

Pragya Agarwal

25 years, Female

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SUMMARY PROFILE

- Recent postgraduate in **Master's in Infection Biology** from the **University of Lubeck, Germany** (2020-2023), plan to work as a research scientist in the future.
- Practice health and safety guidelines with good laboratory skills and knowledge in the scientific field.

Examination	University/Institute	Degree	Year	CGPA/ %
Post Graduation (Germany)	University of Luebeck	MSc.Infection Biology	2022	2.0/ 90% (Distinction)
Graduation (UK)	University of Hertfordshire	BSc.Biomedical Science	2019	1 st class
Intermediate/ +2 (CBSE)	Mahadevi Birla World Academy	Science	2015	80%
Matriculation (CBSE)	Mahadevi Birla World Academy	General	2013	82%

PROFESSIONAL EXPERIENCE

Science Executive - Transcell Oncologics, Hyderabad

Jan-July'20

❖ Research & Development and Social Media Marketing

- Conduct scientific research on cancer cell lines such as HCT 116, Mia PaCa2, and HEK 293.
- Carrying out drug screening tests using WST-1 assay and growing Tumorspheres on the above-mentioned cell lines.
- Generation of Primary Cancer Cells (PCCs) from cancer tissue via enzymatic treatment.
- Testing of antibodies on Human Umbilical Vein Endothelial Cells (HUVEC) at different time intervals.
- Handling companies' social media pages by creating and posting updates.

ACADEMIC PROJECTS

❖ Characterization of host and viral factors for PLHIV

Guide: Dr. Vijay Nema, **Thesis project**; National AIDS Research Institute (Pune)

April-December'22

- Extraction of PBMC from HIV blood samples
- PCR targeting genes like CCR5, Nef, Env, HLA, and TRIM for SNPs in patient samples
- Sanger Sequencing
- Bioinformatics study utilising various software's

❖ Assessment and modulation of antibacterial activity of the microalgae *Chlorella vulgaris*

Guide: Dr. Kiranam Chatti, Dr. Reddy's Institute of Life Science (Hyderabad)

Jan-March'22

- Designing primer and sgRNA using in-silico methods
- Testing antibacterial activity via disk diffusion method
- gDNA extraction via incorporation of mortar and pestle along with liquid nitrogen technique
- Knocking out a gene using CRISPR-Cas9
- Electroporation of sgRNA and Cas9 into the cell on interest
- Polymerase Chain Reaction (PCR)

❖ Evaluation of bacterial diversity in the laboratory ecosystem of the zebrafish, *Danio rerio*

Guide: Dr. Kiranam Chatti, Dr. Reddy's Institute of Life Science (Hyderabad)

Oct-Dec'21

- Extraction of gDNA from the gut and feces of the fish via using the bead beater technique
- Culturing of bacterial colonies of agar plates from various water sources of fish habitat
- Gradient and Hotstart PCR
- Purification of PCR product
- Bioinformatic study for Sanger Sequence result analysis

- ❖ To characterize the *Clostridium difficile* isolates from Hertfordshire and Cornwall in terms of antibiotic susceptibility, phage susceptibility, and toxigenicity

Guide: Dr. Shan Goh, Summer Internship at University of Hertfordshire, UK

Jun-Aug'19

- Characterise environmental *C. difficile* via MALDI-TOF
- Isolation of phages
- Antibiotic susceptibility via broth microdilution.
- PCR for checking antibiotic susceptibility of the strains for antibiotics erythromycin and tetracycline.
- Test for toxin production through cytotoxicity assays on Vero cells and via PCR.

- ❖ Plaque PCR of prophage phiCD5763 induced from LIBA-5763

Guide: Dr. Shan Goh, **Thesis project** at University of Hertfordshire, UK

Mar-Apr'19

- Performing a direct plaque PCR on LIBA5673 and its prophage phiCD5763
- Handling of *Clostridium difficile* in an anaerobic cabinet
- Conducting whole plate plaque assay
- Induction of mitomycin C for isolation of bacteriophages
- Optimising PCR for the plaque test

RESEARCH SKILLS

	Molecular Biology
Mammalian Cell Culture (HCT 116, Mia PaCa2, HEK 293)	Agarose Gel Electrophoresis
Vero cells	Bradford Assay
MNV-1 virus	ELISA
gDNA, and RNA Isolation	SDS-PAGE
Cellular activation	NATIVE-PAGE
Flow cytometry	Western Blotting
Plaque assay performance	RT-qPCR and Gradient PCR
	Restriction Digestion (RFLP)
	Sequencing
Apply Scientific Approach to Problems	MALDI-TOF
	Endpoint titration
	Plaque assay

TECHNICAL SKILLS

Laboratory Techniques	Bioinformatics Tools
Light and Inverted Microscope	Benchling, Snapgene
Fluorescence Microscope	Phylogenetic tree
pH Meter	Rgenome (Cas designer)
Centrifuge	NEB Cutter V2.0, ORF Finder
Nanodrop	UCSC Genome Browser
Spectrophotometer	BLAST
Gram staining	CLUSTAL OMEGA
FACS staining	DSV
	USCF Chimera
	PyDoc

OTHER SKILLS AND ACHIEVEMENTS

- Fluency in English, Hindi, and Bengali.
- Academic Scholarship Award Winner during Bachelors study
- Achieved gold and silver medals in state-level championships and was selected for national-level competition (2009-2011).

References available upon request

(13/02/2023)