Multi-Stage Stochastic Programming: Modeling and Computation

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Talk will take place in Freeman 078 (Freeman Auditorium), from 11:15am - 12:05pm

Abstract: We discuss recent advances in modeling and computation for time-dynamic optimization under uncertainty via multi-stage stochastic programming. We motivate algorithmic tricks that allow a core decomposition algorithm (SDDP, stochastic dual dynamic programming) to scale. These algorithmic ideas allow us to compute using a rich class of models, which are distinguished by how they handle stochastics, ambiguity about stochastics, risk, and more.

Bio: Dave Morton is the Walter P. Murphy Professor of Industrial Engineering and Management Sciences (IEMS) at Northwestern University. His research interests include stochastic and large-scale optimization with applications in public health, security, and energy systems. Prior to joining Northwestern, he was on the faculty at the University of Texas at Austin and worked as a Fulbright Research Scholar at Charles University in Prague. He is a Fellow of INFORMS.