National Repository for Microalgae and Cyanobacteira (NRMC), National Facility for Marine cyanobacteria (NFMC)

Bharathidasan University

Personal information

Name : Dr. D. Prabaharan

Designation : Professor

Email : dharmarpraba@gmail.com; praba@bdu.ac.in

Phone : +91-9442-145805

Website : http://www.nfmc.res.in/dp.html

Research Interests

1. Micro algal and Cyanobacterial diversity and taxonomy
2. Micro algal and cyanobacterial identification and phylogenetic
3. Micro algal Bioenergy
4. Micro algal synthetic biology
5. Cyanobacterial physiology
6. Cyanobacterial Bioinformatics
7. Bioremediation

Currently working as Professor in National Facility for Marine Cyanobacteria (NFMC), Dept. of Marine Biotechnology, Bharathidasan University, Tamil Nadu, India. He has 29 years of research experience in cyanobacterial biotechnology. Under the aegis of (NCAOR), he has participated in two Arctic expeditions and Antarctic Expeditions and has established cryophilic micro algal germplasm at NFMC. As one of the investigators, has transferred 2 technologies and

is conversant with microalgal up scaling process. The major research interest is renewable biofuel production from cyanobacteria. For Ph.D has worked on hydrogen photoproduction without oxygen co-production. Relevant here, has surveyed, isolated, identified and maintains a vast number of cultures in the germplasm and use it for various biotechnological purposes. Has experience in large scale cultivation and also growing organism at industrial effluents at on site. In a molecular diversity project, two marine cyanobacteria has been sequenced (whole genome) in view of identifying pathways for manipulation, and plasmid genome in view of vector development. He has sufficient experience in the field of protein engineering techniques such as DNA shuffling, random mutagenesis, site directed mutagenesis and characterization of the protein through DBT Overseas Associateship at University of Washington, Seattle, Washington, USA. He has comprehensively analyzed cyanobacterial SODs by in *silico* means and cyanobacterial Pepcase, and GST's. Conducts regular workshops related on cyanobacterial techniques right from isolation to bioinformatics.

ABSTRACT

National Facility for Marine Cyanobacteria

National Facility for Marine Cyanobacteria (NFMC) funded by the Department of Biotechnology (DBT), Ministry of Science and Technology, Govt. of India which was established exclusively for the research on marine cyanobacteria. Now the Facility has been upgraded to the level of **a National Repository for Microalgae and Cyanobacteria (NRMC).** Now the Repository holds more than 1000 Microalgal and Cyanobacterial strains representing 780 mesophilic, 150 psychrophilic (Arctic &Antarctic), 20 thermophilic and 50 halophilic forms. More than 1000 institutes are its beneficiaries which includes

Universities and Govt. research Organizations. NFMC is also a Sub distributed Bio informatics center (BIC) exclusive for cyanobacteria, where it has developed open source database CKB (Cyanobacterial Knowledge Base) of 74 completely sequenced genomes, an exclusive visualization tool for Synechocystis PCC 6303 - Syn Rio, Cyanopatt which can search pattern against any cyanobacterial genomic region of the query. Complete Catalog datasheet (with GPS values), the open source tools and Database are available in website (**www.nfmc.res.in**).

- *To survey the entire coast of line of India and establish germplasm collection of marine cyanobacteria as well as cryophilic cyanobacteria.*
- *To carry out, basic and applied research resulting in both the understanding of basic biology as well as exploitation of these organisms by way of technologies towards human welfare;*
- *To carryout genome wide hunt of cyanobacterial genomes;*
- *To sequence the whole genome of selected marine cyanobacterium of Indian isolate.*
- *To develop a strong knowledge economy and human resource through regular workshops and conferences;*
- *To provide marine cyanobacterial culture, instrumental and other facilities to needy researchers.*

Keywords: NFMC, NRMC, Microalgae, Cyanobacteria, Bharathidasan University

Our Interest

1. How to barcode the organism
2. Multiple storage modes
3. Ways to store cyanobacteria - a organism that needs light
4. How to make the facility to an international recognition
5. What are the steps that has to be done by Government?

From NFMC

1. Whole genome sequencing of the promising organism
2. Updating CKB for all the sequenced organism
3. To establish a mirror site

2. Benefit from the training courses.

Really benefit to interact with several regions of global culture collection's scientists and also with the WDCM personals. This will helpful in our future collaboration works as well as to understand our role in the world culture collection

Understand several new programs and websites such as BOLD, iBOL, ISO, BSL-3 Lab facility etc.

