MEGHANA ACHARYA

Email: acharyameghu06@gmail.com

Phone: +91 9148813920

RESEARCH INTEREST

My interest particularly lies in microbiome research, with a focus on understanding the role of the gut microbiome in health and its potential applications in improving health outcomes. My work is directed toward building expertise in bioinformatics and data analysis, aiming to explore microbial communities and their functional impact on various biological processes. Additionally, I am keen to apply my growing knowledge to the development of microbial and enzyme-based solutions for sustainable industrial biotechnology, particularly in areas such as agriculture, health, and environmental sustainability. I am passionate about contributing to innovative projects that align with these goals while continuing to enhance my skills and expertise.

EDUCATION

Master of Science in Bioinformatics — **Aug 2023 - present**

Manipal Academy of Higher Education (MAHE)

- CGPA: 9.08

Bachelor of Science in Biotechnology — **Sep 2020 - Jul 2023**

Manipal Academy of Higher Education (MAHE)

- CGPA: 8.58

WORK EXPERIENCE

- **Partner Consultant (Intern)** — **Jan 2025 - present**

Department of COE Analytics, Happiest Minds Technologies Ltd., Bangalore

Working on a metagenomics-based research project identifying gut microbial signatures and functional pathways associated with Parkinson's disease across geographical cohorts. Responsibilities include metagenomic data handling, processing and analysis. Understanding and interpretation of biological research outcomes and active participation in data-driven discussions.

SKILLS

Bioinformatic skills

- Metagenomic data analysis
- Data preprocessing and quality control
- Microbial profiling
- Data management and organization
- R programming (R, RStudio)
- Shell/Bash scripting and automation
- Python (basics)
- Perl
- Statistical analysis
- RNA-seq analysis & variant calling (HISAT2, BWA, FreeBayes)
- Primer designing
- Familiarity with microbiome database (Mg-rast, MGNify)
- Database and Web development (HTML, CSS, php)
- Bioinformatic tools (MetaPhlAn, HUMAnN, FastQC, bowtie, fastp, BLAST, Uniprot, Swiss-model, Primer3, Clustal Omega, MEGA)

Technical & Non-technical skills

- Proficient in MS office
- Data visualization
- Command-Line Proficiency (Linux)
- VS Code
- Working in Server environments
- GraphPad Prism
- Image J Software

Soft skills

- Academic writing
- Team work
- Communication
- Project management
- Problem-solving

RESEARCH EXPERIENCE

Postgraduate research intern **Jan 2025 - present**

- Working as Bioinformatics research intern in **Department of COE Analytics**
- Working on Metagenomics project focused to explore gut microbiome signatures and functional pathways associated with Parkinson's disease
- Curated and organized large-scale metagenomics datasets form public repositories (NCBI and ENA)
- Performed data processing and quality control for downstream analysis
- Taxonomic and functional profiling to characterize microbial compositions and metabolic pathways
- Working on research manuscript writing and dissertation of the project

Miniproject **Aug 2024 - Dec 2024**

- Report on different softwares/tools used for 16s rRNA data analysis
- Nextflow nf-core pipeline for 16s data analysis

Undergraduate Student intern **Jan 2023 - Jun 2023**

- Worked as a biotechnology research intern in **Department of Radiation Biology and Toxicology**
- Synopsis, Literature review, Manuscript and Thesis writing on the research topic
- Maintained accurate records and documentation of lab notebook on a daily basis, followed Good Laboratory Practices, Quality policy, environmental and energy policy
- Histopathological studies , gene expression analysis

PUBLICATIONS

- Venkidesh, B. S*****., **Acharya, M ***., Narasimhamurthy, R. K., Murali, T. S., Satish Rao, B., & Mumbrekar, K. D. Mitigation of Pelvic Irradiation-Induced Gastrointestinal Toxicity in Sprague Dawley Rats Through Bacterial Supplementation. - **under review (* equal contribution)**
- **Acharya M**, Venkidesh BS, Mumbrekar KD. Bacterial supplementation in mitigation of radiation-induced gastrointestinal damage. Life Sci. 2024 Sep 15;353:122921. doi: 10.1016/j.lfs.2024.122921

CONFERENCES AND PRESENTATIONS

1. Mitigation of Radiation-induced Gastrointestinal-Toxicity using Bacterial Supplementation
   - Conference: MANIPAL RESEARCH COLLOQUIUM **April 2023**
   - Location: Manipal, Karnataka, India

2. Protective potential of Bacterial supplementation in radiation-induced gastrointestinal toxicity. A pre-clinical study
   - Conference: National Conference on "MICROBES, HUMAN HEALTH AND ENVIRONMENT: A ONE HEALTH APPROACH". **November 2024**
   - Location: Manipal, Karnataka, India

ONLINE COURSES

- Machine Learning Introduction for Everyone
- Python for Data Science, AI & Development
- Fundamentals of Project Planning and Management

LANGUAGES

- English (fluent)
- Kannada (fluent)
- Tulu (Native)
- Hindi (fluent)

EXTRACURRIULAR ACTIVITIES

- Singing (Karnataka Shastriya Sangeetha)
- Sketching, Potrait, Painting
- Sports - Throwball

REFERENCES

- Dr. Arindam Deb, Lead Scientist,
  Department of COE Analytics
  Happiest Minds Technologies Limited, Bangalore
  Email: arindam.deb@happiestminds.com
- Dr. Budheswar Dehury, Assistant Professor,
  Department of Bioinformatics
  MSLS, MAHE, Manipal
  Email: budheswar.dehury@manipal.edu