

2019 Data Science Innovation Lab: Data Science Challenges in Rural Health and Environmental Exposures



Examples of Mathematical/Statistical Topics Applicable to rural health and environmental exposures but are not limited to the following (The lab is open to any quantitative investigators with relevant approaches and methodologies):

Applied Mathematics

Investigators with mathematical approaches applicable to issues in rural health. For example, mathematical methods that determine better access to health care, impacts of disease, and linking regions of environmental exposures.

Computer Science

Investigators with computational expertise and research questions that involve developing tools and workflows to harness big data capabilities, especially data that may be limited in rural settings.

Data Science

Investigators with the knowledge to account for disparities, provenance and metadata annotations that are crucial to link datasets that span rural communities, geography, and environmental exposures. Investigators with the knowledge and expertise to apply appropriate data models and visualizations that address rural health challenges. Investigators with firsthand experience working with the data science software and visualization platforms such as Python, Cytoscape, Gephi, MATLAB, Neo4J, R & R Studio, Sci2 Tool, and Tableau are encouraged to apply.

GIS

Any investigator with firsthand experience working with Geographic Information System (e.g. ArcGIS) that have research questions that intersect rural health and environmental exposures.

Pure Mathematics

Investigators with a solid foundation in mathematics and interest in approaching problems from a theoretically point of view. To work with other investigators in creating simple mathematical models that will be tested and further developed based on evidence in the field.

Statistics

Investigators with experience in statistical methodologies and approaches to improve project direction and statistical significance. Investigators with experience in developing projects based on the population sampling and environmental factors in rural health settings are encouraged to apply.