



Workshop

Characterisation of soil and groundwater microbiology: sampling, analytical methods, interpretation and applications for agriculture management

14-15 December 2017

Sheffield, United Kingdom

The aim of this 2-day event is to explore specific microbiology techniques in the context of soil and groundwater microbiology for sustainable agriculture management. The workshop will focus on DNA sample extraction methods from complex substrates, cell counts on planktonic and attached communities, primer design for 16S rRNA sequencing, illumina sequencing, bioinformatics analysis, as well as data wrangling and presentation using open source software.

The sessions will be presented by experienced training facilitators and experts from the INSPIRATION Innovative Training Network (www.inspirationitn.eu) and the University of Sheffield. The programme includes theoretical sessions and laboratory-based demonstrations, with the objective of consolidating participant understanding and skills development. Please contact Stephen Rolfe (s.rolfe@sheffield.ac.uk) or Gabriella Kakonyi (g.kakonyi@sheffield.ac.uk) for further information.

The workshop is open to all Inspiration early-stage researchers. This is in accordance with Grant Agreement 675120 between the Inspiration Beneficiaries and the European Commission.



Schedule

Wednesday, 13 December 2017

18.00 Icebreaker and dinner in local restaurant

Day 1 : Thursday, 14 December 2017

9.00 – 9.30 Arrival/registration

9.30 – 10.30 Sequencing strategies (DNA/RNA/stable isotopes) (seminar)

10.30 – 11.30 DNA extraction and quantification methods (laboratory demonstration)

11.30 – 13.00 Lunch

13.00 – 14.00 Primer design for 16S rRNA sequencing (lab session)

14.00 – 15.00 Handling large datasets efficiently – Unix commands/Virtual boxes/ (lab session)

15.00 – 17.00 Processing pipelines for 16S rRNA Illumina sequences
Usearch and Qiime (lab session)
Filtering, chimera detection

19.00 – 21.00 Networking and dinner at local restaurant

Day 2 : Friday, 15 December 2017

9.30 – 10.30 Strategies for analysing 16S rRNA sequences (an introduction to Phyloseq) (seminar)

10.30 – 11.30 BIOM files and data input (lab session)

11.30 – 13.00 Lunch

13.00 – 16.00 DESEQ2, Phyloseq and R (lab session)

Data input and filtering, ordination methods, differential abundance analysis and display

Location

Department of Animal and Plant Sciences, Alfred Denny Building, University of Sheffield
Western Bank, Sheffield S10 2TN, UK

