

department of GEOGRAPHY

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ARTS & SCIENCES



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This newsletter is produced by the Information Committee, which consists of faculty members Banu Gökankırsel (Co-Chair and Editor), Jun Liang (Co-Chair), Steve Birdsall, Christian Lentz, and graduate student Chris Jones.

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FROM the CHAIR

Arriving in Chapel Hill 10 years ago, I've grown to love the university, the community, and our beautiful campus.

I'm pleased to bring to you this first annual newsletter highlighting the impressive work of undergraduate and graduate students and faculty, as well as reports on three alumni. I hope you will also visit our website regularly (geography.unc.edu) for updates on the exciting work of our students and faculty.

This newsletter highlights three exceptional undergraduate majors: Tony

Liu, studying abroad at the National University of Singapore; Lily Herbert, focusing her studies on the former Soviet Union, and Adeyemi Olatunde, striving to make cities sustainable using geographic information systems methods. The ways we teach at UNC are changing with innovative classrooms and teaching methods that engage students through technology and experiential learning, described in the feature on Professor Erika Wise. Professor Chip Konrad's work as Director of the NOAA Southeast Regional Climate Center, housed in our department, is also featured. This center provides a valuable service to the public and presents opportunities for our students to contribute to climate science.

Our graduate students are studying such diverse topics as climate impacts on human migration, the political ecology of oil extraction in South America, and how drug resistant malaria forms

and spreads in Africa. This newsletter highlights two PhD students, Pavithra Vasuvedan and Maia Call. Pavithra's project focuses on environmental justice in Warren County, North Carolina. Maia's research is further afield, focusing on relationships between environmental degradation and household livelihoods in rural Uganda. And we feature three of our alumni in this newsletter: David Crawford, a 2012 graduate from our joint degree program with the National University of Singapore who received a Master's degree in International Development and worked with the United Nations on refugee issues; Dr. Bill Easterling, currently Dean at Pennsylvania State University and co-recipient of a Nobel Peace Prize; and Dr. Joan Miller, a generous alumna from the department's earliest years.

The Department of Geography is grateful to its alumni and friends

for their financial support. We depend on alumni and friends like you to help meet our ever-increasing needs. Your gift to the Department of Geography can help us meet many goals. Online giving is easy and secure: log onto geography.unc.edu/make-a-gift-to-geography/ for information and links. You can use the envelope attached to this newsletter as well. Please feel free to email or call me to talk about our programs. And if you are ever in Chapel Hill, please visit us.



Michael Emch
Professor and Chair,
UNC-CH Department of Geography



DR. E. JOAN MILLER

Leaving a legacy of love for Chapel Hill

By Mary Moorefield

You might leave Chapel Hill, but Dr. E. Joan Miller can attest that Chapel Hill never leaves you.

Miller spent two years at UNC completing her Ph.D. in geography in 1965 and developed a deep love for the school and the town that she still carries.

"My two years in Chapel Hill were the happiest time of my life, truly," she said. "Everybody was so welcoming, encouraging and happy ... and slower. You had time to sit and talk to people. It was a different culture, a different way of life." She fondly recalled this culture as being one of "stone wall

clubs,' where we just sit on the stone wall and chat and take life slowly."

Born in England, Miller, now 93, is an emerita professor of geography with Illinois State University in Normal, Ill. She retired as a tenured full-professor after a 31-year-career and teaching 9,000 students. She travelled extensively and did field work in the U.S. and Europe. Her professional

“MY TWO YEARS IN CHAPEL HILL WERE THE HAPPIEST TIME OF MY LIFE, TRULY.

—Dr. E. Joan Miller



that freedom to develop my hypothesis."

Miller and Eyre kept in touch, and he encouraged her in the 1960s to ask ISU for the promotion and tenure she deserved, citing her published works. "He

gave me enough courage to stand up," she said. "It was because he was so understanding; in fact, he was a flying buttress that supported me."

Eyre also prompted her to give back to the University and the College of Arts and Sciences. With deep appreciation of her experience, she has designated part of her estate to Carolina for geography scholarships to be used in ways that benefit the students most.

