



EU Reference Laboratory for *E. coli*
Department of Food Safety, Nutrition and Veterinary Public Health
Unit of Food Microbiology and Foodborne Diseases
Istituto Superiore di Sanità



Training Course on WGS data use: bioinformatics tools for aiding STEC outbreak investigation

2 days

Online course



**Organized by the European Union Reference Laboratory
(EURL)**

for *Escherichia coli*,

Istituto Superiore di Sanità, Rome, Italy

Funded by the European Commission – DG SANTE

PROGRAM

Day 1

09.30 **Start of the training stage**

09.40 Welcome, housekeeping, and general overview on the training course

Session 1

09.50 Introduction to Next Generation Sequencing data formats, quality check and basic analytical tools

10.20 Introduction to the ARIES webserver user-interface

10.50 Basic characterization: 7-genes Multi Locus Sequence Typing (MLST),
virulotyping and serotyping

11.20 Explanation of the tasks assigned to the trainees to be carried out during the
hands-on session (Quality check and Trimming of WGS, 7-genes MLST,
virulotyping and serotyping)

11.50 **End of session 1**

Session 2

14.30 Results discussion

15.00 Assembly and assembly statistics

15.10 Introduction to core genome MLST (cgMLST)

15.40 Understanding the cgMLST and the concept of strain relatedness. Explanation of
the tasks assigned to the trainees to be carried out during the hands-on session
(Assembly statistics and cgMLST)

16.30 **End of Session 2**

Day 2

Session 3

09.30 Results discussion

10.00 Explanation of the tasks assigned to the trainees to be carried out during the
hands-on session: outbreak investigation exercise

10.30 **End of session 3**

Session 4

12.30 Discussion on the outcome of outbreak investigation exercise

13.30 **Closure of the training**