

# Fungal Pathogen Genomics 9 – 13 May 2023 course timetable

## Tuesday 9<sup>th</sup> May

Time (BST)	Content	Instructors/Speaker
10:00 – 10:30	Registration	
10:30 – 12:30	<b>Welcome, and Instructor/Database introductions</b> 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 –	<b>1. Introduction to database queries</b> FungiDB site search & advanced search strategies SGD YeastMine Ensembl Fungi - BioMart & Molecular Interactions	All instructors
13:00 – 14:00	Lunch	
– 15:30	Introduction to database queries, Cont/...	All instructors
15:30 –	<b>2. Transcriptomics &amp; Proteomics</b>  Ensembl Fungi Track Hubs SGD Expression tools - SPELL FungiDB Transcriptomic & Proteomic analysis Assessing (& editing) gene annotation (JBrowse/Apollo)	All instructors       D Roos
16:00 – 16:30	Tea break	
– 18:30	Transcriptomics & Proteomics, cont	All instructors
18:30 – 19:00	<b>3. SNPs &amp; Variants</b>  SGD Variant viewer FungiDB SNP analysis & CNVs Exploring variant in Ensembl Fungi	All instructors
19:00– 20:00	<b>Welcome reception &amp; Dinner</b>	
20:00 – 21:00	Participant presentations (2 min flash talks)	All instructors

## Wednesday 10<sup>th</sup> 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	<b>4. Comparative Genomics &amp; Orthology and Evolutionary analysis &amp; cross-species inference</b>  Ensembl Fungi – WGA MycoCosm CAZy enzymes MycoCosm Synteny Exploring protein domains and clusters across Ensembl & MycoCosm  SGD predicting fungal biology Ensembl Fungi Evolutionary analysis (gene trees) FungiDB JBrowse synteny, orthology & phylogeny	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	<b>5. NGS data analysis I</b> ( <i>note: RNA-Seq and Variant calling sessions are run in parallel</i> )  Background & Intro to VEuPathDB Galaxy  Deploying workflows using pre-loaded data	<b>Intro lecture</b> - Crouch RNA-Seq SNP calling Galaxy platform & user workspaces  <b>5a. RNA-Seq:</b> Crouch / Basenko <b>5b. SNP Calling:</b> Roos / Brown
19:00– 20:00	<b>Dinner</b>	
20:00 – 21:00	<b>Research Seminar (Michael Bromley, MRC)</b>	

Thursday 11<sup>th</sup> May 2023

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

20:00 – 21:00	<b>Research Seminar (Ester Gaya, KEW)</b>	
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## Friday 11<sup>th</sup> May 2023

<b>Time (BST)</b>	<b>Content</b>	<b>Instructors/Speaker</b>
– 09:00	Breakfast	
09:00 –	<b>8. Functional analysis: Pathways &amp; metabolites</b>  MycoCosm KEGG Browser & Secondary metabolism clusters FungiDB pathways & metabolites	All instructors
10:30 – 11:00	Tea break	
– 12:00	Functional analysis: Pathways & metabolites, Cont/...	All instructors
12:00 –	<b>Group Projects</b>	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	<b>Dinner</b>	

## Saturday 11<sup>th</sup> 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	<b>Group Projects Presentations (12 min/team max)</b>	All instructors
13:00 – 14:00	Lunch & Departure	