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SHORT TERM MISSIONS

Short Term Missions (STMs) are small travel grants with the aim of:

- Sharing scientific expertise, methodologies, equipment and facilities to harmonise the existing approaches and methodologies within the large
- OHEJP European network Driving the research forward in a collaborative and non-duplicative fashion to strengthen both the scientific capacity within the OHEJP
- Contributing to the future prevention, preparedness, detection and response of the EU to foodborne and other emerging threats across human-animal-environmental sectors.

Surveillance and source-attribution of AMR based on metagenomic analysis



Theme:
Home Institute:

One Health, AMR
[National Institute for Agrarian and Veterinary Research \(INIAV\)](#), Portugal
[Technical University of Denmark \(DTU Food\)](#), Denmark
2 weeks

Mission Hosting Institute:
Duration of Mission:

The aim of this STM was to learn novel approaches and models based on metagenomic data for surveillance and to infer source attribution of AMR determinants.

INIAV is the National Reference Laboratory for AMR in animals and food of animal origin, and is in need of scientists with the skills to analyse and interpret metagenomics data.

The STM gave Ana the opportunity to improve her skills for analysing metagenomics data for the purpose of surveillance and source attribution of AMR. Ana was engaged in the whole process from when the samples arrived in the lab to the final epidemiological data analyses, although the main focus was on the bioinformatic analyses and epidemiologically modelling.

Moreover, this mission will contribute to the development of skills in metagenomics, bioinformatics, and AMR source-attribution approaches, needed in the frame of the OHEJP consortium and in future collaborations. Use of data from omics technologies (WGS and metagenomics) for source-attribution WGS and metagenomics based surveillance allows the characterisation of antimicrobial resistance determinants, making it possible to identify the potential for their dissemination.

The training will improve the participation of INIAV in the OHEJP DISCOVER project methods: assessment/improvement- related with source attribution of AMR based on metagenomics.

Sharing of scientific expertise and methodologies will allow the harmonisation of approaches within the OHEJP network. Furthermore, it will strengthen the collaboration and scientific capacity of partners contributing to future preparedness in the surveillance, detection and response of the EU to foodborne, AMR and emerging threats.

...it was very useful to become part of the DTU group and work together for two weeks. This collaboration allowed me to increase my knowledge and to improve skills. The information and tools acquired will be applied to the analysis of metagenomic data for source tracking in aquaculture environments and in future collaborative projects in this area...."

Ana Cristina Ferreira,
INIAV, Portugal

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