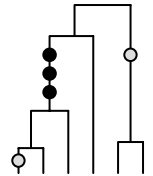


Population Genetic Inference



Members of the Department of Statistics will be teaching a graduate-level course of eight lectures introducing the theory and techniques of population genetic inference with particular emphasis on modern developments in the field of human genetics. Lectures of 90 minutes will be held at 2pm on Tuesdays in Lecture Theatre C in the Department of Zoology on South Parks Road. No registration is required.

<i>Date</i>	<i>Week</i>	<i>Topic</i>
28 th January	2	Modelling population genetic data <i>- The Fisher-Wright model, the neutral theory, gene genealogies and the coalescent, mutation processes, data collection. GM</i>
4 th February	3	Inference <i>- Summarising data, statistical approaches to inference, estimating evolutionary parameters, quantifying uncertainty. GM</i>
11 th February	4	Model testing <i>- Deviations from the standard neutral model, frequency distribution tests, haplotype tests, heterogeneity tests, likelihood ratio tests. GM</i>
18 th February	5	Extensions of the neutral model <i>- Population growth and bottlenecks, geographical structure, split-time models, natural selection. GM</i>
25 th February	6	Recombination <i>- The effects of recombination on tree reconstruction. Combinatorial approaches to detecting recombination events. Summarising allelic associations. SM</i>
4 th March	7	Recombination and haplotype structure <i>- Recombination in the coalescent, estimating evolutionary recombination rate, assessing the influence of recombination on haplotype structure, haplotype blocks and tagging. GM</i>
11 th March	8	Fine-scale mapping <i>- Genealogical approaches to complex disease mapping, methods and assumptions of fine-scale mapping, successes and failures in empirical studies. JH</i>
18 th March	9	Genome-wide association studies <i>- Aims and challenges in genome-wide studies. Detecting and correcting for admixture and population structure. The use of haplotype data. JM</i>

GM: Gil McVean JH: Jotun Hein JM: Jonathan Marchini SM: Simon Myers

For more information, please contact Gil McVean on 81881 or mcvean@stats.ox.ac.uk, or see the course web site from the previous year www.stats.ox.ac.uk/~mcvean/pgindex.html