

is 11.09.2024. The intimation to the selected candidates will be communicated through e-mail.

Registration :

An amount of Rs. 5000/- (Rupees five thousand only), including GST, is payable for attending the training program as a training fee. For payment details please visit the ICAR-CIFA (<https://www.cifatraining.com/program-details.php?pid=133>)

How to reach :

The Central Institute of Freshwater Aquaculture is very well connected with the Biju Patnaik International Airport (12 km) and Bhubaneswar railway station (10 km). Any form of transport convenient to the participants can be availed by themselves. Also before the commencement of the programme contact details of the course co-ordinators will be communicated.

Target audience/participants:

Post graduate students, Faculties of SAUs, Scientists, Researchers, Fisheries officers, Progressive fish farmers, Entrepreneurs, Staffs of NGOs, SMS- KVK



Course Advisor

Dr. P. K. Sahoo
Director, ICAR-CIFA

Course Director

Dr. Mrinal Samanta
Head of Division, FHMD, ICAR-CIFA

Course Coordinators

Dr. P. Swain,
Pr. Scientist, FHMD, ICAR-CIFA

Dr. S. Mohanty,
Pr. Scientist, FHMD, ICAR-CIFA

Dr. Rakesh Das,
Scientist, FHMD, ICAR-CIFA

Dr. P. Choudhary,
Scientist, FHMD, ICAR-CIFA

Dr. Anirban Paul,
Scientist, FHMD, ICAR-CIFA

Mr. S. N. Sahoo,
Scientist, FHMD, ICAR-CIFA

Mrs. Snatashree Mohanty,
Scientist, FHMD, ICAR-CIFA



For details please contact :

Director
ICAR-Central Institute of Freshwater Aquaculture
Kausalyaganga, Bhubaneswar, Orissa
Tel: 0674 2465421, Fax 0674 2465407
E. mail: director.cifa@icar.gov.in
Website: www.cifa.in



National Training Program on

**Advanced microbiological and
molecular biological techniques,
in-vitro culture of fish cell lines for
their application in cutting edge
research and early diagnosis of
freshwater fish diseases**

23 to 27 September 2024



Venue

Fish Health Management Division
ICAR- Central Institute of Freshwater Aquaculture
(An ISO 9001:2015 Institute)
Kausalyaganga, Bhubaneswar, Odisha-751002

Introduction

Fish Health Management Division (FHMD), of the ICAR-Central Institute of Freshwater Aquaculture (CIFA) (<http://cifa.nic.in/node/48>) is one of the prime focuses of this institute having 11 highly qualified and experienced scientists. This division has several cutting-edge and world-class research facilities in the National Referral lab, Molecular immunology and immunodiagnostic labs, Nanotechnology, histopathology, parasitology, bacteriology, probiotics, AMR- lab, and also a cell culture facility. CIFAX, CIFACURE, CIFA-Brood-Vac, A.hydrophila vaccine strains, spot agglutination test and DOT-ELISA kit are some of the important inventions of this division. Several Nationally priority projects funded by the ICAR, DBT, DST, ANRF, PMMSY, AYUSH are ongoing in the division engaging JRF, SRF, YP-I, YP-II. This division has research collaboration with the NIIT, DU, TANUVAS, CARL, KIIT, UU, IIL, KIMS, and also with many ICAR-research institutions. In addition, several Masters and Ph.D. students are pursuing their dissertation/research work under the guidance of the FHMD scientists. Many past students of the FHMD are now working as Post-docs and scientists in India and abroad and also in various departments.

Course Background

Diseases have remained major impediments that undermine fish productivity. Freshwater culture systems with the current trend of intensification and diversified systems coupled with ever changing climate have contributed to episodes of many disease outbreaks. India specifically with its enormous freshwater aquatic resources is under tremendous pressure of

intensification and imbalance of aquatic microbial dynamics. Various emerging diseases are of global concern, and due to the inaccurate diagnosis severe crop loss and subsequent devastation occurs in the fisheries industry. Scientific management of fish health will contribute in the sustainable development of the sector.

For any disease management accurate diagnosis plays the key role. Fast and efficient diagnosis can eventually lead to efficient treatment measures. In fisheries and diagnosis of diseases using clinical symptoms is very tricky. Hence the use of Level II and Level III diagnostics employing advanced microbiological and molecular biological techniques are essential. Further, for the development of viral vaccines and diagnostics, and also to investigate the progression of disease and the involvement of the cellular genes and their signalling- pathways knowledge on in-vitro cell culture is essential. In the FHMD, a dedicated cell culture facility is available for these purpose. Employing all of these facilities, this short course aims to provide hands-on training to the various stakeholders on the application of advanced and modern tools and techniques for their cutting edge research and also for the quick and early diagnosis of fish diseases.

Major Objective

To develop competency among various stakeholders on the application of latest diagnostics tools and techniques in fish disease diagnosis and cutting edge research.



Course contents:

- ✱ Overview of the common freshwater fish pathogens and diseases caused by them
- ✱ Necropsy and histopathology techniques, tissue sample processing and blood collection for disease diagnosis
- ✱ Microbiological methods of pure culture, spread plate and pour plate technique
- ✱ Nucleic acid extraction and purification for their application in disease diagnosis
- ✱ Application of PCR and real-time PCR-based diagnosis of fish diseases
- ✱ Immunodiagnostic methods including ELISA
- ✱ SDS page and Western blot technique
- ✱ Primary cell culture, established cell line, maintenance of cells, sub-culture, storage and propagation

Travel and Accommodation :

Participants will have to reach ICAR-CIFA at their convenience before the commencement of the training program. Accommodation and food would be provided to the participants at the institute guest house/farmers hostel on a **payment basis** (<http://cifa.nic.in>) upon request.

How to apply :

Interested candidates should register and apply online through <https://www.cifatraing.com/registration>. Participants are advised to depart for ICAR-CIFA, Bhubaneswar only after receipt of the participation confirmation email issued by the ICAR-CIFA. The last date for online registration