



IAV/421/R & D /2023

26.09.2023

**SHORT TERM HANDS-ON TRAINING PROGRAMS**

Institute of Advanced Virology was established by the Government of Kerala in 2019 as an institute of global standards with most modern laboratories focusing on research, diagnosis and management of emerging and re-emerging infectious viral diseases and establishing networking with global virology institutes. It is envisioned as a centre of excellence to work in collaboration with international institutions for training and education covering basic and translational research, providing scientific inputs to enable the prevention and control of viral infections, strengthen pandemic preparedness; and offer rapid response and risk communication to the public. The Institute currently has all the infrastructure required to carry out high-end research needed to study viruses and viral infections in a multifarious approach.

The Institute currently have the following functional departments/laboratories:

1	Viral Diagnostics
2	Viral Vaccines
3	Antiviral Drug Research
4	Virus Applications
5	Basic & General Virology
6	Virus Epidemiology, Vector Dynamics & Public Health
7	Synthetic Chemistry Laboratory
8	Molecular Bioassay Laboratory

The Institute currently undertake various ambitious research projects with translational potential under the following flagship programmes:

- Monoclonal antibodies and antiviral drug development against emerging viruses.
- Nucleic acid-based vaccines against emerging viruses
- New generation multiplex diagnostic platforms against viral syndromes

As part of the mandate of the Institute to create a pool of skilled scientific & technical personnel in virology to serve local, national and global needs, Institute offers short term training programme of various durations to those who complete Graduation /Post Graduation/ doctoral degrees in Life Sciences and allied subjects. The aim of the short-term training programme is to equip them with latest molecular/cell biology techniques and other basic laboratory techniques.

The details regarding duration/training imparted and fees for the same are as follows:

Duration	Training imparted	Fees
One month	<p><b>Cell culture techniques</b></p> <ul style="list-style-type: none"> <li>• Introduction to cell culture protocol; media preparation</li> </ul> <p><b>Virological techniques</b></p> <ul style="list-style-type: none"> <li>• Biosafety in Virology Laboratory</li> <li>• Virus isolation using cell culture - demonstration</li> </ul> <p><b>Molecular biology techniques</b></p> <ul style="list-style-type: none"> <li>• Plasmid isolation</li> <li>• Confirmation by Agarose Gel Electrophoresis</li> <li>• Quantification by Nanodrop</li> </ul> <p><b>Molecular preparation, separation and analytical techniques</b></p> <ul style="list-style-type: none"> <li>• Chromatography</li> <li>• Spectroscopy</li> <li>• Buffer Preparation</li> </ul>	20,000/- + GST
Two months	<p><b>Cell culture techniques</b></p> <ul style="list-style-type: none"> <li>• Introduction to cell culture protocol, media preparation</li> <li>• Maintenance of cell lines</li> <li>• Cell counting, viability checking</li> </ul> <p><b>Basic Virological techniques</b></p> <ul style="list-style-type: none"> <li>• Biosafety in Virology Laboratory</li> <li>• Virus isolation</li> <li>• Virus quantification (TCID50)</li> <li>• Hemagglutination and Hemagglutination Inhibition Assay</li> </ul> <p><b>Molecular biology techniques</b></p> <ul style="list-style-type: none"> <li>• Competent cell preparation</li> <li>• Ligation, Restriction digestion.</li> <li>• Transformation</li> <li>• Confirmation by colony PCR</li> <li>• Plasmid DNA isolation</li> <li>• Confirmation of Plasmid DNA by Agarose Gel Electrophoresis</li> <li>• Quantification by Nanodrop</li> </ul>	35,000/- +GST

	<p><b>Molecular preparation, separation and analytical techniques</b></p> <ul style="list-style-type: none"> <li>• Chromatography</li> <li>• Spectroscopy</li> <li>• Buffer Preparation</li> <li>• Distillation</li> </ul>	
Three months	<p><b>Cell culture techniques</b></p> <ul style="list-style-type: none"> <li>• Media preparation</li> <li>• Cell revival, counting &amp; viability checking</li> <li>• Sub culturing</li> <li>• Preparation of cell lysate</li> <li>• Cryopreservation</li> </ul> <p><b>Basic Virological techniques</b></p> <ul style="list-style-type: none"> <li>• Biosafety in Virology Laboratory</li> <li>• Virus isolation</li> <li>• Virus quantification (TCID50, Plaque Assay)</li> <li>• Virus neutralization assays</li> <li>• Hemagglutination and Hemagglutination Inhibition Assay</li> </ul> <p><b>Molecular biology techniques</b></p> <ul style="list-style-type: none"> <li>• Competent cell preparation</li> <li>• Ligation, Restriction digestion</li> <li>• Transformation</li> <li>• Primer designing</li> <li>• Confirmation by colony PCR</li> <li>• Plasmid DNA isolation</li> <li>• Confirmation of Plasmid DNA by Agarose Gel Electrophoresis</li> <li>• Quantification by Nanodrop</li> <li>• SDS-PAGE &amp; Western blotting</li> <li>• DNA sequencing</li> </ul> <p><b>Molecular preparation, separation and analytical techniques</b></p> <ul style="list-style-type: none"> <li>• Chromatography</li> <li>• Spectroscopy</li> <li>• Buffer Preparation</li> <li>• Distillation</li> <li>• Simple synthesis &amp; Analysis</li> </ul>	50,000/- +GST

Those who wish to get selected for the training programme has to submit an online application indicating the duration and choice of the department. The applications will be screened for the eligibility conditions and shortlisted candidates will be informed about the procedures for joining for the training programme. The applications can be submitted through the following link: <https://forms.gle/5MTdzdZhjVbE45hG6>

The candidates selected for the training have to submit the endorsement stating that the data generated during the training program will not be used for making independent publications or IPR generation; and that the candidate will obey the rules and regulations of the institute.

The selected trainees will be allotted to any one of the departments based on the choice and availability.

**Sd/-  
Director**