



राष्ट्रीय मत्स्य आनुवंशिक संसाधन ब्यूरो

(भारतीय कृषि अनुसंधान परिषद्)

*National Bureau of Fish Genetic Resources*

(Indian Council of Agricultural Research)



डा. जे.के. जेना, निदेशक  
Dr J.K. Jena, Director

No. G/Training/2015  
Dated: August 28, 2015


Dear Sir/Madam,

I am pleased to inform that the ICAR-National Bureau of Fish Genetic Resources, Lucknow is going to organize a Short Term Training Program titled "Fish Genomic and Proteomic Data Analysis with High Throughput Computing" during November 19-24, 2015. The programme is sponsored by the Centre of Agricultural Bioinformatics (CABin), IASRI, New Delhi under the Network Project on Agricultural Bioinformatics and Computational Biology. The programme aims to acquaint the researchers/ educationists with different methods, software/ tools, statistical techniques used in the genomics, transcriptomics and proteomics data analysis along with hands on experience on the test data sets. The programme will also provide exposure to the participants to analyse data using high performance super-computing facility equipped with proprietary software.

You are requested to kindly nominate scientific/ academic personnel working in the allied areas from your Institute/ Organization/ University for participating in the training. The brochures, application form and other details of the training programme can be accessed at URL: <http://www.nbfgr.res.in/> or <http://mail.nbfgr.res.in/FishCABin/>. The nomination of the sponsored candidates may please be sent through email to [nabg.nbfgr@gmail.com](mailto:nabg.nbfgr@gmail.com) on or before October 5, 2015. The brochure of the training programme is attached herewith for your kind reference.

With kind regards,

Yours sincerely

  
(J. K. Jena)

Encl.: As above

## Fish Genomic and Proteomic Data Analysis With High Throughput Computing

### APPLICATION FORM

Name of the Applicant: \_\_\_\_\_

Institute: \_\_\_\_\_

Designation: \_\_\_\_\_

Official address : \_\_\_\_\_

Telephone no : \_\_\_\_\_

Mobile no : \_\_\_\_\_

E-mail address : \_\_\_\_\_

Area of research : \_\_\_\_\_

Experience related Bioinformatics: \_\_\_\_\_

Date: \_\_\_\_\_

Signature of applicant: \_\_\_\_\_

Signature of the Competent Authority: \_\_\_\_\_

### Instructions to participants:

- The application should be send through e-mail to [nabg.nbfg@gmail.com](mailto:nabg.nbfg@gmail.com) latest by October 5, 2015.
- The application should be forwarded by the Competent Authority of the institute.
- The application form along with other details is available at URL: <http://www.nbfg.res.in/>.
- The selected participants will be paid TA (restricted to the Sleeper class only).
- The participants will be provided free boarding and lodging during their stay at ICAR-NBFG.

### How to reach

The campus of ICAR-NBFG is located 6 kms away from Charbagh Railway Station and 7 kms from Amausi Airport, well connected with Auto/ Taxi services.

### Weather Condition

During November, Lucknow experiences very pleasant weather condition with temperature around 20-25°C, which is an ideal season to visit.

### For Further query please contact

**Dr. J. K. Jena**

Director

ICAR-National Bureau of Fish Genetic Resources  
Canal Ring Road, Post office: Dilkusha  
Telibagh, Lucknow-226002

**Dr. N. S. Nagpure**

CPI, CABin: Fisheries Domain  
ICAR-NBFG, Lucknow

### Program Co-ordinator

**Dr. Basdeo Kushwaha**

Principal Scientist  
Co-PI  
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**Dr. Ajey Kumar Pathak**

Senior Scientist  
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## Short Term Training on

## Fish Genomic and Proteomic Data Analysis with High Throughput Computing

**November 19-24, 2015**



### Sponsored by

**Centre of Agricultural Bioinformatics (CABin)  
Indian Agricultural Statistics Research Institute**

**New Delhi**

**Under**

**Network Project on Agricultural Bioinformatics  
and Computational Biology**



भा.क.अनु.प.-राष्ट्रीय मत्स्य आनुवांशिक संसाधन ब्यूरो  
ICAR-National Bureau of Fish Genetic Resources



