



## **Dr. J. Rajendhran**

Assistant Professor

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**Dr. J. Rajendhran** has more than 18 years of research experience in the area of Microbiology, Recombinant DNA Technology, Microbial Genomics, Metagenomics, and Human Microbiomics. He obtained his Ph.D. from MKU, Madurai and had post-doctoral training at Yale University, New Haven, USA, and Wisconsin Institute for Discovery, Madison, USA. He had sequenced the whole genomes of more than 200 bacterial strains of industrial and clinical importance. He had identified several genes coding for enzymes and antimicrobial compounds from various microbial and metagenome sources. His laboratory at the Department of Genetics, School of Biological Sciences, has State-of-the-art research facilities to research the area mentioned above. With the learned experience and the facilities available in his laboratory, the following consultancy services can be offered by his research group.

- 1. Microbial Identification services:** 16S rRNA-based identification of bacteria and ITS Sequence-based Identification of fungi
- 2. Microbial Genome typing services:** Sub-typing of bacterial strains, genome typing methods, Multi-locus sequence typing (MLST), Identification of new species using polyphasic taxonomy
- 3. Microbial Genomics services:** Whole genome sequencing, genome assembly and annotation, Comparative genomics and phylogeny analysis, Transcriptome Sequencing (RNASeq) analysis.
- 4. Metagenomics and Microbiome services:** Microbial profiling services, metagenome and metatranscriptome analysis employing Next-generation sequencing, metagenomic library construction, and screening
- 5. Pathogen detection services:** Detection of bacterial, fungal, and viral pathogens using ELISA and Q-RT PCR assays.
- 6. Gene cloning and expression services:** Custom gene cloning and expression in heterologous hosts, Synthetic gene cloning and expression, Protein expression and purification
- 7. Construction of mutants:** Gene knock-out mutants, Site-directed mutagenesis, Construction of transposon mutant libraries and screening
- 8. Industrial enzyme/antimicrobials production:** Screening, optimization, and enhancement of Industrial enzyme/antimicrobials production
- 9. Genome editing services:** CRISPR-Cas9 mediated genome editing services.
- 10. Bioinformatics services:** DNA, protein, genome, transcriptome, proteome data analysis services, phylogeny analysis, SNP detection, pathway analysis, drug designing, and molecular docking.