

## FORMAT OF APPLICATION FORM

### Training Programme on

## Genetics and Biotechnology : Tools and their Applications in Aquaculture

December 12-17, 2016

Full Name (Block Letter) .....

Designation : .....

Present Employer and Address .....

Address to which reply should be sent (in block letters) .....

Email Tel, Fax Mobile .....

Date of birth .....

Sex: Male/Female .....

Working Experience .....

Academic qualification .....

| Exam/<br>Degree | Subjects | Year of<br>passing | Class/<br>Rank | Institution |
|-----------------|----------|--------------------|----------------|-------------|
| Bachelor        |          |                    |                |             |
| Master          |          |                    |                |             |
| PhD             |          |                    |                |             |

Particulars of course fee/DD enclosed.

**Certificate :** This is to certify that all the information provided here are true to best of my knowledge.

Date:

Place: Signature of applicant

Recommendation of the forwarding Institute

Signature of the forwarding  
Authority with Seal and Date

**Travelling, Boarding and lodging :** Guest house accommodation at ICAR-CIBA is limited and shall be provided at standard rate on first-come-first-serve and sharing basis.

**Fees :** The Programme fee is Rs. 8,000 + tax per person. The charges include course fee, course material, working lunch and refreshments. The fee does not include travel, lodging, conveyance and other personal expenses.

### Course Director

**Dr. K. K. Vijayan**, Director, CIBA, Chennai

### Course Co-ordinator

**Dr. G. Gopikrishna**, Head, NGBD, CIBA

### Course Facilitator

**Dr. B. Sivamani**, Scientist

### Co-ordinators

**Dr. M.S. Shekhar, Dr (Ms) Sherly Tomy**  
**Dr. K. Vinaya Kumar, Shri. J. Ashok Kumar**

### For More Details Contact

#### Dr. G. Gopikrishna

Head, Nutrition, Genetics &  
Biotechnology Division  
ICAR - Central Institute of  
Brackishwater Aquaculture

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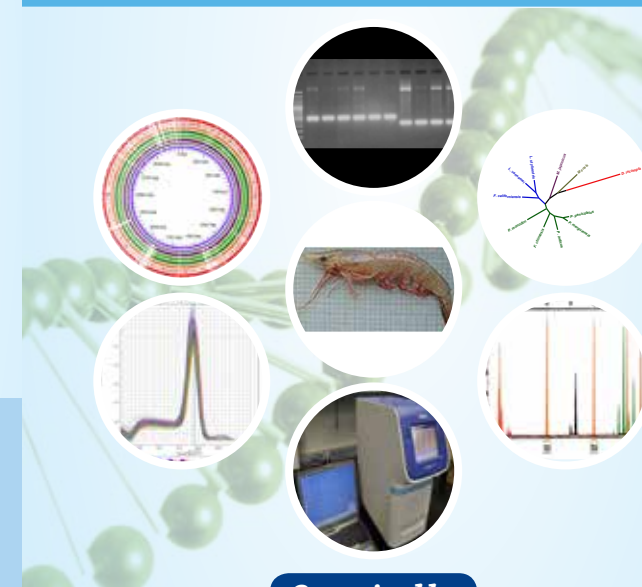
Website : www.ciba.res.in



