February 3, 2025
2:00pm-3:00pm
KAP 414

Prof. Leonard Wong

(University of Toronto)

Adapted optimal transport between Gaussian processes

Abstract: Adapted optimal transport (AOT) has emerged to be a useful framework for quantifying distributional uncertainty in mathematical finance. The key idea is that of causality: when coupling two probability distributions, one is not allowed to look into the future. Despite the rapid growth of the subject in recent years, very few explicit solutions are available in the literature. In this talk, we study adapted optimal transport between Gaussian processes in discrete time and provide explicit formulas for the adapted 2-Wasserstein distance, possibly with entropic regularization. We also study some properties of the resulting adapted Bures-Wasserstein distance on the space of covariance matrices. Based on joint work with Madhu Gunasingam and a recent extension by Acciaio et al.

Zoom Link: USC Math Finance Colloquium

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