DHR-ICMR SPONSORED
90 DAYS HANDS-ON TRAINING ON
'ADVANCES IN THE DIAGNOSIS AND RESEARCH TECHNIQUES ON INFECTIOUS DISEASES'

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INDIAN COUNCIL OF MEDICAL RESEARCH
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03RD DEC,2026– 2ND MARCH,2027

HIGHLIGHTS OF THE TRAINING

REGISTER NOW
https://forms.gle/FWjmBE5UvVQ96LmR6

- **One Health & Zoonotic Diseases:** Overview of infectious and zoonotic diseases in North-East India and the One Health concept.
- **Laboratory Practices & Biosafety:** Laboratory planning, GLP, biosafety, waste management, sterilization, equipment handling, and reagent preparation.
- **Sample Processing & Nucleic Acid Extraction:** Biological sample collection and processing; DNA/RNA and plasmid extraction, quantification, and quality assessment.
- **Conventional Disease Diagnostics:** Microbiological identification, antimicrobial resistance (AMR) testing, parasitic/protozoan detection, and histopathology.
- **Molecular Diagnostics:** PCR, RT-PCR, real-time PCR, assay optimization/troubleshooting, and isothermal amplification techniques.
- **Bioinformatics & Molecular Epidemiology:** Primer/probe design, sequence analysis, multiple sequence alignment, phylogenetics, pathogen sequencing, gene-chi technology, and NGS.
- **Cell Culture & Virology:** Animal cell culture, cell-line maintenance, and viral isolation, propagation, and detection.
- **Immunological & Cell-Based Assays:** ELISA, lateral-flow assays, FAT, FISH, immunocytochemistry, and MTT-based cytotoxicity/viability assays.
- **Gene Cloning & Recombinant Protein Technology:** Competent-cell preparation, cloning, transformation, clone confirmation, recombinant protein expression, and scale-up.
- **Protein Analysis & Purification:** SDS-PAGE, Western blotting, Ni-NTA affinity purification, and gel-filtration chromatography.

SCAN HERE FOR MORE DETAILS

ORGANISED BY

Department of Animal Biotechnology
Collage of Veterinary Science,
Assam Veterinary & Fishery University
Khanapara-22,Guwahati,Assam

9394360023/6000425253
hod.abt.avfu@gmail.com
www.avfu.ac.in

90 Days Hands-on Training on
"Advances in the diagnosis and research techniques on infectious diseases" 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, AVFU, Khanapara, Guwahati-781022.

From: 3rd December, 2026 to 2nd March, 2027

Infectious diseases are illnesses caused by pathogenic microorganisms, including bacteria, viruses, fungi, parasites, and prions, and remain a major public health concern worldwide. They contribute significantly to morbidity and mortality, affecting healthcare systems, economic productivity, and social well-being. Despite increasing attention to non-communicable diseases, infectious diseases continue to pose substantial challenges in India due to population density, environmental changes, inadequate sanitation, and variations in healthcare access. Among these, zoonotic diseases are particularly significant because they are transmitted naturally between animals and humans through direct contact, contaminated food or water, and vectors. According to the US Centers for Disease Control and Prevention (CDC), more than 60% of known human infectious diseases can spread from animals, while approximately 75% of emerging infectious diseases in humans originate from animals. In India, diseases such as rabies, leptospirosis, brucellosis, and avian influenza highlight the importance of effective surveillance and prevention. Factors such as urbanization, climate change, wildlife interactions, and antimicrobial resistance further complicate disease control. Therefore, the **One Health approach**, integrating human, animal, and environmental health, is essential for strengthening disease surveillance, early diagnosis, outbreak preparedness, and coordinated prevention strategies to reduce the burden of infectious and zoonotic diseases.

In order to protect public health, promote global health efforts, and improve individual health, effective diagnosis and research are essential. For a number of reasons, including early identification, treatment effectiveness, public health, understanding resistance, vaccine development, global health security, socioeconomic impact, etc., effective diagnosis and research on infectious illnesses are essential.

