





Faculty Member Contact Information

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Contact Info	
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Department	Geography and Geographic Information Sciences

1 Funded URCA Assistant

	This position is ONLY open to students who have declared a major in this discipline.	M
X	This project deals with social justice issues.	
	This project deals with sustainability (green) issues.	
X	This project deals with human health and wellness issues.	
X	This project deals with community outreach.	
	This mentor's project is interdisciplinary in nature.	I

Are you willing to work with students from outside of your discipline? If yes, which other disciplines?

- Yes, my project is truly interdisciplinary, please also mark me as interested in taking students from these areas: health science.

How many hours per week will your student(s) be required to work in this position?
(Minimum is 6 hours per week; typical is 9)

- 6

Will it be possible for your student(s) to earn course credit?

- No

Location of research/creative activities:

- GIS Lab, AH1320

Brief description of the nature of the research/creative activity?

Project Title: Use of Spatial Data Science to Understand the Landscape of Public Health in Illinois

Public health agencies, such as the Illinois Department of Public Health, collect vast amounts of data at the county level over time, often stored in formats like CSV or PDF, making it difficult to grasp spatial and temporal patterns. These datasets are critical for health professionals and policymakers, who rely on data-driven intelligence to make informed decisions. The process of transforming raw data into actionable insights requires the use of spatial data science techniques, including data engineering, spatial analysis, temporal analysis, statistical analysis, visualization tools, and geospatial technology. Student(s) will have the opportunity to participate in a (spatial) data science project, including data engineering, spatial, temporal and statistical analysis, and visualization, using the Illinois Department of Public Health's Vital Statistics data set.

Brief description of student responsibilities?

Student(s) will use Microsoft Excel, ArcGIS Pro (version 3.3) and IBM SPSS (version 29) to perform a variety of research activities, such as data extraction, spatial and statistical analysis, map creation, and visualization of the final results.

URCA Assistant positions are designed to provide students with *research or creative activities* experience. As such, there should be measurable, appropriate outcome goals. What exactly should your student(s) have learned by the end of this experience?

1. Student(s) will learn both the concepts of spatial data science and their practices to solve real-world problems.
2. Student(s) will learn the research skills using Microsoft Excel, ArcGIS Pro (version 3.3) and IBM SPSS (version 29) to perform data engineering, spatial, temporal and statistical analysis, and visualization.

Requirements of Students

If the position(s) require students to be available at certain times each week (as opposed to them being able to set their own hours) please indicate all required days and times:

- N/A

If the location of the research/creative activities involves off campus work, must students provide their own transportation?

- N/A

Must students have taken any prerequisite classes? Please list classes and preferred grades:

- I require my students to have taken GEOG320 Cartography and have earned at least a B in the class.

Other requirements or notes to applicants:

- N/A