MediLabSecure

Workshop

Introduction on mapping and modeling
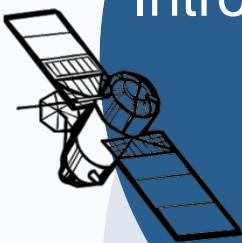
**Institut Pasteur of Algeria,
October 13-17, 2019**

Training content and objectives

Objective of the training

The main objectives of this basic level course are:
- to provide the trainees with fundamental concepts of Geographic Information Systems (GIS)
- to provide an introduction to the making of species distribution modelling
- to familiarize the trainees with a GIS software by hands-on experiences
- to identify and train GIS focal point for the MediLabSecure project.

Target audience

This course is for anyone who wants to develop his or her knowledge about mapping and modelling. Participants do not need previous experience - just motivation!
This course target all the members of the MediLabSecure project (A majority of members of the WP3 Entomology is expected, but members of other WPs are eligible). Priority will be given to applicants that are ready to be involved for the whole duration of the MediLabSecure project on this topic. We are looking for motivated people to become the MediLabSecure GIS focal point in their respective country.

Overview of the agenda

	Day 1	Day 2	Day 3	Day 4	Day 5
Morning	**Welcome Lecture on mapping** (R.Garni, Institut Pasteur Algeria)	**Practical work on mapping** (R.Garni, Institut Pasteur Algeria)	**Early-warning tools** (G.Hendrickx, Avia-GIS)	**Practical work on modelling** (S.Abdallah, Ain Shams Univ.)	**Practical work on modelling** (S.Abdallah, Ain Shams Univ.)
Afternoon	**Practical work on mapping** (R.Garni, Institut Pasteur Algeria)	**Practical work on mapping** (R.Garni, Institut Pasteur Algeria)	**Lecture on modelling** (S.Abdallah, Ain Shams Univ.)	**Practical work on modelling** (S.Abdallah, Ain Shams Univ.)	**Practical work on modelling** (S.Abdallah, Ain Shams Univ.)

This five-day course will be followed by a distance-learning course provided by Avia-GIS.

Trainers

Rafik Garni
Institut Pasteur of Algeria, Algiers

Biologist researcher, with a master degree on medical entomology at the Parasite Eco Epidemiology Laboratory, Institut Pasteur of Algeria. He is specialized in the field of mapping, remote sensing and vector-borne diseases especially on cutaneous and visceral leishmaniasis.
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Abdallah Samy
Ain Shams University, Egypt

Epidemiologist and public health researcher. His current work on arboviruses and mosquito-borne diseases is focused on developing disease forecast, understanding the major drivers of disease spread, and identifying the possible shifts at disease risk in response to global warming in future.
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Guy Hendrickx
Avia-GIS, Belgium

MediLabSecure WP5 Leader, Early warning tool modelling. He is the Managing Director of Avia-GIS, a company specialized into turning this information into spatial decision support systems that bridge the gap between research and decision making.

ghendrickx@avia-gis.com

Vincent Robert
IRD, MIVEGEC, France

MediLabSecure WP3 Leader, Medical and veterinary entomology. His main domains of expertise are mosquitoes, anophelines and malaria transmission and culicines vectors of arbovirus. He had about 25 years of experience in medical entomology in tropical area. Since the last 12 years he mainly works in Euro-Mediterranean area.
vincent.robert@ird.fr

MediLabSecure

	Sunday 13		**Monday 14**		**Tuesday 15**		**Wednesday 16**		**Thursday 17**
9:00	**Welcome** • Official inauguration by Dr Z. HARRAT • MediLabSecure: Network for a One Health approach to emerging vector-borne viruses in the Mediterranean & Sahel regions / V. Legal & M. Picard	8:30	**Practical** / R. Garni • Opening a raster file Entities selection (simple selection, query selection) Table joins	8:30	**Lecture** / G. Hendrix • Early warning tools	8:30	**Lecture** / A. Samy • Environmental data: climatic and remote sensing data • Data visualization and processing in ArcMap • Introduction to complex model algorithms (e.g. Maxent)	8:30	**Practical** / A. Samy (2) Developing models for vector species distributions
10:30	Coffee break	10:30	Coffee break	10:30	Coffee break	10:30	Coffee break	10:30	Coffee break
11:00	**Lecture** • Invasive mosquito species in Euro-Meditereanean area / V. Robert • Introduction to Geographical Information System / R. Garni	11:00	**Practical** / R. Garni • Attribute data classifying • Adding geo referenced points from tabulated files	11:00	**Practical** / G. Hendrix • Establishing a group wihin MediLabSecure (aim, activities, GIS capacities and follow-up)	11:00	**Practical** / A. Samy Model outputs • Niches to distribution • Model thresholding	11:00	General discussion Evaluation of the training Certificate of attendance **Closing ceremony**
13:00	Lunch	13:00	Lunch	13:00	Lunch	13:00	Lunch	13:00	Lunch
14:00	**Practical** / R. Garni GIS : basic notions • Data type in GIS : vector vs raster • Geographical coordinates • Cartographic projections • Collecting data : How to use a GPS receiver or equivalent	14:00	**Practical** / R. Garni • Spatial operations: Clipping a vector • Spatial operations: vector fusion • Spatial operations: creating buffer	14:00	**Lecture** / A. Samy • Conceptual Introduction to Ecological Niche Modeling (ENMs) • ENM overview • Vector occurrence data concepts	14:00	**Lecture** / A. Samy • Invasive vector species • Vector distribution under Climate changes	14:00	
16:00	Coffee break	16:00	Coffee break	16:00	Coffee break	16:00	Coffee break		**Visit to Algiers**
16:20	**Practical** / R. Garni Installing QGIS, opening and handling GIS Data files : • Opening a shapefile • Attribute table • Column header	16:20	**Practical** / R. Garni • Image Geo referencing • Create thematic map using the print composer	16:20	**Practical** / A. Samy • Vector occurrence data sources and considerations • Bias in Vector occurrence data • Sampling Bias of Vector data	16:20	**Practical** / A. Samy (1) Each applicant will have the opportunity to develop models for vector species distributions, examine possible invasion of diverse vector species, and understand the influence of climate change on the distributional geography of several key vectors and vector-borne diseases.		

Gala dinner

List of attendees

Country	Surname	Firstname	Institute	E-mail
Libya	ABUABAID	Hanin Mohammed	National Centre for Diseases Control	hana80vet@yahoo.com
Algeria	BOUSHAKI	Djamila	Ministère de l'Agriculture du Développement Rural et de la Pêche	dboushaki@yahoo.fr
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Algeria	ADJED	Brahim	Institut Pasteur of Algeria	

Contact

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> Marie PICARD - Project manager WP4
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In case of emergency on the mobile phone:
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