### Training Programme on

## GENETICS AND BIOTECHNOLOGY : TOOLS AND THEIR APPLICATIONS IN AQUACULTURE

December 12-17, 2016



### Organised by

**ICAR-CENTRAL INSTITUTE OF  
BRACKISHWATER AQUACULTURE**  
**(Indian Council of Agricultural Research)**

75, Santhome High Road, R.A. Puram,  
Chennai - 600 028, Tamil Nadu

www.ciba.res.in

## About ICAR-CIBA

ICAR-Central Institute of Brackish-Water Aquaculture is primarily a research institute under the ICAR established in 1987 being headquartered in Chennai has a field station at Muttukadu 30Km south of Chennai and a Research Centre at Kakdwip in West Bengal. ICAR-CIBA conducts research on brackishwater fishes and their ecosystem to develop sustainable aquaculture system to enhance the fish production as well as to upgrade the farmers living standards. The Nutrition, Genetics and Biotechnology division utilizes state-of the-art genomic analyses and cutting edge technologies to discover candidate genes and to understand the pathways in physiological processes including growth, reproduction and disease resistance in finfish/shellfish. Some of the recent achievements of this division include development of high density linkage map in tiger shrimp, identification of QTL against WSSV resistance through whole genome association studies using custom-designed SNP chips, Gene expression profile against WSSV, salinity stress and hormone induced maturation in penaeid shrimps. Further we have a well-equipped 48-core, 512 GB memory server to assist in bioinformatics and big-data analysis.

## Preclude to the Training Course

Genetics and Biotechnology as a discipline is gaining importance in aquaculture research in the present global scenario of increased demand for seafood. The application of biotechnology has great potential to improve the quality and quantity of aquatic species through selection of individuals with economically important traits, genetic traceability, sex manipulation, chromosome engineering, and development of vaccines, drugs, diagnostics and genetically modified organisms. The evolution of genetics and revolution in high throughput sequencing technology generated huge amount

of genome and transcriptome data. Analysing such huge datasets require skills in using relevant software as well basic knowledge in bioinformatics. This training programme aims at exposing the participants to the advancements in the field of aquatic biotechnology and trains them on different genetic and bioinformatics tools. The training would cover vast areas including development of molecular markers, genotyping technologies, phylogenetic analysis, barcoding, gene expression analysis, basics of bioinformatics and their tools, transcriptome assembly and annotation.

## Course Content

The five day training programme is designed to acquaint the participants with basic concepts along with the recent advances on state of the art techniques in genetics, biotechnology and bioinformatics. It will involve both theory and practical sessions. Major focus during the training will be on following areas.

- » Introduction to biotechnological and bioinformatics tools and their applications
- » Types of DNA markers and their application in population genetic studies
- » Nucleic acids (DNA, RNA) isolation
- » Quality and quantity determination of nucleic acids
- » Gel electrophoresis
- » DNA amplification (PCR)
- » Gene cloning
- » Amplification of mtDNA genes, species identification
- » DNA barcoding
- » Restriction Fragment Length Polymorphism (RFLP)
- » Internal Transcribed Spacer (ITS)
- » Single Nucleotide Polymorphism (SNP)
- » Expressed Sequence Tags (EST)
- » Microsatellites
- » Phylogenetic analysis

- » Gene expression analysis (Real-Time PCR)
- » In-situ hybridization
- » NGS data analysis

## Location and weather

ICAR-CIBA Chennai is well connected by air/rail/road. The institute is around 9Kms from the Chennai central railway station and 18Kms from the Chennai airport. Weather in Chennai during December is pleasant. The temperature ranges from 24°C to 29°C.

## General Information

**Eligibility :** Post-graduates in biological or life-sciences, Scientists, Teachers, Technical officers, Academicians and Researchers are encouraged to apply. The official language for all purposes of the training will be English. Desirous participants can download the application form from our institute website (<http://www.ciba.res.in/>).

**Course Material :** Each participant would be provided with a Training Manual and a CD containing all presentations made during the programme.

**Venue :** Nutrition, Genetics and Biotechnology Division, ICAR-Central Institute of Brackishwater Aquaculture, 75 Santhome High Road, RA Puram, Chennai 600 028 Tamil Nadu

**Duration:** 12th- 17th December, 2016

**Last Date for Application:** Duly filled application form endorsed by competent authority should reach the training coordinators on or before December 6th, 2016. The application completed in all aspects accompanied with brief biodata may be sent by email to [gopikrishna@ciba.res.in](mailto:gopikrishna@ciba.res.in)

**Selection Criteria :** There are 10 seats in the training and selection will be on first come - first serve basis, however the priority would be given to their exposure and interest. Selected candidates will be intimated through email.

