

Department of GEOGRAPHY & GEOGRAPHIC INFORMATION SCIENCE

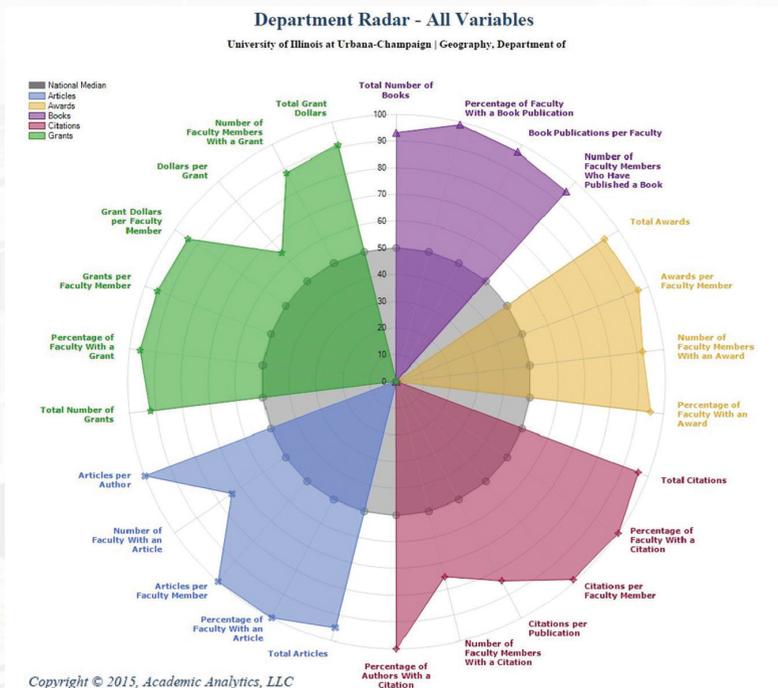
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN | COLLEGE OF LIBERAL ARTS & SCIENCES

FALL 2015

Geography & GIS at Illinois Earns Top National Ranking!

Great News! According to recent (2013) data from Academic Analytics, our department is ranked #1

among PhD granting geography departments in the U.S.! This is a fantastic honor, and a wonderful testimony to the hard work, accomplishments, and innovations of our faculty, students and staff. Academic Analytics creates quantitative metrics of faculty research performance based on five criteria: books, peer-reviewed journal articles, article citations, grants, and awards. Each criterion includes several performance measures, most of which are standardized based on the number of faculty in the department. As the “radar chart” shows, our department performs exceptionally well compared to peer departments in virtually all categories. Although we have long felt that we have a great department, it is fantastic to have this external validation of our success. Thanks to all of you—faculty, students, staff, alumni, and friends—for your many contributions to our department’s success. ★



Cities and Metropolitan Areas Graduate Specialization

This fall, the Department of Geography and Geographic Information Science introduced Cities and Metropolitan Areas,

a new area of specialization in our graduate program that will put us at the forefront of contemporary urban and metropolitan studies, in America and beyond. Our department has developed this area of specialization just as cities across the globe are experiencing significant regional and global change. More than sixty percent of the earth’s population now lives in cities, and a host of problems are threatening their environments and communities. Our array of urban scholars, both faculty and graduate students, are excited to critically appraise these cities and seek solutions to their multiplicity of problems.



This new graduate concentration has five emphases:

- Urban Health and Quality of Life
- Urban Governance and Politics
- Race, Class, and City Policing
- Critical Studies of Urban Transportation and Mobilities
- Globalization, Neoliberalization, and the City

Dr. David Wilson spearheaded this specialization’s development, working closely with GGIS and affiliated faculty to organize its academic and conceptual contents.

Dr. Brian Jefferson, our newest faculty member, is a key player in the Cities and Metropolitan Areas concentration. He joins the department with teaching and research interests in urban social theory, political economy of disenfranchised urban communities, and current policing practices and their outcomes in cities. Brian will teach graduate courses in urban political and social theory, city regulative policies and strategies, and incarceration systems in cities. Other faculty and graduate students in the Cities and Metropolitan Areas concentration will use geographic research methods, such as field observation, and open-ended

(Graduate Specialization continued on page 5)

FALL 2015

Department of Geography and
Geographic Information Science
School of Earth, Society and Environment
College of Liberal Arts and Sciences
University of Illinois at Urbana-Champaign

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College of
**Liberal
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AT ILLINOIS

MESSAGE FROM THE HEAD



Dear Friends:

I'm still smiling about our department's high ranking. This is a fantastic accomplishment and a wonderful testimony to the many research achievements of our faculty and students and to the strong support of departmental staff and alumni. Our department leads efforts to understand many important global and local issues – environmental sustainability, transportation and mobility, water shortages and river dynamics, health, hunger, and urban inequalities – and to harness and innovate geospatial data and methods, along with field research approaches, in these efforts. This top ranking confirms something we have long felt—that our work is having an impact and is widely recognized. We plan to celebrate this great honor and accomplishment when faculty and students return this Fall. Stay tuned.

