



WEBINAR

USING HETEROGENEOUS DATA TO PREDICT MOSQUITO-BORNE DISEASE SPREAD

9am
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21st
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Infectious mosquito-borne disease burden is rapidly increasing around the globe due to, in part, globalization, climate change, and human behavior. There is urgent need for improved prediction of their spread so that mitigation techniques and treatments can be administered proactively rather than just reactively. One of the primary challenges is that many regions of interest are in hard-to-reach locations, and as such, public health surveillance data (often reliant upon self-reporting) can be both sparse and lagging. This research exploits heterogeneous data sources (e.g., from satellite imagery, Google search queries, demographic data) and climate models to provide leading indicators (e.g., relative to mosquito habitats) that enable earlier forecasting and, earlier interventions. In this talk, we will discuss two applications which utilise disparate data to more accurately model and forecast mosquito-borne diseases.

DR. CARRIE MANORE IS AN APPLIED MATHEMATICIAN AND THE DEPUTY GROUP LEADER IN THE THEORETICAL BIOLOGY AND BIOPHYSICS GROUP AT LOS ALAMOS NATIONAL LABORATORY. DR MANORE LEADS AND CO-LEADS MULTIPLE PROJECTS RELATED TO INFECTIOUS DISEASE, HUMAN HEALTH, AND ECOLOGICAL MODELING TO FORECAST AND ASSESS MITIGATIONS.

DR. SARA DEL VALLE IS A SENIOR SCIENTIST IN THE INFORMATION SYSTEMS AND MODELING GROUP AT LOS ALAMOS NATIONAL LABORATORY. DR DEL VALLE LEADS AN INTERDISCIPLINARY TEAM FOCUSED ON THE DEVELOPMENT OF MATHEMATICAL AND COMPUTATIONAL MODELS FOR INFECTIOUS DISEASES, COMPLEX NETWORKS, AGENT-BASED SIMULATIONS, AND APPLYING MACHINE LEARNING APPROACHES TO EXTRACT INFORMATION FROM HETEROGENEOUS DATA STREAMS TO INFORM NATIONAL SECURITY APPLICATIONS.



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