Short Scientific Report

COST Action Vademecum
After the STSM
The grantee is required to submit a short scientific report to the host institution (for information) and MC Chair (or to the STSM coordinator) for approval within 30 days after the end date of the STSM containing:

- Purpose of the STSM;
- Description of the work carried out during the STSM;
- Description of the main results obtained;
- Future collaboration with the host institution (if applicable);
- Foreseen publications/articles resulting from the STSM (if applicable);
- Confirmation by the host institution of the successful execution of the STSM;
- Other comments (if any).

Name: Viktor Zöldi
COST STSM Reference Number: COST-ONLINE_STSM-TD1303-17153
Dates: from 30/05/2014 to 28/07/2014
Address of the host institution:
Laboratory of Parasitology
Istituto Zooprofilattico Sperimentale delle Venezie
Viale dell'Università, 10
35020 Legnaro (Padova)
Italy
Person responsible: Dr. Gioia Capelli, gcapelli@izsvenezie.it

Purpose of the STSM

This STSM course was intended to give to the applicant a complete view of the organization of a Regional Plan of Surveillance for vector-borne diseases, mainly West Nile virus, endemic in north-eastern Italy. The course was designed to be in majority practical and range from field activity to laboratory practice, including mosquito identification, biomolecular detection of mosquito viruses, sequencing and phylogenetic analyses. The applicant will also be involved in epidemiology, including database building, data entering, maps and GIS-related management of the WN in the area.

Description of the work carried out during the STSM

I. Seminars

Seminar 1: Taxonomy, Systematics and Classification of mosquitoes
Seminar 2: Biomolecular research of viruses into mosquitoes
Seminar 3: Correct sequence alignment: the basis of good phylogenies.
Seminar 4: Laboratory breeding of mosquito populations.
Seminar 5: Organization and management of a batabase for vector surveillance
Seminar 6: The integrated surveillance of vector-borne diseases: entomology, serology, bird surveillance
Seminar 7: Introduction to GIS and statistics
Seminar 8: Principle of modelling

II. Field Practical Exercises:

The field activity is provided weekly and include the choice of the sites, the positioning and recovery of different kind of traps. The applicant is encourage to follow some of these activities to understand the amount of work which is necessary to implement an entomological monitoring.

III. Laboratory Practical Exercises

Laboratory practical 1: preparation, taxonomic identification of specimens with classical morphological methods.
Laboratory practical 2: preparation of specimens for molecular analyses

Laboratory Practical 3: sequencing and blast analyses
Laboratory Practical 4: colony rearing and breeding of mosquito species
Laboratory Practical 5: map construction
Laboratory Practical 6: statistical analyses
Laboratory Practical 7: evaluation of the cost of entomological monitoring

Description of the main results obtained

In describing the main results obtained I think the following lessons learnt are the most important ones:

- the implementation of the surveillance system requires specialized knowledge and trained personnel,
- it should be financed by a specific resource, preferably at both national and regional levels,
- the entomological survey is an important part of the surveillance system and can provide data on the presence, density, spatial and seasonal distribution of vectors. Such kind of data are the basis for modelling and risk map building,
- the main benefits of the entomological monitoring:
    - it can be important part of an early warning system,
    - with detection of the virus (for example West Nile virus) in mosquitoes, it gives indications on their vector competence,
    - the genetic characterization of viruses gives information on lineages and strains circulating in the area, even in the absence of clinical cases,
    - knowledge on the distribution of positive mosquito pools also gives help to define an area in danger for organ and blood donors.

Future collaboration with the host institution

Regarding future cooperation, the Institute (IZS) is available for offering any collaboration on vector surveillance. They offer evaluation of eventual studies, projects, monitoring and surveillance activities. They also can give us all the help we will need, including revision of proposals, surveillance settings and field surveys.

Moreover, since *Aedes albopictus* is already introduced to Hungary, we are planning a pilot monitoring system in order to follow the possible spread of the species in the near future. As part of this, we will try to find a grant source to invite Dr. Montarsi to Hungary to help in this initial steps.

Istituto Zooprofilattico
Sperimentale delle Venezie

Ente Sanitario di Diritto Pubblico

SEDE CENTRALE
LEGNARO (PD)
Viale dell'Università, 10
35020 Legnaro (PD)
tel. +39 049 8084211
tel. +39 049 8830380
fax dir. +39 049 8830046
fax amm. +39 049 8830178
C.F. e P. IVA, MWSt.,
VAT, TVA 00206200289
e-mail: comunicazione@izsvenezie.it
PEC: Izsvenezie@legalmail.it
www.izsvenezie.it

ROVIGO
Adria
Via L. da Vinci, 39
45011 Adria (RO)
tel. +39 0426 21841
fax +39 0426 901411
e-mail: at3ad@izsvenezie.it
lab. patologia molluschi
e-mail: at3ad@izsvenezie.it

BELLUNO
Via Cappellari, 44/A
32100 Belluno
tel. +39 0437 944746
fax +39 0437 942178
e-mail: at2bl@izsvenezie.it

BOLZANO
Via Laura Conti, 4
39100 Bolzano/Bozen
tel. +39 0471 635130/131
fax +39 0471 635149
e-mail: at6bz@izsvenezie.it

PADOVA
Legnaro
Viale dell'Università, 10
35020 Legnaro (PD)
tel. +39 049 8084290
fax +39 049 8830277
e-mail: diagnosticapd@izsvenezie.it

PORDENONE
Cordenons
Via Bassa del Cuc, 4
33084 Cordenons (PN)
tel. +39 0434 41405
fax +39 0434 41201
e-mail: at4pn@izsvenezie.it

VENEZIA
San Donà di Piave
Via Calvecchia, 10
30027 San Donà di Piave (VE)
tel. +39 0421 41361
fax +39 0421 479117
e-mail: at2sd@izsvenezie.it

TRENTO
Via Lavisotto, 129
38100 Trento
tel. +39 0461 822458
fax +39 0461 829065
e-mail: at5tn@izsvenezie.it

UDINE
Basaldella di Campoformido
Via della Roggia, 100
33030 Basaldella di C. (UD)
tel. +39 0432 561529
fax +39 0432 562676
e-mail: at4ud@izsvenezie.it

VERONA
Via San Giacomo, 5
37135 Verona
tel. +39 045 500285
fax +39 045 582811
e-mail: at1vr@izsvenezie.it

VICENZA
Viale Fiume, 78
36100 Vicenza
tel. +39 0444 306457
fax +39 0444 506165
e-mail: at1vi@izsvenezie.it

TREVISO
Fontane di Villorba
Vicolo Mazzini, 4 int. 5/6
31020 Fontane di Villorba (TV)
tel. +39 0422 302302
fax +39 0422 421154

The host institution

Laboratory of Parasitology,

Istituto Zooprofilattico Sperimentale

delle Venezie, (ITALY)

Confirms that

Viktor Zöldi has participated in the activity of the laboratory from 15 June 2014 to 15 August 2014 and has achieved the results defined of the COST STSM Action (COST STSM Reference Number: COST-ONLINE_STSM-TD1303-17153)

Legnaro (Padua), 11 September 2014

Director of Department

Diagnostic Services, Histopathology and Parasitology