Shardul Swapnil Patil

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EDUCATION

Northeastern University, *Boston, MA* **Expected May 2026**

Master of Science in Biotechnology

Coursework : Foundations of Biotechnology, Biotech Lab Skills, Protein Biotechnology, Molecular Biotechnology

University of Dundee, *Dundee, U.K.* **Grad June 2023**

Bachelor of Science in Biomedical Sciences

TECHNICAL SKILLS

Molecular and Cellular Biology Techniques: PCR, qPCR, Western Blotting, Gel Electrophoresis (Agarose &Polyacrylamide), SDS-PAGE, ELISA, Flow Cytometry, DNA/RNA Extraction and Purification, CRISPR, Cell Transformation, Cell Viability Assays, Sequencing

Biochemistry and Analytical Techniques: Bradford Assay (Protein Estimation and Purification), Chromatography (GC, HPLC, FPLC), Spectroscopy, Microscopy (Light and Fluorescence), Bioreactors, Quality Control Equipment

Manufacturing & Process Optimization: Production line efficiency, Root Cause Analysis, Process Engineering, LeanManufacturing, GMP, HACCP, Continuous Improvement, SOPs

Data Analysis and Presentation Tools: JMP, R Microsoft Office Suite, SAS, C, Java

WORK EXPERIENCE

Orha Nutrichem Pvt Ltd

Pune, India

Research Intern **April 2024 - August 2024**

- Investigated the role of tocopherol in modulating miRNA, comparing its properties to tocotrienol and understanding the potential benefits of tocopherol to evaluate tocopherol as a future alternative to vitamin E supplement and wrote and presented a review paper which showed that tocopherol is 50% more effective vitamin E substitute then tocotrienol

Food Health and Hygiene Laboratory (FHHL)

Pune, India

Research Intern **June 2022 - August 2022**

• Led the In Vitro Chromosomal Aberration Assays and Hematological Analyses to assess the safety of test compounds and support preclinical toxicity studies, leading to certification of the compounds for general use

The James Hutton Institute

Dundee, U.K.

Research Intern **July 2021 – August 2021**

- Collaborated with a research team to monitor the impact of genetic mutations on the phenotypic traits of barley plants, comparing them with wild-type plants to demonstrate the effects of these mutations
- Designed experiments using techniques like Western Blotting and PCR to study the effects of genetic mutations on plant genotypes
- Demonstrated how genotypic mutations result in a 30% higher chance of phenotypic changes in barley plants as compared to wildtype

PROJECTS

MRC Protein Phosphorylation and Ubiquitylation Unit (MRC-PPU)

Dundee, U.K.

Honors Project Student **September 2022 –December 2022**

- Investigated mutations in T47D breast cancer cell lines, focusing on those driving malignancy and cancer progression
- Employed laboratory techniques such as western blotting, centrifugation, and cell culture to analyze protein expression and cancer-related mutations. Gained practical experience in practices such as double-blind studies, randomized control trials
- Created protocols to optimize the lab

LEADERSHIP AND ORGANIZATIONAL EXPERIENCE

Secretary, University of Dundee Indian Society (UDIS) **2022**

Led a team of 20 members to organize and execute different events such as Diwali, Holi, etc for university students each with over 500 people in attendance

Event team member, University of Dundee Indian Society (UDIS) **2021**

As part of the events team, coordinated with the leadership team to organize large-scale events and gained experience in life skills such as communication, coordination, etc