International training course on Tularemia

15-17 December 2015
Akanlu, Kabudar Ahang, Hamadan, Iran

Organizers
- Research Centre for Emerging and Reemerging infectious diseases, Pasteur Institute of Iran, Tehran, Iran
- Centre for Communicable Diseases Control and Prevention, Ministry of Health and Medical Education, Tehran, Iran

Partners
- Umeå University, Department of Clinical Microbiology, Umeå, Sweden
- Grenoble Alpes University, Grenoble University Hospital, Department of Clinical Microbiology, Grenoble, France

Venue
The course will be held in the Research Centre for Emerging and Reemerging infectious diseases which is the national reference center for diagnosis and research on Plague, Tularemia and Q fever in Iran. It is a branch of Pasteur Institute of Iran located in Western Iran.

Duration
The course takes place in 3 working days (15-17 December 2015).

Target Audience
Physicians, Epidemiologists, microbiologists and other health care professionals who are involved in the diagnosis and management of tularemia patients
Introduction

Tularemia is a zoonotic disease transmitted by direct contact with infected animals, or through arthropod bites, inhalation of contaminated aerosols, ingestion of contaminated meat or water, or skin contact with any infected material. This disease is widely spread throughout the northern hemisphere, including Iran and its northern, northeastern, and northwestern neighboring countries.

This disease is widely spread through the northern hemisphere countries. It is highly recommended that physicians and healthcare workers gain enough knowledge about the natural cycle of *F. tularensis* and clinical manifestations of tularemia as to help them recognize the disease.

Since outbreaks of tularemia infection have been reported in different countries in recent years and empowerment of physicians, epidemiologists and healthcare workers in the management of this disease and the microbiologists in the diagnosis of the diseases has not been recently updated, this workshop is set up to increase knowledge of tularemia.

It is expected that the participants will improve their knowledge and practice regarding surveillance, diagnosis, and clinical management of tularemia and enhance their abilities to investigate future outbreaks in their countries.

Outlines of the Course

- **Theoretical**
  - Introduction
  - Epidemiology (In the world, Region and Iran)
  - Bacteriology
  - Vectors and Reservoirs of Tularemia in the nature
  - Disease and pathology in animals
  - Clinical expression in humans (Signs and symptoms, Differential diagnoses, Case definitions)
  - Source of infection, infectious routes, and clinical outcome according to *F. tularensis* subspecies
  - Treatment, prophylaxis and vaccination
  - Laboratory diagnostics
  - Documentation and reporting
  - Biosafety considerations
  - Surveillance and outbreak management in humans and animals
• **Practical**
  – Field investigation (Hunting, Blood sampling and tissue sampling from the rodents, wild animals, water, vectors) and work with GPS
  – Diagnostic sampling at the suspicion of tularemia
  – Laboratory procedures
  – Planning for field studies

**Team of Instructors**
- **Dr Anders Johansson**, Clinical Bacteriologist, Assistant Professor, Umeå University, Department of Clinical Microbiology, Umeå, Sweden and Department Head, Infection Control Västerbotten County, Sweden.
- **Dr Max Maurin**, Clinical Bacteriologist, Professor, Grenoble Alpes University, Grenoble, France.
- **Dr Mohammad Mehdi Gouya**, Infectious disease specialist, Center of Disease Control (CDC), Ministry of Health, Tehran, Iran.
- **Dr Ehsan Mostafavi**, Epidemiologist, Associate Professor, Director of Research centre of Emerging and Reemerging Infectious Diseases, Pasteur Institute of Iran, Tehran, Iran.
- **Dr Abdolrazagh Hashemi Shahraki**, Microbiologist, Assistant Professor, Department of Epidemiology, Pasteur Institute of Iran, Tehran, Iran
- **Dr Saied Reza Naddaf**, Entomologist, Associate Professor, Department of Parasitology, Pasteur Institute of Iran, Tehran, Iran.

**Required documents for the primary registration**
- A short English CV of the activities over the past 10 years
- A motivation letter expressing why you are interested in the course topic

Based on the submitted CV and motivation letter applicants will be selected for participation in the course.

