

Quality Control of Next Generation Sequencing Reads

Assessing quality and filtering of FASTQ format data

Date: 12 noon - 5 pm, Wednesday 16th November 2016

Location: MR117, MacRobert Building, University of Aberdeen, Old Aberdeen Campus

Format: Instructor led computer based tutorial with support demonstrators.

Instructor: Sophie Shaw, CGEBM

Description: Next generation sequencing technologies can now produce large quantities of data in short time frames. Typically this is given as FASTQ sequence files that hold information on data quality as well as sequence. This workshop will demonstrate how to assess the quality of your sequences, how to filter poor quality reads and how to remove adaptor sequences. Examples will be given using both Maxwell and Galaxy.

Topics:

- Introduction to FASTQ file format and quality scores.
- Quality assessment using FastQC.
- Filtering and Trimming
- Considerations of different data types

Who should attend: This workshop is aimed at researchers, staff and PhD students who are working with, or are going to be working with, next generation sequencing data. Quality assessment and filtering is an essential first step in any sequencing project and therefore these techniques are important for all applications of next generation sequencing. This workshop is highly recommended for anyone looking to attend further application specific workshops being run by the CGEBM.

Pre-requisites: Introduction to HPC Maxwell, the University of Aberdeen Computing Cluster and Basic Unix Skills workshops or alternative experience with the command line and Maxwell.

A Maxwell account is needed. We are providing teaching accounts for all participants to use for the duration of the workshop. However if you would like to use Maxwell after the workshop you will need to obtain an account. For more details see <http://www.abdn.ac.uk/staffnet/working-here/hpc.php>. If you already have a Maxwell account you are welcome to use that.

Closing Date for registrations: 08/11/2016

Closing Date for cancellations: 13/11/2016. Full course fee will be charged for cancellations after this date.

Cost: For University of Aberdeen staff and PhD students the workshop is £30. Details on how to complete payment are provided on the registration form.

For external delegates from academic institutions the workshop fee is £75. Please contact Sophie Shaw (s.shaw@abdn.ac.uk) for details on commercial rates.

Registrations: To register please follow the relevant link at <http://www.abdn.ac.uk/genomics/bioinformatics/training/> and complete the registration form.

Further Information: Please contact Sophie Shaw (s.shaw@abdn.ac.uk)