

Computer Experiments

22nd July 2008

This is 2 x 2 hours sessions run by Henry Wynn and Peter Challenor.

Session 1 (H. Wynn).

Introduction to Computer Experiments. Gaussian process emulators, basic theory. Bayes versus BLUE estimation. Effects plots. Types of covariance function. Low discrepancy sequences. Maximum entropy sampling. Uses: modelling, optimisation, sensitivity analysis.

Session 2 (P. Challenor).

Climate model simulators. Computer experiments in climate modelling. Use of Gaussian process emulators. Special problems in experimental design: sequential design, estimation of scale parameters. Design of ensemble experiments.