

**Application form for participation in
Winter School**

(To be sent to Director of Winter Course)

Full name (in block letters).....
Designation.....
Present employer and address.....
Address (in block letters with Email ID).....
Permanent address.....
Date of Birth.....
Sex: Male/Female
Teaching/Research/Professional experience (post held)
during last 5 years and number of publications.....
Marital status: Married/unmarried
Mention if you have participated in any summer/winter
school/short course etc. during the previous years..
Postal order no..... dated of Rs. 50/- for
registration of application.....
Academic record
Examination passed/subjects/year of passing/class, rank
etc./university or institution/other information for
Bachelors and Masters degree, other certificates,
diplomas, degree etc.
Signature of the applicant and date.....
Recommendations of forwarding institute.....

Certificate

It is certified that the information was furnished by the
office record and was found correct.

Signature & designation of the sponsoring authority

For details please contact

Ambekar E. Eknath, Ph.D.

Director

Central Institute of Freshwater Aquaculture
Kausalyaganga, Bhubaneswar, Orissa
Tel: 0674 2465421, Fax 0674 2465407
E. mail: cifa@ori.nic.in; Website: www.cifa.in

Winter School

on

**Application of Molecular and Serological
Tools in Fish Disease Diagnosis**

9 – 29 November 2009

Sponsored by

**Indian Council of Agricultural Research
New Delhi**



Organized by

**Central Institute of Freshwater Aquaculture
Kausalyaganga, Bhubaneswar, Orissa**

Introduction

The Central Institute of Freshwater Aquaculture (CIFA) under the administrative control of the Indian Council of Agricultural Research (ICAR) has been striving for the development of freshwater aquaculture of the country through planning, conducting and coordinating research, education and training on all aspects of freshwater aquaculture. Over 22 years of its existence, the institute has developed several epoch-making technologies that it can be proud of. Development of technology of induced breeding, seed production and culture of carps, freshwater prawn and catfish; fish stock improvement through genetic and biotechnological tools; culture of freshwater pearls and ornamental fishes; therapeutics and diagnostics; formulated feed for fish and prawn; management of soil and water for optimum productivity; biofertilization, cryopreservation of gametes, etc. are a few examples of its research outcome.

Fish Health Management Division of the institute caters to diagnosis and treatment of various types of fish diseases of freshwater fishes. Various serological and molecular techniques have been developed by the Institute. Antigenic characterization of *A. hydrophila*, *E. tarda* and *P. fluorescens* were done to develop immunodiagnostics for these infections in fishes. A coloured agglutination test antigen has been prepared for diagnosis of Edwardsiellosis of Fish. Serological tests are applied for quick, precise and differential diagnosis of fish diseases. Dot-ELISA for specific detection of bacterial antigens in tissues of the affected and dead fish and indirect ELISA for differential diagnosis of *Aeromoniasis*, *Edwardsiellosis* and *Pseudomoniasis* have been developed. Molecular based diagnostics for bacterial pathogens, *MrNV*, KHV have also been developed. Various tools such as immunostaining, in situ hybridization and western blotting have also been standardised for most of the pathogens.

Immune related genes, nano scaffold based cell culture and stem cell culture have made a remarkable progress in the Institute.

How to apply

Eligible and interested participants are requested to send their nomination in the given format to the Course Director within specified dates along with a non-refundable fee of Rs. 50/- (Rupees fifty only) in the form of Demand Draft drawn in favour of 'ICAR Unit CIFA' payable at SBI, Kausalyaganga (8874), Bhubaneswar.

Travel

The participants will be reimbursed travel expenses as per their entitlement class, restricted to the maximum of AC II tier rail fare.

Accommodation

Accommodation would be provided to the participants in the Trainee's Hostel of CIFA.

Boarding and lodging

The organizer will meet boarding and lodging expenses.

Course Contents

A review of current and future molecular diagnostic tests for use in the fish health and disease diagnosis laboratory, Present scenario of fish diseases in India and their approaches for diagnosis, Fish immune system and their functions due to virus, bacterial and parasites, Specific immune response in fish, Development and application of fish cell culture, Immunoassays in diagnosis of microbial infections, Viral disease of carps and their diagnosis, Nodavirus in freshwater prawn and their approaches for diagnosis, Serological approaches in detection of fish parasites, Molecular approaches of fish parasites detection, Nano scaffolded and nano particles and their role in cell lines for diagnosis, Molecular aspects of bacterial genome studies, Molecular aspects of fungal genome studies, Molecular

approaches of viral genome studies, Path analysis in fish disease diagnosis, Statistical approaches and softwares in diagnostic, in-situ hybridization, RNA base technology for diagnosis of fish diseases, si RNA based technology, Gene silencing, RNA antibodies, PCR based diagnostics, Protein fingerprinting of microbial pathogens, Sub unit vaccines and its application, Virulence associated marker, Immunological and molecular marker, Immuno staining for detection of bacterial and virus, Confocal microscopic and its use in recent diagnosis, Stem cell culture, Molecular and serological techniques in diagnosis of Ornamental fish disease, Carp diseases, Cat fish diseases and freshwater prawn diseases, Image analysis, Macrophage cell cultures for rapid isolation of intracellular bacteria and viruses, Microarray based detection of bacteria, Realtime PCR based assay in the light cycler for the detection of viruses and immune related genes

Who can apply

Staff of ICAR Institutes, SAUs, CAU, AMU, BHU, Nagaland University, Visva-Bharati including KVKs from the field of fish/shellfish health management, nutrition, genetics, etc., not below the rank of Scientist/ Assistant Professor/SMS/ T-6 are invited to apply.

Last date for Application

09 October 2009

Course Director

Dr B. K. Das, Sr. Scientist,
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