Beyond rankings, the department has undergone significant developments in the past year. Urban geography is an increasingly vibrant area, and under the strong leadership of Prof. David Wilson, our new graduate specialization in Cities and Metropolitan Areas is attracting high student interest. The urban program has also benefitted greatly from the addition of new faculty member Prof. Brian Jefferson, who brings expertise in the geographies of crime and policing in cities – critically important and timely topics. We are also excited about the hiring Dr. Piotr Cienciala, a new faculty member who will join the specialization in Rivers, Watershed, and Landscape Dynamics in November. According to Bruce Rhoads, this will be the department's first new hire in the field of geomorphology in 25 years. Finally, Dr. Shakil bin Kashem, whose research focuses on GIS and urban environmental justice, joins the department as Teaching Assistant Professor. Shakil will teach GIS courses and work with the new Professional Science Master's program in GIScience. Unfortunately, we've also had significant faculty departures this year, including the retirement of distinguished professor and former department head, Geoff Hewings, the departure of highly-accomplished Associate Professor Ashwini Chhatre to a position in India, and the departure of Clinical Assistant Professor Heath Robinson to a remarkable opportunity with a tech start-up company.

My main focus as department head has been to build the undergraduate Geography & GIS program, and with Prof. Julie Cidell's excellent leadership, the program is making great strides. The numbers of majors and minors are expanding, and we have initiated changes to strengthen the curriculum. Opportunities for majors also come from the revitalized Gamma Theta Upsilon honor society, the Roepke scholarship program, and the new GGIS Fellows program for majors who are interested in departmental service. With the growing interest among students in STEM disciplines, we are undertaking many activities to get the word out that the GGIS major is a great choice.

This Fall we are launching a new Professional Science Master's (PSM) program in GIScience. The PSM is a 16-month professional master's degree that combines training in GIScience with coursework in business. Students gain a strong foundation in GIScience from our top-ranked department while acquiring business knowledge and professional skills. We anticipate that this program will not only be attractive to students from diverse backgrounds, but also will strengthen our linkages with the many local and regional businesses/organizations that use GIS. For more information, see: psm.illinois.edu/gis

Academic departments are complex organizations: People are our primary resource, defining who we are and where we are heading. We are incredibly grateful to all of you for your many and diverse contributions to our departmental community. GGIS's strong alumni network, a network that spans the globe, is at the core of our success. Your contributions support student research and conference travel, departmental events, facility improvements, and scholarships and fellowships for our outstanding students, and they add immeasurably to the health and vitality of the department. Thank you so much. I would love to hear from you and/or have you visit the department. ✨

Sara McLafferty
smclaff@illinois.edu

Department Receives Generous Gift to Establish Messina-Stanley Graduate Scholarship

The **Messina-Stanley Graduate Scholarship** will provide an annual financial award to graduate students studying medical or environmental geography. The award supports field research, conference travel, and other educational and research activities crucial to students' professional development. Scholarships have already been awarded to current PhD students Sandy Wong and Alex Peimer.

Dianne Messina-Stanley (née Massock) was born and raised in Champaign, and attended the University of Illinois, where she earned an AB from the College of Liberal Arts and Sciences and an MS from the College of Media. Her daughter Jane Messina (MS '08) also attended Illinois, where she earned a Master's in Geography. Jane's career as a medical geographer, and Dianne's own passion for environmental issues prompted her to designate this award for graduate students in these fields of study.



Sandy Wong began pursuing health and medical geography as an undergraduate, where both her GIS professor and TA studied health applications of GIS. "Their research inspired me to think more critically about the interconnections between health, place, and space," said Wong. Her current research investigates the differential employment outcomes and barriers across urban to rural places for visually impaired individuals. "The Messina-Stanley Scholarship funded travel to my fieldwork site in the San Francisco Bay Area, where I observed participants, and interviewed staff members at local disability organizations. These valuable new insights motivated me to improve the direction and research design of my dissertation project," said Wong.



