

GIS Used to Examine Local Land Use

UW-Stevens Point student mapping project looks at Portage County tax revenue

A University of Wisconsin-Stevens Point student is using her studies in geographic information systems (GIS) to help Portage County take a closer look at its tax revenue and land use.

Yoon Bin Bae, a natural resources planning major with minors in geographic information systems and spatial analysis and natural resources management, has researched Portage County tax revenue trends. She used GIS technologies to create 2D and 3D maps that illustrate urban growth trends in Stevens Point and changes in property tax revenue generated by each city aldermanic district since 2001.

The senior from South Korea, who is also pursuing a GIS professional certificate, is working with advisers **Christine Koeller**, a GIS faculty associate, and associate professor **Ismaila Odogba** of the Department of Geography and Geology.

"Property tax revenue pays for public goods and services such as police and fire protection, education, transportation infrastructure, parks, libraries and more," said Koeller. "Studies have shown that the per-capita cost of these goods and services increases as population density decreases, leading to costlier rural suburbs when compared to denser urban areas."

Bae's maps show the tax revenue for each parcel of land in the county, using data provided by Jeff Hartman, Portage County's GIS coordinator. She standardized each parcel on a per-acre basis, then calculated each parcel's proportional revenue per acre so comparisons could be made between 2001, 2007 and 2015.

"The resulting 2D and 3D map visuals show that smaller, more densely developed parcels near the center of Stevens Point earn more tax revenue than larger, sprawled out parcels in suburban areas when considering the amount of land each parcel consumes," Koeller said.

Bae also analyzed land use and parcel data



Yoon Bin Bae (left) discusses her work at the College of Letters and Science Undergraduate Research Symposium.

provided by Kyle Kearns, associate planner for the Stevens Point Community and Economic Development Department. It showed that the average single-home tax revenues in suburban areas such as districts 6, 8, 10 and 11 are lower than average single-family home tax revenues near the city center, such as districts 1, 2 and 3.

Therefore, a less expensive home that sits on a quarter-acre in downtown Stevens Point can generate more revenue per acre than a more expensive suburban house sitting on a half-acre, Koeller said.

"This research calls on city alderpersons to consider the costs of urban sprawl when making future decisions about land use development," she said. It can also help as the city plans to update its comprehensive plan and zoning code in 2018.

"This is an ideal time to have this information and start a conversation about updating zoning ordinances that date back as far as 1979, when the true costs of urban sprawl were less known," Koeller said.

CIS/psychology grad wins research fellowship

A recent University of Wisconsin-Stevens Point graduate has been selected to receive a National Science Foundation (NSF) Graduate Research Fellowship.

Brian Hall has the rare distinction of receiving a fellowship for doctoral studies as an undergraduate. The fellowship provides \$138,000, or three years of support, and can be used for a graduate program anywhere in the nation. "Selection for a GRFP (Graduate Research Fellowship Program) award as an undergraduate is a significant accomplishment," said Gisele Muller-Parker, lead program director of the GRFP.

"There's no way – I didn't think it was actually possible," Hall said after learning of the award.

Hall (right) completed his bachelor's degree in computer information systems and psychology in May, graduating with high honors. He is pursuing a Ph.D. in human computer interaction at the University of Michigan.

Hall's research focuses on the future of work in an increasingly automated, computerized society. He is exploring human values and problems and examining tasks that need human skill and judgment aided with technology vs. those where human involvement is eliminated. "We want to think 10-20 years out. My goal is to pursue dreams we didn't know existed," he said.

NSF considers applicants with experience in research and making a broader positive impact on society. Hall has already won several research grants, working closely with professors and presenting work at local, state and international research conferences. Hall presented his work on drones and augmented reality at the Association for Computing Machinery Conference on Human Factors in Computing Systems earlier this month, finishing among the top three in student research competition.

Hall described his first research project as "so hard, so challenging, so fascinating and rewarding. It was addictive," he said. It involved the effect of computer



system delays on a user interface, and he presented the results at the same conference in 2016. "I realize only 50 people in the world may care about this, but 40 of them were in that room."

Hall, 34, previously worked as a press operator-technician and thought he could make a higher salary if he became a programmer. "Without a degree, the best jobs weren't available."

Discussions with UW-Stevens Point faculty helped Hall discover his chosen field, he said. They helped him realize his potential and think differently about approaching challenges. **Tim Krause**, chair of Computing and New Media Technologies, is his adviser. "He's been a wonderful source of support for creative options. 'If no one's ever done it, that's a reason to do it,'" Hall said.

In Memoriam: Christopher P. Cirimo, 1954-2017

Chris Cirimo, a dean at the University of Wisconsin-Stevens Point who championed civil discourse, critical thinking and access to public higher education, died unexpectedly in May.

Cirimo, 63, served as the dean of the College of Letters and Science since 2009.

"Chris, above all, was a person of integrity, honesty and compassion. He was an ethical leader who always advocated for our students, faculty and staff. Our university is a better place because of his dedication, hard work and kindness," said Chancellor

Bernie Patterson.

Cirimo launched a civil discourse initiative and worked with colleague **Dona Warren** to advance critical thinking.