Understand the WDCM and their web sites, management of the web sites, etc.

Really helpful in getting the first hand information regarding WDCM. The interaction with its members and scientists will helpful for us in future correspondence with them without any inhibition

3. Suggestion on WDCM work.

May provide a provision to see the culture collection (list) through the map itself. If we click the region of the world map that itself has to reveal the culture collection in that area (in a separate window or the same window). This will help us to easily view the selected culture collection information.

Getting information regarding the strains seems to be still complicated. While we typing in the search column (May be even partial names of genus / species or the strain number) a help window with suggestion appeared will be of great help.

While searching new strains, instead of the acronym of culture collection the whole culture collection name appeared will be of great help.

4. Comments or suggestion on the training courses.

Conduct similar workshop at least for every year for a short period will helpful for a better interaction between the culture collections globally

Apart from giving some basic concept lectures include some more case study or their research work will be of more helpful

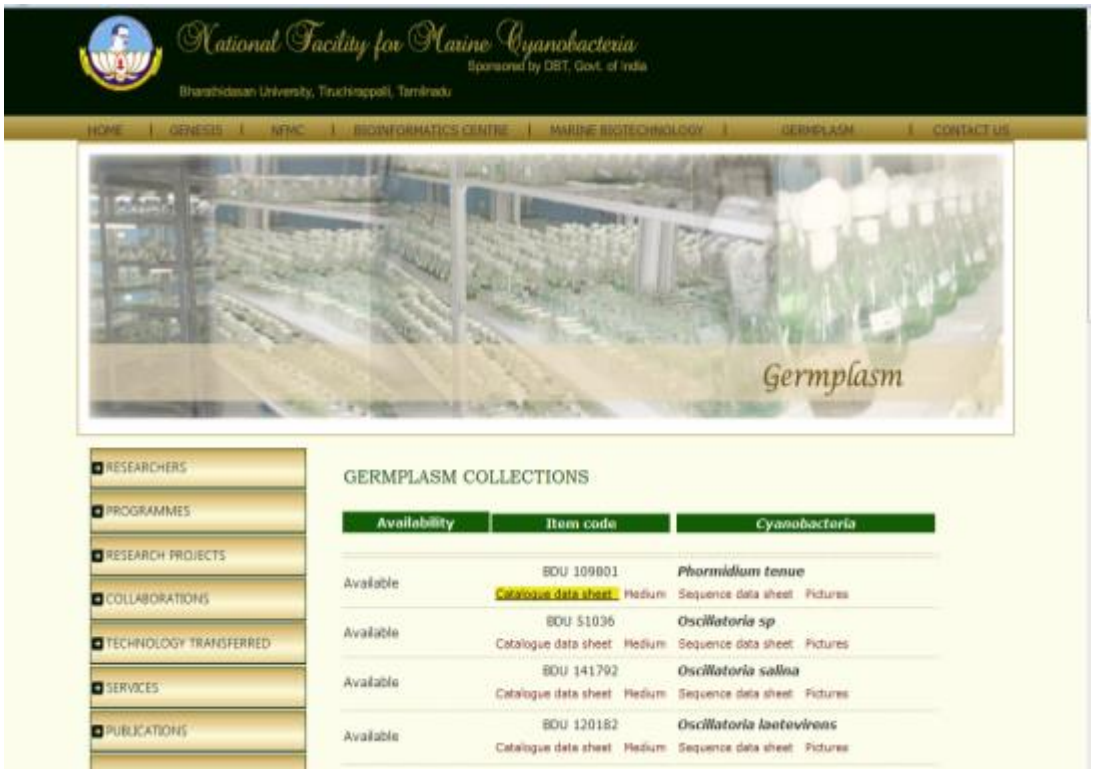
May provide proper Internet facility to at least in the practical session will reduce the burden of the resource person.

