

Welcome to Genome Academy, which aims to provide: practical experience of working in a molecular biology laboratory, an insight into what a genomic research campus is like, different careers available, the types of work that are carried out and to explore questions of access and ethics.

Timetable for Tuesday 20th August

Time	Activity	Location
9:30 – 10:00	Arrival and refreshments	Discovery Zone
10:00 – 10:30	Welcome and introduction <ul style="list-style-type: none"> • Overview of the programme • Ice breaker activity • Introduction to the Wellcome Genome Campus 	Discovery Zone
10:30 – 11:00	Introduction to DNA barcoding	Discovery Zone
11:00 – 11:15	Introduction to lab safety Overview of practical activities	Discovery Zone
11:15 – 12:15	Lab practical - mastering micropipetting and exploring electrophoresis <ul style="list-style-type: none"> • Introduction to micropipetting • Electrophoresis of dye solutions • Interpretation of electrophoresis 	Advanced Courses Laboratory
12:15	Lunch	Discovery Zone
13:00 – 14:00	Lab practical – DNA extraction <ul style="list-style-type: none"> • Grinding to separate cells in tissue • Alkaline lysis + heating • Separating supernatant + pellet 	Advanced Courses Laboratory
14:00 – 15:00	Lab practical – PCR <ul style="list-style-type: none"> • Purpose of PCR • Stages of PCR • Setting up PCRs 	Advanced Courses Laboratory
15:00 – 15:30	Talk: Tropical diseases and drug creation Michael Ansah	Discovery Zone
15:30 – 15:45	Reflections on day	Discovery Zone
15:45	Wrap up and depart	

Timetable for Wednesday 21st August

Time	Activity		Location
9:30 – 10:00	Arrival and refreshments		Discovery Zone
10:00 – 10:15	Refresher quiz		Discovery Zone
10:15 – 11:15	Lab practical – Gel electrophoresis for DNA discovery <ul style="list-style-type: none"> Preparation of samples for loading Loading samples for gel electrophoresis Interpreting results of electrophoresis 		Advanced Courses Laboratory
11:30 – 11:45	Open lab experience		Open lab
11:45 – 12:15	Lab tour – Long read sequencing	Lab tour – Short read sequencing	Sequencing lab tours
12:15 – 12:30	Questions on sequencing facilities		Open lab
12:30	Lunch		Discovery Zone
13:15 – 14:15	Bioinformatics: Analyse chromatograms and identify invertebrates <ul style="list-style-type: none"> Use Chromas to analyse chromatograms for the accuracy of DNA sequencing Use BLAST of sequence file against NCBI to identify invertebrates 		Learning IT suite
14:15 – 14:45	Talk: BIOSCAN Petra Korlević		Discovery Zone
14:45 – 15:30	Bioinformatics: Create a phylogenetic tree using the invertebrates identified <ul style="list-style-type: none"> Use Clustal Omega to create a multiple sequence alignment Use Interactive Tree of Life to create a phylogenetic tree 		Learning IT suite
15:30 – 15:45	Reflections on day		Discovery Zone
15:45	Wrap up and depart		

Timetable for Thursday 22nd August

Time	Activity			Location
9:30 – 10:00	Arrival and refreshments			Discovery Zone
10:00 – 10:15	Refresher quiz			Discovery Zone
10:15 – 10:45	Talk: Automation of lab processes Abdul Tuameh			Discovery Zone
11:00 – 11:30	Lab tour – CASM lab Histology	Lab tour – CASM lab LCM	Data Centre tour	Histology / LCM / Data Centre
11:30 – 12:00	Data Centre tour	Lab tour – CASM lab Histology	Lab tour – CASM lab LCM	Histology / LCM / Data Centre
12:00 – 12:30	Lab tour – CASM lab LCM	Data Centre tour	Lab tour – CASM lab Histology	Histology / LCM / Data Centre
12:30	Lunch			Discovery Zone
13:15 – 13:30	Introduction to genomics and access / ethics			Discovery Zone
13:30 – 14:00	Talk: Applications of CRISPR Sam Washer			Discovery Zone
14:00 – 15:00	Ethics discussion			Learning IT suite
15:00 – 15:15	Reflections on day			Discovery Zone
15:15 – 15:30	Evaluation and certificates			Discovery Zone
15:30	Wrap up and depart			