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Climate Program Opening Workshop
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Lecture: ***Projecting Health Impacts of Climate Change: Embracing an Uncertain Future***

Speaker: Howard Chang

Abstract:

Global climate change affects human health most notably by increasing the frequency and intensity of dangerous heat waves, wildfires and hurricanes. In addition to extreme weather events, climate change can also lead to a myriad of persistent environmental changes that impact public health. Health impact assessment refers to the analytic framework for evaluating how a policy or program affects population health. It is frequently applied in climate and public health research to quantify future health and economic burdens attributable to various consequences of climate change.

Performing health impact assessment entails the integration of various data. For projecting future climate-related health impacts, analyses require three sources of information: (1) health effects of environmental exposures, (2) projections of future exposures, and (3) distributions of exposures and effects in the future population. Each information source is subject to uncertainty because of data availability and assumptions made for the future. Climate research is highly interdisciplinary, bringing together tremendous amount of data, theory, and modeling efforts to provide timely knowledge for one of the most pressing issues of our time. Statistical modeling techniques and probabilistic reasoning can plan an important role in ensuring these findings are informative, accurate, and reproducible.

This presentation will discuss recent development in statistical methods for quantifying health impacts of climate change, as well as related open problems in environmental epidemiology and exposure assessment.