Manjunatha B K

Ph.D Scholor, IIT Hyderabad

manjunathabk.bt@gmail.com +91-9481001678 manjunathbk.live

https://github.com/bkcodes22

EDUCATION

Indian Institute of Technology, Hyderabad (IIT-H), 2023 – present
Ph.D Researcher

University of Mysore, *DBT- M.Sc Biotechnology* 2022
8.0 CGPA

Kuvempu University, Shivamogga, 2020
B.sc (Microbiology, Biochemistry, Botany)
81.18%

PROFESSIONAL EXPERIENCE

Institue of Bioinformatics and applied Biotechnology(IBAB), Bangalore, *Project fellow* Feb 2023 – Aug 2023

- Key player in the project on Multi Omic data analysis for early stroke detection, focusing on RNA-Seq analysis.
- Explored raw RNA-seq data comprehensively, optimizing analysis tools and methodologies.
- Proficient in Linux bash scripting, R programming, and Python for data processing and analysis.
- Collaborated with interdisciplinary teams, presenting insights to drive project outcomes.
- Ensured quality and reproducibility of results throughout data analysis pipeline.

GenoPhe Biotech Pvt. Ltd./ Indian Institute of Science (IISc), Bangalore, *Junior Researcher* Sep 2022 – Feb 2023

- Managed and maintained the Zebrafish facility, ensuring optimal conditions for the model organism.
- Participated in research projects involving routine tasks such as DNA/RNA isolation, cDNA synthesis, and primer design.
- Proficiently conducted experimental procedures including microinjection, protein extraction, and quantification.
- Skilled in gel electrophoresis techniques such as agarose/SDS PAGE for molecular analysis.
- Conducted Western blot assays for protein identification and quantification.
- Performed immunofluorescence staining and utilized confocal microscopy for cellular imaging.

CSIR- Indian Institute of Toxicology Research, Lucknow, Sep 2021 – Nov 2021
INSA- NASI- IASc Summer research fellowship (SRFP-2021)

- Engaged in Drosophila studies, responsible for the rearing and maintaining Drosophila.
- Conducted an individual research project to assess the diabetogenic potential of the industrial chemical MBP (name of the chemical).
- Implemented various biochemical techniques including glucose estimation, ROS (Reactive Oxygen Species) estimation, and protein quantification using the Bradford assay.
- Analyzed glucose, ROS, and Total protein levels in Drosophila post-exposure to MBP.

SKILLS

Laboratory skills
DNA/RNA isolation, cDNA synthesis, Microinjection, qRT-PCR, Protein Extraction and quantification, SDS-PAGE, Western Blot, Immunofluorescence, Confocal Microscopy

Bioinformatics tools and softwares
NGS Data analysis, Transcriptomics (RNA-Seq data analysis), CobraToolbox, Genome scale metabolic modeling (GEM's)

Programming skills
Basic Python Programming, R Programming, MATLAB, and Linux shell scripting

MS Office
MS Word, Powerpoint and MS Excel

PROJECTS

Antioxidant, Antifungal, Insecticidal activity and Mineral composition of Citrus aurantium species,
SRNMN College of Applied Sciences, Shivamogga

Evaluated antioxidant, fungicidal, and insecticidal activities of leaf extract from a citrus plant, *Citrus aurantium* species. Extracts showed promising results as a fungicidal and insecticidal agent.

Molecular characterization of Xanthomonas campestris pv. campestris and Ralstonia solanacearum, *DoS in Biotechnology, University of Mysore (UoM)*

X. campestris and *R. solancearum* are the prominent plant pathogens that cause disease in Cabbage and Tomatoes, respectively. The plant pathogens were isolated, and characterized by various biochemical assays and PCR technique

ACHIEVEMENTS

Was 1 of 70 candidates who were selected for the Summer research fellowship program (SRFP-2021) conducted by the Indian Academy of Sciences to do a summer research project in various national research laboratories across India.

Cleared GATE Biotechnology consecutively in the year 2022 and 2023.

Cleared DBT-GAT-B in the year 2020 for admission into DBT supported M.Sc programme with an All India Rank 40.

GITHUB PROJECTS

Artificial neural network Model

Trained an ANN-based model for the random data generated with Bukin function N.6 as a part of the academic requirement at IIT Hyderabad. The model was optimized by checking and comparing with different combinations of Activation function, Hidden layer, Hidden nodes and Optimizer

Optimization and Clustering project

The project aimed to optimize the temperature at which the concentration of one chemical species in an isothermal reactor would be maximum using an ODE system. Clustering algorithms (K-means and Fuzzy C-means) were evaluated on a randomly generated dataset.

DraftMet

DraftMet is a Python-based tool that is being developed to construct the Draft Genome-scale metabolic model for a given organism. The tool is still at its preliminary stage which is continuously being updated.

ORGANISATIONS

Vidyaposhak NGO, *Student Intern*

Made Videos on PUC Biology subject during COVID-19 with the intention of reaching remote village students

PUBLICATIONS

Antifungal and Insecticidal activity of leaf extracts of some citrus species, 2021,
Current research in Biology, Volume 3, Akinik publications

Mineral composition of selected grass species, 2021,
Traditional utilization and pharmacological properties of Medicinal plants, Volume 1, Scripown publications

Role of SMADS in BMP Signalling,
Compendium of "Research insights for lifescience students", Volume 2, 2020