Title: The Knowledge of Who, When, and Where: Spatial and Spatiotemporal Analyses for Decision, Intervention, and Policy

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Names	Departments and Affiliations	Areas of Expertise
Ahmed A. Arif, MBBS., Ph.D., CPH., FACE	Public Health Sciences	Occupational and environmental epidemiology, Spatial epidemiology, Chronic disease epidemiology, Population-based health surveys, Neuromuscular disorders, Epidemiology of rare diseases, health disparities.
Rajib Paul, Ph.D.	Public Health Sciences and School of Data Science	Bayesian Statistics, Big Data Analytics, Biostatistical Methods, Spatial and Spatio-Temporal Statistics with applications in Epidemiology, Infectious Diseases, Health Policy, and Environment.
Jean-Claude Thill, Ph.D.	Department of Geography & Earth Sciences and School of Data Science	Sustainable Urbanization and Sustainable Mobility Transportation and Mobility Systems Geospatial Data Science Urban Analytics and Smart Cities Transportation, Economic Organization, and Development Spatial Modeling Socio-spatial Disparities

Target category for the submission: Existing and Emerging Excellence

Key Words: Health Disparities, Social Determinants of Health, Spatiotemporal Modeling, Structural Inequities, and Vulnerable Population

Brief Project Overview: The World Health Organization defines social determinants of health (SDoH) as to where people are born, live, work, and grow. SDoH has a strong influence on one's physical and mental well-being. In addressing the debate of nature vs. nurture and zip code vs. genetic codes on which one is more informative, a Harvard Medical School study found that both genes and environment are equally responsible and significant contributors to healthcare spending. Scientific communities' quest for "why" can be answered with greater merit if it is followed by information on "where," "when," and "who." In this project, the researchers will synthesize information on "who," "where," and "when" by combining and analyzing large disparate databases using knowledge on epidemiology, population health, biostatistics, data science analytics, urban analytics, socio-economic geography, and environmental systems.