Michael Emch, professor and chair of geography, admires Miller's contribution to the University.

"Dr. Miller devoted all of her life to geographic education," he said. "Her life is an inspiration to all geography educators."

accomplishments included many publications, notably two articles about the Ozark Mountains in the *Annals of the Association of American Geographers*. "These came from the Ph.D. dissertation at UNC, completed in 1965," Miller said.

Miller touts the acceptance and influence of Carolina's first chair of the department of geography, Dr. Doug Eyre as a driving force in her career and devotion to the University.

His acceptance of her hypothesis that folklore material of the Ozarks can be used as historical evidence allowed Miller to pursue her research. "He took an interest. He let me have all

Scholar & co-recipient of Nobel Peace Prize

WILLIAM E. EASTERLING III

By Dr. Steve Birdsall, Geography faculty

Those of us who remember Dr. William (Bill) E. Easterling from the days when he was in the Department of Geography pursuing one of his degrees at Carolina (B.A. 1976, M.A. 1980, Ph.D. 1984) are not surprised at the array of professional achievements and recognitions he has accrued. But the scope and scale of accomplishments were not something we could anticipate.

With more than 100 scholarly publications, as many lectures at the national level including testimony and briefings in front of U.S. House and U.S. Senate committees, plus three dozen presentations at international venues, Bill has also been the Principal Investigator or co-PI on more than two dozen research grants. And that is only the beginning!

A faculty member at The Pennsylvania State University since 1997, he served as Director of the Penn State Institutes of Energy and the Environment from 2001 to 2007 before his appointment

as Dean of the College of Earth and Mineral Sciences in 2007. Before arriving at Penn State, among other positions he was Interim Director of the National Institute for Global Environmental Change, Director of the Great Plains Regional Center for Global Environmental Change, a Fellow in the Climate Resources Program at Resources for the Future, and held several staff research positions at the National Academy of Sciences/National Research Council. Even setting aside his scholarly activities, several features of this series of responsibilities stand out. Bill is adept at leadership and management. He makes the groups with which he works function better. He was Coordinating Lead Author on two IPCC Assessment Reports, the second one addressing food security and climate change and earning him a share of the 2007 Nobel Peace Prize.

Easterling's path toward becoming a geographer was one that many

“**GEOGRAPHY IS A DISCIPLINE THAT LETS ONE PEEL BACK ALL THE ASSUMPTIONS OF CURRENT THINKING AND ANTICIPATE WHAT IS AHEAD.**”

—Dr. William Easterling

will find familiar. Initially a history major as an undergraduate, he says he discovered geography when he happened to take a course taught by John Florin. After another course with Florin and then more from other faculty in the department, he was soon a double major in history and geography. “I began to realize that geography was the perfect discipline to bring together complex human and environmental interactions. Being fluent in the languages of many disciplines dealing with humans and the environment has proven to be especially useful and important.” His path into climate science was not direct, apparently. He worked with Barry Moriarty on his Master's thesis which dealt with aspects of industrial location. But when the department's climatologist, Peter

Robinson, received a large multi-year grant and began looking for a research assistant, Bill's facility with statistics and quantitative reasoning made him a natural choice.

This series of serendipitous interactions at UNC led Bill into a field in which his scholarly and interpersonal talents could flourish. As he put it recently, “Geography allows us to study human aspirations and human activities as they relate to the scientific study of the environment. Geography is a discipline that lets one peel back all the assumptions of current thinking and anticipate what is ahead.” A serious scholar committed to work on some of the biggest questions facing the earth's future, the Department of Geography is proud to claim him as one of its alumni.



100 OVER 100 SCHOLARLY PUBLICATIONS

136 MORE THAN 136 NATIONAL AND INTERNATIONAL PRESENTATIONS

24 PRINCIPAL INVESTIGATOR FOR MORE THAN TWO DOZEN GRANTS

TONY LIU

From Utah to Singapore

A distinguished student and geography major from Utah, Tony Liu's undergraduate experiences reach far beyond Carolina Hall, from DJ-ing with WXYC 89.3 to interning in California with the solar energy company Sungevity. He is now studying abroad at the National University of Singapore where he is a prestigious Philips Ambassador. In the following interview, edited for length, Liu reflects on why he chose to study here, what he has learned, and where it takes him.

