

**ICAR Short Course on  
“Broodstock Improvement and Quality Fish  
Seed Production through Genetic Tools”  
(15<sup>th</sup> -24<sup>th</sup> March, 2018)**

**Application Form:**

1. Full Name (in block letters) :
2. Designation :
3. Date of Birth :
4. Sex :
5. Present employer and address :
6. Address for communication  
(Including tel/mob/fax & email) :
7. Area of research & Professional experience:
8. Academic record (graduation onwards) :
9. Demand Draft No.....Dated .....of **Rs 50/-**  
for registration of application

It is certified that the information furnished to  
Me is true to the best of my knowledge

Date: \_\_\_\_\_ Signature of the Applicant  
Place: \_\_\_\_\_

10. Recommendation of forwarding authority  
if any:

(Signature and seal of competent authority)

Name:  
Designation:

DIRECTOR  
**Dr. J. K. Sundaray**

COURSE DIRECTOR  
**Dr. K. D. Mahapatra**

COURSE COORDINATORS  
**Dr. K. Murmu, Avinash Rasal  
and P. Nandanpawar**



For any enquiry regarding the programme, please  
contact:

Course Director:  
**Dr. K. D. Mahapatra (kdmahapatra@yahoo.co.in)**  
Tel. 0674 -2465421, 2465446  
Mob. +91-943-7291615/8732839/7359749  
Fax: 0674-2465

**ICAR SHORT COURSE  
ON**

**“Broodstock Improvement and  
Quality Fish Seed Production  
through Genetic Tools”  
(15<sup>th</sup> -24<sup>th</sup> March, 2018)**

Sponsored by  
**Indian Council of Agricultural Research,  
New Delhi**



**Organised by**



**Fish Genetics & Biotechnology Division  
ICAR- Central Institute of Freshwater  
Aquaculture  
(ISO 9001-2015 Certified Institute)  
(Indian Council of Agricultural Research)  
Kausalyaganga, Bhubaneswar –751002**

## INTRODUCTION

Aquaculture has become vital for nutritional security, rural employment and livelihood option for country's growing population. Seed is the prime requisite for aquaculture production. Quantity of carp seed production has gone up to 49.5 billion fry in 2015-16. In most of the hatcheries in India genetic norms are not followed for seed production leading to poor quality seed. Fish seed accounts for approximately 27-30% of production costs and the stocking of poor quality seed results in poor growth, low production and less profit for farmers. The ICAR-Central Institute of Freshwater Aquaculture (ICAR-CIFA) is a premier Institute in Freshwater Aquaculture in India under the administrative control of Indian Council of Agricultural Research (ICAR), New Delhi. For the first time in India, selective breeding work has been initiated at Central Institute of Freshwater Aquaculture (CIFA), Bhubaneswar, India in collaboration with Institute of Aquaculture Research (AKVAFORSK), Norway to genetically improve growth in rohu. Selective breeding program in rohu for growth has resulted in 18% average genetic gain after eight generations of selection. Disease resistance against aeromoniasis added as second trait to the selective breeding of rohu. Genomic resources like markers and QTL maps have come up recently for an integrated approach towards genetic improvement of this species. The present training has been designed keeping in view the problem of unavailability and lack of awareness about quality seed production among researchers/extension scientist and other stakeholders. The different modules will not only cover various aspects of different genetic tools used for production of quality seed but also envisage importance of good

management practices through use of proven technologies.

## COURSE CONTENTS:

- Present status of freshwater aquaculture research.
- Broodstock management for quality seed production.
- Genetic tools for stock improvement of fish
- Selective breeding of rohu and its dissemination.
- Status of selective breeding of freshwater prawn
- Marker Assisted Selection.
- Different tagging methods for identification of fish.
- Cryopreservation of fish gametes.
- Off season breeding of carps.
- Disease management in broodstock and fish seed.
- Hands on practice for tagging of fish.
- Exposure visit to nearby carp hatcheries and National Freshwater Fish Brood bank (NFFBB) facility.
- Eco-Carp Hatchery and its structural management.

## COURSE MATERIAL

The Training Course Manual will be handed over to all participants at the beginning of short course training.

## TRAVEL AND ACCOMODATION

The participants will be paid to & fro journey fare **restricted to AC II-tire train fare** or bus fare. TA will be paid from your place of duty to the Institute by shortest route as per ICAR guidelines. Accommodation and food would be provided to the participants in the Institute Guest House/ Trainees' Hostel free of cost and the amount will be borne by the organizer as per ICAR guidelines.

## REGISTRATION:

There is no course fee, however a non-refundable registration fee of **Rs. 50/-** (Rupees Fifty only) is to be paid by way of a DD/IPO (drawn in favour of ICAR-CIFA Payable at SBI, Kausalyaganga, Bhubaneswar).

## HOW TO APPLY

Interested candidates should register and apply online through 'Capacity Building Programme' (CBP) Portal (<http://cbp.icar.gov.in/>). Login using your user ID and Password. To create user ID use "Create New Account link". After login, click on "participate in Training" link and fill the Proforma. Take a printout and send duly signed copy through proper channel to the Course Director by post or e-mail. Participants are advised to depart to Bhubaneswar only after the receipt of participation confirmation letter from the Course Director. Last date of receiving application is **5<sup>th</sup> March 2018**. Intimation to selected candidates will be sent through email.

## HOW TO REACH:

The Institute is located near to Uttara, Kausalyaganga, about 10 km from Bhubaneswar Railway station and 12 km from Biju Pattnaik Airport (Auto fare Rs. 150/- or Taxi fare Rs 350/-)