5. Suggestion on further cooperation between WDCM and your collections.

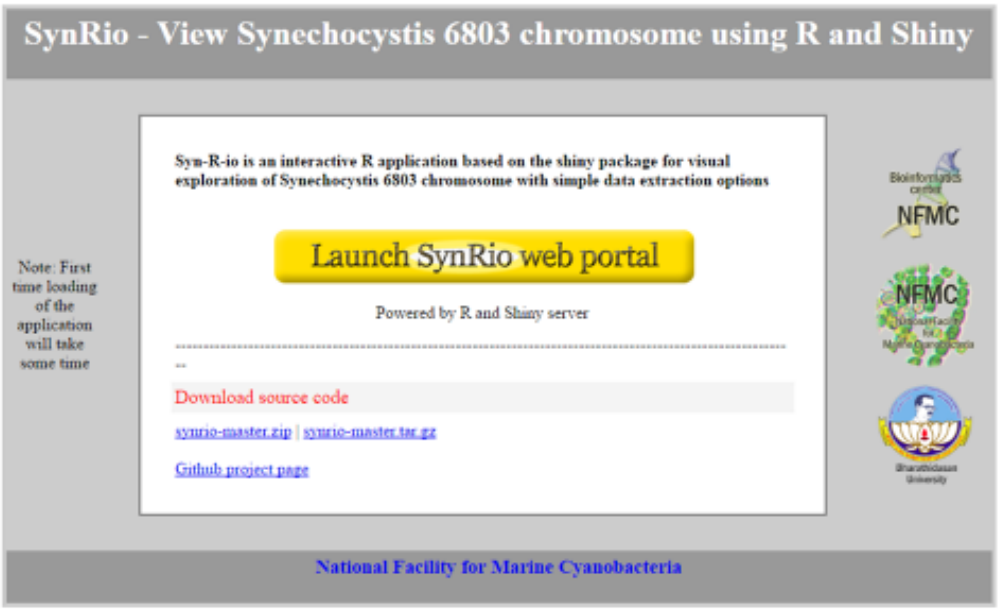
Course really cover all areas of culture collection and learn how to maintain and upgrade our culture collection web page and received first-hand information regarding the database maintenance.

This course is a successful one in view of interaction among the culture collection globally and with WDCM

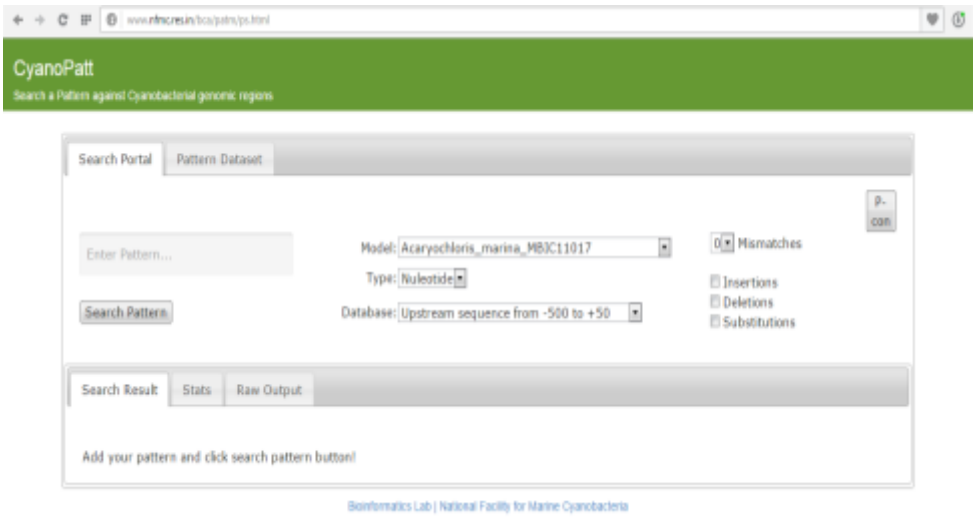
NATIONAL REPOSITORY FOR MICROLAGAE AND CYANBACTERIA



Synrio


SynRio - View Synechocystis 6803 chromosome using R and Shiny
Note: First time loading of the application will take some time
Syn-R-io is an interactive R application based on the shiny package for visual exploration of Synechocystis 6803 chromosome with simple data extraction options
Launch SynRio web portal
Powered by R and Shiny server
Download source code
synrio-master.zip | synrio-master.tar.gz
Github project page
National Facility for Marine Cyanobacteria


CyanobacterialKnowledgeBase
Home
Tools
Database
Contact
Welcome to CKB
Species Covered
Cyano BLAST Tool
Comparative analysis
Goating CKB
To cite


CyanoPatt
Search a Pattern against Cyanobacterial genomic regions
Search Portal
Pattern Dataset
Enter Pattern...
Search Pattern
Model: Acaryochloris_marina_MBIC11017
Type: Nuleotide
Database: Upstream sequence from -500 to +50
Mismatches
Insertions
Deletions
Substitutions
Search Result
Stats
Raw Output
Add your pattern and click search pattern button!
Bioinformatics Lab | National Facility for Marine Cyanobacteria