



# Isaac Newton Institute for Mathematical Sciences

Director: Sir John Kingman

Isaac Newton Institute for Mathematical Sciences, Cambridge, UK

Recent Advances in Statistical Genetics and Bioinformatics

(11 DECEMBER – 15 DECEMBER 2006)

in association with the Newton Institute programme  
*Stochastic Computation in the Biological Sciences*  
(23 October to 15 December 2006)

Workshop Organisers: Wally Gilks (*Leeds*) and Simon Tavaré (*USC/Cambridge*)

**Theme of Workshop:** The workshop will focus on topics from bioinformatics and statistical genetics. Bioinformatics has grown up around the rapidly expanding databases of DNA sequence, molecular structure and interaction. Understanding the evolutionary and functional relationships between these biomolecules is perhaps the greatest challenge of 21st century science. Advanced statistical methods are becoming increasingly important in this endeavour. The arrival of dense genotyping arrays has provided huge amounts of SNP data which are being used in efforts to map genes associated with complex traits. Statistical methods for designing and analyzing such whole genome scans are beginning to appear, but many open problems remain. The use of SNP data to estimate recombination rates across the genome, to detect evidence of selective sweeps and to infer demographic history has also provided some statistical challenges that will be addressed in the workshop.

**Confirmed Speakers:** Andrew Clark (*Cornell*), Manolis Dermitzakis (*Sanger Institute*), Peter Donnelly (*Oxford*), Peter Green (*Bristol*), Jotun Hein (*Oxford*), Nick Patterson (*Broad Institute*), Bruce Ponder (*Cambridge*), Sylvia Richardson (*Imperial*), Alun Thomas (*Utah*), Janet Thornton (*EBI*), Lorenz Wernisch (*Birkbeck*), Ziheng Yang (*UCL*).

**Location & Cost:** The workshop will take place at the Newton Institute and accommodation for participants will be provided in a single study bedroom with shared bathroom at **Wolfson Court**. The workshop package, costing £500, includes accommodation, breakfast and dinner from dinner on **Sunday 10 December** to breakfast on **Saturday 16 December 2006**, and lunch and refreshments during the days that lectures take place. Participants who wish to attend but do not require the workshop package will be charged a registration fee of £40. Self-supporting participants are very welcome to apply.

Further Information and Application Forms are available from the WWW at:

<http://www.newton.cam.ac.uk/programmes/SCB/scbw02.html>

Completed application forms should be sent to Tracey Andrew at the address below, or via email to: [t.andrew@newton.cam.ac.uk](mailto:t.andrew@newton.cam.ac.uk)

Closing Date for the receipt of applications is 29 September 2006

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