Genome Assembly and Annotation

Using Galaxy and the Command Line

Date: 9 am – 5 pm, Wednesday 30th January, 2019

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

Format: Instructor led computer based tutorial with support demonstrators.

Instructors: Dr. Sophie Shaw, Dr. Antonio Ribeiro and Dr. Marius Wenzel

Description: Taking next generation sequencing data and transforming this into an assembled genome with annotated genes allows for further insight into the functionality of a species, allows for comparisons with other organisms, and provides a reference genome for other sequencing applications. This workshop will demonstrate a number of software choices and show the process from start to finish using both Galaxy and the command line. It is aimed at researchers who are (or will be) carrying out de novo assembly on organisms that do not have a reference genome. For information on resequencing a species that has a reference please attend the Alignment, Visualisation and Variant Calling Workshop later in the academic year.

Topics:

- Genome Assembly
- Identification of Contamination
- Gene Calling
- Gene Annotation

Who should attend: This workshop is aimed at researchers, staff and PhD students, interested in genome assembly and annotation. The aim of the workshop is to demonstrate software choices for genome assembly and some of the approaches available for annotation.

Pre-requisites: Introduction to HPC Maxwell, the University of Aberdeen Computing Cluster and Basic Unix Skills workshops. If you have alternative experience of using the command line and Maxwell please contact Sophie Shaw (s.shaw@abdn.ac.uk) to discuss this before registration.

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.

Optional: Quality Control of Next Generation Sequencing Reads workshop. QC and filtering of reads will not be covered in the workshop so attendance at the previous workshop is recommended.

Closing Date for registrations: 23/01/2019

Closing Date for cancellations: Cancellations received by 01/01/2019 will receive a full refund minus a £25 admin fee. Cancellations received by 23/01/2019 with receive a 50% refund minus a £25 admin fee. Full course fees will be charged for cancellations after this date.

Cost: For University of Aberdeen staff and PhD students the workshop is £80. Details on how to complete payment are provided on the registration form.
For external delegates from academic institutions the workshop fee is £150. 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)