**Registration fee**
The course fee is 400 EURO per participant which includes a set of course materials, accommodation, meal (breakfast, lunch and dinner), two coffee breaks during the course, bus transit from Tehran to the venue and vice versa; and a tour to Alisadr Cave.
The accommodation will be in 4-6 bed rooms having free access to high speed internet in the meeting venue.

**The deadline for the registration is: October 21, 2015.**

**Scholarships**

There will be some registration-fee scholarship available. If you would like to apply for the scholarship, if you would like to apply for the scholarship, please include in your motivation letter how you or your organization would benefit from your participation in the course.

**Contact Person**

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**More information about the Research Center for Emerging and Reemerging infectious Diseases**

In 1946, together with the new program of activities of Pasteur Institute of Iran, the epidemiology department of Pasteur Institute of Iran started its activities under the supervision of Dr. Marcel Baltazard, the general director of the institute. Although Kurdistan had a history of plague, it was due to the plague epidemic in Kurdistan at that time that the research teams of Pasteur institute of Iran were dispatched to the plague epidemic centres to control the outbreak via quarantining the foci and epidemiologic procedures on the humans and rodents.

Studies of the plague foci in this region and the significance of this disease motivated the Pasteur institute team to conduct extensive scientific and epidemiologic studies in this region.

During the nine plague epidemics in Kurdistan and Azerbaijan between 1946 and 1965, many infected people survived from the disease by the efforts of the
dispatched teams of Pasteur Institute of Iran; however, 156 died.

In 1952, the first laboratory was founded in Akanlu village, near the plague foci in Kurdistan. At this research center, currently called "The Research Center for Emerging and Reemerging Infectious Diseases", Dr. Baltazard and his perseverant colleagues conducted extensive research on plague and established this center as one of the world reference laboratories and research centers for plague.

Since 1952, research teams could base themselves in the area for months at a time and conduct detailed research on rodents under more favorable conditions.

During those years, the integration of field and laboratory collaborations was a key to effective epidemiologic actions and led to great research hypotheses.

During the development of this research center, many international scientists visited the center, lecturing, studying and/or researching in their fields.

The achievements of Pasteur Institute of Iran regarding plague research attracted the global attention and such a success motivated them to assign Iranians international plague research. The experts and researchers of Pasteur Institute of Iran, known as WHO experts, continued to conduct related research in many neighboring countries such as Turkey, Syria, Iraq and Yemen, Southeast Asia (India, Indonesia, Thailand), Burma, Brazil, and Africa (Zaire, Tanzania); they published all of their research results to be used by others. Most of this research was financially supported by WHO. In 1972, a WHO meeting on plague was held in this center with many participants from all over the world.

It is noteworthy that one of the main responsibilities assigned to Pasteur Institute of Iran and the Akanlu Research Center in the following years was to conduct research about diagnosis and epidemiology of plague.

Research Center for Emerging and Reemerging Infectious Diseases can be regarded as the pioneer center for field epidemiology in Iran. This center did also important researches on tularemia in addition to plague studies. You can get more information about the current situation and studies of Tularemia in Iran and neighboring countries in Zargar A., Maurin M., Mostafavi E., Tularemia, a re-emerging infectious disease in Iran and neighboring countries, Epidemiology and Health, 2015, e2015011.
The dedicated laboratories for rodentology, serology, molecular studies and culture, seminar halls and guest accommodation offer a suitable environment for research and education in this region.

The center is the national reference laboratory for plague, tularemia and Q fever.

Research Center for Emerging and Reemerging infectious Diseases has close international collaboration with Pasteur Institute of Madagascar, Pasteur institute of Paris, National Museum of Natural History in France, University of Oslo, Institute of Pathology and biology in France and Veterinary Medical Research Institute in Hungary.

After organizing some national courses during the recent years and having some joint international projects, now we are going to organize the 1st international workshop of Tularemia by cooperation of Umeå University in Sweden and Grenoble Alpes University in France.

**Akanlu and its surrounding natural attractions**

"Akan" (Turkish) means cultivate’ and the suffix "Lu" denotes a place. Accordingly Akanlu is a Turkish word meaning farmland.

