

## Invitation to EURGen-RefLabCap virtual multidisciplinary training workshop – October - November 2024

Dear members of the EURGen-RefLabCap project,

The EURGen-RefLabCap team is pleased to invite you to the fifth and last multidisciplinary training workshop (simulation exercise) on carbapenem- and/or colistin-resistant Enterobacterales (CCRE) outbreak detection using microbiological, epidemiological, and genomic data.

### **Overview of the exercise:**

This training workshop will be held as a simulation exercise based on a fictitious outbreak scenario, with data release over time (31 October to 11 November). The aim is to investigate a possible multi-species outbreak situation with the help of data injects (epidemiological and genomic data) from different hospitals. Publicly available Illumina and ONT sequence data will be used for the simulation exercise.

### **Objective:**

The objective of this exercise is to provide the supporting background for performing various steps of CCRE outbreak investigation by using WGS based methods for bacterial typing and outbreak detection. In this iteration of simulated exercises, we will also focus on plasmid identification and characterisation, i.e., the confirmation of carbapenemase genes on plasmids and possible spread of these between multiple bacterial species.

### **Who should participate?**

A mix of national microbiology and healthcare epidemiology experts are encouraged to participate. Management level representatives will be encouraged to participate as representatives of the laboratories that do not use WGS to acquaint them with the utility and added value of WGS-based methods for outbreak detection. Ideally, a group of colleagues from each laboratory will participate in the exercise, with one person appointed as the main contact for communication with the EURGen-RefLabCap coordinators.

The exercise is focused on the participants with limited knowledge in bacterial genomics and descriptive epidemiology.

**Sign-up link:** <https://ec.europa.eu/eusurvey/runner/dba67fde-da97-8c4a-7527-1383806d3601>

The deadline for registration is **Wednesday 16 October 2024 at 16:00 CET**. Links to online participation in the workshop and materials will be shared by email to the registered participants prior to the workshop.

### **Expected outcomes:**

The participants will be familiarized with the methods of visualization of epidemiological data to be able to decide the existence of an outbreak. The participants will also learn about principles and methodologies for subtyping and cluster analysis to be able to detect CCRE outbreaks by using WGS-based methods

The presentations will be recorded, and both presentations and material will be shared on the project website, and participants are welcome to further distribute and use the materials and to run the exercise at national level after the workshops (Train-the-Trainer).

### **Outline of the training workshop:**

This workshop is divided into two online sessions of a maximum of two hours. The injects will be released three times (three data injects) with two question surveys in between the sessions.

The slides and materials will be shared via Slack (<https://eurgen-reflabcap.slack.com/archives/C043VB35D34>) and you can review the slides from previous multidisciplinary workshops on the project website (<https://www.eurgen-reflabcap.eu/courses-and-workshops>).

A link for downloading sequence data will be distributed. The accessible sequence data will be based on Illumina (MiSeq/NextSeq) fastq and fasta files and ONT data (fasta files). The tools presented for the exercise will mainly be web-based tools and it should be possible to participate in the exercise even with low computing capacity and with only basic knowledge about genomic analysis.

### ***Exercise draft schedule:***

Below you can find the draft schedule for the workshop, but small changes in content can still occur.

#### **Online Session 1: Thursday 31 October 2024, 14:00-15:30 CET**

- Introduction and purpose of exercise
- Introduction to typing methods; short review of species ID, AMR, MLST, plasmid and phylogeny tools
- Information about exercise setup, data, tasks, and question surveys
- Time for questions

#### **Online Session 2: Monday 11 November, 14:00-15:30 CET**

- Presentation of exercise results (outbreak investigation)
- Discussion regarding epidemiological and genetic analysis for outbreak investigation
- Questions/comments from participants

#### **Data injects**

- Thursday 31 October (Sequence + epidemiological data)
- Monday 04 November (Sequence data)
- Thursday 07 November (Sequence data)

#### **Question survey**

- Survey 1: Thursday 31 October (deadline: Thursday 7 November 12:00 CET)

The pdf versions and links to the survey will be available on 31 October.

An evaluation survey will be sent out after the workshop.

If you have any additional questions, you are welcome to contact us.

Best regards,

On behalf of the EURGen-RefLabCap team

Jette ([jetk@food.dtu.dk](mailto:jetk@food.dtu.dk)) and Faisal ([fakh@food.dtu.dk](mailto:fakh@food.dtu.dk))