

## Optimal Transport and Distributionally Robust Optimization

**ABSTRACT** - In this talk, we discuss recent advances in modeling, statistics, and computational methods for optimal transport-based distributionally robust optimization (DRO) - which encompasses divergence-based DRO as a particular case. We discuss, for example, motivating formulations which include distributionally pricing and hedging with martingale constraints, portfolio optimization, and Bayesian non-parametric inverse problems. As we present these settings, we discuss optimal sample complexity approximations and iterative optimization algorithms for these types of problems.



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**SPEAKER BIO** – Jose Blanchet is a faculty member in the Management Science and Engineering Department at Stanford University – where he earned his Ph.D. in 2004. Prior to joining the Stanford faculty, Jose was a professor in the IEOR and Statistics Departments at Columbia University (2008-2017) and before that he was faculty member in the Statistics Department at Harvard University (2004-2008). Jose is a recipient of the 2009 Best Publication Award given by the INFORMS Applied Probability Society and of the 2010 Erlang Prize. He also received a PECASE award given by NSF in 2010. He worked as an analyst in Protego Financial Advisors, a leading investment bank in Mexico. He has research interests in applied probability and Monte Carlo methods. He serves in the editorial board of ALEA, Advances in Applied Probability, Extremes, Insurance: Mathematics and Economics, Journal of Applied Probability, Mathematics of Operations Research, and Stochastic Systems.