By Dr. Christian Lentz, Geography Faculty

Q AMONG OTHER UNIVERSITIES YOU APPLIED TO, WHY DID YOU CHOOSE UNC-CH?

I chose UNC-CH for the strong sense of community and place I experienced when visiting during high school. Its location within North Carolina and the South pushes us to challenge ourselves and improve outcomes for society. I love meeting people throughout North Carolina and hearing about their local communities, stories, and experiences; it adds another element to the educational environment. Also, the people are kind and many are driven by the pursuit of intellectual ideas, values, and a commitment to learning over extrinsic motivations.

Q AMONG OTHER MAJORS AT UNC, WHY DID YOU CHOOSE GEOGRAPHY?

There are so many reasons to choose Geography at UNC. I love the department and the faculty; each professor has gone out of their way to challenge and support the students, and I have learned a tremendous amount from each course. Geography's interdisciplinary nature prevents students from getting complacent in one specific focus and helps catalyze a realization that learning is broad and deep, not limited to a singular realm. Finally, what is more relevant than Geography, as we humans can only exist on this planet? From spatial analysis to reflecting on space and place and scale, geography provides a powerful toolbox to understand the world and critically reflect upon our experiences within it.

GEOGRAPHY MAJOR TONY LIU AT THE NATIONAL MOSQUE OF MALAYSIA IN KUALA LUMPUR.





WHAT DO YOU BRING TO GEOGRAPHY AT UNC? HOW HAS STUDYING GEOGRAPHY HERE INFLUENCED YOU?

I bring my identities and experiences to the program and a willingness to engage in dialogue and healthy dissent to the classroom. Studying geography has influenced me not only by teaching the structures and forces that inform our existences, but also by refining my critical thinking and contributing to my capacity to learn in a rapidly changing 21st century world.



WHERE DOES A UNC GEOGRAPHY MAJOR TAKE YOU, NOW AND IN THE FUTURE?

Studying geography at UNC opens a variety of doors. It expands critical thinking and the capacity to learn. In terms of skills, students focusing on

GIS have a variety of job prospects whether they be governmental, business, or academic. Finally, I believe studying geography catalyzes a sense of empathy and humanism—a necessary ability to learn about the modern world from a variety of perspectives.



IS THERE ANYTHING ELSE YOU'D LIKE TO TELL US ABOUT YOURSELF AND YOUR EXPERIENCES AS A GEOGRAPHER?

Studying Geography at UNC-CH is tantamount to embarking on an adventure of self-reflection and growth that makes university education meaningful. It has been one of the few defining elements of my time at UNC-CH, and I could not be more grateful for the field of study, the department, and most importantly, the people within the discipline.

DEPT. News & Highlights

SHARE YOUR NEWS! Please visit geography.unc.edu for more news and profiles of geography faculty, graduate students, and undergraduate students and send us an email at geography@unc.edu to share your news.

general

Geography building renamed **CAROLINA HALL** by the UNC Board of Trustees in 2015—“a move that trustees said was necessary to correct the “error” that University trustees made in 1920 when they recognized William L. Saunders’ leadership in the Ku Klux Klan as a qualification for naming a building in his honor.”

READ MORE unc.edu/spotlight/trustees-adopt-comprehensive-approach-to-curating-and-teaching-campus-history

faculty

GENERAL

ERIKA WISE served as a member of the Association of American Geographer’s delegation to the United Nations Framework Convention on Climate Change (UNFCCC) 21st Session of the Conference of the Parties (COP21) taking place in Paris, France, during the first two weeks of December 2015.

LARRY BAND was elected a Fellow of the American Geophysical Union (AGU). This honor is given to individual AGU members who have made exceptional scientific contributions and attained acknowledged eminence in the fields of earth and space sciences.

ELIZABETH OLSON was awarded Student Undergraduate Teaching Award (SUTA) in 2015. SUTAs were established in 1989 by a student referendum. SUTA is funded entirely by student fees to provide monetary awards to exemplary professors and teaching assistants. The final selection of winners is made by the SUTASA committee, which is composed entirely of members of the undergraduate student body.

