

1125-62-1920

**Habib Najm\*** (hnnajm@sandia.gov), **Khachik Sargsyan**, **Xun Huan**, **Joseph Oefelein**,  
**Guilhem Lacaze** and **Zachary Vane**. *Uncertainty Quantification with Model Error*.

In the context of Bayesian model calibration, statistical model error representations have been employed, whose parameters have been inferred jointly with other model parameters. The calibration of this model error representation provides for a suitably fitted correction on model predictions to bridge the gap with calibration observables. Extending these methods to physical methods has led to the development of strategies for embedding such model error representations within the model, to ensure satisfaction of various constraints.

This talk will provide an overview of our developments in this regard. We will discuss the basics of the construction, including a number of variants relying on different simplifications, and will outline its utility in different situations including those with or without data noise. We will also present a demonstration in a chemical model, and one in large eddy simulation of turbulent flow. (Received September 19, 2016)