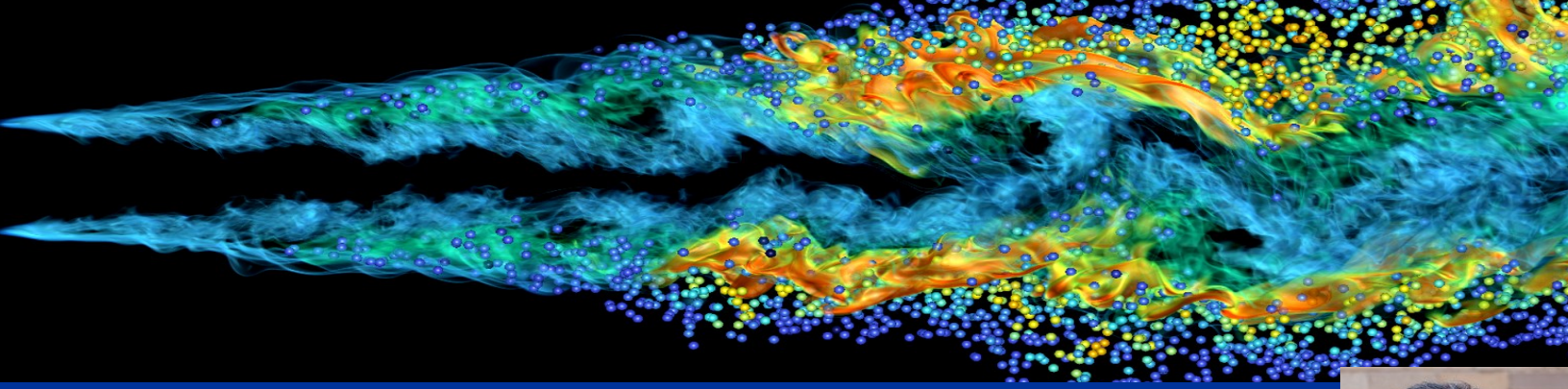

Center for Informatics and Computational Science Seminar Speaker

Professor Jeffrey Shaman
Columbia University

"Forecasting the Growth and Spread of Infectious Disease Outbreaks"

Wednesday, March 20, 2019

4:00-5:00pm

102 DeBartolo Hall

Abstract Dynamic models of infectious disease systems are often used to study the epidemiological characteristics of disease outbreaks, the ecological mechanisms affecting transmission, and the suitability of various mitigation and intervention strategies. In recent years these same models have been employed to generate probabilistic forecasts of infectious disease incidence at the population scale. Here I describe efforts within my own group developing model systems and combined model inference frameworks designed for the stimulation and forecast of disease outbreaks. Methodological and operational forecasting for a number of diseases, including influenza, Ebola and West Niles virus, are presented, as well as ongoing efforts to validate and improve forecast accuracy.

Bio Jeffrey Shaman is an associate professor in the Department of Environmental Health Sciences and Director of the Climate and Health Program at the Columbia University Mailman School of Public Health. He studies the survival, transmission and ecology of infectious agents, including the effects of meteorological and hydrological conditions on the processes. Work-to-date has primarily focused on mosquito-borne and respiratory pathogens. He uses mathematical and statistical approaches to describe, understand, and forecast the transmission dynamics of these disease systems. Dr. Shaman holds a BA in biology from the University of Pennsylvania and a PhD in climate science from Columbia University.