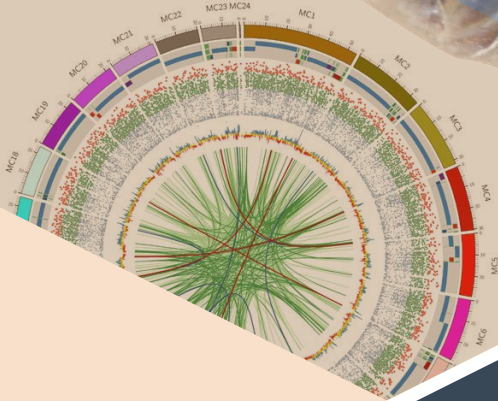
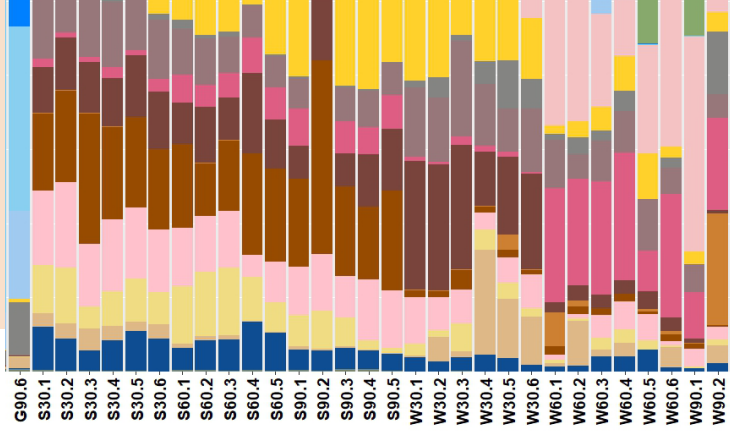




OMICS DATA ANALYSIS AND ITS APPLICATIONS: HANDS ON TRAINING

15TH DEC – 21ST DEC, 2022



COURSE BACKGROUND

Recent advances in high throughput sequencing technologies and big data analysis enabled the researchers to shift their focus from gene level to genome level. RNAseq is one of the omics studies used in functional genomics to identify the unigenes or a set of candidate genes and their regulatory network of a biological function. Metagenomics deciphers the complex genomes contained within a microbial niche without isolating live microorganisms. SSR (Simple Sequence Repeat) are high level polymorphic markers, widely used to construct genetic linkage map, identify varieties, parentage

assignment and diverse genetic analyses.

Computational skills on analyses of the above omics data are slowly becoming mandatory knowledge for biologists as they allow studying the entire genome in one go. In this context, the current training program gives a complete hands-on experience on analyses of RNAseq, metagenomics and SSR datasets and drawing functional inferences out of it. The institute has a High-performance computing facility installed with several open source tools and a few paid tools like Omicsbox.

COURSE CONTENT

- Introduction to **Linux environment**
- **Downloading RNA-seq datasets** from GenBank
- Exposure to **Quality control of Illumina RNAseq datasets**
- **Genome-guided analyses with RNAseq data** to establish differentially expressed transcripts
- **denovo assembly** of transcriptome
- **Discovery of unigenes from RNAseq datasets** and their annotations
- Gene quantification studies using **Real-time PCR**
- **Metagenome analysis** using amplicon sequencing
- **Generation of SSRs** from genome and transcriptome
- **Population genetic analysis** using SSR

TRAVEL EXPENSE

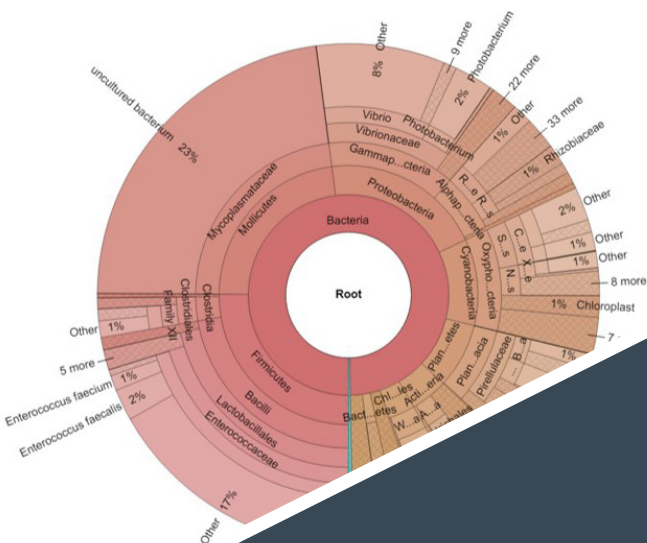
Expenditure on travel has to be borne by the candidate.

ACCOMMODATION FACILITY

Limited accommodation would be provided on nominal charges at the institute trainees' hostel.

HOW TO APPLY

Young scientists, faculties, government officials, technical officers, research associates and scholars with interest to learn/improve genomics / bioinformatics skills can apply for the course. The interested candidates can apply by sending the filled-in application form in the given format to sivamani.b@icar.gov.in. Last date of receiving the application is 10th Dec, 2022. The selected candidates for the course will be intimated by e-mail.



COURSE FEE

A fee of Rs. 7,080/- (including GST) per candidate will be charged for the course. The fee includes course fee, lunch and refreshments.

PAYMENT DETAILS

Digitally to the bank account
ICAR unit CIBA
A/C No: 10013240762 (Current account)
IFSC Code: SBIN0005797

APPLICATION FORM

Full Name (in block letters) :

Designation :

Date of Birth :

Gender :

Present employer and address :

Address for communication (including tel/mob/fax & email) :

Area of research & Professional experience :

It is certified that the information furnished above are true to the best of my knowledge

Signature of the Applicant

Date:

Place:

Recommendation of forwarding authority if any

Signature of competent authority



ADVISOR:

Kuldeep K. Lal,
Director, ICAR-CIBA, Chennai

COURSE DIRECTOR:

M.S. Shekhar,
Principal Scientist & SIC,
Nutrition Genetics and Biotechnology Division, ICAR-CIBA

COURSE CO-ORDINATORS:

B. Sivamani and Sherly Tomy

CO-COURSE DIRECTORS:

K. Vinaya Kumar, J. Ashok Kumar and J. Raymond Jani Angel

CONTACT US

Email: sivamani.b@icar.gov.in

Phone : 7904598005

ICAR - Central Institute of Brackishwater Aquaculture

Indian Council of Agricultural Research

Ministry of Agriculture & Farmers Welfare, Govt. of India

#75, Santhome High Road, M.R.C. Nagar, R. A. Puram.

Chennai- 600 028, Tamil Nadu, India.

Website: <https://ciba.icar.gov.in>