

“Hands on Training on Laboratory Techniques in *Brucella* Research”

on

1st-3rd August 2013

DBT Network Project on Brucellosis-Project Monitoring Unit(PMU)

**Project Directorate on Animal Disease Monitoring and Surveillance (PD_ADMAS) Hebbal,
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Background and Objectives of the Course:

Brucellosis is an economically important disease of livestock causing huge economic losses due to infertility, abortion, reduced milk yield and loss of calf. Most importantly, it is a highly zoonotic disease having a greater chances of transmission to veterinarians, farmers and consumers of unpasteurized milk and milk products. Hence its diagnosis in

livestock helps to segregate the infected animals to prevent further transmission to other animals and humans. Human diagnosis at early stages by quick and confirmatory methods facilitate initiation of treatment for effective cure.

Training Objectives:

- a. To provide capacity building on brucellosis diagnosis
- b. To familiarize on know-hows of various field based and point of care diagnostics.
- c. To provide practical training on ELISA kits for sero-screening of the disease.
- d. Hands on training in PCR for diagnosis of brucellosis.
- e. The training will also help the participants to follow Standard Operating Protocols (SOP) throughout the sub-units of DBT Network Project on Brucellosis.

Nature of the Course:

The course will provide hands-on practical training in various diagnostic techniques being used presently in the project. The training will be laboratory techniques oriented and 80% of the time will be given for the practical sessions and the participants will be allowed to carry out the laboratory exercises individually. The laboratory manual will be made available to the participants at the beginning of the training program. The manual will consist of detailed protocols for laboratory exercises.

Who can apply:

- PI or Co-PI of the sub-project of DBT Network Project on Brucellosis.
- RA/SRF/JRF of the DBT Network Project on Brucellosis.

(Please note that a maximum of 15 participants will be taken for the training programme.)

Mode of selection:

Details of the training program will be intimated to the participants through post and will be posted in PD_ADMAS website (www.pdadmas.ernet.in). The participants for the training program will be selected on basis of the nomination received from the Principal Investigators of DBT-Network Project on Brucellosis. The Nomination form should be sent to the Course Director on or before 15th July, 2013.

TA/DA:

The TA for RA/ SRF/ JRF will be paid on actual basis as per their entitlement which will be restricted to maximum of AC-II tier rail fare/Bus fare as per the official norms of ICAR. Local transport, accommodation and food will be provided to all the participants during the training from 31st July to 4th August. However, no TA will be provided to the PI and Co-PIs of the DBT Network Project on Brucellosis.

List of laboratory exercise during the training:

Day 1: (Isolation, Identification & Extraction)

- Sample collection, dispatch and storage for brucellosis diagnosis
- Isolation, Identification and characterization of *Brucella* from clinical samples.
- Extraction of Smooth Lipopolysaccharide(sLPS) antigen.

Day 2: (Serological Tests)

- Hands on training on conventional and point of care diagnostics used for diagnosis of brucellosis (MRT, RBPT, SAT).
- Brucellosis screening using surveillance kits (AB-ELISA and i-ELISA) for cattle sheep goat and pig.

Day 3: (Molecular Tests)

- Nucleic acid extraction from various clinical samples for diagnosis of brucellosis.
- DNA Quantification & Gel Electrophoresis.
- Diagnosis of brucellosis by polymerase chain reaction (PCR).
- Detection of *Brucella* nucleic acid by Real time PCR.