DIVYASHREE DEEPA MATHUSUTHANAN

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PROFILE

MSc Medical Biotechnology Graduate with expertise in molecular research, specialising in western blotting, immunohistochemistry, cell morphology, microbiology gene expression analysis, and CRISPR-Cas. Experienced in interdisciplinary research, with strong analytical, problem-solving, and communication skills. Eager to contribute to innovative biotechnological research aimed at advancing healthcare solutions in immunotherapy, vaccine development, and molecular diagnostics.

RESEARCH EXPERIENCE

Research Intern | October 2024- April 2025
Wageningen University and Research, *Wageningen, Netherlands*

- Studied temporal effects of endurance-based EPS on C2C12 myotube formation and fiber-type switching.
- Analyzed muscle and mitochondrial protein expression via DC assay, SDS-PAGE, western blotting, and microscopy.
- Gained practical experience in mammalian cell culture, protein analysis, and independent troubleshooting.

MSc Thesis| February 2024 - September 2024
Wageningen University and Research, *Wageningen, Netherlands*

- Investigated effects of mitochondria-targeted antioxidants on ROS-induced damage in immortalised atrial cardiomyocytes under diabetic and atrial fibrillation conditions.
- Used immunohistochemistry and fluorescence microscopy to assess cell viability, mitochondrial morphology, and oxidative stress markers.
- Participated in weekly scientific meetings, focusing on data-driven communication, project planning, and potential industrial or therapeutic translation.

Research Intern- Tissue & Antimicrobial study | July 2022- September 2022
AviGen Biotech Pvt. Ltd., *Chennai, India*

- Extracted collagen from skin/tendon tissues under GMP condition for wound healing scaffold development.
- Synthesized silver nanoparticles, confirmed via UV-Vis, and assessed antimicrobial activity using diffusion assays.
- Integrated nanoparticles into collagen matrices and evaluated bioactivity for wound healing applications.

Research Trainee- Cancer Biology | February 2022- March 2022
Indian Institute of Technology Madras (IIT), *Chennai, India*

- Studied oncogenes, retroviruses, and cancer cell signaling pathways.
- Analyzed cell cycle modulation in cancer progression.

CORE COMPETENCIES

- Cell culture (mammalian)
- ELISA
- Immunofluorescence -microscopy
- Immunohistochemistry
- Western blotting
- SDS Page
- Polymerase chain reaction (PCR)
- DNA/RNA extraction
- CRISPR Cas9
- Primer designing
- Plasmid isolation
- Gene cloning
- GMP
- SOP

TECHNICAL SKILLS

- Image J
- GraphPad prism
- RStudio
- Microsoft Excel
- BLAST

LANGUAGES

- English - Fluent
- Malayalam - Advanced
- Tamil - Advanced
- Hindi - Intermediate
- Dutch- Beginner

HOBBIES

- Singing
- Drawing

PROJECT

Bioprocess Design | September 2023- November 2023
Wageningen University and Research, *Wageningen, Netherlands*

- Engineered Pichia pastoris for vegan αs1-casein production using CRISPR-Cas9, gene knockout, and promoter tuning.
- Simulated fermentation and downstream processing with SuperPro Designer (CO_2, yield, cost).
- Assessed technical and economic feasibility in collaboration with "Those Vegan Cowboys."

EDUCATION

Master's in Biotechnology- Medical | 2023-2025
Wageningen University and Research, *Wageningen, Netherlands*

- Relevant coursework: Molecular Virology, Immunotechnology, Bioprocess Design, Research methods microbiology, Human Microbiome, Gene technology, Applied molecular microbiology, Host-parasite interaction, Molecular regulation of health and disease

Bachelor's of Technology (B.Tech) Biotechnology | 2018-2022
SRM Institute of Science and Technology, Chennai, India

- Relevant coursework: Cellular & molecular Biology, Microbiology, Genetics & Cytogenetics, Immunology, Medical nanotechnology, Gene Manipulation and Genomics, Bioprocess Engineering, Cellular and molecular neuroscience, Animal and Plant biotechnology, Protein engineering and proteomics, Cancer Biology

ADDITIONAL EXPERIENCE

Customer Service & Teamwork (Part-Time Roles) | March 2024- Current

- **Thuisbezorgd, Ede:** Demonstrated reliability by ensuring timely food deliveries while maintaining good customer service. Strengthened the ability to work independently under time constraints and challenging weather.
- **Anjappar Restaurant, Utrecht:** Developed strong communication, multitasking, and customer service skills in a fast-paced environment.
- **Sanorice, Veenendaal:** As a production worker, handling quality control, packaging, and machine monitoring in rice cake production. Gained experience with SOPs, hygiene standards, and workflow consistency in a fast-paced, team-oriented environment, developing transferable skills relevant to GMP settings.

CERTIFICATIONS

- DNA Decoded certification from Coursera (Apr'21)
- Plant Developmental Biology from NPTEL-Swayam (Sept-Oct'20)
- International Conference on Recent Advances in Biosciences and Bio Engineering (ICRABB) (Aug - Nov'21)

EXTRA-CURRICULAR

- Member of Hospitality committee for 'Milan', bachelor's college cultural festival (Jul'18)
- Won top positions in numerous Inter-School Singing competitions (2014-16)