Applied Statistics in Climate Studies



11:30 a.m.

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Conference Room, 3/F, Mong Man Wai Building



EARTH SYSTEM

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Climate science is highly interdisciplinary subject, requiring comprehensive knowledge of essentially all components of Earth's system. Every day, satellites orbiting around the Earth provide terabytes of publicly free climate data. Sophisticated statistical methods are often used to explore the climate signals embedded in these big datasets. I will discuss the applications of some state-of-theart statistical methods, including Bayesian optimization, inverse modeling, and adaptive spatiotemporal analysis in climate studies. The areas of interests include satellite retrievals, carbon cycle, fog detection in polar region, tropical variability, and decadal climate variability. An integration of these data are critical for understanding surface processes, natural and anthropogenic causes of climate variability and providing stringent tests for climate models.

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