1135-65-1442   **Eric Joseph Hall*** (`hall@math.umass.edu`) and **Markos A Katsoulakis**, University of Massachusetts Amherst, Department of Mathematics and Statistics, Amherst, MA 01003. *Robust information divergences for model-form uncertainty arising from sparse data in random PDE.*

Random partial differential equations of elliptic type arise in many applications of steady-state subsurface flow, including hydrology, carbon sequestration, and petroleum engineering. A key challenge in this context is the analysis of the propagation of uncertainty from data and model inputs to quantities of interest and model outputs. In this talk we examine a novel application of hybrid information divergences to quantify the propagation of model-form or epistemic uncertainty with a view toward robust prediction and risk management. In particular, we highlight the use of these hybrid divergences for two significant uncertainty quantification tasks: sensitivity analysis and gauging model misspecification due to sparse data. (Received September 22, 2017)