

## REGISTRATION FORM

ICAR Sponsored Hands-On Training

DNA Sequencing Using  
Ion Torrent NGS Platform  
and Data Analysis

9<sup>th</sup> – 18<sup>th</sup> Feb 2026

1.Name:

2.Occupation:

3.Affiliation:

4.Address:

5.Mobile No. and Email:

6.Education Qualification:

7.Gender:

8.Experience in the field (If any):

9.Reason for attending:

Forwarded by HoD/Head of Institution  
(In – Service candidates only)

Signature of Applicant

### Programme Director

Director

ICAR-CIFE, MUMBAI

### Course Director

Dr. Aparna Chaudhari

Principal Scientist &  
In-charge Central NGS Facility

### Course Coordinators

Dr. A. Pavan Kumar

Principal Scientist

Dr. Kiran Rasal

Senior Scientist

For details please contact

Dr. Aparna Chaudhari

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**ICAR Sponsored  
Hands-On Training**

**DNA Sequencing Using  
Ion Torrent NGS Platform  
and Data Analysis**

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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.

Advances in 16S rRNA gene-based amplicon sequencing now allow the identification of microbes that were previously unculturable or unknown. Shotgun metagenomics further enables both biodiversity assessment and the discovery of novel genes. The large volume of sequencing data produced requires advanced computational workflows, including preprocessing, alignment, variant detection, and data interpretation. A range of bioinformatics tools supports taxonomic resolution, biodiversity analysis, molecular marker development, and functional gene discovery. Next-generation sequencing and bioinformatics has become central to biomedical research. This training program provides hands-on experience with DNA sequencing on the Ion Torrent platform as well as downstream data analysis.

## Course Content

- Genome organization
- Basis of DNA sequence variation
- Evolution of sequencing technologies
- DNA library preparation and quality assessment
- 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

23<sup>rd</sup> January 2026

### Eligibility

Assistant professors, Scientists and above

### Travel Allowance & Accommodation

Participants will be paid to and fro train fare journey to the maximum of AC II tier by rail. In case of travel by air, the difference will be borne by the participants. Food and Accommodation will be provided.

### How to apply

Please use the format of the registration form provided alongside and email your application to [ngslab@cife.edu](mailto: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.