Alex Peimer is researching how U.S. Clean Water Act Section 404, created with the goal of "no net loss" of aquatic function of streams and rivers, is affecting stream mitigation in Illinois. "The Messina-Stanley Scholarship has supported travel to my field sites in the Big Muddy, Macoupin, Middle and Lower Kaskaskia, and Mississippi River watersheds, as well as the purchase of precision field measuring equipment," said Peimer. "Environmental geography is rooted in both human and physical geography, so I am able to study environmental issues holistically to better understand the interconnections between social and biophysical processes."

The Messina-Stanley Graduate Scholarship has already made a positive impact on our department, and the gift from Dianne Messina-Stanley and her family will enhance our educational and research programs, and ensure our department's continued excellence. ✨



Stream culvert in Red Bud, Illinois. Photo: Alex Peimer

It's Been REAL! Celebrating 25 Years of the Regional Economics Applications Lab



In 1989, Dr. Geoffrey J.D. Hewings and Philip Israilevich founded the Regional Economics Applications Lab (REAL), a joint venture between

the University of Illinois Department of Geography and the Federal Reserve Bank of Chicago.

"It is an amazing story that began in a hotel bar around the corner from the Chicago Federal Reserve Bank in 1988, when Phil and I explored ways to form a collaboration between the Fed and the University of Illinois, focusing on regional economic analysis. Our small staff of two has grown to a group that numbers between 20 and 30 in any given year," Hewings reflects.

After 25 years of directing REAL, Geoff (as he is known by colleagues and friends) is one of the most prominent academics in regional economics, specifically in the field of modeling social and economic relations within and between regions. His most valuable contribution, besides more than 200 publications in renowned academic journals, is the creation of a global network of regional science academics and researchers, or what he likes to call the "REAL Mafia."

REAL celebrated its 25th anniversary, in conjunction with the North American Regional Science Association International (NARSC-RSAI) Conference, on November 25th, 2014 in Washington, D.C. The anniversary celebration became the conference's main attraction, since over 10% of all attendees were REAL alumni or associates.



Left to right: Adrianna Hewings, Geoff Hewings, and Hae Jong Kim

Several acknowledgements were made during the event, all of them carrying warm wishes of respect and gratitude for the contributions Geoff and his colleagues have made

to regional economics. Geoff received a plate engraved with the signatures of all the event's attendees, and Illinois alum Oliver Fritz (now based at WIFO-Austria) acknowledged Adrianna Hewings for her generosity in sharing Geoff with REAL over these 25 years. Current REAL student Esteban Lopez attended the celebration, and reflects that "an environment of friendship and camaraderie was in the air, which is certainly a truthful reflection of the REAL Mafia environment here at Illinois."

More than 500 researchers (and counting) have passed through REAL, many of whom participated in doctoral programs at the University of Illinois at Urbana-Champaign. The lab's genealogy spans the globe, with a concentration in Asia and Latin America, where several of Geoff's "academic sons and daughters" have become renowned economists, geographers, and planners. Geoff's alumni currently occupy leadership roles in important institutions, such as the central banks of Guatemala, Colombia, and Brazil, as well as ministries of economics, planning, and finance. In fact, **Bambang Brodjonegoro** (PhD, 1997) is Indonesia's current Minister of Finance.



REAL Researchers and Alumni

Undoubtedly, these 25 years have taught Geoff and his colleagues many great lessons, which can be grouped in two main categories: academic and organizational. On the academic side, REAL alumni have demonstrated the value of applied research through their papers and professional

influence. Accurate real-world information processed through precise methodologies has elucidated new information that theoretical models alone are incapable of producing. This type of research has enhanced our understanding of economic and social phenomena, and their behavior in spatial and urban dimensions. REAL's thousands of academic contributions over these 25 years show the strong connection between space and economics that informs policymaking around the world. As part of REAL's 25th anniversary celebration, the lab is developing two applications that illustrate the lab's academic impact and geographic scope:

REAL Technical Series: real.illinois.edu/t-series

Virtual Yearbook (currently under construction):
real.illinois.edu/timeline/beta

On the organizational side, REAL has demonstrated the importance of internationalization, and an interdisciplinary approach. Geoff and his REAL mafia have proven for years the value of teamwork and cooperation between field experts. In its 25 years, the lab has attracted not only economists, but also geographers, urban planners, statisticians, econometricians, and geostatisticians, among other specialists. REAL teaches us the relevance and extraordinary value of international knowledge networks. In essence, REAL is an extensive knowledge network that transmits applied, methodological, and theoretical advances across the globe.

