



Designing effective experiments– Principles of experimental design

Day 1: Simple designs, experiments and nuisance effects

08:45 *Registration and coffee*

Morning session

09:15 **Introduction and overview of the course**

Workshop A1: The right question - Setting experimental objectives

How many observations? - Sample size and test power

Workshop A2: Choosing sample size and improving test power

Afternoon session

Practical experiments: a model system

Workshop A3: A simple experiment

Controlling nuisance effects: Randomisation

Workshop A4: Randomisation

Controlling nuisance effects: Paired and Blocked designs

Workshop A5: Pairing

Paired and Blocked designs - continued

Workshop A6: Blocked designs

Wrap up session

17:15 Close

Day 2: Designs for multiple effects

Morning session

09:00 **A strategy for optimisation**

Introduction to Factorial Experiments

Workshop B1: A factorial experiment

Interpretation of 2^k Factorial Experiments

Fractional Factorial designs

Afternoon session

Workshop B2: Using fractional factorial experiments

Response surface methods

Workshop B3: Optimisation using response surface methods

Wrap-up session

16:45 Close