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Astrophysical Population Emulation and Uncertainty Quantification Workshop
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Lecture: ***Design of Computer Experiments: Which simulations to run?***

Speaker: Derek Bingham

Abstract:

Experiments on computer models to help understand physical systems are ubiquitous are science. Computer experiments differ from traditional experiments in that the simulators are frequently deterministic and, though computationally costly, are cheaper than performing filed trials. Similar to physical experiments, computer experiments are performed with a variety of goals in mind. Objectives include factor screening, building an efficient emulator, optimization and model calibration. This aim of this talk is to give an overview of some of the main issues and strategies for the design of computer experiments (i.e., selecting the suite of simulations to run to meet your goals).