Good ideas tend to be reproduced, which is especially true for REAL. Its international, interdisciplinary structure and approach have been translated to similar laboratories in many REAL affiliates' home countries. Here are a few notable examples of laboratories around the world inspired by REAL's framework:

Brazil: NEREUS usp.br/nereus

Chile: IDEAR idearucn.com

Spain: REGIOlab uniiovi.net/regiolab

European Union: EU-REAL eco.unex.es/eureal

Along with the 25th Anniversary festivities in Washington, D.C., Geoff was invited to several international economic research facilities this year, each of whom hosted conferences in his honor. REGIOlab in Oviedo, Spain held its fifth annual "Workshop in Honor of Geoffrey J.D. Hewings: Opening New Research Lines in Regional Analysis."

Geoff and everyone at REAL are proud of this legacy, and hope it endures. "I have been delighted to share this growth and watch careers blossom, friendships - both personal and professional - deepen and expand, and look forward to many more years of active participation." *

(Graduate Specialization continued from page 1)

interviewing to critically examine social, political, and geographic processes in global cities.

Our department faculty specializing in Geographic Information Systems (GIS) will also utilize the University of Illinois' renowned computing resources to graphically illustrate how global cities and their inhabitants interact with each other, and with the rest of the world.



Downtown Portland, Oregon
Image: Mei-Po Kwan

For example, **Dr. Mei-Po Kwan's** research examines how social class and privilege affect one's movement within an urban area. She will contribute to the Cities and Metropolitan Areas concentration by critically addressing health, social, transport, economic, and environmental issues in urban

areas through the application of innovative GIS methods. Her own work, and collaborations with GIS faculty and graduate students will increase our understanding of how social differences (e.g., gender, race, ethnicity, and religion) shape urban residents' everyday experiences, perceptions, and use of the built environment.

The Cities and Metropolitan Areas concentration is already flourishing, and there is a wealth of scholarship and activity on campus,

and collaboration with other institutions. In September 2014, Dr. Wilson and the Heidelberg University (Germany) Center for American Studies co-organized a conference at the Illini Union, entitled: *Making Creative Cities: Tensions, Contradictions, Possibilities*. Research faculty from the University of Illinois, including Dr. Wilson and Dr. Jefferson, and international scholars from Heidelberg University and other institutions gathered to discuss pressing issues such as gentrification, urban inequality, and the controversial drive to forge "creative cities." The conference was a great success! More than 100 people attended, and important discussions and debates marked the morning and afternoon sessions.

We are thrilled to welcome Cities and Metropolitan Areas to our already productive body of faculty research, and it marks one more addition to a vibrant department that specializes in timeliness, theoretical depth, and the search for solutions to vexing local and global issues. *



Students Create City Profiles in Cities of the World course

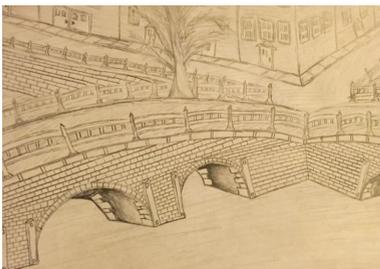
From Auckland to Kinshasa to Rio de Janeiro, *Geography 204 – Cities of the World* is a course bustling with activity, just like the metropolitan areas featured in its syllabus.

Dr. Julie Cidell, Associate Professor of Geography & GIS, and Director of Undergraduate Studies, also notices a more diverse, international presence in recent semesters, which complements the course curriculum.

“When teaching 204, I always use Chicago as an example of a global city. The majority of my students in previous years were from that area, so they were able to identify with it. But it has been really interesting, and refreshing that many students this semester weren’t familiar with Chicago, which provides the students with a great opportunity to learn from each other about different parts of the world,” Cidell said.

Students taking GEOG 204 with Dr. Cidell have a unique opportunity to introduce her, and their classmates, to other major world cities by completing a City Profile. This project asks students to use an artistic medium such as paint, collage, or photography to visually represent a city, accompanied by a short descriptive essay. The only rules are that the city has to be outside of the student’s home country, and the population should be at least 500,000 (unless it’s the country’s largest city), and no two students could profile the same city.

Students presented photo collages of Lyon and Paris, France; and Hiroshima and Kyoto, Japan, and other iconic international cities. “Most students chose to profile cities in the ‘Global North,’ meaning North America, Europe, or East Asia,” Dr. Cidell observed.



