Operations Research Seminar

Comparing Designs for Deterministic Computer Simulation Experiments

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The use of simulation as a modeling and analysis tool is wide spread. Simulation is an enabling tool for experimenting virtually on a validated computer environment. Often the underlying function for the results of a computer simulation experiment has too much curvature to be adequately modeled by a low order polynomial. In such cases finding an appropriate experimental design is not easy. This research uses prediction variance over the volume of the design region to evaluate computer simulation experiments assuming the modeler is interested in fitting a linear regression model or a Gaussian Process model to the response data. Both space-filling and optimal designs are considered. Additionally concepts of a new class of hybrid designs with the goal of prediction variance reduction will be introduced.

Rachel Johnson is a Ph.D. candidate in Industrial Engineering at Arizona State University. She is expected to receive the Ph.D. in December 2008.

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Time: 15:00-16:00
Location: GL-115