Invitation to EURGen-RefLabCap virtual

multidisciplinary training workshop - September 2023

The EURGen-RefLabCap team is pleased to invite you to the third multidisciplinary training workshop on a carbapenem- and/or colistin-resistant *Pseudomonas aeruginosa* (C/CRPa) outbreak detection using simulation exercises and genomic tools.

Scenario:
This training workshop will be held as an exercise, concerning a fictitious nosocomial outbreak, with data release over time (14th to 22nd of September) in the form of data injects from different departments at a hospital, to simulate a possible outbreak situation. The sequence data used will cover mainly Illumina data but also (optional) MinION data, from publicly available databases.

Objective:
The objective of this exercise is to provide the supporting background for performing various steps of C/CRPa outbreak investigation with a focus on the use of WGS-based methods for bacterial typing and outbreak detection.

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 bioinformatics and bacterial genomics.

Please sign up for participation using this link:

https://ec.europa.eu/eusurvey/runner/4d90ae38-2778-3849-0af4-69f871e6106c

Links to online participation in the workshop and materials will be shared by email prior to the workshop.

Expected outcomes:
Participants will learn about principles and methodologies for subtyping and cluster analysis to be able to detect C/CRPa outbreaks by using different WGS-based methods and will be able to solve outbreaks by leveraging on multidisciplinary collaboration.

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 cover both Illumina (MiSeq/NextSeq) fastq and fasta files, as well as Oxford Nanopore (MinION) fastq and fasta files. The tools presented for the exercise will mainly be web-based tools and it should be possible to work with the exercise even with low computing capacity and with only basic knowledge about genome analysis. It will not be a requirement to work with MinION sequences to complete the exercise.

Exercise schedule:

Session 1: Thursday, 14th September 10:00-11:30 CET
- Introduction and purpose of exercise
- Introduction to typing methods; short review of species ID, AMR, MLST and phylogeny tools
- Using MyDbFinder for plasmid typing
- Information about exercise setup, data, tasks, and question surveys
- Time for questions

Session 2: Friday, 22nd September 13:00-14:30 CET
- Presentation of exercise results (outbreak investigation)
- Use of different tools and examples of additional analyses
- Using MOB-suite for plasmid analysis
- Questions/comments from participants

Data injects
- Thursday 14th September (After the introduction)
- Monday 18th September
- Wednesday 20th September (two data injects)

Question surveys
- Survey 1: Thursday 14th September (deadline: 18th September 12:00 CET)
- Survey 2: Wednesday 20th September (deadline: 22nd September 09:00 CET)

The pdf versions and links to the surveys will be available on 14th September.

An evaluation survey will be sent out after the workshop.

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

Best regards,
The EURGen-RefLabCap team

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