OPEN & REPRODUCIBLE MICROBIOME DATA ANALYSIS

SUMMER SCHOOL, WAGENINGEN, THE NETHERLANDS, MAY 28-30, 2018

VLAG, WAGENINGEN UNIVERSITY & RESEARCH CENTER, THE NETHERLANDS & UNIVERSITY OF TURKU, FINLAND

CLICK HERE FOR MORE INFORMATION

Day 1	**Introduction to high-throughput sequencing & tools**
8:30 – 9:00	Welcome and coffee
9:00 – 9:15	Interactions between participants and organisers.
9:15 – 10:15	Introduction to next-generation microbiome data analytics.
10:15 – 10:30	Common terminologies.
10:30 – 10:45	Coffee break
10:45 – 11:30	Pros and cons of marker gene sequencing approaches.
11:30 – 12:00	Introduction to NG-Tax and importance of controls.
12:00 – 12:30	Lunch break
12:30 – 15:00	Hands-on training with NG-Tax.
15:00 – 16:00	Coffee break
16:00 – 17:00	Interactive introduction to R software environment.
17:00 – 18:00	Processing your own data with NG-Tax

Contd..

Day 2	**Processing of taxonomic profiling data in R**
8:30 – 9:00	Coffee
9:00 – 10:30	Essential properties of taxonomic profiling data. Introduction to microbiome and phyloseq R packages, and reproducible reporting.
10:30 – 10:45	Coffee break
10:45 – 12:00	Hands-on: preprocessing, normalization, quality control, filtering, and transformations of taxonomic profiling data.
12:00 – 12:30	Lunch break
12:30 – 15:00	Hands-on: Basic microbiome analysis in R: rare, variable, and core microbiota; alpha and beta diversity indices; taxonomic networks; visualization
15:30 – 16:00	Coffee break
16:00 – 17:00	Open discussion forum

Day 3	**Statistical analysis of microbiome composition in R**
8:15- 8:30	Coffee
8:30 – 9:30	Overview of the central statistical concepts: parametric and non-parametric tests; pairwise and group-wise comparisons; standard and mixed linear models; the role of covariates.
9:30 – 10:30	Introduction to shot-gun metagenomics.
10:30 – 10:45	Coffee break
10:45 – 12:00	Hands-on: univariate tests
12:00 – 12:30	Lunch break
12:30 – 15:00	Hands-on: multivariate tests
15:30 – 16:00	Coffee break
16:00 – 17:00	Open discussion forum, review
17:00	Departure