Amsterdam, by Austin Hernandez

through the city. While doing the City Profile, I learned that Amsterdam is referred to as ‘Venice of the North, and its architecture stretches back to the fourteenth century. The city was methodically developed and constructed around the multiple canals that wind through the heart of the city.”

Austin Hernandez, a junior in Geography & Geographic Information Science, sketched an idyllic scene of Amsterdam’s canals and bridges, and notes: “many bridges had to be constructed for pedestrians to travel



Bikesharing in Sydney, Australia. Photo: Julie Cidell

Some students, however, chose to illustrate cities of the Global South, which comprises less-developed regions in the continents of Africa, Central and South America, and South Asia. Gabriella Quiñones, a senior in Global Studies and Spanish, presented an impressive, and at points sobering biological and culinary diorama of Kinshasa, the capital of the Democratic Republic of Congo.

Quiñones explains her artistic choices in her City Profile’s essay portion: “I focused on utilizing food to demonstrate the socioeconomic inequalities that have been historically pervasive throughout Kinshasa. The marshmallows, cheerios, and coffee grounds are directly proportional to population size in these areas. The north of Kinshasa is least impoverished, and is represented by “skyscraper” marshmallows. Coffee grounds represent the southern part of the city, where an extremely sizable and impoverished population lives in slums or shantytowns, with very little money or infrastructure.”



Kinshasa, DRC Collage by Gabriella Quiñones

Due to a surge in popularity, our department plans to expand **GEOG 204 – Cities of the World** in future semesters, and Dr. Cidell looks forward to teaching, and learning from her students about our ever-expanding global community. ✨

FACULTY RESEARCH UPDATES



Bruce Rhoads

Dr. Rhoads is part of a multi-university, multi-disciplinary investigative team that has received funding from the National Science Foundation to establish a Critical Zone Observatory (CZO) for Intensively Managed Landscapes

(IML-CZO) in the Midwestern United States. The critical zone is defined as the constantly evolving outer “skin” of the earth, from the top of the tree canopy to the soil below the bottom of the root zone, where rock, soil, water, air, and living organisms (including people) interact. These complex interactions produce and maintain the natural habitat and determine the availability of life-sustaining resources. The critical zone supports all terrestrial life, regulates water and air quality, enables food, fiber, and fuel production, and sustains many other economic and ecosystem services. The five-year, \$5 million IML-CZO Project seeks to integrate research in geomorphology, hydrology, soil science, biogeochemistry, atmospheric science, climatology, Quaternary geology, and ecology to better understand the dynamics of the critical zone in human-dominated agricultural landscapes.

The CZO consists of three agricultural watersheds in Iowa, Minnesota, and Illinois, and the focus of activities in Illinois is the upper Sangamon River basin, a few miles west of the University of Illinois. Professor Rhoads will be directing activities associated with an improved understanding of how sediment enters into stream systems from farmland, and how this sediment is then stored within these systems or transported downstream. Research underway is using state-of-the-art sediment tracing techniques to match sediment carried by flowing streams to source locations on the farmed landscape. Future research will involve linking the movement of sediment to the transport of nutrients in streams, especially phosphorus, and modeling of water, sediment and nutrient transport. Major goals are to understand how human use of the landscape has influenced the movement of sediment through stream systems and, through this understanding, to inform land and stream management practices that will sustain both the economic benefits and environmental quality of intensively managed landscapes. For more information on the project, go to <http://imlczo2.ncsa.illinois.edu/>. *



Jonathan Greenberg

Dr. Greenberg’s Global Environmental Analysis and Remote Sensing (GEARS) Laboratory is examining the relationships between plants and their environment under a changing climate. To address these issues, Greenberg’s lab

is leveraging advanced remote sensing information collected from satellite and airborne sensors to characterize the state and dynamics of vegetation. This data will be combined with information about the plant’s environment, such as temperature and available water, and about disturbance factors such as fire, logging, and insect damage. The GEARS Laboratory hopes to use this data to better understand the future of Earth’s ecosystems under anthropogenic climate change. *



Mei-Po Kwan

Dr. Kwan is undertaking collaborative research to investigate how various social, spatial, and physical factors affect the health risk of female sex workers (FSWs) in two Mexico/U.S. border cities (Tijuana and Ciudad). Both cities have witnessed rising HIV prevalence, escalating community violence, and increased

policing, while migration and cross-border interactions are still major influences on sex work and HIV risk behaviors. Violence is another key factor that influences FSWs’ risk environment, which includes intimate partners, clients, police, and the community at large. Dr. Kwan and her colleagues are using GIS, along with an innovative mixed-method approach to investigate whether the recent geographic diffusion of sex work to less monitored areas in the two border cities leads to more rapid and wider dispersal of HIV and sexually transmitted infections (STIs).

