

ANGELA PAUL

CT-82A, Constable Terrace, University of East Anglia, Norwich, UK- NR47TJ

☎ (+44) 7778543266 | ✉ Angela.Paul@uea.ac.uk | 🌐 Angela Paul

Education

University of East Anglia

Master of Science (MSc), Molecular Medicine

Sept. 2019-Sept. 2020

GPA: 3.75/4.5

National Institute of Technology Durgapur

Bachelor of Technology, Biotechnology

Aug 2015 - Sept 2019

GPA: 8.81/10

Delhi Public School, Ruby Park

AISSE, Central Board for Secondary Education(XII)

March 2015

89%

Bidya Bharati Girls' High School, New Alipore

Madhyamik, West Bengal Board of Secondary Education(X)

March 2013

92.3%

Scholastic Achievements

- Recipient of **British Council India STEM Scholarship 2019** to pursue Masters (MSc) in Molecular Medicine at the University of East Anglia
- Appointed as **Mitacs Globalink Ambassador 2019** to mentor prospective Mitacs Globalink Research Interns
- Selected as **Mitacs Globalink Research Intern 2018** with a fellowship amount of **\$6800 CAD** for research in Cell & Developmental Biology at **University of British Columbia**
- Cracked the highly competitive Joint Entrance Examination (**JEE Mains**) 2015 competing against 1.3 million participants

Experience & Research Projects

Addressing Gaps in Translational Medicine in Dementia studies (Masters Thesis Project) **Sept. 2019-Sept. 2020**
— **Dept. of Biological Sciences, University of East Anglia** **Norwich, UK**

- Investigating how the molecular mechanism of ageing and age-related changes in gene transcription can be associated with the risk factors for developing Alzheimer's Disease
- Inspecting the effect of calorie-restricted diet (60% reduction in yeast intake) on ageing in an Alzheimer's phenotype *Drosophila* model and tracking survival using Kaplan-Meier Survival Analysis and Cox Regression Analysis
- Employing the RING assay for scrutinizing activity and behavioral responses, and implementing Kruskal-Wallis test (non-parametric alternative of one-way ANOVA) and Dunn-Bonferroni test for behavioral data analysis
- Using histopathological analyses to track the effects of calorie restriction on neurotoxic plaque formation in AD fly models
- Analyzing changes in the transcriptome profiles over time for control flies and those expressing Amyloid beta-42 peptide using microarray and qRT-PCR
- Inspecting how gene interactions can lead to pathway enrichment in autophagy and insulin signaling during normal ageing and AD-associated ageing using Metascape
- Analyzing how different affected pathways overlap with each other during AD onset and progression in *Drosophila* and *Homo sapiens* and the conserved functional modules of AD in both species

Biodegradable Plastic Formation and Algal Biofuel Formation (B.Tech Thesis Project) **Sept 2018-May 2019**
— **Dept. of Biotechnology, National Institute of Technology Durgapur** **Durgapur, IND**

- Delignification of rice straw and whey water pre-treated with alkali followed by their enzymatic hydrolysis
- Extraction of *Lactobacillus* sp. from whey water and rice straw and isolation of strains of *Lactobacillus lactis* and *Lactobacillus casei*
- Biodegradable plastic production from whey water and rice straw with the help of bacteria *Lactobacillus lactis* and *Lactobacillus casei*
- Bicarbonate supplementation for enhanced biofuel production potential by microalgae *Scenedesmus* sp. CCNM 1077
- Mixotrophic cultivation of *Chlorella* sp. BTA9031 for biofuel production

Cell Adhesion Dynamics

— **Dept. of Life Sciences, University of British Columbia** **May 2018-Aug 2018**
Vancouver, CA

- Analyzing *Drosophila* embryogenesis, probing into how regulation of assembly, strength and turnover of integrin adhesions contributes to animal development & morphogenesis of stem cell niche in the lymph gland of *Drosophila melanogaster*
- Using fly genetics to introduce fluorescently tagged components of the integrin adhesion complex into the background of candidate mutations to carry out FRAP experiments for immunohistological analysis of fly lymph gland and to understand regulation of integrin turnover using live imaging and Fluorescent Recovery After Photobleaching (FRAP) in live fly embryos
- Scrutinizing the events of the Notch Signaling Pathway in *Drosophila melanogaster* and analyzing genetic basis for spatial and temporal events governing hemocyte development
- Studying distinct zones of hemocyte maturation, signaling and proliferation in the lymph gland during hematopoietic progression
- Screening for GFP-positive third instar larvae to perform dissection and isolation of fruit fly lymph gland for confocal microscopy-based imaging using a GFP-trap line G147 which helps to distinguish morphological differences among cells

