JOINT SEMINAR
on

Stochastic Polynomial Interpolation for Uncertainty Quantification with Computer Experiments

Speaker: Dr Matthias H.Y. Department of Systems Engineering and Engineering Management, City University of Hong Kong

Date: 24 Feb 2015 (Monday)

Time: 10:00 a.m. to 11:00 a.m.

Venue: EA-06-02, Faculty of Engineering, NUS

Abstract: Multivariate polynomial metamodels are widely used for uncertainty quantification due to the development of polynomial chaos methods and stochastic collocation. However, these metamodels only provide point predictions. There is no known method that can quantify interpolation error probabilistically and design interpolation points using available data to reduce the error. We shall introduce the stochastic interpolating polynomial model, which overcomes these problems. A Bayesian approach that quantifies interpolation uncertainty through the posterior distribution of the output is taken.

Biography: Matthias HY Tan is an assistant professor at the Department of Systems Engineering and Engineering Management, City University of Hong Kong. He holds a M.Eng degree from NUS and a PhD degree from Georgia Institute of Technology. His research interests include design and analysis of experiments and statistical quality improvement.

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