

# LTCC Proposed Course

- Title: Statistics for Molecular Genetics
- Basic Details:
  - Core Audience: Statistics
  - Course Format: Extended (10 hours at 2 hours per week)
- Course Description:
  - Syllabus: This course will provide an introduction to statistical and computational methods used in molecular genetics. High throughput technology in biology produces large and complex data sets, consisting of hundreds of thousands of measurements of DNA sequences, levels of gene expression and protein and metabolite abundances. The lectures will each focus on a different application, covering established methods and state of the art models.
    - Introduction to molecular genetics
    - Genome wide association studies
    - Copy number variation
    - Differential gene expression
    - Proteomics
    - Metabonomics
  - Prerequisites: good understanding of statistical inference methods, including Bayesian methods
- Format:
  - Lecture notes will be available to download
  - Proposed timing: Spring 2010
- Lecturer Details:
  - Lecturers: David Balding, Lachlan Coin, Sylvia Richardson, Alex Lewin, Maria De Iorio
  - Lecturer home institution: Imperial