana studies, and Environmental Science has granted him the opportunity to research environmental racism while at the University of Illinois at Chicago (UIC), DePaul University, and Michigan State University. Jessie possesses a passion for expanding the literature on environmental justice to detail the experiences of racial and ethnic minorities suffering from hazardous conditions caused by oppressive institutional and corporate practices and regulations. He believes the Department of Geography, Environment, and Spatial Sciences at MSU will be an ideal place to

nurture his passion for environmental research and advocacy. He is specifically interested in using Geographic Information Systems (GIS) and the Darden-Kamel Socioeconomic Index to examine the spatial distribution of environmental health problems, exploring the social forces that create power differentials in environmental regulations and policies, and developing community-based strategies to reduce the exposure risk from environmental contaminants. His ultimate career goal is to become a tenured faculty member and a policy advisor to the US Environmental Protection Agency and the United States Congress. He is certain that a PhD from MSU will help him achieve his goals.



RAVEN MITCHELL

Raven earned her MS from the Department in 2020 and is now working on her PhD. Her main research interests lie in periglacial geomorphology and permafrost. For her thesis work, she is exploring the influence of nivation and fluvial processes in the development of landforms called cryoplanation terraces

on the Juneau Ice Field of British Columbia, Canada. In addition to her thesis research, she is involved in the Circumpolar Active Layer Monitoring (CALM) Program, responsible for the long-term monitoring of active layer thickness in Alaska.



BRITTANY HARTLEY

Brittany is a Master's student studying the coastal geomorphic response and associated processes of shore ice along the Great Lakes within physical geography and remote sensing.

Graduate Degrees Conferred

Gauthier-Hernández, Cristina, PhD (Emilio Moran), “Dams in the Amazon: social and environmental impacts on basic sanitation, people, and the environment.”

Jordan, Demetrice R., PhD (Joseph P. Messina), “A risk reduction approach to tsetse and African typanosomiasis control: case study the canvas method.”

Mungai, Leah Muthoni, PhD (Joseph P. Messina), “Multi-scale sustainable intensification of small-holder agriculture in Malawi.”

Nagelkirk, Ryan, PhD (Kyla Dahlin), “Evaluating the ecogeographical effects of earth’s largest terrestrial herbivore.”

Nikolic, Jovanka, PhD (Shiyuan Zhong), “Regional climate response to land use and land cover change in contiguous United States.”

Paudel, Rajiv, PhD (Arika Ligmann-Zielinska), “A systems approach to analyze household vulnerability to food insecurity in rural Southern Mali using a spatially-explicit integrated social and biophysical model.”

Baish, Christopher James, MS (Randall Schaetzl), “Glossic horizon formation in coarse-loamy bisequal soils.”

Camacho, Kenneth, MS (Raechel Portelli), “Sentiment mapping: point pattern analysis of sentiment classified twitter data.”

Church, Michelle, MS (Raechel Portelli), “Singapore, Michigan, A Buried Coastal Ghost Town: A Geographical Case Study and Environmental History of Mid-Nineteenth Century Michigan.”

Mitchell, Raven Jezell, MS (Frederick Nelson, Ashton Shortridge), “The contribution of fluvial processes to the formation of cryoplanation terraces: the role of periglacial sorted stripes.”

Wang, Yuhao, MS (Jiaguo Qi), “Urban land use land cover change and its drivers: a case study of Zhangye City in northwest China.”

Wilcox, Kyeesha M., MS (Joe T. Darden), “Exploring the relationship between neighborhood effects and diabetes, obesity and lack of sleep outcomes in Metropolitan Detroit, Michigan.”

CONGRATULATIONS GRADUATES!

Commencement

SPRING & SUMMER GRADUATES:

Matthew Bradlee | BS Economic Geography

Doug Brantley | BA Human Geography

Colin Cunningham | BS Economic Geography

Matthew Densmore | 2nd BS Economic Geography

Matt Hadden | BS Environmental Geography

Patricia Hainbuchner | 2nd BS Economic Geography

Emma Hall | BS Economic Geography

Marium Imran | BS Economic Geography

Shiwen Ju | BS Economic Geography

Yiming Liu | BS Economic Geography

Jeralyn Poe | BS Environmental Geography and CNCU Atmospheric and Climate Sciences

Theo Roberts | BA Human Geography

Siqi Tang | BS Economic Geography

Hayden Tucker | BS GIS

FALL GRADUATES:

Nadiyah Abdulmajid | BS GIS

Callie Ann Braman | BS Environmental Geography

Jinhui Huang | BS Environmental Geography

Jake Kooyer | BS Economic Geography

Alex Lafler | BS Human Geography

Marli Laurin | BS Environmental Geography

Amanda Liddle | ADDU Environmental Geography

Tirstan Walters | BS Economic Geography and ADDU Environmental Geography

Junkai Xiong | BS Environmental Geography



JERALYN POE TOP 2020 GEOGRAPHY SCHOLAR

Congratulations to the top 2020 Geography Scholar Jeralyn Poe! Jeralyn is from Lincoln, Nebraska, and has earned a BS in Environmental Geography with a concentration in Atmospheric and Climate Science and a minor in Geographic Information Science. While searching for a major, she knew she wanted to pursue a field related to Earth or Environmental Science. When Jeralyn discovered the Geography Department, she knew she had found the perfect fit. Just before her Junior year, Jeralyn completed a summer internship with Dr. David Reed. One of her favorite memories was landing the opportunity to present her research from that experience at the American Geophysical Union (AGU) Fall Meeting in 2018. Her favorite professor was Kyla Dahlin because she has a natural talent for teaching, can make any topic interesting, and is an all-around awesome human being. We wish Jeralyn all the best as she heads to Northern Arizona University in the fall to enter the Ecological and Environmental PhD program.

CONGRATULATIONS!

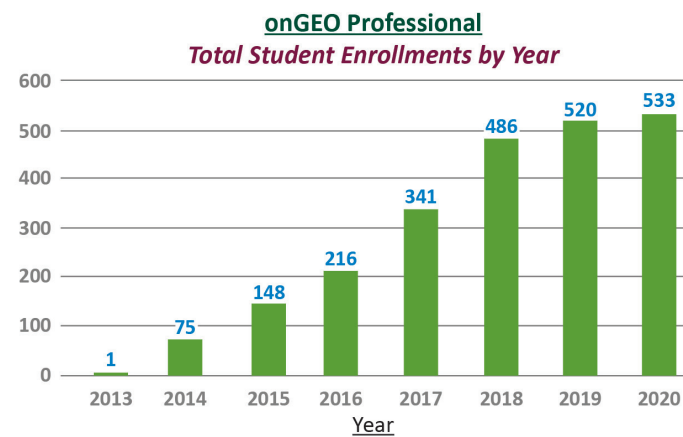
onGEO Connection

The Department of Geography, Environment, and Spatial Sciences has been providing fully online courses since 1998, and this year we witnessed the unimaginable: online delivery of courses became the norm. As a result, we (Juliegh Bookout, Yi Shi, and Beth Weisenborn) have been busy assisting the Department in transitioning lecture courses to online formats, offering more classes than ever, creating new courses, redesigning classic courses, and awarding even more Professional Certificates in GIS. We would like to share our highlights from the year with you, and be sure to visit us at www.ongeo.msu.edu.

onGEO-PROFESSIONAL

Continued Growth of Our Professional Program

In 2020, we saw continued growth in the number of student enrollments in our Professional courses and the number of Professional Certificates in GIS we awarded. We have had 2,423 total student enrollments and awarded 333 Professional Certificates since our program began in 2013. The number of student enrollments and awarded Certificates continues to increase annually. We feel our Professional program has traction and is being recognized widely. Our aim now is to expand our offerings and the number of seats we offer and continue to guide first-time students through the process of earning their very own Professional Certificate in GIS.



