

Viral Metagenomics & Phageomics — Hands-on

Learn how to move from complex clinical or environmental samples to interpretable virome and phageome profiles. You will design viral metagenomics workflows, handle enrichment and depletion strategies, assemble and annotate viral genomes, link phages to hosts and build reporting outputs suitable for surveillance, research and industrial applications.

Viral Metagenomics and Phageomics

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Session 1

Fee: Rs 8800 [Apply Now](#)

Virome Study Design & Sample Handling

Virome and phageome concepts in microbiome projects

[DNA vs RNA viruses](#) [lytic vs lysogenic phages](#) [free viruses vs prophages](#)

Sample collection, storage and enrichment options

[stool, wastewater, soil, marine matrices](#) [filtration and concentration steps](#) [host and bacterial DNA depletion ideas](#)

Study design for virome surveillance and research

coverage and depth considerations **longitudinal vs cross sectional designs** **controls and spike in standards**

Session 2

Fee: Rs 11800 Apply Now

Virome Read Processing, Assembly & Annotation

Read QC and host / bacterial depletion review

quality and adapter trimming mindsets **host and 16S depletion checks** **contaminant and artifact review**

Assembly strategies for viral communities

short read and hybrid virome assemblies **handling low coverage and high diversity** **contig length and quality filters**

Viral contig identification and annotation overview

concepts behind viral contig callers **gene prediction and functional labels** **building per sample contig catalogs**

Session 3

Fee: Rs 14800 Apply Now

Viral Taxonomy, Host Linkage & Ecology

Taxonomic assignment of viral contigs and genomes

similarity and gene content based approaches **clustering into viral populations** **limits of viral reference databases**

Linking phages to bacterial hosts conceptually

CRISPR spacer matches **k mer and compositional similarity** **co abundance and network based hints**

Ecological summaries of viromes and phageomes

richness and diversity metrics **AMGs, AMR and**
virulence gene views **links to host microbiome shifts**

Session 4

Fee: Rs 18800 Apply Now

Mini Capstone: Virome / Phageome Report

End to end virome analysis on a small cohort

Theory plus guided practical

Interpreting viral and phage patterns with metadata

infection, treatment and environment links **biomarker**
and surveillance perspectives **caveats for decision**
makers

Deliverables: virome tables, plots and methods block

abundance and diversity tables **summary and host**
linkage figures **reusable methods and parameter**
notes