

Clinical Microbiome in Health & Disease — Hands-on

Learn how to design, analyze and interpret clinical microbiome studies spanning gut, oral, skin and other body sites. You will connect ecological and functional readouts to clinical phenotypes, explore disease associations and risk scores, and structure reports and visualizations that clinicians and public health teams can act upon.

Clinical Microbiome in Health and Disease

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Session Index

Session 1 — Clinical Microbiome Foundations & Study Design | Session 2 — Clinical Sample Workflows & Quality Considerations | Session 3 — Disease Associations, Biomarkers & Risk Scores | Session 4 — Mini Capstone: Clinical Microbiome Case Report

Session 1

Fee: Rs 8800 Apply Now

Clinical Microbiome Foundations & Study Design

Clinical microbiome concepts across body sites

gut, oral, skin and urogenital examples | homeostasis vs dysbiosis mindset | microbiome as a clinical biomarker source

Clinical study designs for microbiome questions

case control and cohort frameworks | nested and cross sectional designs | inclusion, exclusion and matching logic

Clinical metadata, endpoints and covariates planning

disease activity scores and lab parameters **drug exposures and comorbidities** **diet, lifestyle and demographic factors**

Session 2

Fee: Rs 11800 Apply Now

Clinical Sample Workflows & Quality Considerations

Sample collection and handling in clinical settings

stool, swabs and biopsies **stabilization buffers and cold chain** **time to processing and storage windows**

Contamination, batch and technical artefacts awareness

negative and positive controls mindset **kit and reagent contamination ideas** **batch tracking for sequencing runs**

Linking wet lab workflows to downstream analytics

amplicon vs shotgun perspectives **coverage and depth considerations** **fit to clinical questions and constraints**

Session 3

Fee: Rs 14800 Apply Now

Disease Associations, Biomarkers & Risk Scores

Associating microbiome features with clinical outcomes

alpha and beta diversity differences **taxon and pathway level contrasts** **adjusting for clinical covariates**

Biomarker panels and risk score concepts

feature selection mindset **simple composite indices**

and scores **discrimination and calibration thinking**

Interpretation and clinical communication of findings

effect size and uncertainty statements **linking to**
mechanisms and literature **limits for diagnosis and**
screening use

Session 4

Fee: Rs 18800 Apply Now

Mini Capstone: Clinical Microbiome Case Report

End to end analysis of a clinical microbiome dataset

Theory plus guided practical

Summarizing results for clinicians and tumor boards or case discussions

patient friendly plots and tables **structured**
impressions and recommendations **transparent**
limitations and next steps

Deliverables: clinical style report, figures & methods block

summary PDF or slide deck outline **key plots for**
diversity and taxa **reusable clinical methods wording**