New Professional Course in Digital Image Processing

A new fully online professional course, written by Dr. David Lusch, is being developed for a launch later this year. The Digital Image Processing course will provide students with experience in exploiting digital imagery, focused on the extraction of land cover/land use information from two types of digital images. Students will have the opportunity to learn these skills through a series of online labs using ArcGIS Pro or ArcGIS 10.x (or both).

Students Now Have a Choice: ArcGIS 10 or ArcGIS Pro

Yi and MSU-Geography graduate student, Wei Liu, spent the fall semester recreating our Professional-course online lab write-ups for ArcGIS Pro so that students can choose to complete all labs using ArcGIS Pro or ArcGIS 10.x. Now our professional students have the opportunity for a broader experience working in a GIS environment. ArcGIS Pro is a new generation of Desktop GIS developed by ESRI. It provides a modern 2D/3D user experience to perform powerful analysis, create beautiful maps, and is fully integrated with ArcGIS Online and ArcGIS Enterprise. It works smoothly with Web GIS components of web layers, web maps, and web scenes. As more organizations migrate to ArcGIS Pro, it's essential for our Professional students to master it, especially since ESRI will eventually phase out the current ArcGIS Desktop.

Partnership with RS&GIS

We are partnering with the RS&GIS research group on grants to promote citizen science in Michigan through geospatial tools and technologies, especially drones. OnGEO will be responsible for developing online training courses and the delivery of those courses for citizens through these various grants. FAA Part 107 Drone Test Prep and Beyond, which prepares students for taking the FAA exam needed to become a non-recreational drone pilot, is an example of one of the courses we have collaboratively developed for training citizen scientists.

Where to Find Us

Our Professional Certificate is being advertised in the weekly newsletter of GITA (Geospatial Information & Technology Association) and LinkedIn and posted about in the Michigan GIS User Group and across social media platforms (LinkedIn, Instagram, Twitter, and Facebook). Furthermore, we're considering advertising with the AAG for the 2021 (Virtual) Annual Meeting. Be on the lookout for us, and feel free to share our posts widely!

onGEO-UNDERGRADUATE

Launch of GEO113, Economic Geography, in Fall Semester 2020

In the fall of 2018, Dr. Elizabeth Mack approached us about developing an online version of her popular GEO113, Economic Geography, lecture course to capture an even larger audience and introduce more students to the discipline and subfield. It seemed like a natural addition to our suite of onGEO courses and a way to complement and promote the Department's relatively new Bachelor of Science in Economic Geography degree. Dr. Arbogast agreed, and planning began.

From conception to launch in Fall Semester 2020, Dr. Mack worked with onGEO editors and developers, Juliegh and Beth to create a high-quality online product featuring twelve lesson modules with accompanying videos. Our first cohort of students included 135 students representing a broad range of majors, many from the Colleges of Business and Engineering, and, of course, some Economists and Economic Geographers as well!

A special thanks to MSU-Geography graduate students Jiang Chang and Laura Medwid, who contributed to content creation, review and helped us make this class a reality.

Redesigning a Classic! GEO330 Gets a Fresh Start

A little more than a year ago, Dr. Catherine Yansa approached us with an idea—separate the Geography of the United States and Canada into two courses. As geographers, I believe we all feel like there is never enough time in one semester to cover our world, one continent, one realm, one country...at any scale, there is always more to be learned. In this case, feeling like we never devoted enough time to Canada, this seemed like an ideal solution. OnGEO would be responsible for covering the United States, while Dr. Yansa would teach students about her homeland, Canada.

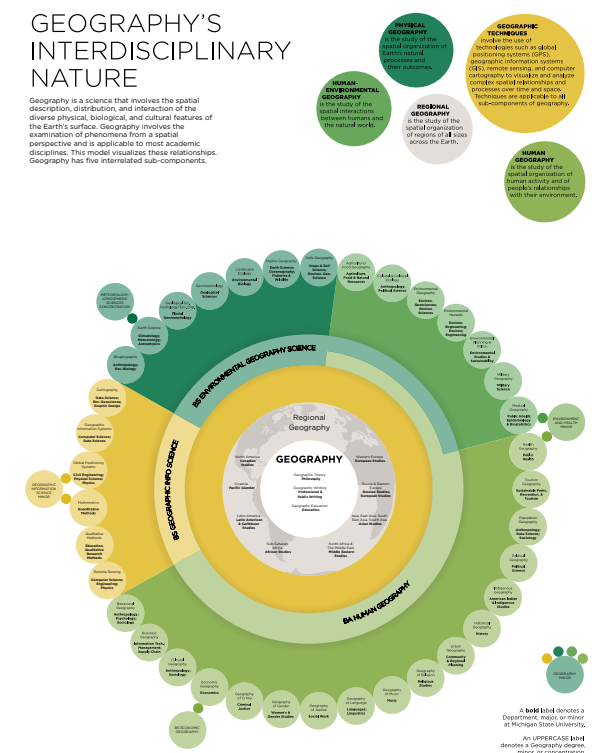
Fast forward to Fall Semester 2020, and the two distinct courses have been made official on the schedule of courses, with the Regional Geography of the United States (GEO330) being offered year-round. However, this launch was not without incredible effort and some imagination. Online students will now explore three brand new video modules on historical settlement, agriculture and food, and urban landscapes. And if any of you took Dr. Jay Harman's lecture course, you know that American agricultural and food landscapes was a theme near and dear to his heart. A special thanks to graduate student Judith Namanya who worked with Juliegh to re-imagine the course, and graduate student Rui Zhang, the Instructor for the course's debut.

Our Instructors are Amazing!

Launching a new course and completely redesigning another, removing disparaging text, and telling a more honest and inclusive geographic story—these are huge tasks that we could not have accomplished without the support of our onGEO Graduate Instructors. Each has played an integral role in our success; whether listening to a student and providing feedback or writing new content, we lean on our grads for help and support. 2020 was far from a typical year, and yet they remained steadfast and tireless in their work as students as Instructors. We could not be more appreciative of their drive or empathy and compassion during a year that has required all of that and more.

Geography's Interdisciplinary Nature Poster

A new poster now brightens the hallway of the Geography Building. Years ago, Beth Weisenborn saw an intriguing poster hung in the hallway of the University of Wisconsin-Eau Claire's Department of Geography and Anthropology. This poster helped students to visualize how Geography as a discipline interconnects with so many other disciplines and, as a result, how their Department related to other departments and programs on campus. Beth asked if she could use their poster as a template for creating one for MSU-Geography, and they graciously agreed. In the spring, Beth and designer Wyatt Stonhouse dusted off the poster file and got to work. Dr. Ryan Shadbolt agreed to help, offering his perspective as the Undergraduate Advisor on the ties between Geography and other MSU Departments and programs. When campus has reopened to visitors, stop by the Geography Building and check it out next time you're in the area!

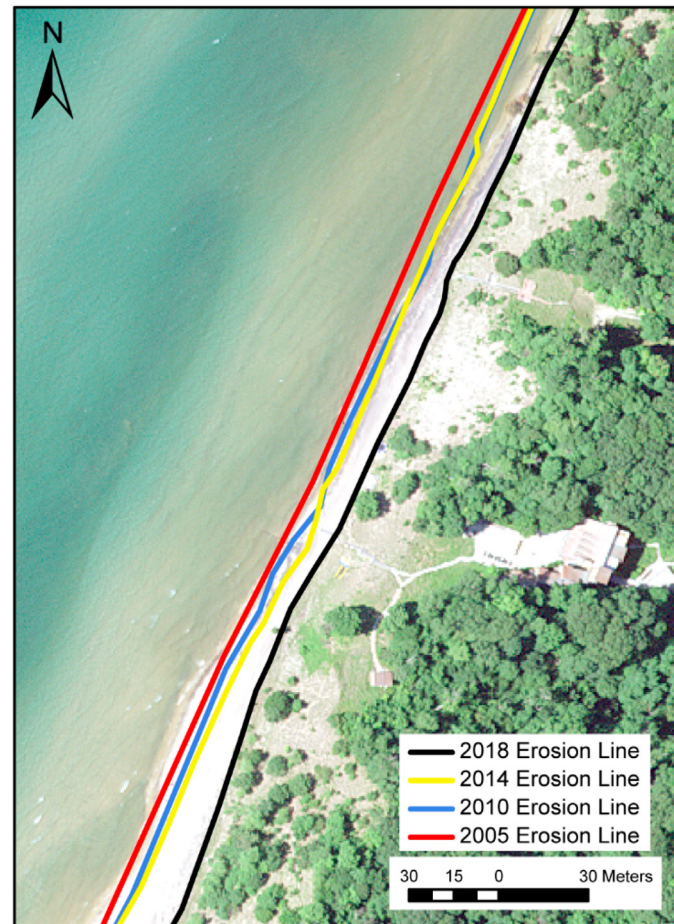


Like the rest of the world, 2020 brought great change and stress to the RS&GIS team as we, virtually overnight, became a 100% remote work team. This massive switch and adjustment could not have been completed without our strong team and support from the Geography department. Now, nearly a year into the COVID-19 induced work from home order, we are stronger, more organized, and, almost assuredly, going to have a hard time coming back to the office. We have been lucky, and the entire group has stayed healthy and COVID-free.

