



**MUMS Program Opening Workshop  
August 20-24, 2018**

**SPEAKER TITLES/ABSTRACTS**

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“Hierarchical Bayesian Models for Inverse Problems and Uncertainty Quantification”

We consider a Bayesian approach to inverse problems with complex error structure. Hierarchical Bayesian models have been developed in this inverse problem setup. These Bayesian models contain a natural mechanism for regularization in the form of prior distributions. Different regularized prior distributions have been considered to induce sparseness. We propose MCMC as well as variational type algorithms for posterior inference. The proposed methods have been illustrated on several linear and nonlinear inverse problems.