

Plant Pathogenomics - Training School of the COST Action SUSTAIN on
genomics of plant pathogens, April 3-7, 2016 in Norwich, United Kingdom.

Daily schedule

- 9.30 - 12.30 morning session
- 12:30 - 13:30 lunch onsite on your own
- 13:30 - 17:00 afternoon session

Evenings are on your own except for Tuesday and Friday.

Sunday

- arrival

Monday

9.30-12.30

Introduction by Eva Stukenbrock and Sophien Kamoun

- welcome and objectives
- introduction to the data set and biological system
- Presentations of trainers
- brief self-introduction of students

Primary sequence analysis (Diane Saunders, Ronny Kellner, Vanessa Bueno, Joe Win)

- Lectures (20-30 min each) from D. Saunders and R. Kellner
- Raw data analysis, basic statistics and quality analysis of Illumina sequence data.
- Taxonomy

13.30-17.30

- de novo transcript assembly
- reference-guided assembly, mapping to reference sequence.

Tuesday

9.30 - 10.30

- Recap from yesterday's session and introduction to FungiDB presentation

10.30-12.30

- Presentation on FungiDB (by Evelina Basenko)

Comparative genomics and annotation (Ronnie de Jonge)

13.30-17.30

- Gene prediction tools

- Quality assessment of annotation
- Genome alignment and local alignments
- Identification of presence-absence variation

Tuesday evening: posters and flipchart sessions by students and instructors (2x, 1 hour each) followed by onsite dinner

Wednesday

Analysis of diversity (Pierre Gladieux and Christophe Lemaire)

9.30 - 12.30

- Lecture on neutrality tests and importance of pop structure/demography
- SNP calling
- Functional annotation of SNPs (synonymous, intergenic, ...)

13.30-17.30

- Inference of population structure using phylogenetic networks and model-based clustering algorithms

Thursday

9.30 - 12.30

- Analysis of long-term positive selection using McDonald-Kreitman tests and tests based on summaries of the site frequency spectrum

13.30-17.30

- Genome scan for balancing selection based on summary statistics of polymorphism and divergence

Friday

Effector prediction and OTU analyses (Ronny Kellner, Joe Win)

9.30 - 12.30

- Annotation
- Identification of homologous plant and pathogen ORFs
- Prediction of effector candidate genes and R genes
- OTU clustering of ORFs

Gene expression (Ronny Kellner, Joe Win)

13.30-17.30

- Experimental Design
- Differential expression infected vs. non-infected plants

Closing remarks

JIC bar starts at 17:30

Trainer	Monday	Tuesday	Wednesday	Thursday	Friday
Ronnie de Jonge					
Eva Stukenbrock					
Pierre Gladieux					
Christophe Lemaire					
Diane Saunders					
Vanessa Beuno					
Ronny Kellner					
Joe Win					
Sophien Kamoun					

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