While we never expected the year to be what it was, we have still achieved several important milestones, expanded our valuable group of collaborators, worked more with communities (though virtually) than ever before, and developed projects and publications of importance. Over the last year, we have developed new on-campus collaborations with Migrant Services (<https://mss.msu.edu/identification/index.html>), Alliance for African Partnership, MSU Extension, the MSU Library, and the MSU Health Care Department. Our off-campus working relationship with the State of Michigan has evolved particularly with the Departments of Technology, Management and Budget (DTMB), Transportation (MDOT), and Environment, Great Lakes, and Energy (EGLE). We value our on- and off-campus collaborations and partners and look forward to what lies ahead. Additionally, we had several RS&GIS-related funded articles published, including one related to our studies on the physical and socioeconomic impacts of the high water levels in the Great Lakes (<https://www.mdpi.com/2073-445X/9/7/218>) and another related to our studies on the impact of climate variability on apple production across the state (see [Fruit Quarterly](#) for the full article).

Of all the lessons 2020 taught us, perhaps the strongest were related to teamwork, planning, and resiliency. Due to the challenges resulting from this health crisis, we have developed new workflows to make us a more cohesive group and developed more funded projects than ever before. As a result, RS&GIS submitted more than 12 grants to various funding agencies, including state and Federal government, commodity groups, and private firms.

The following project highlights represent interdisciplinary, collaborative, funded work within our developer and analyst groups.



Example of method for erosion line mapping. The background aerial image is from 2018 and was downloaded from the United State Geological Survey (USGS) Earth Explorer.

DEVELOPER TEAM RECAP

Over the summer, RS&GIS was asked to join a research team developing a proposal to take over the operation and management of the Michigan Clean Water Corps (MiCorps). Successfully funded in the fall, the project involves a network of lake and stream volunteer monitoring programs in Michigan. Data collected by volunteers are used in their local communities and by the Department of Environment, Great Lakes, and Energy (EGLE) for water resources management and protection programs. Cooperative Lakes Monitoring Program volunteers monitor the water quality of their lakes to document changes over time. Participants collect data on various parameters, including Secchi disk transparency, total phosphorus, chlorophyll-a, dissolved oxygen, temperature, shoreline habitat, aquatic plant identification and mapping, and invasive plant

monitoring. As part of this project, RS&GIS is tasked with developing a new interactive website and data management system that employs GIS to develop unique interactive data visualization geovisualization tools. This multi-year project lays the groundwork for an expanding collaborative network for RS&GIS and has already led to a funding proposal submitted to the NASA citizen science program.

The developer team at RS&GIS also has 6-8 active projects, including ones with MSU Surgery, EGLE, and the EPA, as well as our collaboration with the USDA Forest Service. With the Forest Service, we are rewriting our Emerald Ash Borer application to make the data easier to track and assessable. Our team is small, but our projects are not. By adapting to COVID-19 quickly, this team has proved that we can find the optimal solution when facing big problems.

ANALYST TEAM RECAP

In 2020 our relationships with Henry Ford Health System and the Center for Urban Responses to Environmental Stressors (CURES) at Wayne State University continued to evolve. In addition to multiple grant submissions to NIH and NIEH related to COVID-19, PFAS, and other human-health related topics, RS&GIS completed the deployment of a CURES Enterprise GIS system. This system will allow CURES to significantly expand geospatial research activities pertaining to human health.

Training events have always been central to RS&GIS activities, including courses on Introduction to ArcGIS, Drone to GIS workflows, and specialized courses on GIS in Transportation for MDOT. This year was a challenge as all previous in-person courses had to either be canceled or switched to virtual formats. That said, our analyst crew rebounded quickly and developed two new courses in partnership with MDOT on Transportation GIS through the use of ArcGIS Pro. These courses have now been offered virtually twice and have quickly filled with up to 25 participants in each session! We hope to offer in-person courses, especially our Drone to GIS workflows, by the Fall of 2021! Please check out our [website](#) for more details and dates of training events.

RS&GIS has a long history of working with multiple departments at the State of Michigan (SOM),

and 2020 saw further growth in this productive relationship. RS&GIS continued its work with the DTMB, MDNR, and EGLE to develop workflows for updating the Michigan National Hydrography Dataset (NHD). Work includes using LiDAR-based elevation data to generate new, accurate flowlines, water bodies, and areas. It is hoped that these efforts will lead to a Statewide update. Additionally, at the close of 2020, we were thrilled to receive word of a multi-year right-of-way mapping grant from MDOT. This grant, which commences in February 2021, is the first to be fully conceptualized and written solely by our very own Lead Analyst Robert Goodwin.

While delayed by several weeks, a successful research field season was completed in the summer of 2020. This field season was a big year for our drone and coastal remote sensing work, including more than 70 drone flights at nearly a dozen different locations. For the first time, our drone work included the use of our DJI M600 Pro hexacopter drone equipped with a Headwall sensor package that includes co-aligned VNIR and SWIR hyperspectral sensors, as well as a Velodyne LiDAR sensor. This cutting-edge drone-sensor package was used to investigate wheat, soybean, corn and potato disease, sorghum biomass, and switchgrass and corn phenomics. This collection was part of our strategic partnership grant and our Department of Energy grant and, as far as we know, represents the first drone-based hyperspectral collection at MSU.

One of the most interesting projects that RS&GIS wrapped up in 2020 was its Battlefield Mapping project completed through a grant from the American Battlefield Trust. For this project, RS&GIS partnered with the MSU History Department to build battlefield maps and summaries for the French and Indian War and the Mexican-American War. Our student technicians and staff learned a lot about U.S. History in the process and met many wonderful historians spread across the country.

The coming year looks to be another year of growth, change, and evolution for RS&GIS as we venture into several large but exciting projects. This year we are completing several projects with key collaborators, including MSU Enviroweather, to develop their new web and mobile platforms over the last two years. Though we completed several large, multi-year projects in 2020, 2021 is shaping up to become

another for the record books. Currently, RS&GIS has numerous grants still under review with NASA, NSF, USDA, NIH, NIEH, MI Apple Committee, MSU Project GREEN, and others. We are also thrilled that 2021 will mark the release of our new Aerial Image Archive System.

For more information about our staff, projects, grants, and training opportunities, visit us online at <http://www.rsgis.msu.edu>.

From the entire RS&GIS squad (Erin, Bob, Christian, Joe, Dylan, Nick, Tamsyn, Matt, and our amazing students and temporary employees), we wish everyone a happy and healthy 2021! Please wear a mask!



