



**Optimization Program WISO Workshop
February 8-10, 2017**

Lecture: *Statistical Inference of Empirical Estimates of Stochastic Programs*

Speaker: Alexander Shapiro

Abstract:

In this talk we discuss statistical properties of empirical (sample) estimates of the optimal value and optimal solutions of stochastic programs. Examples include the classical Maximum Likelihood method, Sample Average Approximation (SAA) approach to two and multistage stochastic programming and risk averse stochastic optimization. We give a survey of consistency (Law of Large Numbers), asymptotics (Central Limit Theorem) and Large Deviations type results. In particular, this has an application to investigation of sample complexity of two and multistage stochastic programming.