The data for this study was collected from female sex workers in the two border cities through in-depth interviews and mapping exercises. Dr. Kwan joined her collaborators in Tijuana to conduct fieldwork, and they are using the rich qualitative and quantitative data to evaluate changes in the sex work risk environment and behaviors over time, HIV/STI

FACULTY NEWS

FACULTY PROMOTION

Dr. Trevor Birkenholtz



Dr. Trevor Birkenholtz

joined the GGIS faculty in Fall 2013, and was promoted to Associate Professor in Fall 2014. His research focuses on the transformation of groundwater-based irrigation, and community access to environmental resources

in South Asia, specifically in India and Nepal.

Trevor has created a new Geography & GIScience course: **GEOG 356 – Geography of South Asia**, and is also teaching courses in Geographies of Globalization, Contemporary Social and Environmental Problems, and Qualitative Research Methods. Trevor serves as Environment and Society Section Editor for the journal *Geography Compass*. *

(Faculty Research Updates continued from page 7)

incidence, and access to services (e.g. HIV/STI testing and treatment). The researchers are also examining how the spatial locations where FSWs live, work and engage in other activities affect their risk behaviors, perceptions of violence, and access to services. Preliminary findings suggest that escalating levels and perceptions of violence negatively impact access to health services, and increase risk behaviors. Also, women soliciting clients in public spaces are more affected by violence, and engage in greater risk behaviors than off-street FSWs.

Results of the project will provide useful information for HIV and drug use interventions. The project will also yield important insight for preventing the transition to a generalized epidemic, since HIV prevalence is rising along the U.S./ Mexico border. *

NEW FACULTY PROFILE

Dr. Brian Jefferson



What is your academic background, and how did you become interested in geography?

I came to geography through my graduate studies in political science, urban politics, and critical social theory at the New School for Social Research, which piqued my interest in the role public space plays in social conflicts in metropolitan areas.

I wrote my dissertation on police accountability activism in New York City, and quickly realized that debates about policing were deeply anchored in competing visions of public space. This initial project sparked a more general interest in relations between policing and the various, sometimes clashing, representations of public space held by authorities and civilians, and the way these differences play out in built environments. Geography provides an ideal, interdisciplinary milieu to pursue this line of inquiry, so I gladly swapped my political science card to become a human geographer.

What are your research interests, and what field work have you done?

My research interests revolve around urban policing and the construction of symbolic urban spaces. I investigate how city space is imagined, depicted, organized, and contested in police-community disputes in US cities. As such, my work incorporates interpretive approaches to critical policing research, the political economy of urban policing, and urban geography. My recent publications involve fieldwork I conducted in Brooklyn, at precinct-community council meetings and alongside police accountability activists, where I tagged along with “copwatch” teams who were monitoring police-community interactions.

What drew you to our department?

I was thrilled to join Geography and Geographic Information Science in Fall 2014, as it offered the opportunity to do collaborative work with internationally renowned faculty doing cutting-edge research. I was also drawn to Illinois by the prospect of doing fieldwork in Chicago, which presents a laboratory of vexing and urgent questions directly related to my work. What’s more, I received my Bachelors from Illinois in 2004, and leapt at the chance to rejoin the vibrant campus and community that sparked my intellectual curiosity a decade ago. *

GRADUATE STUDENT PROFILE

Pronoy Rai Explores Rural Migration and Social Justice in India



Pronoy Rai's fieldwork takes him to difficult, remote areas in India that have been facing drought-like conditions for a long time, and introduces him to some of the world's most marginalized people. He recalls when a marginal farmer (defined as owning less than 2 ½ acres of agricultural land in India) asked why he chose to conduct his field research in such a region in India, when he could have studied in one of many other 'convenient' locations, such as a major Indian city, a picturesque village in the Himalayas, or along India's beautiful coasts. He explained to the farmer that the inconvenience of doing fieldwork in rural Western India is trivial when considering the possibility of illuminating the struggles of the marginalized, which sometimes leads to social transformations and provides lessons for ongoing social justice movements elsewhere in the world.