COASTLINES & PEOPLE

Work by RS&GIS on our NSF-funded Coastlines and People grant has evolved rapidly and has been featured both within the university and across the state. This project focuses on the Great Lakes and the fluctuating lake levels that drive physical changes to the coastline and impact the coupled natural-human system through increased erosion, loss of riparian and aquatic vegetation, destruction of property, and disruption of tourist activities. This work is especially relevant now as all the Great Lakes are experiencing high, and in several cases, record-breaking lake levels. With such high lake levels, widespread coastal erosion occurs at some locations at rates in excess of 10 feet per year. Through this grant, Geography faculty Drs. Bunting (RS&GIS Director), Theuerkauf, and Mack are developing citizen science programs to

better monitor and understand coastal change and vulnerability through drone and other geospatial technologies. Thus far, four Michigan communities (Marquette, Manistique, Iosco County, and South Haven) have confirmed participation in this project, with two communities already having citizen scientists actively collecting drone imagery. As part of this project, RS&GIS has been busy building mobile data collection applications, organizing community workshops, and collecting preliminary field data within the six project communities. The project was highlighted in the fall during the annual MSU College of Social Science town hall meeting with the Provost. To learn more about the project and to view the video presented, visit <https://youtu.be/gEdNIRh8nol>.

Spotlight on Diversity

ADVANCING GEOGRAPHY THROUGH DIVERSITY PROGRAM

The Advancing Geography Through Diversity Program (AGTDP) continues to be an important initiative for the Department. While officially getting underway in 2017, the program has been working towards ensuring the recruitment and development of a diverse graduate student body, with a particular focus on underrepresented U.S. racial and ethnic groups. Such endeavors in the discipline of Geography have been particularly challenging. We are working to address this challenge by concentrating on active recruitment, providing generous support, bolstering engagement within the department and across campus, and fostering retention.

The third AGTDP cohort started this past fall, and their arrival gives us confidence that MSU Geography has one of the nation's most diverse graduate programs! 2020 also saw our first AGTDP graduates: Raven Mitchell and Kyeesha Wilcox earned their Masters' degrees in the spring. Congratulations to both women!

Despite the pandemic, AGTDP students are moving ahead with their academic programs and research and taking the time to expose the general community to a geographically grounded way of examining the world around them. During the Fall 2020 semester, AGTDP students Kionna Henderson, Raven Mitchell, now pursuing a PhD, and Veda Hawkins launched the People, Space, and Place podcast. The three are using the podcast to investigate all things spatial, including issues related to race, health, and natural science while offering insights from their respective fields in human and physical geography.

DEPARTMENTAL DEI COMMITTEE FORMED

In light of recent events, the Department formed a committee on diversity, equity, and inclusion (DEI) in the fall of 2020. Our hope in forming this committee is to center the experiences of our students, staff, and faculty of color to show our commitment to diversity, equity, and inclusion and move towards creating a more inclusive climate within what has historically been a predominantly white profession. The committee's purpose is to ensure that our Department is a place where difference is welcomed and respected, and every individual feels a sense of belonging and inclusion. The committee is comprised of four faculty members and four graduate students. For this academic year, faculty committee members are as follows: Guo Chen, Elizabeth Mack, Amber Pearson, and Ashton Shortridge. Graduate student committee members are as follows: Jen Fry, Nafiseh Haghtalab, Raven Mitchell, and Kyle Redican. The committee is in the process of refining a department diversity statement that will outline the Department's commitment to DEI and determining actionable steps we will take to demonstrate this commitment.

GETTING TOGETHER TO EXPLORE DIVERSITY

In response to the events of the summer, including the tragic death of George Floyd, the Department began hosting a monthly get together as a space for faculty, students, and staff to discuss the impacts of these events and other issues related to diversity, equity, and inclusion. In the fall, these virtual gatherings focused on a book or film.

In September, we watched the film *Black Panther* in memoriam of actor and playwright Chadwick Boseman's passing. The film grossed over a billion dollars worldwide. Boseman noted before his death that the film featuring a black cast and director represented a cultural milestone. The movie is the first superhero film to receive an Oscar nomination for best picture.

To commemorate Hispanic Heritage Month in October, we read and discussed the book *Labyrinth of Solitude* by Octavio Paz. The book is a rumination on Mexican heritage and culture and won the Nobel Prize for literature in 1990. Octavio Paz was a Mexican poet, novelist, essayist, and diplomat.

In November, we watched the film *Indian Horse* based on the award-winning novel of the same title by Ojibway writer Richard Wagamese. The film premiered at the Toronto Film Festival in 2017 and garnered the top award at the 2017 Vancouver International Film Festival. Richard Wagamese has authored more than ten books and has won several awards, including the 2011 George Ryga Award for Social Awareness in Literature.

The US recently underwent unprecedented events that exposed many known and unknown racial/ racism issues faced by minority communities, notably Black, Indigenous, and People of Color (BIPOC). Subsequent conversations in the academic community demonstrated a collective interest to create spaces to reflect on systemic racism and lack of diversity and inclusion. In response to calls for promoting conversations addressing these tormenting events from within the Department, the Geography Graduate Group (Triple G) Colloquium Committee put together a series of talks that featured three uncommon colloquium topics.

On September 18, October 23, and November 20, students, faculty, and staff gathered to embrace three uneasy discussions forming the Fall 2020 Colloquium on Race, Ethnic, Migration, Gender, and Environmental Justice Studies.

The first speaker was Matthew L. M. Fletcher, Foundation Professor of Law at Michigan State University College of Law and Director of the Indigenous Law and Policy Center. Fletcher's talk "Erasing the Thin Blue Line: An Anishinaabe Proposal"



offered some geographical perspectives on policing and Anishinaabe political theory. He discussed what he terms "social contract talk," which some judges use to demean, dehumanize, and marginalize BIPOC, who are most often subjected to police interventions. The discussion drew on work inspired by statements of support from some state supreme courts for the Black Lives Matter movement as part of his overall research and advocacy efforts on American Indian affairs in the US.

The second speaker was Dr. Aretina Rochelle Hamilton, Associate Director of Diversity, Equity, and Inclusion at the Interlochen Center for the Arts. Her cultural geography work explores the intersection of Anti-Blackness, historical trauma, and place. Dr. Hamilton's talk "The White Unseen: Anti-Blackness in the Discipline of Geography" discussed the invisibility of anti-Blackness and racism in academic institutions, including in geography.

Beyond examining some everyday intentional and unintentional micro-aggressions faced by BIPOC, the conversation illuminated how whiteness is normalized.

The third speaker was Dr. Jennifer Ho, Director and Eaton Professor for the Center for Humanities & the Arts, professor of Ethnic Studies at the University of Colorado Boulder, and president of the Association for Asian American Studies. Dr. Ho's talk "Anti-Asian Racism and Covid-19" examined the rise of anti-Asian racism with the advent of COVID-19. It illustrated ways in which anti-Asian and anti-Black racism have common roots in white supremacy and offered concrete solutions to becoming anti-racism allies and educators. This talk was co-sponsored by the Global Virtual Speakers Program of Asian Studies Center, in partnership with the Asian Pacific American Studies Program.



These conversations extended beyond the Department's walls and provided tremendous insights. They offered a glimpse into what is needed as the academic community expressed a common desire to address such long-standing and pervasive issues. The talks provided opportunities for attendees to listen, express themselves, and reflect. While these talks focused on, as they were inspired by, the racism turmoil across the country, it is imperative that future colloquium series consider the need for more diversity and inclusion by balancing invited speakers. Inclusive colloquium events would integrate the research interests of all students in the Department, thereby also reflecting the breadth, multiple and integrative perspectives, and diversity of geography scholarship.

By: Ida N. S. Djenontin, PhD Candidate

Supporting Women in Geography, or SWIG for short is a professional organization dedicated to promoting women in geographic science in all stages of their career. Since 2015, the Michigan State University chapter has benefited from a growing body of Alumni who share professional tools, job opportunities, and experiences. Within our Department, SWIG organizes networking socials with leading researchers and creates opportunities for fostering relationships between students.