Our faculty and students **PUBLISH BOOKS AND PAPERS** in the top academic journals, which you can learn about here: geography.unc.edu/research/faculty-and-student-publications. If you would like a copy of any of these papers then please contact the department and we will send copies to you.



EXTERNAL GRANTS

Our students have incredible opportunities because our talented faculty are successful at obtaining competitive external funds to conduct interesting research projects. Undergraduate and graduate students are actively involved in all of these federally funded projects. Many more not listed here are funded by UNC-CH and private external funding sources as well.

SARA SMITH Education-Driven Urban Migration, Himalayan Youth, and Future Aspirations in India, National Science Foundation.

MICHAEL EMCH Finding Safe Drinking Water for Bangladesh: Tube Wells, Storage, and Diarrhea, National Science Foundation; Spatio-temporal Patterns of Drug Resistant Malaria in Democratic Republic of Congo, National Science Foundation.

ELIZABETH HAVICE Tracking Mobile Marine Species: Spatial Data, Visualization, and the Science-Policy Interface, National Science Foundation.

CLARK GRAY Economic Well-being in the Aftermath of the Indian Ocean Tsunami, National Institutes of Health; Soil Degradation and Household Well-being in Rural Uganda, National Science Foundation; Measuring Resilience to Seasonal Hunger, National Institutes of Health; Climate Population Health and Well being over Time, National Institutes of Health.

BANU GÖKARIKSEL The Role of Religion in Public Life in Turkey Today, National Science Foundation.

LARRY BAND Restoration, Redevelopment, Revitalization and Nitrogen in a Coastal Watershed, National Science Foundation; Designing Robust & Adaptive Water Management Strategies in Regions Transitioning from Abundance to Scarcity, National Science Foundation; CyberSEES: Type 2: A New Framework for Crowd-Sourced Green Infrastructure Design; Increasing Diversity and Enhancing Academia (IDEA): Leveraging Resources to Increase Participation of Underrepresented Minority Students in Geosciences, National Science Foundation.

GABRIELA VALDIVIA Crude Entanglements: Native Amazonian and Afro-Ecuadorian Experiences with a Post-Neoliberal Oil Complex, National Science Foundation.

ERIKA WISE Multi-Site Paleo-Reconstruction of Missouri River Streamflows from Tree Ring Data, National Science Foundation; Detection of long-term variability in storm tracks using seasonally resolved tree-ring isotope records: Implications for hydroclimatic change in the U.S. Pacific Northwest, National Science Foundation.



DR. ERIKA WISE TEACHING HER COURSE "BLUE PLANET" IN THE INTERACTIVE CLASSROOM.

Innovation in teaching

By Dr. Steve Birdsall, Geography Faculty

Students in the large introductory physical geography class swiveled in their seats to watch Dr. Wise as she walked among their tables, microphone and computer tablet in hand. She was introducing the complexities of ocean currents and their impact on coastlines, and she challenged the students to use the science they just learned to address a recent legal dispute between North Carolina beachfront landowners and State regulations affecting beach maintenance. Small group discussions took place at each table leading to a range of decisions regarding beach erosion and nourishment. Each group's decision was projected on the room's walls where the entire class could see, leading to a wide-ranging discussion by the entire class. The flexible seating and computer-assisted projections were possible in this large class because the recently renovated interactive lecture hall had been designed for flexibility, small group discussions, and engaged learning.

When she arrived at UNC, Wise decided to make adjustments to the way she would be teaching the department's foundational course in physical geography. She began a process of integrating into her lectures the problem-based, hands-on learning representative of field research and laboratory learning. Through a series of teaching innovations now possible in the new interactive lecture hall, she is bringing students

to consider the science of issues—climate change, for example—about which many would have some knowledge and differing views in a setting that allowed safe encounters with the material and each other.

As someone who studies hydroclimate—the linked water and atmospheric systems—Wise is keenly aware of the connectivity among Earth systems. Because this connectivity is a primary theme of the class, she incorporates certain areas of her research that take the students beyond the textbook material to include case studies on El Niño and paleoclimates. These topics are not only important for the class content, but students find them compelling.

