

Invitation to EURGen-RefLabCap virtual multidisciplinary training workshop – January 2024

The EURGen-RefLabCap team is pleased to invite you to the third multidisciplinary training workshop (simulation exercise) on a carbapenem- and/or colistin-resistant *Acinetobacter baumannii* (C/CRAb) outbreak detection using microbiological, epidemiological, and genomic data.

Overview of the exercise:

This training workshop will be held as a simulation exercise, concerning a fictitious hospital outbreak, with data release over time (22nd January to 06th February) in the form of injects (epidemiological and genomic data) from different hospitals, to investigate a possible multi-hospital outbreak situation. The publicly available Illumina 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 C/CRAb outbreak investigation by using WGS based methods for bacterial typing and outbreak detection. In this iteration of simulated exercises, we will also focus on the initial steps of outbreak investigation, i.e., the confirmation of the existence of an outbreak using epidemiological surveillance data.

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/b9538a33-6fa5-f173-4ae8-2792ff3d5df5>

The deadline for registration is **Wednesday 10th January 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 C/CRAb 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 four times (four data injects) with two question surveys in between the sessions.

The slides and recordings of the previous multidisciplinary training workshop in autumn 2022 will be available on Slack (<https://eurgen-reflabcap.slack.com/archives/C043VB35D34>) and here you can review the introduction to different tools for typing and phylogeny.

A link for downloading sequence data will be distributed. The accessible sequence data will be based on Illumina (MiSeq/NextSeq) fastq and 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 schedule:

Online Session 1: Monday 22nd January 2024, 10:00-12:00 CET

- Introduction and purpose of exercise
- Introduction to typing methods; short review of species ID, AMR, cgMLST, MLST and phylogeny tools
- Information about exercise setup, data, tasks, and question surveys
- Visualization of patient metadata to investigate nosocomial transmission and outbreaks
- Antimicrobial resistance in *Acinetobacter baumannii*
- Time for questions

Online Session 2: Tuesday 06th February 2024, 13:00-14:30 CET

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

Data injects

- Monday 22nd January (Epidemiological data)
- Friday 26th January (Sequence data)
- Wednesday 31st January (Sequence data)
- Wednesday 31st January (Sequence data)

Question surveys

- Survey 1: Monday 22nd January (deadline: 26th January 12:00 CET)
- Survey 2: Friday 26th January (deadline: 05th February 12:00 CET)

The pdf versions and links to the surveys will be available on 22nd of January.

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) and Faisal (fakh@food.dtu.dk)