We believe that fostering these spaces for our community can help our student body stay healthy while most of us work remotely. For example, we hosted a trivia night in conjunction with the Big Ten Academic Alliance's GIS Day event, attracting guests from multiple institutions. SWIG also partnered with the Triple G Colloquium organizers to host cultural geographer Dr. Aretina Hamilton, to discuss critical race theory and share reflections on her graduate school experience. In our first event of 2021, we plan to host our first-ever virtual dinner party as MSU PhD student Yingyue Liu will teach us how to make dumplings from scratch.

We will never forget the racial injustice and pain from the summer of 2020, and we acknowledge its impact on our student community. As the pandemic began to disconnect us from our typical campus routines, nationwide protests against police brutality towards African Americans and the COVID deaths that disproportionately affect communities of color reminded us of the historical oppression facing the nation. Students and Alumni co-authored a joint letter of concern addressing these injustices. In response, the Department initiated a Diversity Task Force as well as a committee to address specific concerns regarding graduate student and faculty relationships, expectations for racial equity, anti-racism training, and more.

As is often common in difficult times, there is a silver lining--the support of our Alumni and the Department continuously reflects our shared values to cultivate an environment for successful scholarship, mentorship, and community.

Students Launch Geography-focused Podcast

Like most geographers, MSU PhD students Veda Hawkins, Kionna Henderson, and Raven Mitchell know that geography is everywhere, and they invite you to tune in to their new podcast, "People, Space, and Place." With each episode, the co-hosts plan to investigate topics related to race, health, and natural science and will offer insights from their respective fields on human and physical geography.

Listeners can learn more about the podcast and tune in via Anchor FM or Spotify. The co-hosts are also eager to connect with listeners on Twitter and Instagram or via email at inneedspacepodcast@gmail.com.

introducing
PEOPLE, SPACE, AND PLACE
a geography-focused podcast

We are People, Space, and Place (PSP), a geography-focused podcast co-hosted by PhD students Kionna Henderson, Veda Hawkins, and Raven Mitchell and we believe that geography is everywhere! With each episode, we investigate topics related to race, health, and natural science and offer insights from our respective fields of human and physical geography. Join us as we highlight the important geographic underpinnings encountered in everyday topics.

Find us at
<https://anchor.fm/peopleplacespace>

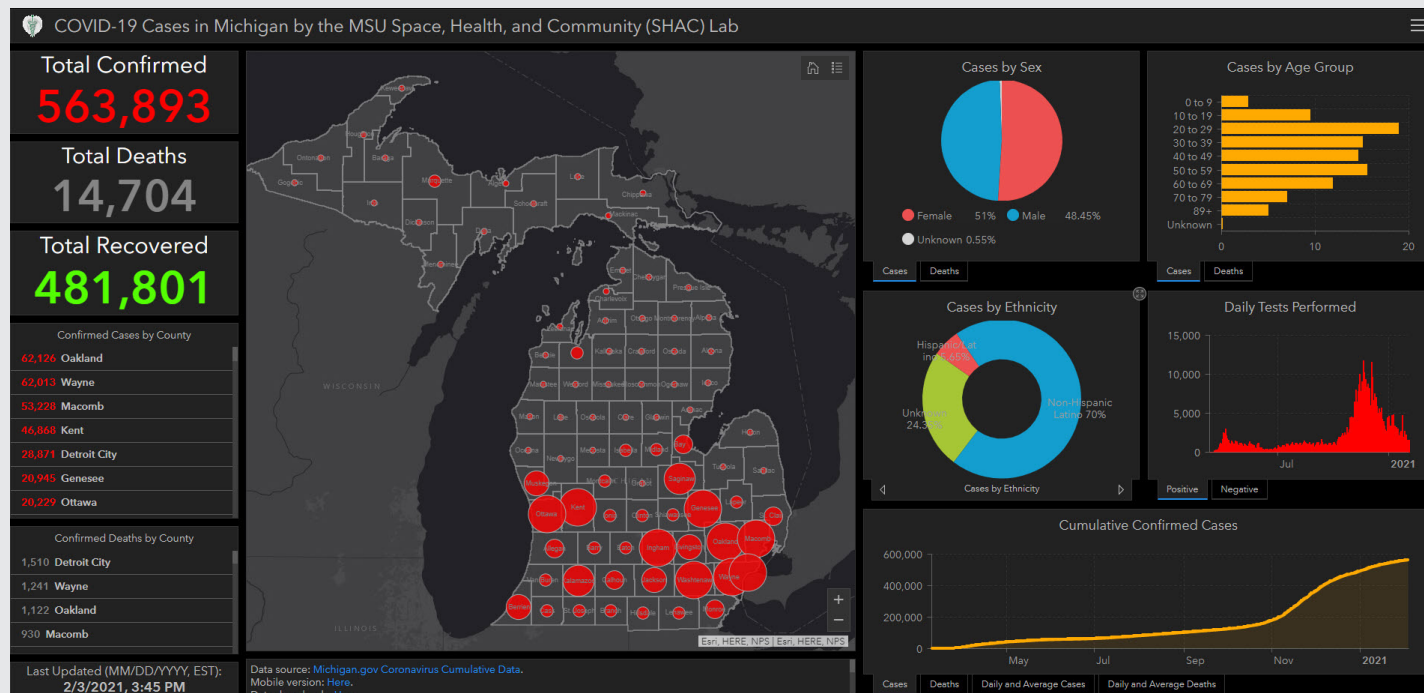
featuring

VEDA HAWKINS **KIONNA HENDERSON** **RAVEN MITCHELL**

People, Space, and Place
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Mapping a Virus: Visualizing the Geography of COVID-19 in Michigan



As cases of the novel coronavirus began spreading across the globe early in 2020, Jonnell Sanciangco, doctoral candidate specializing in spatial methodologies, began a routine of checking in on one of the few websites sharing daily COVID-19-related data at the time. The Coronavirus Resource Center website hosted by the John Hopkins University Center for Systems Science and Engineering featured an ArcGIS dashboard providing data relating to daily and cumulative confirmed COVID-19 cases and deaths by country and region while also allowing insights into critical trends that help give context to the data collected.

When the first cases of the virus began being detected in the state, Sanciangco wondered if a similar dashboard focused solely on Michigan could be of use to local and state healthcare and government officials and other interested parties, especially those needing to make decisions related to the outbreak. "I was thinking about it all night, and I told my wife, "You know, I can do this. I can put up a similar dashboard using just the Michigan data that is publicly available from the state." So, she dared me to do it, and the next day I started putting it together," said Sanciangco.

Sanciangco's Michigan COVID-19 dashboard is updated daily with information provided by the state. The panel features data at the state and county level, and users can explore the data based on demographic characteristics such as sex, age groups, race, and ethnicity. Information regarding daily testing efforts in the state is also featured.

The dashboard is publicly available on the Space, Health, and Community (SHAC) Lab website. The SHAC Lab concentrates on the geographic and equity dimensions of public health and public health policy. Sanciangco is a member of the lab and became interested in relating programming and GIS to study patterns and prevalence of hospitalization due to mental health illnesses. He is currently working on managing a database of inpatient hospitalizations in Michigan. He wants to provide a comprehensive analysis of mental health hospitalization cases in Michigan from 2000 to 2016 based on three main topics - individual, hospital, and community levels.

