

Non-coding RNA Analysis (miRNA, lncRNA) — Hands-on

Gain expertise in non-coding RNA analysis—small RNA QC and discovery, miRNA quantification and targets, lncRNA discovery and coding potential, and reproducible ncRNA pipelines.

Non-coding RNA Analysis (miRNA, lncRNA)

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Session 1

Fee: Rs 6300 [Apply Now](#)

Small RNA QC & miRNA Discovery

Library QC, adapters, size-selection and metadata setup

Theory

Small RNA read processing & alignment best practices

FastQC **Cutadapt** **Bowtie** **STAR**

Known/novel miRNA discovery, isomiRs & QC metrics

miRDeep2 **miRge3.0** **isomiRs**

Session 2

Fee: Rs 8400 [Apply Now](#)

miRNA Quantification & Targets

Count matrices, normalization & differential expression

DESeq2 **edgeR** **limma**

Target prediction, validation databases & enrichment views

TargetScan **miRanda** **miRTarBase**

Integration with mRNA expression & pathway overlays

clusterProfiler **KEGG/Reactome**

Session 3

Fee: Rs 11200 Apply Now

lncRNA Discovery & Annotation

Transcript assembly, merging & reference comparison

StringTie **gffcompare** **FEELnc**

Coding potential & classification (intergenic, antisense)

CPC2 **CPAT** **CNCI**

Interaction prediction & functional context

lncTar **RIsearch2** **lncLocator**

Session 4

Fee: Rs 14000 Apply Now

Mini Capstone: ncRNA Network

Design an end-to-end ncRNA pipeline with provenance

Theory

Integrate miRNA–mRNA–lncRNA interactions & visualize networks

Cytoscape **igraph** **Enrichr**

Automate QC→discovery→targets→reports with dashboards

Snakemake **Conda/Mamba** **Quarto/MultiQC**