



# **Basic Course on Bioinformatics tools for Next Generation Sequencing data mining**

**11-12 June, 2015**

**SIDBAE 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 (SIDBAE)

**Funded by the European Commission – DG SANTE**

## DIRECTOR OF THE COURSE

Stefano MORABITO

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Dipartimento di Sanità Pubblica Veterinaria e Sicurezza Alimentare

Istituto Superiore di Sanità

## SPEAKERS

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

Alfredo CAPRIOLI

Antonella MAUGLIANI

Valeria MICHELACCI

Stefano MORABITO

Rosangela TOZZOLI

IT Service (SIDBAE), ISS, Rome, Italy

Arnold KNIJN

Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise, Teramo, Italy

Massimiliano ORSINI

European Food Safety Agency, Parma, Italy

Maria Teresa DA SILVA FELICIO

## TECHNICAL SECRETARIAT

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## GENERAL INFORMATION

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

Viale Regina Elena 299, 00161 Rome

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

For any information regarding the event, please send an email to [crl.vtec@iss.it](mailto:crl.vtec@iss.it)

**Thursday 11 June**

**9.00 Registration**

- 9.15** Welcome, housekeeping, and general overview on the training course  
**Alfredo Caprioli**  
**Stefano Morabito**  
**Fabio Galati**

**Session 1**

- 9.45** Recent and on-going WGS initiatives and activities of EFSA  
**M. Teresa da Silva Felicio**

- 10.00** Next generation sequencers: from the bacterial culture to raw data  
**Valeria Michelacci**

**10.30 Coffee break**

- 11.00** Analysis of NGS data: local and remote options, closed and custom platforms (Galaxy)  
**Massimiliano Orsini**

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

- 12.00** Assembly and alignment of NGS data  
**Valeria Michelacci**  
**Massimiliano Orsini**

**13.00 Lunch**

- 14.00** Hands-on exercises: DTU Center for Genomic Epidemiology remote closed approach  
**Valeria Michelacci**  
**Rosangela Tozzoli**  
**Antonella Maugliani**

- 15.00** Hands-on exercises: remote and custom analysis on ARIES (Assembly of Illumina and IonTorrent reads, QC, Bowtie2 mapping)  
**Massimiliano Orsini**  
**Valeria Michelacci**  
**Arnold Knijn**

- 16.00** Blast searches, annotations, visualization of genome comparisons  
**Valeria Michelacci**

**Friday 12 June**

**Session 2**

<b>9.30</b>	Hands-on exercises: <i>E. coli</i> Virulotyper and Serotyper, Prokka annotation and Mauve alignments.	<b>Valeria Michelacci</b>
<b>11.00</b>	<b>Coffee break</b>	
<b>11.30</b>	Typing in the NGS era: The way forward!	<b>Valeria Michelacci</b>
<b>12.15</b>	Hands-on exercises: MLST, different tools for phylogenetic trees (SNPs, NDtree)	<b>Valeria Michelacci</b> <b>Rosangela Tozzoli</b> <b>Stefano Morabito</b>
<b>12.45</b>	Concluding remarks	<b>Stefano Morabito</b> <b>Alfredo Caprioli</b>
<b>13.00</b>	<b>Closure of the Course and Lunch</b>	