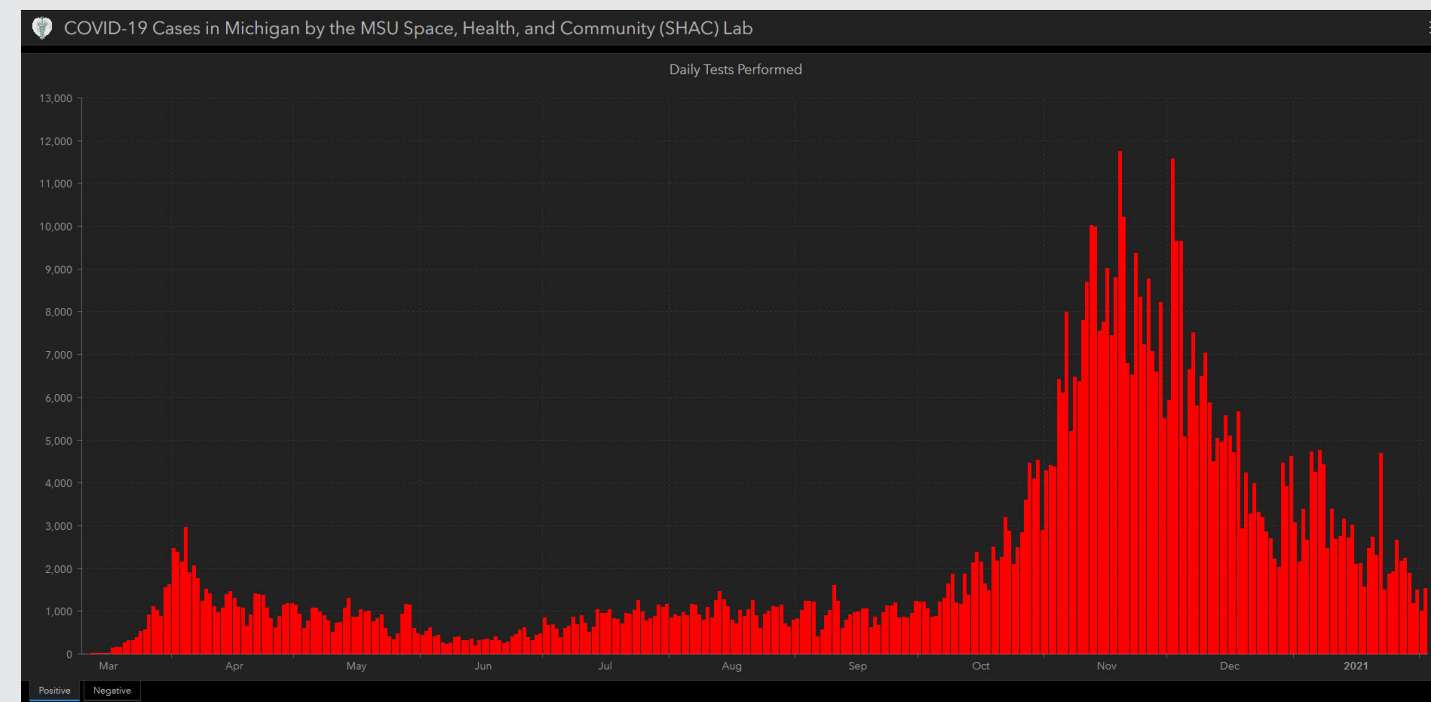
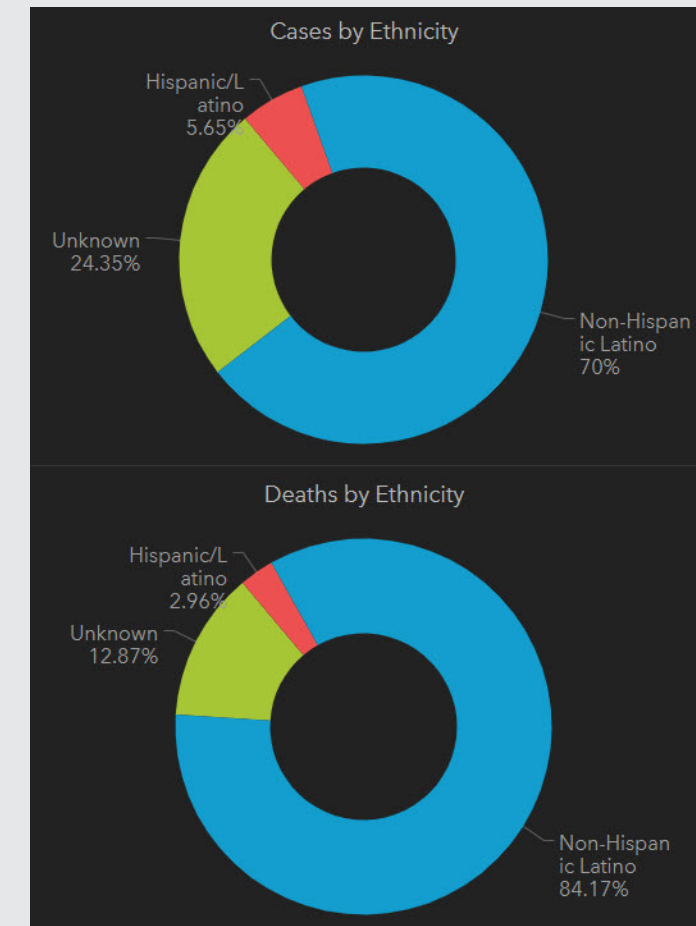
"The COVID-19 data that Jonnell had originally been collecting from the state was laid out in tables and spreadsheets, which is not always very easy to digest," said Dr. Ashton Shortridge, Professor,

and Co-Director of the SHAC Lab. "The work that he is doing makes that data much more user-friendly. I feel that making this data from the state more readable by both the general public and by people who want to work more with the data is an important service."

Sanciangco plans to continue updating the dashboard as long as the data is available, relevant, and useful. "The state sometimes changes the data that it is putting out, which means that I need to do some updates on my end, but it's enabled me to add additional types of data," said Sanciangco. "So, with that in mind, the site may continue to expand as the information that they provide changes and develops."

"One thing I've found interesting about the map is that it shows spatial diffusion. When we look at the pattern of cases, we could see hotspots diffusing throughout parts of the state," said Shortridge. "Where you are matters. That is the key to the idea of diffusion. And that is hidden if we just look at a list of data by county. When we map it though, it becomes apparent to everyone what the pattern of the development of this disease looks like."

To view the desktop and mobile versions of the dashboard, or learn more, visit the [Space, Health, and Community \(SHAC\) Lab](#) website.



Memorial: Dr. Andrew (Drew) Nazzaro – 1941-2020

Andrew (Drew) Nazzaro was born in 1941 in Paterson, New Jersey. His grandparents were Italian immigrants who had been attracted to the area due to the availability of jobs in the silk textile industry. For a brief period, his father Andrea and his uncles worked in the silk factories. After the start of WWII (December 7th, 1941), Drew's father joined the Navy. Consequently, during his childhood, he lived in a number of places, including the Georgia coast, Virginia (Norfolk), Florida (Jacksonville), and two years in Morocco on the African continent. Drew's interest in travel, maps, and geography developed as a result of his father's career in the Navy and their mutual interest in collecting and studying maps. Drew was particularly interested in human settlement patterns. He pursued his interests at nearby Jacksonville University, where he earned a BA in 1964 in History. Although there was no Geography department at JU, Drew took courses from geographer Herbert Padgett, who was affiliated with the History Department. He subsequently earned a Master's degree in Geography from Florida State University in 1965. His regional focus on Africa led to a doctoral program in Geography at Michigan State University, where he studied under the preeminent Africanist and John A. Hannah Professor of Geography, Harm J. de Blij. A successful grant proposal to the Midwestern University Consortium for International Activities provided financial support for one year of field research in the Taita Hills region of southeastern Kenya, within view of Mount Kilimanjaro. Dr. Andrew Nazzaro finished his PhD degree program at MSU in 1974.

Several years prior to wrapping up his dissertation research at MSU, Harm J. de Blij told Drew the Geography & Geology department at Eastern Michigan University was looking for a new faculty member with regional expertise in Africa. Drew interviewed in July 1969 and started teaching classes at the start of the fall semester. Dr. Nazzaro taught classes in the Geography program continuously for 46 years, until his retirement in August of 2015. He taught his Regional Geography of Africa course throughout his entire teaching career. Due to his interest and affection for maps, he taught the department's cartography course for many years, and he was the Geography program's headliner in General Education, specifically teaching the GEOG 110 World Regions course that he developed. For more than two decades, the GEOG 110 World Regions course

has generated more student enrollment than any other course in the geography curriculum and is among the General Education program's most enrolled courses overall.

