

## Viruses & Phages — Virome & Phageome Inference — Hands-on

Learn how to move from generic metagenomes to focused views of viruses and phages. This module covers virome study design, viral read handling, assembly and viral contig identification, quality and taxonomy assessment, basic host linking strategies and ecological interpretation of virome and phageome profiles.

### Viruses & Phages — Virome & Phageome Inference

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#### Session Index

[Session 1 — Virome & Phageome Concepts & Study Design](#) [Session 2 — Viral Read Processing, Assembly & Identification](#) [Session 3 — Viral Genome QC, Taxonomy & Host Linking](#) [Session 4 — Mini Capstone: Virome/Phageome Report](#)

#### Session 1

**Fee: Rs 8800** [Apply Now](#)

#### Virome & Phageome Concepts & Study Design

Bacteriophages, viruses and the microbiome

[lytic vs temperate phages](#) [prophages and viral dark matter](#) [roles in community structure and AMR](#)

Virome and phageome study designs

[enriched viromes vs total metagenomes](#) [sample types \(gut, wastewater, soil, marine\)](#) [longitudinal and](#)

## intervention scenarios

Wet lab and sequencing considerations (concepts only)

viral particle enrichment overview host DNA  
background read length and platform choices

### Session 2

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## Viral Read Processing, Assembly & Identification

QC and host removal for virome data

FastQC / MultiQC review trimming adapters and low  
quality bases mapping to host genomes for depletion

Assemblies tuned for viral contigs

short read assemblers overview contig length and  
coverage considerations co assembly vs per sample  
assembly ideas

Viral contig identification concepts

k mer and gene content based tools overview  
separating viral, bacterial and plasmid contigs basic  
thresholds and score interpretation

### Session 3

Fee: Rs 14800 Apply Now

## Viral Genome QC, Taxonomy & Host Linking

Quality assessment of viral contigs and genomes

completeness and contamination ideas length and  
circularity checks flagging low confidence elements

Assigning viral taxonomy and clustering

taxonomy frameworks for viruses overview clustering  
into viral populations building non redundant viral

## **catalogs**

Linking viruses and phages to hosts

**CRISPR spacer matches and k mer similarity**  
**concepts** **co abundance based hints** **summarising**  
**virus host networks at high level**

## **Session 4**

**Fee: Rs 18800** Apply Now

### Mini Capstone: Virome/Phageome Report

Designing a small virome or phageome analysis

**guided theory plus practical**

From viral contigs to ecological and functional summaries

**viral abundance and diversity tables** **simple virus**  
**host or phage host views** **figures linking viruses to**  
**environment or phenotype**

Deliverables: virome summary figures, tables and short narrative

**barplots and heatmaps for viral groups** **catalog or**  
**feature table exports** **brief report suitable for**  
**methods or results sections**