

## **30 Days Hands-on Training on**

### **“Molecular diagnostic techniques for detection of infectious disease pathogens”**

under the DHR-ICMR sponsored institutional support project titled “Capacity Building and Development of Skilled Human Resources in the field of Zoonotic Diseases under One Health Initiatives” with project ID 2024-1023

*Organized by*

**Department of Animal Biotechnology, College of Veterinary Science, Assam Veterinary and Fishery University (AVFU), Khanapara, Guwahati-781022.**

**From: 23<sup>rd</sup> June-22<sup>nd</sup> July, 2026**

Zoonotic diseases highlight the complex interactions between humans, animals, and the environment, posing a significant global health challenge. Over 60% of known human infectious diseases are zoonotic, and nearly 75% of emerging diseases originate from animal sources (NCEZID, USA). The North-Eastern Region (NER) of India is particularly vulnerable due to its porous international borders with five countries, facilitating the movement of people, livestock, and pathogens. The region’s unique climatic conditions, rich biodiversity, and extensive forest cover create a favorable environment for the persistence and transmission of infectious agents. Additionally, close interactions between wildlife, free-ranging domestic animals, and humans in forest fringe areas further increase the risk of zoonotic disease spread. Limited healthcare and veterinary infrastructure in remote areas adds to the challenges of effective disease surveillance and control.

Additionally, the North-Eastern region is severely lacking in qualified personnel for the study and diagnosis of infectious diseases, especially zoonotic diseases. Assam Veterinary and Fishery University (AVFU), located in Guwahati, serves as a premier institution equipped with excellent teaching and research facilities, and it can play a critical role in advancing research in infectious diseases and producing well-trained professionals to help bridge this gap.

To address this need, a training program will be organized with the objective of developing skilled human resources. This initiative will provide hands-on training to 25 selected participants, including teachers, researchers, biomedical workers, veterinary and medical officers, and veterinary, medical, or biomedical research scholars. The training will focus on molecular diagnostic techniques, molecular characterization, and epidemiological investigations of pathogens, particularly zoonotic pathogens.

Ultimately, this training program aims not only to enhance knowledge and technical abilities but also to create opportunities for future academic and research careers in the field of infectious diseases.

#### **Contents of the hands-on training: (Mostly practical and few theory classes)**

Introduction to molecular diagnostics; Laboratory design and Good Laboratory Practices; Biosafety and bio remedial waste management; Classification of different zoonotic diseases: Concept of One Health; Microbiological specimen collection, preservation, transport and processing of samples for clinical diagnosis; Detection, isolation and identification of important pathogens, Diseases diagnosis by conventional (AGPT, HA & HI, ELISA etc.) and molecular diagnostic assays like Polymerase Chain Reaction (PCR), Reverse Transcriptase PCR (RT-PCR) and Real-Time PCR, sequencing ;Collection, processing and staining of tissues for histo-pathological examination, Basics of Animal cell culture techniques, Next generation sequencing (NGS), Gene cloning and expression, Production of recombinant protein using mammalian cell lines, Characterization of protein by SDS-PAGE, Basics of bioinformatics, Primers and Probe designing by using Bioinformatics tools; Isothermal amplification reaction for disease diagnosis; Gene chip technology and high- throughput sequencing technology; Identification of bacteria by cultural, morphological and biochemical tests; Anti-microbial resistance and Antibiotic sensitivity

test; Collection, fixation, processing and Staining of tissues for routine histopathological examination; Detection, isolation and identification of important pathogens of zoonotic importance from animal, human and environmental sources including foods of animal origin; Overview of emerging parasitic diseases; Fecal examination technique for detection of helminth ova/egg and protozoan cyst/oocysts; Collection of blood samples, smear preparation and staining techniques for detection of haemoprotozoan parasites; Collection, preservation, Fixation, staining, mounting of helminths and arthropod for their identification.

### **Application procedure:**

**One can directly apply online by using the web link <http://avfu.ac.in> or by using the Google link form <https://forms.gle/cqntbYcbnJeZ6FzL8>**

Download the application form from the link and upload the soft copy of the filled and signed application form through the mentioned link. For any other queries you can email to [hod.abt.avfu@gmail.com](mailto:hod.abt.avfu@gmail.com) OR [riniborah2701@gmail.com](mailto:riniborah2701@gmail.com)

No need to send hard copies of the applications. For any clarification, the interested applicants may contact Dr. Girin Hazarika (9954063163) or Rini Borah (9394360023).

### **Application Fee:**

**Application process and the training is Free of Cost.** A screening committee will finalize the list of selected applicants who will be allowed to register in the training program.


**No TA/DA will be provided to the participants from the organizer to attend this training.**

### **Lodging & Food:**

Lodging for the selected candidates may be arranged in the College Guest house on twin sharing basis. The charges for accommodation must be paid directly in the Guesthouse at the time of check out (double bed AC room @ Rs. 650/-day/persons, Non-AC room @ Rs.400/-day/person). Only session tea will be served in the department for the participants during the training days. Breakfast, lunch and dinner will be available in the university guest house on payment basis.

### **Last Date of Application:**

Last date of application is **18<sup>th</sup> June, 2026**. List of the selected candidates will be posted in the website <http://www.avfu.ac.in> on **19<sup>th</sup> or 20<sup>th</sup> June, 2026**. Also selected candidates will be intimated through email or over phone.



27.05.26  
Head (i/c)  
Deptt. of Animal Biotechnology  
College of Veterinary Science  
A.A.U., Khanapara, Guwahati-22

### **Organizer:**

Dr. Dipak Deka  
Associate Professor & Head (i/c) &  
Principal Investigator (PI), DHR-ICMR Project,  
Department of Animal Biotechnology,  
College of Veterinary Science, AVFU, Khanapara,  
Guwahati, Assam – 781022.

## NOMINATION FORM FOR TRAINING

Training Code: [DHR-ICMR – 2026-27/01]

1. Name of the applicant:
2. Sex: Male/Female:
3. Age (in years):
4. Highest Qualifications & Discipline (Graduate/ PG/PhD):
5. Designation (current status):
6. Name of organization/department:
7. Category: Teacher/ Researcher/ Veterinary Or Medical Officer/ Post-graduate scholar etc.
8. Address for communication:
9. Telephone No.:
10. WhatsApp No.:
11. E-mail address:
12. Have you attended similar training earlier?

If yes, furnish details:

13. Details of working experience, if any:
14. Do you require accommodation? (Yes / No)

Signature of the applicant

### Nomination:

I do hereby nominate \_\_\_\_\_ for participating in the training programme on “**Molecular diagnostic techniques for detection of infectious disease pathogens**” organized by the Department of Animal Biotechnology, College of Veterinary Science, A.V.F.U., Khanapara, Guwahati-781022 from **23<sup>rd</sup> June to 22<sup>nd</sup> July, 2026.**

Office seal

Signature of the Nominating Authority

**NB: Already passed out or independent candidate can avoid nomination part but need to fill the rest.**