Study Design, Sampling & Decontamination Strategies — Hands-on

Learn how to design contamination-aware microbiome and metagenomics studies from first principles. This module covers sampling frames, collection and storage logistics, negative and positive controls, batch structure, and practical decontamination strategies so that downstream analysis is trustworthy and publication ready.

Study Design, Sampling & Decontamination Strategies

Help Desk · WhatsApp

Session Index

Session 1

Fee: Rs 8800 Apply Now

Microbiome Study Design Principles

Translating biological questions into study designs

case control and cohort **cross sectional and longitudinal** **paired designs**

Endpoints, inclusion criteria and covariates

primary and secondary endpoints **confounders and effect modifiers** **sample size considerations**

Linking design choices to amplicon and shotgun workflows

biological versus technical replicates **time points and follow up** **cost versus depth trade offs**

Session 2

Fee: Rs 11800 Apply Now

Sampling, Storage & Transport

Sampling frames and collection strategies

stool, oral, skin, soil, water **self collection kits** **field logistics**

Storage conditions and stabilization

cold chain and freeze thaw **stabilizing reagents** **time to processing**

Labeling, barcoding and chain of custody

unique sample identifiers **tracking sheets** **linking to metadata**

Session 3

Fee: Rs 14800 Apply Now

Controls, Contaminants & Batch Effects

Designing negative and positive controls

field blanks **extraction and PCR blanks** **mock communities**

Common sources of contamination

reagents and kits **laboratory environment** **index hopping and carryover**

Batch effects, randomization and blocking

plate and run layout **technical replicates**

documentation for correction downstream

Session 4

Fee: Rs 18800 Apply Now

Mini Capstone: Protocol & Metadata Blueprint

Drafting a contamination-aware study protocol

guided template plus review

Sampling schedule, control strategy and logistics plan

visit and collection timetable | control allocation | lab handover notes

Metadata and documentation checklist

MIxS style fields | design tables | handover for analysis teams