

**Subject:** Training visits of pathogen detection expert from international partner institution NIV to partner institution IPH

**Place:** Podgorica, Montenegro

**Date:** 29<sup>th</sup> November to 4<sup>th</sup> December, 2015

**Procurement plan:** Training, line 5

Training visit of pathogen detection expert (Tamas Petrovic) to IPH Podgorica is planned to provide a training of LOVCEN project researchers from Institute for public health – IPH on diagnostic procedures and skills for detection of pathogens in mosquitoes. The training will take place at IPH partner institution in Podgorica.

### Training visit goals and activities WP 2 c

The main goals that is planned to be reach by this expert training visit:

- Upgrade of knowledge on laboratory methods and possibilities for pathogen detection in vector mosquitoes;
- Practical application of molecular laboratory methods (RT-PCR and real-time RT-PCR) for pathogen detection in vector's mosquitoes "on site" – in IPH facilities;
- Acquiring knowledge on different kind / possibilities of surveillance programs for pathogen detection in vector's mosquitoes.

Important issue which is foreseen as LOVCEN project goal is detection of pathogens in mosquitoes and humans, and it is part of WP1 and WP2 activities. These training targets researchers / specialist from IPH which should improve their skills related to the laboratory methodology for detection and characterization of vector borne pathogens in mosquitoes. Besides the new knowledge on afore mentioned subject, this training will help specialist from IPH to manually implement molecular diagnostic techniques on equipment in their facility – to establish molecular detection methodology for pathogens in mosquitoes in their hands and facility. Among large number of different vector borne pathogens that could be transmitted by mosquitoes, most of them are viruses, so West Nile virus will be chosen as a model virus for training purpose. The training will be conducted in three phases:

In the first phase, the trainees will receive the theoretical overview knowledge about the existence and possibilities of different laboratory diagnostic procedures, including mainly different molecular diagnostic procedures and possibilities how and where it could be implemented in IPH facility. The advantages and disadvantages of different methodologies will be stressed and the exact/optimal solution for their applications.

In the second phase of training the trainees will practically (exercises by their hands) work on different procedures, including the preparation of mosquito samples, extraction of nucleic acids from mosquito samples, and application of RT-PCR and real-time RT-PCR methods for WNV detection on their equipment in IPH facility.

In the third phase, special attention will be devoted to the theoretical knowledge on different type of WNV surveillance programmes. Possibilities and critical points for implementation of WNV or/and other mosquito borne pathogen surveillance programme in Montenegro will be discussed. Through a combination of discussions, presentations and exercises the training provides the following learning outcomes:

- to get basic knowledge about different types of laboratory diagnostic methodologies and procedures for detection of vector borne pathogens in mosquitoes;
- to learn how to prepare the mosquito samples for detection of pathogens, and to learn how to use different diagnostic procedures in pathogen surveillance programs in mosquitoes;
- to implement the molecular diagnostic methodology for detection of vector borne pathogens in mosquitoes on IPH equipment and in IPH facility;

- to acquire practical exercise in different molecular (RT-PCR and real-time RT-PCR) diagnostic procedures for pathogen/virus detection in mosquitoes with special attention on critical points for methodology implementation in IPH facility;
- to acquire theoretical knowledge on possibilities how to implement surveillance programs for mosquito-borne pathogens in Montenegro and to calculate the capacity of IPH laboratory for such a surveillance programs.

Main goal of this visit is training of IPH specialist and implementation of molecular diagnostic methodology for pathogen detection in vector's mosquitoes in IPH facility, as well as the basic roles and steps for implementation of mosquito-borne disease surveillance in Montenegro.

Arrival date: 29<sup>th</sup> November, 2015

Departure date: 4<sup>th</sup> December, 2015