

Fungal Pathogen Genomics 9 – 13 May 2023 course timetable

Tuesday 9th May

Time (BST)	Content	Instructors/Speaker
10:00 – 10:30	Registration	
10:30 – 12:30	Welcome, and Instructor/Database introductions Wellcome Genome Science Ensembl Fungi SGD/CGD MycoCosm/JGI FungiDB	Martin Aslett Aleena Mushtaq + Manuel Carbajo Jodi Lew-Smith Sara Calhoun D Roos & E Basenko
12:30 –	1. Introduction to database queries FungiDB site search & advanced search strategies - p.6 SGD YeastMine - p.16 Ensembl Fungi – BioMart - p.24 Ensembl Fungi Molecular Interactions - p.35	All instructors
13:00 – 14:00	Lunch	
– 15:30	Introduction to database queries, Cont/...	All instructors
15:30 –	2. Transcriptomics & Proteomics Ensembl Fungi Track Hubs – p. 46 SGD Expression tools - SPELL – p. 53 FungiDB Transcriptomic & Proteomic analysis– p. 57 Assessing (& editing) gene annotation (JBrowse/Apollo) – p.68	All instructors D Roos
16:00 – 16:30	Tea break	
– 18:30	Transcriptomics & Proteomics, cont	All instructors
18:30 – 19:00	3. SNPs & Variants SGD Variant viewer – p. 76 FungiDB SNP analysis & CNVs – p. 80 Exploring variant in Ensembl Fungi – p. 98	All instructors
19:00– 20:00	Welcome reception & Dinner	
20:00 – 21:00	Participant presentations (2 min flash talks)	All instructors

Wednesday 10th May 2023

Time (BST)	Content	Instructors/Speaker
– 09:00	Breakfast	
09:00 – 10:30	SNPs & Variants (Cont.)	All instructors
10:30 – 11:00	Tea break	
11:00 – 13:00	4. Comparative Genomics & Orthology and Evolutionary analysis & cross-species inference Ensembl Fungi – WGA – p. 111 MycoCosm CAZy enzymes– p. 118 MycoCosm Synteny– p. 127 Exploring protein domains and clusters across Ensembl & MycoCosm– p. 132 SGD predicting fungal biology– p. 141 Ensembl Fungi Evolutionary analysis (gene trees) – p. 149 FungiDB JBrowse synteny – p. 163 FungiDB &OrthoMCL: Orthology and Phyletic Patterns – p. 174	15 min intro: D Roos
13:00 – 14:00	Lunch	
14:00 –	Comparative Genomics & Orthology, Cont/...	All instructors
16:00– 16:30	Tea break	
– 17:00	Comparative Genomics & Orthology, Cont/...	All instructors
17:00 – 19:00	5. NGS data analysis I (note: RNA-Seq and Variant calling sessions are run in parallel) Background & Intro to VEuPathDB Galaxy Deploying workflows using pre-loaded data 5a. RNA-Seq – p. 186 5b. SNP Calling– p. 200	Intro lecture - Crouch RNA-Seq SNP calling Galaxy platform & user workspaces 5a: Crouch / Basenko 5b: Roos / Brown
19:00– 20:00	Dinner	
20:00 – 21:00	Research Seminar (Michael Bromley, MRC)	

Thursday 11th May 2023

Time (BST)	Content	Instructors/Speaker
– 09:00	Breakfast	
09:00 –	6. Enrichment analysis SGD GO Slim mapper – p. 207 CGD GO Term finder – p. 210 FungiDB GO enrichment – p. 214	10 min intro: S Brown
10:30 – 11:00	Tea break	
– 12:30	Enrichment analysis, Cont/...	All instructors
12:30 –	7. NGS Data analysis II (note: RNA-Seq and Variant calling sessions are run in parallel) 7a. RNA-Seq – p. 224 7b. SNP Calling – p. 236	Lecture: K. Crouch 7a. Crouch / Basenko 7b: Roos / Brown
13:00 – 14:00	Lunch	
14:00 – 15:00	Sanger Tour	Nishadi De Silva
15:00 –	NGS Data analysis II, Cont/...	All instructors 7a. Crouch / Basenko 7b: Roos / Brown
16:00– 16:30	Tea break	
– 18:30	NGS Data analysis II, Cont/... (note: RNA-Seq and Variant calling sessions are run in parallel)	All instructors 7a. Crouch / Basenko 7b: Roos / Brown
18:30 – 19:00	Introduction to group projects	Nishadi De Silva
19:00– 20:00	Dinner	
20:00 – 21:00	Research Seminar (Ester Gaya, KEW)	

Friday 12th May 2023

Time (BST)	Content	Instructors/Speaker
– 09:00	Breakfast	
09:00 –	8. Functional analysis: Pathways & metabolites MycoCosm KEGG Browser & Secondary metabolism clusters – p. 252 FungiDB pathways & metabolites – p. 263	All instructors
10:30 – 11:00	Tea break	
– 12:00	Functional analysis: Pathways & metabolites, Cont/...	All instructors
12:00 –	Group Projects	Nishadi De Silva & All instructors
13:00 – 14:00	Lunch	
14:00 –	Group Projects, Cont/...	
16:00– 16:30	Tea break	
– 19:00	Group Projects, Cont/...	All instructors
19:00– 20:00	Dinner	

Saturday 13th May 2023

Time (BST)	Content	Instructors/Speaker
– 09:00	Breakfast	
09:00 –	Group Projects, Cont/...	All instructors
10:30 – 11:00	Tea break	
11:00 – 13:00	Group Projects Presentations (12 min/team max)	All instructors
13:00 – 14:00	Lunch & Departure	