

SISMID Module 14: Metagenomics, June 27-June29

Monday

8:00 am – 8:30 am Coffee and Registration

8:30 am – 10:00 am Class Session

8:30 am – 8:45 am Introductions

8:45 am – 9:00 am Biological questions addressed by metagenomic analysis

9:00 am – 9:30 am Technologies for metagenomic data (NGS & Phylochip)

9:30 am – 10:00 am Amplicon data analysis pipelines: Introduction to QIIME

10:00 am – 10:30 am Break

10:30 am – 12:00 pm Class Session:

10:30 am – 11:15 am VirtualBox & QIIME installation

11:15 am – 12:00 pm QIIME tutorial

12:00 pm – 1:30 pm Lunch

1:30 pm – 2:15pm Multivariate Approaches: Introduction.

2:15pm – 3:00 pm Lab Session

Lab 1: Using data output from Qiime, transformations, quality control.

3:00 pm – 3:30 pm Break

3:30 pm – 4:15 pm Phylochip data, Trees , Data Preparation

4:15 pm – 5:00 pm Lab Session

Lab 2: Quality control, transformations for phylochip data.

5:00 pm – 6:00 pm Participants' and Instructors' Reception

Tuesday

8:00 am – 8:30 am Coffee

8:30 am – 9:15 am Testing and Multiple Testing

9:15 am – 10:30 am Lab Session

Lab 3: Univariate testing: Antibiotics, microbiome and obesity case study

10:00 am – 10:30 am Break

10:30 am – 10:45 am Multivariate Analysis for Abundances and Presence/Absence

10:45 am – 12:00 pm Lab Session

Lab 4: Packages ade4 and vegan.

12:00 pm – 1:30 pm Lunch

1:30 pm – 2:15 pm Combining Trees and other Data

2:15 pm – 3:00 pm Lab Session

Lab 5: Manipulating trees with ape and picante.

3:00 pm – 3:30 pm Break

3:30 pm – 4:30 pm Multiple Table Methods

4:30 pm – 5:00 pm Lab Session

Wednesday

8:00 am – 8:30 am Coffee

8:30 am – 9:15 am Lab Session

Lab 6: Testing supplementary variable effects.

10:00 am – 10:30 am Break

10:30 am – 11:30 am Networks and Advanced Analyses.

11:30 am – 12:00 pm Questions, references, resources.