CENTRE FOR GENOME ENABLED BIOLOGY AND MEDICINE
University of Aberdeen

Quality Control of Next Generation Sequencing Reads

Assessing quality and filtering of FASTQ format data

Date: 10 am - 2 pm GMT, Tuesday 2nd December 2025

Location: Computer Room 2, Polwarth Building, University of Aberdeen, Foresterhill Campus

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

Instructors: CGEBM Bioinformaticians (Dr Louie van de Lagemaat, Dr Antonio Ribeiro, Dr Tilly Scott)

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 adapter 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 want to work with next generation sequencing data. Quality assessment and filtering is an essential first step in any application of next generation sequencing. This workshop also increases your experience with Unix/HPC, so is highly recommended for anyone planning to attend further application-specific CGEBM workshops.

Pre-requisites: Introduction to the University of Aberdeen HPC Cluster and Basic Unix Skills workshop or equivalent. If you have existing expertise in Unix/HPC, please email Louie van de Lagemaat (louie.vandelagemaat@abdn.ac.uk) to discuss your skills and ensure you have the necessary knowledge to benefit from this and 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 our High Performance Computing page. 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: 25/11/2025

Closing Date for cancellations: Cancellations received by 25/11/2025 will receive a full refund minus a £40 admin fee. Full course fee will be charged for cancellations after this date.

Cost: Course fees for University of Aberdeen staff and PhD students are £100 and may be paid by internal order. See the registration form for instructions. External or commercial delegates are requested to contact Dr Elaina Collie-Duguid (e.collie-duguid@abdn.ac.uk) before registering, as separate course fees apply.

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)