

## 8. BIO INFORMATICS

### 1. Major areas of research

- DNA/RNA/protein sequencing
- Multiple sequence alignment
- Computational drug discovery
- Protein structure modeling and validation
- Genomic data analysis
- Gene expression study
- Protein-protein interaction analysis
- NGS data analysis
- Other bioinformatics' analysis areas

### 2. You have done gene sequencing and want to

- Annotate gene
- Detect variation in bases/variation in gene
- Translate gene into protein sequence
- Comparative analysis of target gene with similar gene
- Phylogenetic analysis of different species, if you have a gene sample and want to
- Identify functional m RNA in the gene sample
- Understand gene expression
- Differential expression study

### 3. If you have protein, ligand & want to

- Active site prediction
- Study docking and its analysis
- Simulate protein ligand complex
- Study ADME & toxicity of the ligand / compound

## OTHER ACTIVITIES

- Mini Project
- MSc/ Mphil/ PhD Project
- Workshop / Internship Programme
- Contract Research
- On-site training at client sites



**For Further Details**

## Royal Bio Research Centre

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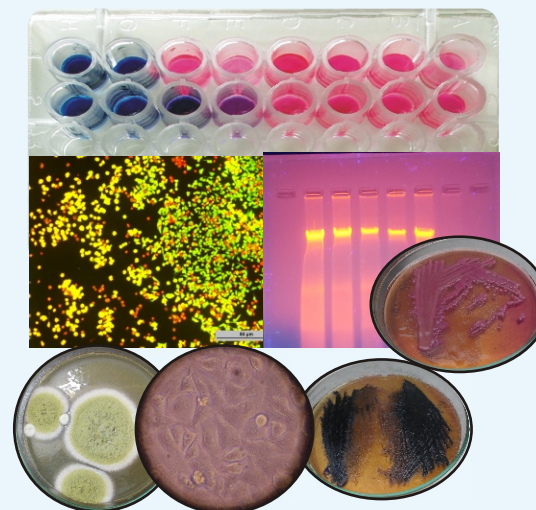
**Applicants have to send the biodata  
along with the registration fee Rs. 500/-**

**The registration fee not refundable**

**Accommodation will be provided on  
first come basis**



# Royal Bio Research Centre



## PROJECT PAMPHLET

## **PROFILE**

Royal Bio Research Centre was established in the year 2012 with a team of young scientists and industrial leaders, who have acquired knowledge, expertise and world-class exposure. Our centre provides hands-on Training Programmes, Workshops, Bio-services and Project works for Under Graduates, Post Graduates, and Research Scholars and also provides practical knowledge to school students. The centre is equipped with multiple labs and facilities that match research and industrial standards. Exposure to these facilities and techniques will prepare students to meet the current industrial needs. The centre offers projects and training programmes in the following disciplines.....

### **1. MICROBIOLOGY**

1. Microbial diversity
2. Food, Industrial and clinical microbiology
3. Isolation & Characterization of endophytic fungi
4. Enzyme production and analysis of actinomycetes spp
5. Isolation & characterization of antibiotic producers
6. Isolation of bacteriophage from effluents
7. Optimization of Biogas producing microbes

### **2. MOLECULAR BIOLOGY**

1. Microbe analysis of genetic diversity
2. Genome sequencing
3. Studies on protein profiling
4. Screening of virulence and toxin gene in microbial strains
5. Polymorphism studies
6. Gene expression (protein and DNA)

### **3. ANIMAL TISSUE CULTURE**

1. Analysis of anticancer activity
2. Antidiabetic activity
3. Anti-inflammatory activity
4. Cell adhesion studies
5. Wound healing activity
6. Analysis of DNA fragmentation
7. RTPCR
8. Western blotting studies
9. Fluorescence & Flow cytometry analysis

### **4. ENZYME TECHNOLOGY**

1. Isolation and screening of enzyme
2. Production of enzymes
3. Optimization of enzyme
4. Immobilization
5. Enzyme assay and Quantification
6. Enzyme purification by chromatography
7. Enzyme profiling and application

### **5. HERBAL TECHNOLOGY**

1. Isolation, identification and characterization of bioactive compounds in medicinal plants.
2. Phytochemical analysis
3. Antioxidant activity of herbal plants
4. Analysis of antimicrobial activity in different methods
5. Compound purification by chromatography

### **6. NANOTECHNOLOGY**

1. Production of nanoparticles in different methods
2. Characterization of nano particles
3. Functionalisation of nano particles
4. Antimicrobial and antitumor activity of nanoparticles.
5. Dye degradation by using nano particles
6. Waste water purification
7. Toxicology studies

### **7. ENVIRONMENTAL BIOTECHNOLOGY**

1. Waste water treatment
2. Bacteriophage isolation & applications
3. Treatment of oil contaminated soil
4. Plastic degradation
5. Bioremediation