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## BAYESIAN COMPUTATION, NON-LINEAR DYNAMIC MODELS & CELLULAR NETWORKS

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The development of effective methods of Bayesian computation for inference in non-linear dynamic models remains a challenge and one of growing importance in areas such as finance and systems biology. This talk will discuss advances in developing and applying Metropolis methods in such problems, where inference involves high-dimensional latent states as well as hyper-parameters. Research in single cell systems biology, where non-linear dynamic models of cellular networks arise and are copied over thousands of cells, provide motivating examples and context.