

REGISTRATION FORM

Hands-on Training on
DNA Sequencing Using Ion Torrent
NGS Platform and
Data Analysis
Under Scheduled Castes Sub-Plan (SCSP)
(29th Jan to 5th Feb 2025)

1.Name :

2.Education :

3.Present Enrollment :

4.Affiliation :

5.Address:

6.Mobile No and Email :

7.Gender :

8.Existing skills in molecular biology
techniques (if any) :

10.Reason for attending :

Recommendation of HOD/Guide/PI/Head of
Institution

Signature of Applicant

Programme Director
Dr. Ravishankar C.N.
Director ICAR-CIFE, MUMBAI

Course Director
Dr. Aparna Chaudhari
Principal Scientist &
In-charge Central NGS Facility

Course Coordinators
Dr. A. Pavan Kumar
Senior Scientist
Dr. Kiran Rasal
Scientist (SS)

For Details
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Website: www.cife.edu.in



**Hands-on Training on
DNA Sequencing Using
Ion Torrent NGS Platform
and Data Analysis
Under Scheduled Castes Sub-Plan
(SCSP)**

29th Jan to 5th Feb 2025

Central NGS Facility
ICAR-Central Institute for Fisheries Education
(Deemed University)
Panch Marg, Versova, Mumbai - 400061

About the Training Program

NGS technologies have revolutionized the field of genomics by enabling high-throughput, cost-effective, and rapid sequencing of DNA and RNA. Ion Torrent NGS platform is a robust and rapid technology, which works on the principle of detection of hydrogen ion released during incorporation of new nucleotide in the growing DNA template. The system offers flexibility of chip sizes and data output ranges from 0.3-15 gb, and the maximal read length is 400 bp. It is especially useful for metagenomics, mitogenomics, shallow transcriptome sequencing, microbial and viral whole genome sequencing.

NGS technologies and bioinformatics tools are being widely used in the area of biomedical research. Several companies are offering NGS services to various stakeholders and are in need of qualified, highly-skilled manpower. Similarly, several government research labs such as ICAR, CSIR, ICMR, DBT also have genomics labs that hire highly skilled manpower for operating NGS platforms and carrying out bioinformatics analysis. This training will empower SC candidates to use high-end techniques in their own research and also provide opportunities for future employment. This training is designed to impart hands-on training on DNA sequencing using Ion Torrent platform and downstream data analysis.

Course Content

- Genome organization
- Basis of DNA sequence variation
- Evolution of sequencing technologies
- DNA library preparation
- Quality assessment of library
- Sequencing using Ion torrent NGS platform
- Sequence analysis and quality check
- Mapping and assembly of reads
- Metagenomics and metabarcoding
- Transcriptome analysis
- SNPs: Discovery and applications
- Mining of NGS data for SSR markers
- NGS data submission and retrieval
- Mitogenomics / Phylogenomics

Last date of application

15th January 2025

Eligibility

PhD Students of SC category

Travel Allowance & Accommodation

Participants will be provided to and fro train fare by Sleeper III Tier by the shortest route. In case of travel by air, the difference will be borne by the participants. Free lodging and boarding will be provided.

How to apply

Please use the format of the registration form provided alongside and email your application and category certificate to ngslab@cife.edu

About ICAR-CIFE

ICAR-Central Institute of Fisheries Education (Deemed University) is India's only national fisheries university. It is a premier institution dedicated to promoting higher fisheries education through generation of high quality human resource, high end research in both basic and applied aspects, generation of appropriate technologies and their dissemination. CIFE alumni constitute the country's present leadership in this sector.

The Central NGS Facility that houses Ion Torrent S5 platform was established at CIFE in 2023 under NAHEP-CAAST project and has been providing service and training in the area of metagenomics, metabarcoding, mitogenomics, microbial genomes and bioinformatics analysis for various applications. The NGS facility team comprises of experienced and well-trained scientists and is complemented by a team of application experts from Thermo Fisher Scientific.

