



National Workshop

March 04-09, 2016

Bioinformatics-based Genomic & Proteomic Data Analysis in Microbial Domain

Convener

Dr. Sunil Kumar
Senior Scientist

Co-Conveners

Dr. Renu
Senior Scientist

Dr. Arjun Singh
Scientist

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CCPI Project @ NBAIM

Dr. D. P. Singh
Senior Scientist



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



Objectives of the workshop

- ° To provide insight to scientists regarding genomic and proteomic data analysis
- ° To provide understanding of bioinformatics tools and softwares employed for data analysis
- ° To strengthen capacity of researchers on bioinformatics techniques and data handling

About CABin project

Formally launched on 18th Sept., 2010 by Hon'ble Director General (ICAR) and Secretary (DARE) Dr. S. Ayyappan, the *National Agricultural Bioinformatics Grid (NABG)* came to its existence as a National project funded by NAIP, ICAR. The project entailed creation of high-end computational infrastructure in the country and advancement of databases, algorithms, computational and statistical techniques to solve formal and practical problems arising from the management and analysis of biological data in the -Omics era. Partners of the National Bioinformatics Grid were given the responsibility to develop skills among scientific man power and apply computationally intensive techniques for quick and efficient study of heap of genomic, proteomic and metagenomic information, chemical structures and related biological data and to link that to meaningful function(s) of the organisms. After the completion of the NABG in the project form under the NAIP, ICAR-IASRI, New Delhi has taken up a network scheme named "Center for Agricultural Bioinformatics (CABin)" to support bioinformatics work by the NARS scientists.

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 MaunathBhanjan 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 ofcourse 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 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 have reached up to 7000 among which species and strains of bacteria, fungi, actinomycetes, methylotrophs 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.



About The Workshop

This workshop will provide an insight into the most practical and applicable methods and tools for proteomics and Genomics. Topics of the workshop include an overview of comparative protein modelling, protein-ligand, protein-protein interactions, Molecular dynamics simulations of agriculturally important microorganisms as well as other proteins. Genome annotation and transcriptomics 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.

Topics to be covered

- 1) The comparative/Homology modeling of Agriculturally Important Microbial proteins or other important proteins.
- (2) The protein-ligand interactions of microbial proteins with small molecules and their analysis.
- (3) Protein-Protein Interactions of two different proteins and their analysis.
- (4) Molecular Dynamics Simulations of Agriculturally Important Microbial proteins, protein-ligand complexes, protein-protein complexes and their analysis
- (5) Genome Annotation and Transcriptomic Analysis
- (6) Next Generation Sequencing Analysis

Who can attend

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

How to apply

Interested candidates may send their applications/nominations to The Director, ICAR-NBAIM, Mau along with their RESUME on or before **Feb.10, 2016**. Selected candidates will be informed accordingly.

Total seats 20 only

For further details, please contact,

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

OR

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APPLICATION FORM

Recent Photographs

Name of the Applicant :

Affiliation :

Designation :

Official address :

Travel support :

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 latest by Feb., 10, 2016.
3. The applications should be submitted through proper channel.
4. Food, accommodation and local hospitality will be provided by the Organizer of the workshop.