Pronoy arrived at geography from an interest in 'development studies,' the critical study of post-World War II political economy in developing countries. He applied to geography PhD programs in 2012-13, after finding that his research interests aligned closely with those of development geographers. Pronoy's first college geography course was 'World Economic Geography,' taken during a Master's program in International Development Studies at Ohio University, but the course that solidified his interest in development geography was 'Geographies of Hunger and Food Security,' taught by Dr. Tom Smucker at Ohio University. This class piqued Pronoy's interest in the politics of development, and the social transformation of rural space; and he learned that these interests could be

examined within the discipline of geography.

Development indicators at Pronoy's field sites are some of the lowest in the world. He first visited the Yavatmal district in the Western India's Maharashtra state in the summer of 2012 to conduct fieldwork for his Master's thesis at Ohio University, which included interviews with farmers, rural workers, and elected members of village governments in three villages. He was investigating the role of the Indian state and local politics in differential access to food- and employment-based social security.

As a geographer, Pronoy strives to understand how rural spaces are transformed as a consequence of increased mobility among marginalized rural populations, such as 'lower' caste, landless rural workers. Uneven development in developing countries has resulted in stagnation in agriculture, and rural workers' migration to urban areas. Pronoy views migration as a social process that produces social transformations in rural areas, i.e. migrants' home villages, and he studies these changes in villages in Western India's drylands.

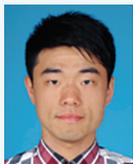
Early in 2014, Pronoy was awarded a pre-dissertation research fellowship from the Social Science Research Council, allowing him to conduct his preliminary dissertation fieldwork, as well as attend proposal development workshops; and he is currently submitting proposals to funding agencies to carry out long-term fieldwork in India.

"It is an extremely rewarding experience to learn how people across divisions of class and gender experience rural space, and how their experience is changing. I am glad to be able to illuminate these experiences in academic scholarship in order to advance knowledge in geography."*



Maharashtra, India. Photo: Pronoy Rai

NEW GRADUATE STUDENT PROFILES



YAPING CAI received both a Bachelor of Science in Geographic Information Systems, and a Masters of Science in Photogrammetry and Remote Sensing from Peking University. His doctoral research with Professor Shaowen Wang focuses on GIS applications and spatial analysis.



ZHUO CHEN received his Bachelor of Science in geography from the University of Wisconsin-Madison. He researches the environmental, social, economic, and business aspects of transportation. Zhuo is interested in how the market and modern technology are changing the transportation sector.



MELISSA HEIL received a Bachelor of Arts in Organizational Studies from the University of Michigan. Prior to joining the department, she worked in the areas of community organizing, community development, and diversity/inclusion consulting. Melissa's expects to focus her research on the role of non-profit organizations in affecting neighborhood change in rust-belt cities.



LIPING LIU comes from an interdisciplinary background. She received a BS in Photogrammetry and Remote Sensing from Wuhan University, and an MS in GIS from the University of China Academy of Sciences, where her research focused on management, sharing, and on-demand service of large scale remote sensing data. She is now working with GGIS Professor **Shaowen Wang**, with a focus in CyberGIS. Liping's research will work to solve big spatial data problems in GIS domains by integrating cyber-infrastructure and GIS resources and technologies.



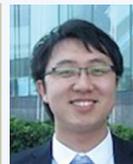
STEVEN OXLEY earned a BS in Geography, with a concentration in Environmental Science, at the University of Wisconsin – La Crosse. While at La Crosse, Steven was exposed to the many facets of geography and served as a research assistant on numerous projects. He had the opportunity to head up his own project examining lead contamination in river and watershed habitats, which sprung his interest in human impact, especially within river environments. All of these factors led to Steve pursuing his Master's Degree in Fluvial Geomorphology at Illinois, with specific interest in river naturalization and remediation.



YOO MIN PARK received her BA and MA in geography from the Korea University, where her thesis aimed to suggest a spatial statistical method that integrates eigenvector spatial filtering methods and multilevel models and apply it to a case study of self-rated health status in South Korea. Yoo Min's current research interests mainly focus on contextual effects on health outcomes, mobility of elderly people, and spatio-temporal analysis. She intends to study space-time constraints on mobility of functionally-limited older adults using GPS data for her dissertation work.



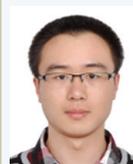
COURTNEY REENTS earned an undergraduate degree in Earth, Society, and Environment from the University of Illinois in Spring 2014, and decided to stay on for a graduate degree. She is exploring applications of remote sensing to better understand natural and anthropogenic effects on the environment. Her current research uses a combination of GIS and remote sensing techniques to detect and identify forest disturbance in the state of California over the past few decades.



