

# SUMMER TRAINING PROGRAM IN BIOINFORMATICS 2023 May 1- May 30

## **TOPICS COVERED IN THIS PROGRAM**

R & PYTHON PROGRAMMING	SEQUENCE ANALYSIS & PHYLOGENETICS
♦ R operators	♦ Introduction to biological database
♦ R objects	<ul> <li>Homolog identification using BLAST</li> </ul>
♦ Making plots in R	♦ Multiple sequence alignment
<ul> <li>Introduction to strings, numbers, list etc.</li> </ul>	using clustal $\Omega$ &MAFFT etc.
♦ Basic loops in python	♦ Quality assessment of MSA
♦ Basic python functions	Phylogenetic tree reconstruction
♦ List comprehensions	
NGS DATA ANALYSIS	STRUCTURAL BIOINFORMATICS
<ul> <li>Introduction to NGS</li> </ul>	<ul> <li>Protein structure visualization</li> </ul>
♦ NGS data analysis	♦ Molecular modelling
<ul> <li>Metagenomics &amp; Microbiome analysis</li> </ul>	♦ Molecular docking
<ul> <li>RNA sequence analysis</li> </ul>	♦ Bio 3D package
♦ RNA-seq workflow	<ul> <li>Analyzing protein-ligand -interaction</li> </ul>
♦ Genome assembly	
Trainers :	
Dr. Jamshaid Ali Dr. Shijulal Nelson Sath	Dr. K C Sivakumar Dr. Kathiresan Natarajan

Who can apply: B.Tech. / B.Sc. / M.Tech. / M.Sc / Pursuing. in Biological Science, Computer science, Pharmacy, Agriculture, Biotechnology, Molecular biology, Medicine, clinical research and other relevant Qualification in the life sciences areas are eligible.

Senior Manager

### AVAILABLE SLOTS - 10



Scientist C

#### THE PROGRAM WILL BE CONDUCTED IN OFFLINE MODE FEE ₹ 15000/-

#### Contact:

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