



National Workshop

14-17 February 2017

Computational Tools for Genomics and Proteomics Data Analysis

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Organized by

**ICAR-National Bureau of Agriculturally Important
Microorganisms**

Kushmaur, Maunath Bhanjan, 275103, UP

Sponsored by

ICAR-Network Project on Agricultural Bioinformatics

Centre for Agricultural Bioinformatics Project

ICAR-IASRI, New Delhi



Background

Biological research and recent technological advances have resulted in an enormous increase in research data that require large storage capacities, powerful computing resources, and accurate data analysis algorithms. Hundreds of microbial genomes and many eukaryotic genomes including a cleaner draft of human genome have been sequenced raising the expectation of better control of microorganisms.

Bioinformatics is the field that provides these resources to life science researchers.

Biologists are stepping up their efforts in understanding the biological processes. This has resulted in a flood of biological data from genomic and protein sequences, DNA microarrays, protein interactions. Practical issues such as handling noisy and incomplete data, processing compute-intensive tasks, and integrating various data sources, are new challenges faced by biologists in the post-genome era.

This workshop will provides an insight into some of the key areas of activity in bioinformatics; it covers genome and gene expression analysis, investigations on proteins and proteomes, evolutionary bioinformatics, and modeling of biological systems.

About NBAIM

ICAR-National Bureau of Agriculturally Important Microorganisms (NBAIM) started its journey from old NBPGR building in 2001 at New Delhi. The Bureau then moved to Kushmaur village at Maunath Bhanjan in 2004 where a completely unfinished, marginalized and almost abandoned the-then NIST (National Institute of Sugarcane Technology) building was waiting for it. The Bureau then traveled a long journey within a very short span of only 10 years to acquire all the infrastructural facilities, greenery, instrumental sophistication and of course scientific and technical skill to establish itself as a premier institution of Indian Council of Agricultural Research (ICAR).

In a very small span of its journey in the area of research and development, now the Bureau has raised itself from a margin of merely a culture collection of agriculturally important microorganisms (AIMs) to the mainstream of microbial biotechnology.

Microbial Research at NBAIM

Microbial research at ICAR-NBAIM basically focus in the areas of microbial diversity analysis from extreme habitats, biological control of plant diseases, plant growth

promotion, plant-microbe interaction, microbial genomics and proteomics, stress tolerance in microbes and microbial bioinformatics.

The Bureau has a well-equipped National Agriculturally Important Microbial Culture Collection (NAIMCC) established with most modern facilities for culture deposition, conservation and preservation for long- and short term durations. Total microbial accessions in NAIMCC is more than six thousand which includes microbial accessions of bacteria, fungi, actinomycetes, and cyanobacteria are successfully conserved.

The Bureau is also having an advanced Microbial Genomic Resource Repository (MGRR) facility for collection and storage of different kinds of genetic materials of agriculturally important microorganisms (AIMs) along with molecular biology, microbiology, microbial genomics and central instrumentation units.

The Bureau is also having a network scheme named "Center for Agricultural Bioinformatics (CABin)" to support bioinformatics work by the NARS scientists.



About The Training

This training will provide an insight into the most practical and applicable methods and tools for Genomics and proteomics.

Training Contents

Basic Bioinformatics
Sequence Database & their utility
Sequence retrieval and their analysis
Sequence alignment
Primer designing
Phylogenetic analysis
Metagenomics
Genomic data analysis/ quality filtering & pre-processing
NGS Analysis
R-Programming
Protein Modelling & their validation

Protein-Ligand and Protein-Protein interactions will be covered.

A series of lectures and presentations will cover the above mentioned topics by well renowned experts from the country. More emphasis will be given to Hands-on-Session with popular computational tools to cover the above topics. All the participants will be given separate project to complete in the stipulated time and finally that will be evaluated by the experts.

Who can attend?

Research scientists /faculty members, Research scholars from NARS system and Departments working with biological sciences from various Universities/Institutions

How to apply

Interested candidates may send their applications/nominations to The Director, ICAR-NBAIM, Mau along with their RESUME on or before Feb 01, 2017. Selected candidates will be informed accordingly.

Total seats 20 only

For further details, please contact,

Director, ICAR-National Bureau of Agriculturally Important Microorganisms, Kushmaur, Maunath Bhanjan-275103, U.P.; Phone: 0547-2530080, Fax: 0547-2530358, e-mail: nbaimicar@gmail.com;

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APPLICATION FORM

Recent Photograph

Name of the Applicant : í í í í í í í í í í í í í í

Affiliation : -----

Designation : -----

Official address : -----

Telephone/Contact : -----

E-mail address : -----

Experience of work : -----

Expectation from the workshop: -----

Signature of the applicant

Forwarding form competent authority

Seal

Note

1. There is no fee for attending this workshop.
2. The complete application should be emailed to the Director, NBAIM at nbaimicar@gmail.com or Dr. Sunil Kumar at skybiotech@gmail.com latest by Feb 01, 2017.
3. The applications should be submitted through proper channel.
4. Food, accommodation and local hospitality will be provided by the Organizer of the workshop.