- Investigating the role of occluding junctions in altering hematopoietic niche of *Drosophila* to trigger immune activation using *dad*-GFP

Exploration of Strategies Towards Inhibition of Microbial Biofilm

Nov 2017-Jan 2018

— Dept. of Biotechnology, The Neotia University

Kolkata, IND

- Analyzing the two-component systems(TCS) of GacS(HK)/GacA(RR) that confers resistance to aminoglycosides like gentamycin by colony morphology methods
- Investigating how *Pseudomonas aeruginosa* contributes to development of fatal diseases like cystic fibrosis and Urinary Tract Infection(UTI) as well as the effects of addition of Naphthoquinone, Thymoquinone, Ellagic Acid and 1,4-Naphthoquinone on its biofilm forming capability
- Studying effects of above mentioned synthetic compounds on azocasein and pyocyanin forming ability of the bacterium
- Examining anti-biofilm potential of silver against biofilm forming ability of *Pseudomonas aeruginosa* and the minimum inhibitory concentration (MIC) of silver required

Recent Trends in Industrial Biotechnology

March 2016

— Dept. of Biotechnology, National Institute of Technology Durgapur

Durgapur, IND

- Theoretical as well laboratory experience was provided on various functional genomics technologies being used to unravel molecular host-pathogen interactions
- Knowledge was imparted on how interaction between host and microbe leads to diseases in plants and possible remedies

Conferences & Seminars

- Attended the third **Protein Engineering Canada (PEC) Conference** (2018) held at the University of British Columbia
- Participated in Golden Jubilee International Conference on **Recent Developments of Chemical & Biochemical Engineering** (2016) organized by NIT Durgapur and also participated in the Quiz therein

Relevant Laboratory Skills

- **Microbiology:** Bacteria sub-culturing, plating, streaking, microbial cell growth kinetics, microbial cell inhibition kinetics
- **Biochemistry:** Protein- Bradford's Method, Carbohydrates- reducing & non-reducing sugar detection, Enzyme extraction & Assay of Enzymes
- **Molecular Biology:** DNA isolation, plasmid isolation, RNA isolation, Southern hybridization, Quantification Amplification(PCR), Gene Cloning
- **Chromatography:** Thin Layer Chromatography, Affinity Chromatography
- **Immunology:** ELISA, Blood Grouping, Immunocytochemistry, Western Blot, SDS-PAGE, Immunodiffusion in Agar Gel
- **Bioinformatics:** Retrieval of sequences & structures, BLAST, FASTA, RasMol to detect secondary protein structure, Molecular Docking, Ligand Designing

Technical Skills

- **Languages:** C, C++, Core Java, Python
- **Platforms:** Windows, Linux, NetBeans IDE, Turbo C++, DEV C++, AutoCAD
- **Miscellaneous:** Database Management System (DBMS)

Relevant Courses

- **Undergraduate:** Human Genomics; Microbiology; Molecular Biology & r-DNA Technology; Cell Biology; Immunology; Genetics & Biostatistics; Structure of Macromolecules; Plant Biotechnology; Bioinformatics; Biopharmaceutical Process Design; Biochemical Analysis & Instrumentation; Industrial Microbiology & Enzyme Technology; Environmental Microbiome; Bioseparation Technology; Mathematics I-III (Linear Algebra, Calculus and Complex Analysis); Engineering Physics; Engineering Chemistry
- **Postgraduate:** Medical Biotechnology; Frontiers in Molecular Medicine; Genetics, Genomics & Bioinformatics; Data Handling Linked to Molecular Medicine; Research Skills For Molecular Medicine

Extra-curricular Activities

- Member of the TEDx Society of the University of East Anglia
- Debating & Public Speaking: participated in different MUNs, co-organized and participated in workshops held in NIT Durgapur
- Member of the Hindi Society of NIT Durgapur- "Darpan"
- Hobbies: Travelling, Listening to Music, Reading Novels & Autobiographies

References

- Dr. Tracey Chapman, Professor, University of East Anglia (tracey.chapman@uea.ac.uk)
- Dr. Saber Sami, Senior Lecturer & Professor, University of East Anglia (saber.sami@uea.ac.uk)
- Dr. Nibedita Mahata, Assistant Professor, National Institute of Technology Durgapur (nibedita.mahata@bt.nitdgp.ac.in)
- Dr. Surabhi Chaudhuri, Professor, National Institute of Technology Durgapur (surabhi.chaudhuri@bt.nitdgp.ac.in)