“ THERE'S NO DOUBT THAT STUDENTS ARE MORE ENGAGED IN THE CLASS AND ATTENDANCE IS BETTER.

—Dr. Erika Wise

Students appear to enjoy the style and flow of the room as well as the variety of pertinent topics and applications. Increased active engagement during the class period is apparent, with more feeling free to ask and answer questions and with greater interaction with those around them during the small group activities. Wise also indicated her appreciation of the options she had in the new lecture hall compared to more traditional seating arrangements. “There is no doubt that students are more engaged in the class and attendance is better.”

ADEYEMI OLATUNDE

By Katharine Mather, Geography Major

While international migration is a subject of study in many geography classes at UNC, few students can speak from such personal experience as Adeyemi Olatunde. Having spent the first half of his life in Lagos, Nigeria, Olatunde moved to London at age 11. When the opportunity to study in the US emerged, Olatunde seized it.



Having applied to study geography in the UK (where applicants must apply to study a specific subject), he “decided to keep doing geography since I enjoyed it but I was very excited to explore different topics.” His initial plan was only to minor in geography at UNC. But after taking an urban geography class, Olatunde knew “that geography was meant to be my major and cities were meant to be my interest.”

Despite coming from a country where “geography is a common topic and is far from unusual,” the relatively small size of the geography department offers Olatunde opportunity to connect with professors and classmates and to “bring an international viewpoint” into conversations that open “a much better understanding of how people interact with their world.” For Olatunde, these conversations are increasingly centered on cities, where his international background is especially relevant.

While an interest in cities could find a variety of focuses within geography, Olatunde is most excited about developing a more analytical approach he discovered while taking an introductory GIS course. He hopes to bring these newfound research and analytical skills into other social science fields. “This is what makes geography impactful, the flexibility that it gives you mixed with the right amount of specialization is vital to the way I want to lead my life.” In summer 2016, these skills will come in handy when Olatunde will work with Habitat for Humanity in Atlanta. Afterwards, and into the future, it is this type of experience Olatunde hopes to replicate: working in diverse communities while using his “expertise to support sustainable growth, which can occur through multiple avenues such as health, education, or transportation.”

For now, Olatunde looks forward to finishing his geography major though, he admits, geography may be competing for time with his newly discovered passion: varsity fencing. On guard!

CONGHE SONG, The Effects of China’s Grain for Green Reforestation Program on the Dynamics of Coupled Natural-Human Systems in Rural China, National Science Foundation.

CHARLES KONRAD, Southeast Regional Climate Center, National Oceanic and Atmospheric Administration (NOAA).

undergraduate

TAYLOR NELSEN, a geography major, won the first place in the map competition on our annual GIS Day. Nelsen’s maps were about food deserts of Newport News, Virginia.

READ MORE geography.unc.edu/files/2015/11/nelsen_map1.jpg

Geography major **CARRIE HAMILTON** received a National Science Foundation (NSF) Research Experience for Undergraduates award in May 2015. The award supported Carrie’s summer research in Ecuador, where she is conducting an independent project, under the supervision of Dr. Valdivia, on “Oil Drilling and Industry in Kichwa Communities in the Ecuadorian Amazon.”

Geography major and Morehead-Cain scholar **JAMES ELSMOOR** researched and reported on Kiribati’s move to purchase land in Fiji as a climate change adaptation strategy as part of his larger senior thesis on small island states. After researching the purchase, visiting the land and interviewing local inhabitants, he reports on the complexity of climate change politics. His findings, which have been published in the Development Policy Centre blog and picked up by Radio New Zealand, reveal that the land purchase has brought attention to the plight of small island states and their citizens that stand to be greatly impacted by rising sea levels and warming ocean temperatures.

graduate

PAVITHRA VASUDEVAN (Searching in Aluminum’s Shadows: Black Geographies, and Industrial Toxicity in North Carolina), **MAGGIE SUGG** (Climate-Health Vulnerability: Identifying Climate Thresholds for Heat-Related Illness), and **MABEL GERGAN** (Young lives, Indigeneity and Technocracy in the Eastern Himalayas) were awarded National Science Foundation Doctoral Dissertation Research Improvement grants. **CHRISTOPHER NEUBERT**, **CHRIS JONES**, and **SARA SCHMITT** received competitive fellowships from the National Science Foundation Graduate Research Fellowship Program.