Akanlu village is located 365 kilometers from Tehran, 138 km from the city of Hamadan and 73km from Kabudar-Ahang. It takes around 5 hours by bus and 4 hours by private car time from Tehran.
Akanlu village has 536 households and a population of over 1,890. Taking advantage of the many water resources (aqueducts and springs) and the lush countryside with old-growth trees, vineyards and grasslands, most of the villagers are engaged in farming, animal husbandry, horticulture and forestry.

Tourist attractions near Akanlu

Tourist attractions such as Alisadr and Katale Khor caves, the Shirin Su wetlands and the Lalejin pottery works are a short distance from the village.

Alisadr Cave

The Alisadr Cave originally called Ali Sadr (meaning cold) is the world's largest water cave which attracts millions of visitors every year. The cave is located 75 kilometers northwest of Hamadan and 70 km from Akanlu village.

Because of the cave's proximity to large cities such as Hamadan, it is a highly recommended destination for tourists from all corners of the world. Tours of the cave are available by pedal boats.

The cave walls can extend up to 40 meters high, and it contains several large, deep lakes. The cave has a river flowing through it and most travel through the cave system is done by boat. More than 11 kilometers of the cave's water canals have been discovered so far. Some routes are 10 to 11 kilometers long and all lead to "The Island", a centrally located large atrium. Four kilometer of it is accessible to the public using a mix of walking paths and self-propelled boats.

The water inside the cave has no odor or taste as there are no living things in it.

Katale Khor cave

Katale Khor cave was discovered around 1921. Katale Khor is 90 km from the village of Akanlu.
Katale Khor cave, in the terms of quality of crystals and icicles, beauty and diversity of classes, is the best-known limestone cave in the world. This cave is as old as Alisadr cave in Hamadan, but Alisadr cave is a water cave, whereas Katale Khor is almost dry. Another significant difference is that the limestone of Katale Khor cave is much purer than that of Alisadr cave and this purity leads to greater transparency and thus more light through its icicles.

It is believed that this cave has 7 levels, but so far only 3 have been explored. The presence of very clear springs around the cave and numerous natural holes are some of the unique features of this cave.

**Lalejin**

Lalejin is one of the main centers of production of ceramic and pottery products in Iran, the Middle East and the world. Lalejin is about 100 km from Akanlu village.

Approximately 80% of the population of Lalejin is engaged in the pottery industry, including painting pottery, packaging, and the sale of pottery/ceramic products. The products of its artists are exported not only to cities near and far in Iran but also to many other countries. Earthenware made in Lalejin is very diverse and includes a variety of decorative and household objects. In Lalejin there are over 680 workshops active in the production of pottery and ceramics, according to the union of pottery and ceramics. Recently the city developed a method of decorating pottery commonly called enamel.

**Shirin Su wetlands**

Shirin Su is a manmade, or artificial, wetland area. Akanlu village is about 30 km away from the Shirin Su wetlands.
The area consists of about 300 hectares of wetlands and a lake area of 43 hectares. The exact dimensions depend on the amount of rainfall and vary annually. There are over 54 bird species in the Shirin Su wetlands, including rare and otherwise valuable birds.

**Hamadan**

Hamadan (Old Persian: Haŋgmetana, Ecbatana) is the capital city of Hamadan Province of Iran. Hamadan is believed to be among the oldest Iranian cities and one of the oldest in the world. It is possible that it was occupied by the Assyrians in 1100 BCE; the Ancient Greek historian, Herodotus, states that it was the capital of the Medes, around 700 BCE.

Hamadan is home to many poets and cultural celebrities. Hamadan has always been well known for handicrafts like leather, ceramic, and carpets.

The special nature of this old city and its historic sites attract tourists during the summer to this city. Iran's Cultural Heritage Organization lists 207 sites of historical and cultural significance in the city of Hamadan alone.

The scientist and writer known in the west as Avicenna (Abu Ali Sina) is buried in Hamadan.

Akanlu is located 138 km from the city of Hamadan.