

Quality Control of Next Generation Sequencing Reads

Assessing quality and filtering of FASTQ format data

Date: 10 am - 4 pm GMT, Tuesday 5th December 2023

Location: Computer Room 3, Polwarth Building, University of Aberdeen, Foresterhill Campus

Format: Instructor led computer-based tutorial with support demonstrators.

Instructor: CGEBM Bioinformaticians (Dr Louie van de Lagemaat and Dr Antonio Ribeiro)

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 bases and how to remove adaptor sequences. Examples will be given using both the command line interface 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 the University of Aberdeen HPC Cluster and Basic Unix Skills workshop or alternative experience with the command line and HPC. If you have existing expertise in using Unix and HPC, please email Louie van de Lagemaat (louie.vandelagemaat@abdn.ac.uk) to discuss to ensure you have the necessary skill level required to benefit optimally from other workshops.

An account on the teaching HPC, Macleod, is needed. We are providing teaching accounts for all participants to use for the duration of the workshop. If you would like to use the research HPC, Maxwell, after the workshop you will need to obtain an account (Email: digitalresearch@abdn.ac.uk). For more details see <http://www.abdn.ac.uk/staffnet/working-here/hpc.php>. Macleod and Maxwell have the same file structure, operating system and scheduler. What you learn on the course is applicable to both University of Aberdeen HPC clusters.

Closing Date for registrations: 28/11/2023

Closing Date for cancellations: Cancellations received by 28/11/2023 will receive a full refund minus a £40 admin fee. Full course fee will be charged for cancellations after this date.

Cost: For University of Aberdeen staff and PhD students the workshop is £100. Payments must be made before registration. Please enter your order details on the registration form. Details on how to raise an internal order for the course fees are provided on the registration form. Separate course fees apply for external or commercial delegates. Please contact us for further details before registering.

Registrations: To register for this course, please complete the registration form [here](#), or scan the QR code



Further Information: Please contact Elaina Collie-Duguid (e.collie-duguid@abdn.ac.uk)