

# Deepanshu Bansal

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Blissful ■ Energetic ■ Solver ■ Tutor

"Bringing the universe into the classroom"



## EDUCATION

### Gautam Buddha University

M.Sc Biotechnology

Greater Noida, India

CGPA: 9.0/10

Oct' 2021 - Jun' 2023

### Kurukshetra University

B.Sc Science (biotechnology)

Greater Noida, India

CGPA: 9.5/10

May' 2018 - May' 2021

## SOFT SKILLS

- Empathy, Great at Presentations, Adaptability, Public Speaker, Problem Solver, Consistent Learner, Patience, Communication, Collaboration, Critical thinking.

## RESEARCH EXPERIENCE

### Gautam Buddha University

M.Sc. Biotechnology | Oct 2021 - Jun 2023

#### Project 1 - Metagenomics: A Game Changer In Diagnostics And Surveillance Of Emerging Pathogens In Diseases Outbreaks

- Metagenomics sequencing and Bioinformatics analysis of Metagenomic data.
- Early detection of novel emerging pathogens and Diagnosis of polymicrobial infection.
- Exploitation of human microbiome and its metabolites as potential diagnostic marker and drug target.
- Future clinical diagnostic through Metagenomics in public health laboratories for faster diagnosis and precise treatment.

#### Project 2 - Expression And Purification Of Thermostable Taq Polymerase And Reverse Transcriptase

- Preparation of buffers, competent cells of DH5α and BL21 E.coli cells, Transformation, Plasmid isolation.
- IPTG concentration and time optimisation for both enzymes.
- Purification of Taq Polymerase and Reverse Transcriptase and SDS-PAGE experiments to see purified protein bands.
- Enzyme assay using PCR amplification with purified taq polymerase and Reverse Transcriptase.
- Testing of Taq polymerase in different buffers.
- Qualification, batch fermentation, Lyophilization of purified Taq polymerase.

### Kurukshetra University

B.Sc Science (Biotechnology) | May 2018 - May 2021

#### Project- Homology Searching of Amylase enzyme using BLAST

- Studying BLAST Algorithm and different types of BLAST.
- Study BLAST output, bit score, E-value, description, graphic summary, Alignments etc.
- Using BLASTp tool, the homology searching of query sequences given against protein database on NCBI.
- Learn about Genbank, Refseq, Entrez, pubchem, FASTA, PDB, Pubmed, OMIM etc.

## LAB TECHNIQUES EXPERIENCE

- Preparation of stock and working solutions, Glycerol stock
- UV-Vis spectrophotometry, microscopy
- Sterilization, Media preparation, Microbial culture, Gram staining, Colony characteristics study
- Cell counting using haemocytometer, histopathology studies.
- DNA, RNA and plasmid isolation and their quantification.
- Restriction digestion, Gene cloning, Ligation, Competent cell formation, Transformation.
- Electrophoresis, PCR, colony PCR, Expression and purification of recombinant protein, genome editing tools.
- ELISA, blood group identification, FACS, SDS-PAGE, Blotting.
- Bioreactor assembly, batch fermentation, microfiltration etc
- Bioinformatics - Primer designing, Guide RNA Designing, database, BLAST, ClustalW, Pubmed, Phylogenetic analysis, Gene prediction, RNA structure prediction, Pubmed, PDB, SCOP, CATH, Homology modelling of proteins, Energy minimisation etc.
- Plant tissue culture techniques in Tomato, brinjal.
- Basics of Biostatistics method of analysis.
- Genomics, proteomics, transcriptomics, molecular diagnostics.
- Mass spectrometry, CSIRPR-CAS, Chromatography, nanobodies
- bioentrepreneurship, Ethics, IPR, Biosafety, Research methodology.

## TEACHING EXPERIENCE

- Home tutions- Gharaunda, Karnal, panipat, Kurukshetra, Greater Noida
- Filo online tutor
- Tutorbin online tutor
- Byjus Student counseling
- Online tutions on Google meet, Zoom using pen tab
- Freelancing on digital platforms as doubt solver and test series maker.

## ACHIEVEMENTS

- CSIR-UGC-NET+ JRF 2023 dec qualified with AIR 113.
- GAT-b qualified, score 154, rank 84
- Certificate of excellence performance - Haryana board
- District, state, zonal level quiz competition positions.
- Bharat vikas parishad - competition winner
- National level talent search examination certificate

## HOBBIES

Reading, Digital Skills Learning, Cooking, Anime watching