

Integrative Multi-Omics (G/T/P/M) — Hands-on

Gain expertise in integrating Genomics, Transcriptomics, Proteomics, and Metabolomics (G/T/P/M) with rigorous QC, batch correction, data fusion, pathway and network biology—fully reproducible, hands-on.

Integrative Multi-Omics (G/T/P/M)

[Help Desk](#) · [WhatsApp](#)

Session Index

[Session 1 — Data QC, Scaling & Harmonization](#) [Session 2 — Cross-Omics Integration](#)
[\(CCA/PLS/DIABLO\)](#) [Session 3 — Networks, Pathways & Causal Views](#) [Session 4 — Mini Capstone: Translational Multi-Omics](#)

Session 1

Fee: Rs 6300 [Apply Now](#)

Data QC, Scaling & Harmonization

Omics-specific QC (counts/intensity/peak areas) & missing data

Theory

Normalization & transformation strategies across omes

TMM/RLE **VST/logCPM** **Quantile** **Pareto/Autoscale**

Batch effects & drift correction

ComBat **removeBatchEffect** **LOESS**

Session 2

Fee: Rs 8400 Apply Now

Cross-Omics Integration (CCA/PLS/DIABLO)

Correlation-based fusion & dimensionality reduction

CCA **PLS/PLS-DA** **sPLS**

Multi-block frameworks for supervised integration

mixOmics **DIABLO** **Sparse models** **Cross-validation**

Unsupervised latent factor models for multi-omics

MOFA/MOFA+ **NMF**

Session 3

Fee: Rs 11200 Apply Now

Networks, Pathways & Causal Views

Multi-layer networks & cross-modal communities

Cytoscape **igraph** **STRING**

Pathway overlays across omes & concordance scoring

KEGG/Reactome **GSEA/OR**

Causal graphs & mediation (omics→phenotype)

bnlearn **DoWhy**

Session 4

Fee: Rs 14000 Apply Now

Mini Capstone: Translational Multi-Omics

Design an end-to-end multi-omics pipeline with provenance

Theory

Automate ingest→integrate→analyze→report workflow

Snakemake **Conda/Mamba** **Quarto/JupyterLab**

Deliver dashboards & clinical interpretation summaries

`pandas` `ggplot2` `plotly`