The field of infectious disease research and diagnosis lacks qualified personnel, especially in the Northeast. As a premier institution with first-rate teaching and research facilities in the heart of the Northeast, the College of Veterinary Science, AVFU, Guwahati campus, can play a crucial role in the field of infectious disease research and produce excellent human resources to partially fill the gap.

The training program aims to develop skilled human resources by providing hands-on training to 15 selected biomedical, medical, and veterinary scholars, teachers, researchers, veterinary officers, and biomedical professionals in basic to advanced infectious disease diagnostics, pathogen isolation and molecular characterization, bioinformatics, molecular epidemiology, animal cell culture, virus isolation, gene cloning, recombinant protein expression, purification, and characterization.

The training will enhance participants' knowledge and technical skills while providing PG/PhD scholars and young faculty/researchers opportunities to undertake collaborative thesis

and research projects with the institute, thereby strengthening their academic and research careers in infectious diseases.

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

Overview of infectious diseases in the North-Eastern region and their diagnosis and control, Approaches to diagnosis of infectious diseases; Introduction to molecular diagnostics; Laboratory design and Good Laboratory Practices; Biosafety and biological waste management; Classification of different zoonotic diseases: Concepts on One Health; Microbiological specimen collection, preservation, transport and processing of samples for clinical diagnosis; Collection of blood and tissues for diagnosis of bacterial and viral diseases; Collection of samples for diagnosis of rabies; 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; Faecal 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. Polymerase Chain Reaction (PCR), Multi-Plex PCR, Reverse Transcriptase PCR (RT-PCR) and Real-Time PCR for disease diagnosis; Isothermal amplification reaction for disease diagnosis; Gene chip technology and high- throughput sequencing technology; Primers and Probe designing by using Bioinformatics tools; NCBI and other databases, Nucleotide and amino acid sequence analysis, Multiple sequence analysis (MSA), Phylogenetic analysis; Media & Reagents for Animal Cell Culture, Primary culture techniques, Handling and maintenance of Animal Cell lines, Cryopreservation, Virus isolation in cell lines, immunocytochemistry technique, cell viability (MTT) assay; Strategies for Gene Cloning, Preparation of competent (*E. coli*) cells, Preparation of Vector & inserts, Ligation and Transformation, selection & screening of recombinant clones, Preparation of plasmids, Transfection of mammalian cells, Detection of expressed recombinant protein in cell lines (FAT), characterization of expressed protein by SDS-PAGE, Dot-Blot and Western blot, Purification of recombinant proteins. SPECIAL ASSIGNMENT.

Application procedure:

One can directly apply online by using the below mentioned web link:
https://forms.gle/FWjmBE5UvVQ96LmR6

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** **OR** **riniborah2701@gmail.com**

No need to send hard copies of the applications. For any clarification, the interested applicants may contact Dr. Girin Hazarika (9954063161), Rini Borah(9394360023) or Leeza Kalita(6000425253).

Application Fee:

Application process and the training is free of cost. A screening committee will finalized 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 **25th November, 2026.** List of the selected candidates will be posted in the website **https://www.avfu.ac.in/** on **27th or 28th November, 2026.**Also selected candidates will be intimated through email or over phone.

29.10.26.
Head (i/c)
Deptt. of Animal Biotechnology
College of Veterinary Science
A.V.F.U, Khanapara, Guwahati-22

Organizers:
Dr. Dipak Deka
Associate Professor & Head (i/c),
Project Coordinator, ALSBT Hub,
PI, DHR-ICMR Project,
Department of Animal Biotechnology,
College of Veterinary Science, AAU, Khanapara,
Guwahati, Assam – 781022.

NOMINATION FORM FOR TRAINING

Training Code: [*DHR-ICMR – 2024-25/01***]**

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

Signature of the applicant

Nomination:

I do hereby nominate_____for participating in the training programme on **"Advances in the diagnosis and research techniques on infectious diseases""** organized by the Department of Animal Biotechnology, College of Veterinary Science, A.V.F.U., Khanapara, Guwahati-781022 from **3rd December, 2026 to 2nd March, 2027**.

Office seal

Signature of the Nominating Authority

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