Working at EMU during the late 1960s and 1970s were exciting times of geopolitical and social change, as was experienced in most parts of the country. For example, as a result of the passage of the National Historic Preservation Act of 1966 – grants became available to establish academic programs in Historic Preservation, among other initiatives. Building upon existing strengths in cultural geography and landscape studies, Drew teamed up with colleague Marshall McLennan and took advantage of grant opportunities, applied, and they were ultimately successful in establishing the Historic Preservation graduate program in 1979. G&G's Historic Preservation program was the first to be established within a Geography department and is still unique in this context. Drew's advocacy for historic preservation is perhaps best remembered on EMU's campus by the successful "Don't squelch Welch" button campaign he started in order to promote support to save the Welch building from being torn down. In addition, due to his international experience, Dr. Andrew Nazzaro was asked by the EMU higher administration to serve as the Chief of Party to the Basic Education Development Program in Yemen from 1979 to 1981. Drew would later be called to serve as Director of the short-lived World College, and he served for more than six years as Department Head in G&G. As the longest-serving (46 years) faculty member in the history of the Geography program, he will be long remembered by his G&G colleagues for his camaraderie, gregarious laugh, and by more than four decades of students who enjoyed his sense of humor and succeeded in his classes.



Alumni Focus

TIM CAYWOOD

My Dad was a WWII veteran, thus a Depression baby, so when he got his GI Bill, he bought a house instead of attending college. In regret, he told me, "Get your degree. They can never take it away from you." So, when I went to college, I had no clue what I wanted to 'be,' but I knew I wanted a degree. I've always been fascinated by the "why." Why are the Great Lakes where they are? Why do rivers flow the way they do? In asking myself these questions, and many more, I found a subject to study that I truly love: Geography.

After taking my father's advice and having found a major I loved, I graduated from MSU in 1978 with a degree in Physical Geography. I have found that having a degree is more than just a piece of paper. It has provided me with unique and certain experiences. I've met people I would never have met otherwise. I developed a broader view of life. When I left MSU, I actually kept my union job that helped me pay for college. I learned how to drive a semi-truck for a lumber company. I wanted to be a 'mountain man,' so I moved to northern Idaho on the Coeur d'Alene River. That led to a job in farm equipment, which led to a move to Champaign, Illinois. Always curious about new things, while there, I attended a panel discussion at the public library about financial planning.

By then, I knew, for me, several fundamental points a career had to satisfy. I wanted control of my schedule; I wanted to pour myself into my work, and I wanted to be rewarded based on my success by helping others reach their goals. To be able to do this, I knew I needed to learn a whole new subject. It turned out financial planning filled my professional goals.

When I was getting my Geography degree, I learned how to 'learn.' It gave me the confidence that if I could learn the 'why' of landforms, I could learn the 'why' of financial planning. The transition involved becoming licensed. I studied and passed the Federal Series 7 Exam, the State Securities Exam as well as five other licensing exams. I knew in order to achieve all my goals, I needed to know more. In the subsequent years, I achieved my Certified Financial Planner and Chartered Life Underwriter's designations. Eventually, I completed my Master of Science degree in Financial Services.



Twenty-two years into my career, I teamed up with a friend whom I had met at MSU. He graduated with a degree in Accounting and became a CPA. We merged our practices to capitalize on a trend in the industry where practitioners needed a succession partner. We built a practice where retiring practitioners could join us and realize their value in their practice and retire from their careers. Over the next ten years, we built the largest franchise in Michigan for our national firm.

I will retire in 2022, 42 years after listening to my father and getting that degree that he missed out on, but had meant so much to him. For all the life that my Geography degree and MSU opened up to me, I want to repay the university and the department that gave me so much. I want nothing more than to 'pay it forward' by being a mentor to the students and a friend of the Geography Department for many years to come.

ERIC H. BAUMAN



Eric Bauman (BA '72, MA '76) continues to manage occupational health and safety research at the Electric Power Research Institute, a not-for-profit organization focused on developing technology, engineering solutions, operations research, and more to enhance the safety, efficiency, sustainability, and reliability of our electric supply. His current research focuses on fatigue management, human performance, predictive analytics, ergonomics, health and safety challenges with the emerging energy grid, driving safety and vehicle incident reductions, and job exposures. There are many geographic and spatial analytic aspects of work at EPRI, including some of his work. He invites the MSU GEO community to visit [epri.com](https://www.epri.com/research/programs/014875) at <https://www.epri.com/research/programs/014875> for more information or contact him at ebauman@epri.com.

VICTORIA BREEZE



Hello Geographers! After graduating with my PhD in 2019, I was fortunate to have continued GEO support via the opportunity to work part-time with Dr. Pearson and the Space, Health, and Community (SHAC) Lab while on the job hunt. After a 9-month search and a 4-month on-boarding process, I accepted a Science Writer & Editor position with the Earth System Science and Modeling Division in NOAA's Climate Program Office in August 2020. While my partner Eric and I have both been lucky enough to be able to work from home during the pandemic, we made the decision to move to the DC metro area in September both for the new opportunities and because it's apparently very difficult to get a federal security clearance when you're not living where your office says you work. Go figure. We're looking forward to exploring all that DC has to offer once it is safe to do so. Wishing you all a healthy 2021!

BENJAMIN F. RICHASON III



Benjamin F. Richason III (PhD '77) officially retired from active instruction this past August and has received Emeritus Professor status. He had taught at St Cloud State University for 42 years, and previous to that for two years at James Madison University. Though retired, he still plans to continue his research in the use of UAS in crop studies and digital soil mapping. Looking back over his career, he realizes that none of it would have been possible were it not for the outstanding education and mentoring he received in the Department of Geography at Michigan State. He will forever be in their debt.

KEVIN CREDIT

This year I accepted a tenured Assistant Professor position at Maynooth University in Ireland. I will be working in their National Centre for Geocomputation and Department of Geography and am very excited to become new colleagues with several wonderful geographers, including Chris Brunsdon, Rob Kitchen, and Martin



Charlton (recently retired). Since finishing my PhD at MSU, the last two and a half years as an Assistant Instructional Professor in GIScience at the University of Chicago have been incredibly valuable. I have learned so much from Luc Anselin, Emily Talen, and my other colleagues at the Center for Spatial Data Science. While I am sad to be leaving Chicago - and the prospect of moving internationally during a global pandemic is a little daunting—I am excited about the new adventure, and of course glad that all of my green MSU gear will translate easily!

DENNY HAUSKER



Bunny and I are doing well. She just got a negative Covid test, so that was immensely gratifying. She still volunteers teaching adults with learning disabilities as well as tutoring young students forced to take elementary classes online. I'm still writing fiction books in my retirement. With the

turn of the calendar, I sincerely hope the new year will bring us back toward normalcy. It was good to see Spartan basketball handle a good Rutgers team at the Breslin. Go Green!

DAVID P. LUSCH

In retirement, I have kept my mind active with several professional activities. I collaborated with Prof. Randy Schaetzl on his NSF project studying Glacial Lake Roscommon in north-central Lower Michigan. I worked on isostatic rebound estimates for the study area and compiled a report - Morphology of Ice-Marginal Landforms in the Houghton Lake Basin.



In Feb. 2020, I completed the development of a new course - Digital Image Processing and Classification - for the Professional GIS Certificate program offered by the department. It's composed of 12 lessons and 9 exercises using ESRI's ArcMap software. For the new year, I'll be revising the course to use ArcGIS Pro. This revised course should be available by this summer.

Since early 2019, I have served as a Technical Advisor to the Michigan Water Use Advisory Council which is charged with making biennial recommendations to the Michigan Legislature about how to improve the Michigan Water Withdrawal Assessment Process. The Council submitted its recommendations in Dec. 2020, requesting state funding of \$5,206,000 for Fiscal Year 2022 and \$4,873,000 for Fiscal Year 2023. I authored two of the 16 recommendations made by the Council.