CHARLES E. KONRAD

Serving the region through the Climate Center By Dr. Banu Gökariksel, Geography faculty



When a storm approaches the Southeastern United States, phones start ringing at the Southeast Regional Climate Center (SERCC) at UNC-CH. Amidst the thunder's rumbling, geography faculty member Dr. Charles (Chip) E. Konrad faces a storm of questions: "What do you think is going to happen?" "Are storms becoming more frequent?" "Is this flooding normal?" As director of SERCC, Konrad explains that one of SERCC's missions is to answer questions from the public about weather and climate.

Even though there is a lot of information out there on these topics, what he does as a geographer is to provide a context for making sense of weather events and understanding the controversial topic of climate change. Always a geographer, Konrad's position as SERCC's director has given him a "second life" that complements his first one as scholar and teacher.

Konrad has long been interested in a variety of things. As an undergraduate, he indulged interests in meteorology, geology, and maps by majoring in several different fields. As he put it, he was already a geographer but simply did not know it yet. Towards the end of his masters degree he came to realize that geography brought together all of his interests—from environmental science and geophysics to atmospheric sciences

DAVID CRAWFORD

UNC-Chapel Hill — National University of Singapore dual degree in Geography launches an internationally focused life

By Katharine Mather, Geography Major



DAVID CRAWFORD WHO GRADUATED IN 2012 WITH A UNC-CHAPEL HILL AND NATIONAL UNIVERSITY OF SINGAPORE JOINT DEGREE IN GEOGRAPHY AT SARAJEVO, BOSNIA.

For David Crawford, traveling has long been a part of life. Asked where he calls home, Crawford's first response is "that is a hard question for me" before listing several places. Unsurprisingly, his path from UNC-CH to his current home in Brooklyn has been a diverse set of locations and experiences.

Crawford, upon applying for college, was looking for a university that featured a strong geography program, a wide-ranging study abroad program, and flexibility. Chapel Hill met all these criteria. Crawford's first international experience came from living in Singapore as part of completing the dual degree program in geography from UNC-CH and the National University of Singapore (the program requires spending a minimum of one year studying in



and climatology. Now he sees geography's importance extending beyond the study of complex weather events and climate-related phenomena to encompass insights into what people are thinking and worrying about as well as encouraging them to take action on important matters.

As director of one of six regional climate centers in the U.S. (established in 1989), Konrad oversees SERCC's mission to provide timely, high quality, and pertinent climate data and information to public and private users in the region. Based at UNC-CH, SERCC serves Alabama, Florida, Georgia, North Carolina, South Carolina, Virginia, Puerto Rico and the U.S. Virgin Islands. The National Centers for Environmental Information and the National Environmental Satellite, Data, and Information

Service guide SERCC's overall direction. The center does many things from conducting climate research and providing regional climate data to fielding questions and developing web-based tools that translate raw climate data into useful applications. In his role as SERCC's director, Konrad interacts with all manner of people, such as politicians, community groups, journalists, and researchers. He took part in the National Climate Assessment of 2012 and his 2014 analysis of tornado vulnerability attracted the attention of journalists nation-wide.

Among Konrad's many research interests, one area of particular passion concerns how climate affects public health. This includes analyzing the effects of extreme heat and precipitation, which vary geographically but also impact various economic sectors and groups

differently. One project in North Carolina assesses geographical variations in people's vulnerability to heat and how these variations play out across different demographic and socioeconomic groups. Such information has real and immediate applicability: given a heat wave, for example, the analysis can be used to predict where and how many people will have to go to the emergency room. Far beyond weather alone, the project aids in providing public health services when and where needed and stands to influence policy directly. This is why Konrad describes his tenure as SERCC's director as his "second life." As a scholar and teacher, he values the fast-paced learning at SERCC. Just as importantly, as an outreach specialist, he appreciates the opportunity SERCC provides for generating data and information that directly serves the people of the region and the U.S.