## About Training Programme

The Whole Genome sequencing programme on the varied fish model organisms like Zebrafish, Fugu, Tetraodon, Medaka, Threespine stickleback, Atlantic salmon, Nile tilapia, Common carp, Grass carp and Elephant shark provided a vast array of genomic, transcriptomic and proteomic data that are now openly available in the Internet domain. Invention and adaptation of Next Generation sequencing technologies have revolutionized the field of genomics and the data output has outpaced Moore's law—more than doubling each year thus transforming the way scientists think about the genetic information. Bioinformatics amalgamates the knowledge of computers, molecular biology statistics and mathematics to develop algorithms and software tools for analyzing biological data thus, helping to understand the basis of genetic variation, unique adaptations, target identification for drug discovery etc. In order to develop the human resources in the field of fish bioinformatics and provide the computational support to the researchers, the training programme was designed in such a fashion that it can cater the need of researchers of varied skills and disciplines.

The programme aims to acquaint the researchers as well as educationists with different methods, software/ tools, statistical techniques used in the genomics, transcriptomics and proteomics data analysis along with hands on experience on the test data sets. The programme will also provide exposure to the participants to analyze genomics, transcriptomics and proteomics data using high performance super-computing facility equipped with proprietary software.

## Objectives of the Training

- ◆ To acquaint participants with different bioinformatics software/ tools available in the public domain as well as proprietary software like CLC Genomics and Discovery Studio.
- ◆ Genomic and Proteomic data analysis using High Throughput Computing resources and other bioinformatics software/ tools of the public domain.

## Course Contents

### Genome analysis

- ✱ Next Generation sequence data analysis
- ✱ *De novo* assembly and annotation
- ✱ Comparative Genomics

### Proteome analysis

- ✱ Molecular modelling, docking and dynamics

### Meta analysis of Genomic and Proteomic data

- ✱ Introduction to SAS and R Bioconductor

## Eligibility

Scientists/ Researchers/ Faculty members from NARS system and conventional Universities working in the area of biological sciences and bioinformatics.

Number of participants: 20

Last date for receipt of nomination: October 5, 2015.

Intimation to selected candidates: October 15, 2015.

## How to apply

Eligible candidates from ICAR/SAUs/Conventional Universities may apply using the prescribed application form available in the brochure along with short biodata on or before October 1, 2015. The downloadable softcopy of the brochure along with application form and other details can be accessed at either of the URL: [http:// www. nbfg. res. in/](http://www.nbfg.res.in/); <http:// mail. nbfg. res. in/ Fish CABin/>. Selected candidates would be informed through email and phone.

## About ICAR-NBFG

The ICAR-National Bureau of Fish Genetic Resources established in 1983, has been recognized as a Center of Excellence in Cataloguing and Conserving Aquatic Bio-resources of India. Since last three decades, the ICAR-NBFG has been promoting database development, genotyping, registration of aquatic germplasm, gene banking and evaluation of threatened and exotic fish species. It has modern and state-of-art facilities for Genotyping, DNA bar-coding, Next Generation sequencing, Genomic and Proteomic research, Gene banking, Tissue and Cell culture repository and High Performance Computing. Under the CABin scheme the ICAR-NBFG has been identified as a nodal institute for fisheries domain to collect and compile the information on fish genomic resources and database development.

## About CABin: Fisheries Domain

Realizing the need of accelerating research in the field of agricultural bioinformatics in the country, the Centre for Agricultural Bioinformatics (CABin) has been established at Indian Agricultural Statistics Research Institute, New Delhi. The mission of this center is to provide computational support for biotechnological research in agriculture. Necessary infrastructure for CABin has been developed under the mega project 'Establishment of National Agricultural Bioinformatics Grid (NABG) in ICAR, under the NAIP Component 1. In this grid, the state-of-art data centers were developed by commissioning the supercomputing facility according to the operational requirements at the CABin as well as the bureaux under ICAR. In order to undertake research in the priority areas of computational biology and bioinformatics related to the fisheries, develop and implement the fisheries biological databases, the ICAR-NBFG, Lucknow has been identified as one of the nodal centre for fisheries domain under ICAR.