Claudia and I are so looking forward to getting out of the house more in 2021 and visiting our grandkids face-to-face!

R. MICHAEL COUSINS



Greetings, it is great to see 2021! These past few years have been crazy. Personally, I now have a 4 & 1 year old (Olivia & Juliet), and it has been awesome to watch them grow. My four year old has taken a liking to astronomy, space launches, Sparty, and ROCKS... all of which makes me very happy inside.

Professionally, I am currently the Practice Leader for GIS at OHM Advisors. I oversee all GIS operations and 11 GIS team members (w/a few MSU Geo alums). I have joined the boards of MiCAMP (Michigan Communities Association of Mapping Professionals) and the MSU Geo Alumni Advisory Board. Both of which have been a great adventure. I have been busy expanding our usage of Innovative Technologies here at OHM, including Augmented & Virtual Reality, 360 Camera Mapping, custom video capturing, Machine Learning & Artificial Intelligence, UAS, and usage of high-precision GNSS GPS Eos Arrow units. If anyone wants to learn more about this tech, please let me know!

Lastly, if you are a student, get involved in the Geography Club & GTU, any professional org, and join your local user groups! Connections are key, and they make for easy points with your certifications, like the GISP!

Cheers & Go Green!

OWEN GREGG

Thanks for the opportunity to submit a brief update during the Covid year 2020. And, what a totally different year it was, as I'm sure all of you reading the *Spartan Geographer* will agree. For myself, 2020 began relatively docile, with seven friends from Minnesota traveling to visit me in Florida to play some golf and enjoy the sunshine. Little did they or I realize that a few weeks later we'd be in the midst of a pandemic. Fortunately, neither they nor myself and my wife Kay, so far, have gotten sick. But, I had two close friends die, and my grandson at North Dakota State got very ill with Covid-19 but did recover.



In early April, we left Florida to drive back to Minnesota and spent the summer there on Lake Minnetonka. All four of our grandkids—3 in college—did the remote learning/hybrid thing. All seemed to do OK, but they sure did miss being on campus. My granddaughter Annabel, who's now a junior majoring in Environmental Studies at Hunter College in NYC, sponsored a 5K race (held remotely) to help Flint and its water problems. I participated from Minnesota (picture of me above is before the start).

I'm back in Florida now, enjoying a relatively cool winter. I sure hope everyone on and off-campus is staying well and doing the best they can under very unusual circumstances. I can't believe that it's been eight years since I started the Owen Gregg Endowment for Global Climate Change Research. I will be anxious to learn of this year's recipient. All the best to this wonderful group of Geography educators. I miss visiting with you on campus.

MATTIE KELEPILE



I am writing this from Gaborone, Botswana. Time really flies. I can't believe I am now getting into my second year since graduation. I am now a Lecturer at the University of Botswana, teaching Medical and Population Geography in the Department of Environmental Science. This is the same department where I obtained my undergrad degree! I graduated from MSU Geography in the summer of 2019 with a PhD, and my advisor was Dr. Grady, an awesome person to work with. I would also like to give a big shout out to my committee members (Dr. Winkler, Dr. Zulu, and Dr. Hughes [Social Work]). I really liked the department because everyone was willing to help me or offer an ear even when I was constantly complaining about the workload of a dissertation. I recommend the MSU Geography Department to my students here in Botswana. Both my car and my husband's have Spartan stickers! Hope to see all of you in one of the cool MSU geography AAG party nights soon after COVID-19 passes! Go Green!

DAVE KROMM

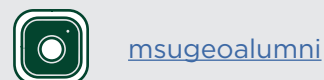
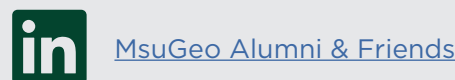
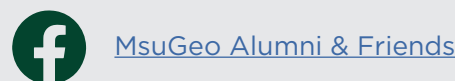


Dave (MA '64, PhD '67) and Bobbie Kromm send greeting from Kansas. As was the case with everyone, 2020 was not the year we expected. Instead of being at our granddaughter Grace's college (Williams) and our granddaughter Ella's high school (Durham School for the Arts) graduations, we viewed the live-streamed and abbreviated ceremonies on our computer here at home in Kansas. Instead of celebrating our 60th wedding anniversary with our children and grandchildren in northern Vermont, all 14 of us came together from several states and two countries through Skype. The included photo of us was at Echo Cliff Park along the Native Stone Scenic Byway in Kansas and was taken just before our anniversary. We enjoyed different travel experiences. We both turned 82 in September, but while we were still 81, we drove Old Route 81 on day trips south from downtown Salina to Oklahoma and north from Salina to Nebraska. Between 1911 and 1926, US 81 was called the Meridian Highway because it approximates the Sixth Prime Meridian, which controlled surveying for eight central and western states. One section of the old highway that we drove was initially paved in 1921, and that nearly century-old concrete alignment is still in use as a rural road. We also drove west on Old Route 40 one day and east another day. We were rewarded with attractive landscapes and pretty villages on each of these explorations.

Alumni Advisory Board



The Alumni Advisory Board is expanding and seeking alumni engagement. We are focused on supporting students through mentoring and keeping in contact with alumni through outreach to fellow professionals. Send us an email at MSUGEOAlumniAndFriends@gmail.com or check us out on social media if you would like to get involved.



We have big goals for 2021, including kicking off a mentoring program with alumni and students and being involved with College of Social Science activities. We are also looking forward to organizing and engaging in community outreach activities such as our annual golf outing like we did in 2019. Lastly, we are eager to help increase enrollment in the Professional GIS Certificate program.

Share Your Updates With Us

We hope you find this newsletter informative and interesting. One way you can help keep it that way is to send us news about yourself. Share news about your career, family, or other things with your fellow alumni. Send an email to geo@msu.edu or a letter and we will insert it into the next issue of the newsletter. Thanks for helping make the newsletter even better.



Contributions

THANK YOU

To all who contributed to the various Geography Department funds and scholarships. We are making continued efforts to increase our departmental contributions to enhance our programs and benefit students. Please consider donating to one of the funds listed below.

Please specify desired fund and make checks payable to *Michigan State University*.

Mail to:

Department of Geography,
Environment, and Spatial Sciences
Geography Building
673 Auditorium Rd, Rm 116
East Lansing, MI 48824

You may make a credit card donation online at:
geo.msu.edu/about/donate.html

E. James Potchen Awards in Geography for Graduate and Undergraduate Students

Established in 2008 by Harm de Blij to fund yearly cash awards for outstanding graduate and undergraduate students based on GPA, progress towards degrees, and other quality indicators such as fieldwork and research.

Geography at MSU Fund

Established in 2001 to promote the MSU Department of Geography, including related advertising, fundraising, travel, and similar expenses.

Geographic Field Experience Fund

Established in 2001 to fund student field experiences, including field trips, primary data collection, course-related field experience, transportation, and lodging expenses.

Geographic Literacy Fund

Established by Harm de Blij, this fund promotes the field of geography to students.

GTU/Geography Endowment Fund

Established in 1999 by Robert and Dorothy Thomas to fund geography-related student activities.

Harold A. "Duke" Winters Scholarship

To support graduate study in geography at MSU.

Ian Matley Memorial Fund

Established to bring guest speakers to campus to enrich the geographic education of students and faculty.

Jay R. Harman Undergraduate Scholarship in Geography

To support undergraduate study in geography at MSU.

Marjorie & Lawrence Sommers Geography Graduate Fellowship for International Research and Travel

A graduate fellowship to be awarded yearly for masters or PhD students to support international research and travel.

Michael A. Graff Dissertation Completion Award

Established by Michael Graff to provide doctoral students with additional resources for travel, data collection, materials, supplies and equipment to complete research for dissertation projects.

Owen Gregg Endowment for Global Climate Change Research

Established in 2012 to support global climate change science research in the Department of Geography.

The de Blij Geography Scholars Endowment

Established in 2013 as a scholarship to be awarded to incoming freshmen who choose to major in geography.

Spartan Geographer

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