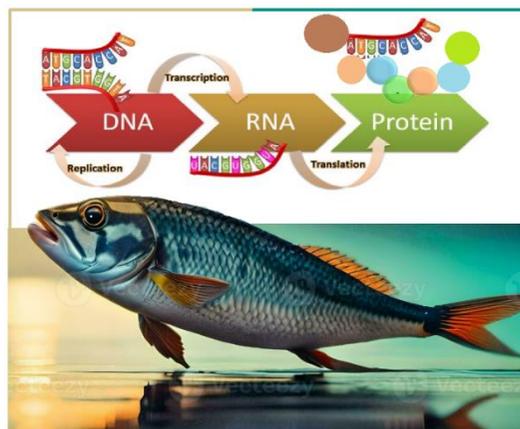


Hands on training on

## “Molecular Tools for Aquatic Resource Management”

Date: 27<sup>th</sup> May-1<sup>st</sup> June, 2024



**Convenor**

**Dr. B. K. Das, Director**

**Co-Convenor**

**Dr. Archana Sinha, HoD, AEB Division**

**Course Coordinator(s)**

**Mr. Praveen Maurye**

**Dr. Kavita Kumari**

**Dr. Shaya M.**



**ICAR-Central Inland Fisheries Research Institute  
Barrackpore, Kolkata - 700120**



ICAR-Central Inland Fisheries Research Institute (ICAR-CIFRI) is a premier research organization established on 17 March 1947 and has developed state of art facilities. The institute has expertise in wide research domain of inland fisheries resources, including reservoirs, wetland, riverine and estuarine ecosystem.

**Laboratory:** Our laboratories are fully equipped with a diverse range of cutting-edge instruments tailored specifically for molecular biology research.

**Guest house:** The Institute has a guest house with modest facilities cater to the needs of the participants.

### **Eligibility to apply:**

Participant should have a background in a relevant field such as biology, fisheries science, environmental science, or a related discipline. Preference may be given to individuals currently working or studying in fields related to aquatic resource management, conservation, fisheries, or molecular biology.

### **How to apply:**

Interested personnel may apply through proper channel along with dully filled registration form. The fee can be paid in form of Demand draft/NEFT/RTGS in favour of “ICAR Unit-CIFRI” payable at State Bank of India, Barrackpore, Kolkata-700120, Bank Account Number: 11278713220 at State Bank of India, Barrackpore Branch (IFSC code: SBIN0000029)

### **Training Fees:**

₹3000

**For Professors, Scientist and  
other officials**

₹2000

**For Students/ Research scholars**

\* No TA/DA will be provided. The participant may avail the boarding / lodging facility of the institute as per the tariff of ICAR-CIFRI.

### **Venue:**

ICAR-Central Inland Fisheries Research Institute, Barrackpore, Kolkata – 700120, West Bengal, India

**ICAR-CIFRI** (<http://www.cifri.ernet.in>)

### Introduction:

The management and conservation of aquatic resources are critical for maintaining ecological balance and sustaining livelihoods worldwide. In recent years, molecular tools have emerged as indispensable assets in understanding and effectively managing these valuable ecosystems. From assessing genetic diversity to identifying species and diagnosing diseases, molecular techniques offer powerful insights into the intricate dynamics of aquatic environments. To equip professionals with the essential skills for utilizing these tools, a hands-on training program has been designed. This program aims to bridge the gap between theoretical knowledge and practical application, empowering participants to contribute meaningfully to the sustainable stewardship of aquatic resources. Through interdisciplinary collaboration, ethical awareness, and staying abreast of technological advances, participants will be prepared to address the complex challenges facing aquatic ecosystems. This introduction sets the stage for a transformative journey towards enhancing the capacity for effective management and conservation of our aquatic heritage.

### Objectives:

- Develop practical skills in molecular techniques to identifying species and diagnosing diseases.
- Integrate theory with hands-on application in fisheries management and conservation.
- Empower participants to contribute to sustainable stewardship of aquatic ecosystems through interdisciplinary collaboration and ethical awareness.

### Course content:

#### Module 1 Nucleic acid technique

Isolation of genomic DNA and RNA from aquatic organisms

Primer design for PCR assays

Agarose gel electrophoresis for visualization

#### Module 2: PCR techniques

PCR amplification of specific genes

Quantitative PCR/Real-Time PCR methodologies

#### Module 3: Protein analysis

Protein extraction and quantification methods

Gel electrophoresis of proteins

Various protein gel staining techniques

#### Module 4: Data analysis

Bioinformatics analysis of molecular data

Statistical tools for genetic variability analysis

#### Module 5: Advances in molecular tools

Exploration of advancements in fisheries resource management such as metagenomics, transcriptomic etc.

### Application Form

1. Full Name (in block letters):

2. Designation:

3. Present employer address:

4. Educational qualification:

5. Mobile No. :

6. e-mail:

7. Sex:

Male/ Female

8. Transaction ID of registration fee payment

9. Whether accommodation on payment basis is required at ICAR-CIFRI

Yes / No

10. Recommendations of the forwarding Institute

Signature of the competent/forwarding authority

Signature of Applicant

*All correspondence may be addressed to:*

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