“ THIS EXPERIENCE OPENED MY EYES IN WAYS WORDS CANNOT DO JUSTICE.

Singapore). His highlight of the program was his senior honors thesis that spanned into a two-year research project. Focusing on Dhaka, Bangladesh, the project centered on migrant-led NGOs and how organizations can better operate to serve migrant communities. “This experience opened

my eyes in ways words cannot do justice,” states Crawford. The project culminated in an academic journal article published in 2014 and jointly written with the department's own Dr. Nina Martin who supervised his research and honors thesis.

In the meantime, Crawford completed an internship in Hungary before gaining a masters degree in International Development from the University of Manchester in the United Kingdom (that's now five countries if you've been counting!). One of Crawford's most exciting work experiences since graduation was “working with

a UN agency on evaluating refugee camp access to the Internet and broadband services.” Drawing on his GIS skills and international experience has allowed him to work well with diverse and global teams.

Now living in New York via Washington DC, Crawford works in management consulting at the firm Accenture. Here, Crawford has been able to put his geography skills to unique use. “I believe my Geography background has allowed me to understand my clients and their problems in a more holistic way as compared to my peers

that studied engineering or business.” Such clients include the UN, US government, and leading electronics and IT companies.

Crawford's current goals include “to better understand humanitarian technologies and how humanitarian organizations can better operate and leverage technological innovations to meet the demands and challenges of globalization” and to travel. Since entering UNC, he has travelled to over 45 different countries and last year alone flew 60,000 miles- not that we're keeping score!

“ MY GEOGRAPHY BACKGROUND HAS ALLOWED ME TO UNDERSTAND MY CLIENTS IN A MORE HOLISTIC WAY AS COMPARED TO MY PEERS.



MAIA CALL

By Chris Jones, Graduate Student

Geography's breadth and depth captured Maia Call when she was as an undergraduate at UNC Chapel Hill. Taking graduate level courses encouraged her to explore her research interests even further. Now a graduate student at UNC, Call is a population-environment geographer who examines relationships between environmental factors, social determinants, and rural livelihoods in the Global South.



GEOGRAPHY GRADUATE STUDENT MAIA CALL CONDUCTING FIELD RESEARCH IN RURAL UGANDA.

Her research fits into larger debates around climate change and environmental degradation, particularly in the global south where projections forecast the largest changes and impacts due to climate change.

Her dissertation project unearths the relationship between soil quality and livelihood decision making in Uganda. Her project draws on earlier work on child poverty, climate change, and migration in Bangladesh and on communal grazing, forest cover, and social capital in Uganda. Her goal is to understand the local population's ability to adapt to change and then use this information to influence sustainable development in the given locale. By combining sophisticated modeling methods, large scale longitudinal data, and remotely sensed environmental data, her research promises not only to advance scholarly inquiry but also to generate solutions to pressing problems.

When not in class or in front of her computer, Call enjoys a range of professional, exercise, and service activities. She attends conferences and workshops in order to learn about intellectual communities beyond the university and to build relationships and collaborations. Running, yoga, and gardening rejuvenate her and help her focus. Maia serves as a Science Olympiad mentor for local middle school students. She is also the graduate liaison for undergraduate research, a role where she helps younger students pursue research opportunities. She volunteers at Table NC, an organization dedicated to providing healthy food to hungry local children. Through it all, Call's commitment to geography has only grown: after graduation, she plans on becoming a professional researcher at an institute or university where she hopes to train the next generation of geographers.



PAVITHRA VASUDEVAN

Engaged scholarship and participatory research on environmental justice

By Chris Jones, Graduate Student

Pavithra Vasudevan became interested in environmental and social injustice when she learned about the caste system and the disparity in human value as a child in India.