JUE WANG earned a Bachelor of Science degree in Geographic Information Science from Sun-Yat Sen University, where his thesis aimed to optimize spatial distribution of public service facilities. He then earned a Master's degree in digital cartography from Hong Kong Polytechnic University. Jue's research interests broadly span geospatial analysis, geography visualization, and interdisciplinary research in health geography. His doctoral work will focus on health application of GIS, using GPS tracking data to characterize human mobility patterns.



ZEWEI XU earned a Bachelor of Science degree in geography from Northwest University, in China, and a Master's of Science in Spatial Information Science & Engineering from the State University of New York College of Environmental Science and Forestry. Zewei is using hyperspectral imagery and LiDAR datasets to understand forest structure and forest ecosystem dynamics.



DANDONG YIN received his Bachelor of Science degree in GIS at Peking University in Beijing, China. He is interested in defining, discovering, and developing methods to integrate knowledge from multiple source information, including remote sensing and GIS. He developed an Ant Colony Optimization (ACO)-based model to extract road areas in ultra-high resolution remote sensing images in urban areas. He has a strong interest in complexity science, which is focused on discovering universal complex structure in various disciplines. *

Howard Roepke Research Scholarship Profiles

We asked this year's round of Undergraduate Roepke Scholars

about the expectations, challenges, and surprises they have encountered while assisting with their faculty-led research projects.

1. What new skills have you picked up (or expect to pick up) during the course of your research?
2. What is the most challenging aspect of the project?
3. What is one surprising fact you have learned during your research?

Stephen Frankel



Stephen researched the process by which congressional districts are drawn (and redrawn) for federal elections, with Dr. Heath Robinson.

1. I expect to learn how to more effectively search for maps and legal documents in several library systems during this research project.
2. The most challenging aspect of the research I am helping with is understanding new terms that do not often appear in Geography courses. Learning about “social ontology” and “documentality,” which are discussed amongst scholars in the field of philosophy, and applying these concepts to Geography, is a completely new experience for me.
3. One surprising fact I learned when researching is that the formal procedure state houses of representatives go through when drawing new congressional districts for federal elections is to list the identification numbers for each census block that the new district contains. While the descriptive maps of the new districts in redistricting bills are easier to

interpret and debate, they may not be sufficiently detailed when printed, which makes the long lists of census block ID numbers necessary to guarantee the legal status of the district boundaries.

Chris Szmurlo



Chris worked with Dr. Heath Robinson to analyze oaths of citizenship from around the world, looking for the various obligations and requirements to be considered a citizen in different countries. The project goal was to gain insight into the political implications of citizenship.

1. Through this project I learned how to use the resources at the university's libraries more efficiently. That is, I have developed skills in searching for information. The library has a multitude of different databases and I am now able to use them correctly to find the right resources.
2. One of the most challenging aspects of the project is that we are not guaranteed to find examples of our specific topic within the resources. We are trying to find examples of maps within the world's history that have served as contracts constructing spatial entities. For example, I went through all of the materials within the League of Nations library database, and found absolutely nothing, which was sort of disheartening.
3. Through this project I have discovered that some documents have specified the boundaries of a spatial entity (like a reservation) without an accompanying map. I thought this was quite fascinating because you would think a physical space would be more clearly defined if a map was included.

Kelly Ziegenfuss



Kelly's Roepke Research Scholarship project involved the development, planning, and facilitation of training sessions for Professor Shaowen Wang's CyberGIS Education, Outreach, and Training Project, where students and community members can learn GIS software and applications.

1. For the first half of my work as a Roepke Scholar, I spent a lot of time becoming familiar with all of the work and goals for the CyberGIS Center. Working with Johnathan Rush and the rest of the team, we were able to host a first training session for the public to show some of the work that has been done thus far. Going forward, we plan to continue hosting an array of training sessions. As well as working on the training sessions next semester, I plan to conduct my own research on web and mobile app development. One skill I would like to gain from this experience is understanding how to refine my own systematic way to carry out a research project.
2. Keeping up with all of the new work being done! There are constantly amazing projects going on by everyone in the group. Weekly presentations are hosted to update each other on any new research, but there is still always something new to discuss.
3. One surprising fact that I have learned during my research is that Southern Illinois has a very high potential for converting biomass to bioenergy. If Miscanthus is produced from 2% of the cropland, 2,000,000 Mg of biomass could be produced. *



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