"He was deeply committed to helping people become more scientifically literate so they could be more savvy consumers of information," she said. The Civil Discourse Initiative, which included public forums on topics with multiple viewpoints, raised awareness on vetting a variety of voices in a civil manner.

The first in his family to attain a Ph.D., Cirimo was passionate about providing opportunities for students who didn't think they could attend college, said Warren.

From the desk of Interim COLS Dean Eric Yonke

An historic year ahead

This academic year promises to be historic for the College of Letters and Science. With the challenging budget cuts and university's structural deficit, we have much to consider and much to do. With the tragic loss of former dean **Chris Cirno**, we have needed time to mourn and time to celebrate his wonderful contributions. By the time 2017-2018 is in the books, our college will manage the immediate budget cuts, draft a strategic plan, and gear up a national search for a new dean.

We have two new faces in the dean's office along with some new initiatives to announce. To introduce myself, I have been a member of the Department of History and International Studies faculty since 1990. I served the last decade as our university's International Education Director, dedicated particularly to advancing our study abroad programs and helping create the Office of International Education. I am honored to serve as interim dean and committed to doing everything in my capacity to guide the college positively through an important stage of discernment and strategic planning.

Tobias Barske is the other new face in the dean's office. Tobias has agreed to take on double duty this year, continuing his service as chair of the Department of World Languages and Literatures and stepping in as interim Associate Dean for Curriculum and Student Affairs. Recently, Tobias successfully applied to bring the UW System Collaborative Language Program to our College. This new initiative will help us build on our current language offerings and strengthen world language instruction across the state.

Dona Warren has not left us completely, but she has a new important assignment for the college and for the campus. Dona continues to support the dean's office, given her years of experience as associate dean, but she is working the next two years on the Critical Thinking



Initiative. The initiative will help improve critical thinking pedagogy in our General Education Program and create opportunities to bring critical thinking skills to local businesses and organizations.

Special thanks to Dona and Tobias for their continued service to the college and best of luck in their new initiatives!

Finally, and most importantly, we welcome 10 new faculty members to the college this year. They bring the latest research, newest teaching and learning techniques, and high energy to our departments. Let me end with a special welcome to the following new colleagues: **Sirin Budak** (mathematics), **Ashley Driver** (biology), **Rebecca Gathje** (psychology), **Alexander Iliiev** (computing and new media technologies), **Ann Impulitti** (biology), **Thomas Lentz** (biology), **Sarah Orlofske** (biology), **Michael Steury** (biology), **David Szpunar** (chemistry), and **Jason Zinser** (philosophy).

"He was deeply committed to access opportunities and to helping students realize their potential and fulfill it. That was probably his guiding principle."

His public service mission externally was to collaborate with and serve local needs, Warren said. Cirno sought creative ways to offer education, establishing collaborative online degree programs and an aquaponics certificate program.

He was instrumental in launching majors in health information management and technology, data analytics and social work. He established minors in aquaculture, biomedical writing and re-established an environmental studies minor.

He is survived by his wife, Barbara Cirno, and two children, Amethyst Sloane and Ethan Cirno.





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News Briefs

Superior Fresh, billed as the largest aquaponics facility in the world and the first indoor recirculating aquaculture system in Wisconsin raising Atlantic salmon, opened in late August. Biology graduate **Brandon Gottsacker** serves as Superior Fresh's COO.

Mathematics graduate **Kevin Reese** was named one of five Wisconsin finalists for the 2017 Presidential Award for Excellence in Mathematics and Science Teaching.

Political science professor **Mert Kartal** and two members of UW-Stevens Point's award-winning Model United Nations team hosted a Model UN summer camp for high school students.

Professor **Dorothy De Boer** of the Department of Sociology and Social Work received the 2017 Sister Joel Read Civic Engagement Practitioners Award.

History graduates **Brad Casselberry** and **Diane Long** have authored "Images of America: Plover," a book showing Plover's evolution from a stop for loggers to a growing village.

Political science graduate **Michael Wilson Becceril** was named a Jennings Randolph Peace Scholar.

Social work professor **Amy Zlimer** visited China, where she consulted for Yibin University in Sichuan Province on its undergraduate social work program.

Your Gift Makes a Difference!

To create a legacy at UW-Stevens Point, please contact **Tony Romano** at 715-346-3406 or tony.romano@uwsp.edu, or visit www.uwsp.edu/cols/Pages/HowToSupport.
Thank you for your consideration!

GIS graduate **Zach Ott**'s Discover the Green Circle Trail Map was added to the Esri Story Maps Gallery.

Biology professor **Chris Yahnke** and professor emeritus **Emmet Judziewicz** participated in the Milwaukee Public Museum's third annual BioBlitz, cataloging animals, plants, and fungi in Waukesha's Fox River Park.

Upcoming COLS Events

- December 12, 6:30 p.m. — **Witchcraft and Witch Hunts in Literature** (Community Lecture Series)
- February 13, 6:30 p.m. — **Data Analytics** (Community Lecture Series)
- March 13, 6:30 p.m. — **The Morality of Drone Warfare** (Community Lecture Series)
- April 10, 6:30 p.m. — **Building Connections: The Connections Project** (Community Lecture Series)

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