HONGGANG WANG
Assistant Professor, Industrial and Systems Engineering
Rutgers University

Friday, September 29, 2017, 10:45AM
Alampi Room, Marine & Coastal Sciences

Data Driven Analysis and Retrospective Optimization for Energy and Resources Systems

I will first present R-SPLINE (Retrospective Optimization using Simplex Linear Interpolation and Neighborhood Evaluation) for decision making problems associated with complex stochastic systems. R-SPLINE is an optimization framework with sequential sample-average (data-driven) approximations and guarantees almost-sure convergence under certain conditions. R-SPLINE has been extended for other simulation optimization problems with mixed integer variables and categorical variables. I will also talk about new ideas in multi-objective optimization using ZIGZAG search for multi-criteria decision making under systems uncertainty. I will present numerical studies applying R-SPLINE and ZIGZAG to application problems in oil/gas field development, carbon sequestration, smart grid, and sustainable energy systems. Numerical results based on the studied cases demonstrate the efficiency of the discussed R-SPLINE and ZIGZAG algorithms.

Bio: Honggang Wang is an assistant professor in Industrial and Systems Engineering at Rutgers University. He received his Bachelor of Science degree in Power Engineering from Shanghai Jiao Tong University, Shanghai, China, in 1996, Master of Science in Manufacturing Engineering from University of Missouri-Rolla, in 2004, and Ph.D. in Operations Research from Purdue University, West Lafayette IN, in 2009. He had worked as a Postdoctoral Scholar in Energy Resources Engineering at Stanford University for two years before he joined Rutgers, NJ in 2011. Dr. Wang has won IBM faculty award 2012 and the faculty award from Tracy Energy in 2016 for his work in energy systems research. He has won 2016 best paper award at Geothermal Research Council annual meeting, Sacramento CA.

—Coffee/tea will be served prior to the lecture—

Upcoming REI Events

Oct. 20 – Glenn Amatucci, Director Energy Storage Research Group, MSE, Rutgers
Nov. 8 - Women in Energy: Navigating and Leading in the Energy Field
Nov. 17 – Karl Hausker, Senior Fellow, Global Climate Program, World Resources Institute

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