**Course Title: ‘**Further Topics in Statistics and Bioinformatics’

**Dates:** 29 February 2016 - 4 March 2016

**Course outline**

This course will provide an introduction to further topics in Statistics and Bioinformatics. Topics include:

* machine learning techniques,
* an introduction to genome sequencing techniques,
* computational methods for genome assembly (Illumina and Nanopore/PacBio)
* variant analysis,
* gene expression analysis.

The course will involve a series of lectures, computer practicals and problem solving exercises.

**Prerequisites:** Attendees should bring a laptop with a University eduroam wireless internet connection in place and the statistical software package R installed. Attendees should be familiar with basic statistical ideas and the use of R. For guidance, potential attendees should consider the material(s) covered in “Statistical Data Analysis in R for genomics” (<http://www.well.ox.ac.uk/dtc/>).

Please ensure your laptop computer has the R statistics package installed on it. You can download and install R free of charge from <http://www.r-project.org> (works on Windows and Mac). If you have no prior experience of using R then it would be helpful to read some of the introductory material on the R website beforehand. You should also take a look at the [R reference card](http://www.well.ox.ac.uk/dtc/R_refcard.pdf) to help you with the basic R commands.

In order to have wifi access you will need to be able to access one of these networks available in WTCHG seminar room B:

* “Wellcome” – for Wellcome Trust personnel with centre network accounts.
* “eduroam” – for Oxford University staff/students already registered for eduroam access. See http://www.oucs.ox.ac.uk/network/wireless/services/eduroam/
* “OWL” - if neither of the above apply then we can create individual OWL network visitor accounts. Please contact us in advance of the course.

Times and Venues at WTCHG:

Monday 29 February   09:00 – 17:00                    Seminar Room B

Tuesday 1 March   09:00 – 13:00 and 14:30 – 17:00  Seminar Room B

Wednesday 2 March      09:00 – 17:00  Seminar Room B

Thursday 3 March            12:00 – 16:30                                   Seminar Room B

Friday 4 March        09:30 – 17:00                       Seminar Room B