

Amplicon (16S/18S/ITS) Pipelines & Diversity Analysis — Hands-on

Learn the end-to-end workflow for marker-gene sequencing (16S/18S/ITS) from raw reads to publication-ready figures. You'll denoise with DADA2/Deblur, assign taxonomy against SILVA/Greengenes2/UNITE, build trees, quantify alpha/beta diversity, and apply proper compositional statistics (ANCOM-BC, Songbird) for differential abundance. Includes a mini capstone on real datasets.

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Session 1 — Experimental Setup, Primers & Data Intake | Session 2 — Denoising (DADA2/Deblur),
Chimera & ASVs | Session 3 — Taxonomy, Phylogeny & Diversity | Session 4 — Compositional Stats,
DA & Reporting

Session 1

Fee: Rs 8800 Apply Now

Experimental Setup, Primers & Data Intake

Marker choice & primer schemes

16S V3-V4 / V4 **18S / ITS1-ITS2** **amplicon length & platforms**

Data intake & QC setup

demultiplexing **adapter/primer trimming** **FastQC /**

MultiQC

Project scaffolding

QIIME 2 artifacts metadata TSV (MlxS) reproducible folders

Session 2

Fee: Rs 11800 Apply Now

Denoising (DADA2/Deblur), Chimera & ASVs

Read filtering & trimming strategy

quality profiles paired-end merging length thresholds

Denoising & chimera handling

DADA2 / Deblur consensus vs pooled uchime-vs / in-silico

ASV tables & prevalence filtering

feature tables contaminant detection (decontam) low-biomass care

Session 3

Fee: Rs 14800 Apply Now

Taxonomy, Phylogeny & Diversity

Taxonomic assignment & databases

SILVA / Greengenes2 UNITE (fungi) Naive Bayes / VSEARCH

Phylogeny & distance metrics

MAFFT / FastTree UniFrac (w/unweighted) Bray-Curtis / Jaccard

Alpha/Beta diversity & ordination

rarefaction & richness | Shannon / Faith PD | PCoA /
NMDS / PERMANOVA

Session 4

Fee: Rs 18800 | Apply Now

Compositional Stats, DA & Reporting

Normalization & transformations

CLR / rCLR / rarefy?

Differential abundance (compositional)

ANCOM-BC / ALDEx2 | DESeq2 (caveats) | Songbird /
Qurro

Reporting & reproducibility

QIIME 2 visualizations | Quarto / R Markdown | model
cards & data dictionary