



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



**3rd Course on bioinformatics tools
for Next Generation Sequencing data mining:
use of bioinformatics tools for typing pathogenic *E. coli***

18-19 June, 2018

**Informatics Training Room
(Building 1, Floor B)
Istituto Superiore di Sanità
Viale Regina Elena, 299 – Rome, Italy**



Organized by:

- The EU Reference Laboratory for *E. coli*
- The ISS IT Service

Funded by the European Commission – DG SANTE

DIRECTOR OF THE COURSE

Stefano MORABITO

EU Reference Laboratory for *E. coli*

Department of Food Safety, Nutrition and Veterinary Public Health

Istituto Superiore di Sanità

SPEAKERS

EU Reference Laboratory for *E. coli*, ISS, Rome, Italy

Antonella MAUGLIANI

Valeria MICHELACCI

Arnold KNIJN

TECHNICAL SECRETARIAT

Susan BABSA, Clarissa FERRERI

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Fabio GALATI

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GENERAL INFORMATION

Venue: Istituto Superiore di Sanità, Informatics Training Room (Building 1, Floor B)

Viale Regina Elena 299, 00161 Rome

This event is part of the scientific and tutorial activities of the EURL-VTEC, funded by the European Commission – DG SANTE

For any information regarding the event, please send an email to crl.vtec@iss.it

PRELIMINARY PROGRAM

June 18th, Monday

13.00 Registration

13.10 Welcome, housekeeping, and general overview on the training course **Valeria Michelacci**

Session 1

13.20 Introduction to Next Generation Sequencing data formats, basic tools and servers for analysis **Valeria Michelacci**

13.50 IT infrastructure and user interface: The Galaxy architecture and ARIES cluster **Arnold Knijn**

14.10 Practical aspects on the use of ARIES **Antonella Maugliani**

14.30 Preliminary analysis: quality check and trimming **Valeria Michelacci**

15.00 Break

15.30 Hands on: Quality check and trimming of whole genome sequences
Arnold Knijn
Valeria Michelacci
Antonella Maugliani

16.00 Assembly, assembly statistics, virulotyping and serotyping **Valeria Michelacci**

16.30 Hands on: Assembly of the raw reads
Arnold Knijn
Valeria Michelacci
Antonella Maugliani

17.00 Introduction to the EURL-VTEC WGS PT pipeline **Valeria Michelacci**

17.20 Hands on: EURL-VTEC WGS PT pipeline
Arnold Knijn
Valeria Michelacci
Antonella Maugliani

17.40 **End of Session 1**

June 19th, Tuesday

Session 2

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|--------------|--|--|
| 09.00 | Hands on: assembly statistics | Arnold Knijn
Valeria Michelacci
Antonella Maugliani |
| 09.30 | Hands on: analysis of EURL-VTEC WGS PT pipeline report | Arnold Knijn
Valeria Michelacci
Antonella Maugliani |
| 10.00 | Multi Locus Sequence Typing from WGS data | Valeria Michelacci |
| 10.30 | Hands on: MLST 7 genes | Arnold Knijn
Valeria Michelacci
Antonella Maugliani |
| 11.00 | Hands on: wgMLST | Arnold Knijn
Valeria Michelacci
Antonella Maugliani |
| 11.40 | Whole genome SNPs comparison: Reference-free approach | Valeria Michelacci |
| 12.10 | Lunch break | |
| 13.10 | Hands on: ref-free wgSNPs | Arnold Knijn
Valeria Michelacci
Antonella Maugliani |
| 14.00 | Final discussion | |
| 15.00 | Closure | |