"This notion, that human beings can be valued so differently that some are literally forced to scavenge amidst waste and come to be considered waste themselves, profoundly disturbed me then and drives my work today." After completing her undergraduate degree, she worked in New York for 7 years as a professional dancer and a youth worker developing school empowerment programs and curricula for high school girls. When she returned to graduate school to pursue a MA and PhD in order to be able to teach at the college level, she chose

geography due to its long history of integrating ecological sciences with socio-political critique. Her projects have been funded by a National Science Foundation Doctoral Dissertation Research Improvement Grant, the Pruitt Dissertation Fellowship from the Society of Women Geographers, a Community Engagement Fellowship from the Carolina Center for Public Service, and a seed grant from the UNC-Chapel Hill Graduate Certificate in Participatory Research.

Vasudevan's research focuses on how race and waste are closely



PAVITHRA VASUDEVAN, A GRADUATE STUDENT, RECORDING A COMMEMORATIVE GATHERING IN WARREN COUNTY, NC. 'THE BIRTHPLACE OF ENVIRONMENTAL JUSTICE.'

associated in capitalism. She uses research methods that involve the collaboration of affected communities in order to tell a more complete and compelling story of environmental injustice and racism. One of her primary research methods is called "critical/performance ethnography" that understands research as a rich sensory encounter between people rooted in dialogue. Her current dissertation research uses collaborative ethnographic methods and archival research. In this work she is documenting the history of Badin, North Carolina, a segregated company town for Alcoa workers in aluminum production since 1915. This is a site of ongoing contestation over environmental and human toxicity.

During her Masters research, she produced a film in collaboration with Rev. William Kearney that narrates the environmental history of Warren County as an autobiography.

THIS WORK CAN BE FOUND AT [VIMEO.COM/115070233](https://vimeo.com/115070233)

According to Vasudevan, "the film tells the story not only of how Warren County was dumped on, but of the complex and rich environmental relations that

“ THIS NOTION, THAT HUMAN BEINGS CAN BE VALUED SO DIFFERENTLY THAT SOME ARE LITERALLY FORCED TO SCAVENGE AMIDST WASTE AND COME TO BE CONSIDERED WASTE THEMSELVES, PROFOUNDLY DISTURBED ME THEN AND DRIVES MY WORK TODAY. ”

Black communities have had in the rural South that are often destroyed by contamination, and made invisible in mainstream environmentalism." When she showed the film at the North Carolina Environmental Justice Summit in 2013, she found that Rev. Kearney's vision of a future of well-being rather than waste resonated profoundly with the audience, composed primarily of communities from across North Carolina struggling against environmental racism, and inspired others to tell their stories as well. Therefore, she sees this type of methodology "not only making research relevant to the larger public, but allowing for richer intellectual production that extends beyond academic walls."

LILY HERBERT

By Katharine Mather,
Geography Major

Exploring the world and finding herself: Spatial Links between Home and the former USSR

"I had no idea there was a department of geography when I started at UNC" says senior Lily Herbert. Like many geography majors, Herbert happened upon the major when she took her first geography course, a first-year seminar on space, identity, and power in the Middle East taught by Dr. Banu Gökarkınel. "Courses in geography at UNC incorporated an element of spatial analysis that I found missing in other globally focused social science courses I took," adds Herbert.

Now a global studies and geography double major, Herbert has used geography to compliment and expand what she learns in other courses. The way geography looks at the intersection of systems, whether they are political or economic, has been the most eye-opening element of geography for Herbert, whose interests (and travels) now focus on the former Soviet Union and international education. Herbert credits the systematic approach

of geography for giving her "a solid foundation in world history, politics, and economics." This foundation has enabled Herbert to connect the local to the global, the individualistic to the systematic, both of which help her find the world in herself.

Key to Herbert's experience is geographic approaches to power and "how physical space influences its distribution and exercise." Understanding power from the perspective of geography has made her, in her own words, "more aware of how the world works and has given me the tools to comprehend and define my place in it." This knowledge has allowed Herbert to connect her background with her experiences in the former Soviet Union as she is able to "understand the power dynamics that shape everyday situations in the US, Russia, and Central Asia." While she was born and raised in Raleigh, she sees her home connected to the other side of the world. These connections have enabled her "to build relationships with people of other cultures and learn from them while simultaneously realizing more about myself and my own background and culture."



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