

SUPRIYA CHAKRABORTY

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EDUCATION

University of Miami | Florida, USA

2023-present

PhD student in Biology

3.53/4.00

IISER Mohali | Punjab, India

2019-2022

MS in Biological Sciences

GPA: 3.71/4.00

Ramakrishna Mission Vivekananda Centenary College | Kolkata, India

2016-2019

B.Sc. (Hons.) in Zoology

GPA: 3.60/4.00

RESEARCH EXPERIENCE

University of Miami | Department of Biology | Blood flow lab | PhD student | Advisor:

Dr. Oliver Bracko | January 2023 – present

- Studying the neurovascular contributions of Frontotemporal dementia in progranulin-deficient mouse model
- Investigating the prospects of carbon quantum dots to deliver drugs across the blood-brain barrier in an Alzheimer's mice model

IISER Mohali | Department of Biological Sciences | Tissue Regeneration Lab | Graduate Researcher | Advisor: Dr. Rajesh Ramachandran | Aug 2021- July 2022

- Elucidating the role of Hippo-Yap signaling in the retina regeneration of Zebrafish & mice.
- Understanding the effect of metal nanoparticle administration on retina regeneration of mice.

IISER Mohali | Department of Biological Sciences | Immunology and Immunopathology Lab | Graduate Researcher | Advisor: Dr. Sharvan Sehrawat | Jan 2021- July 2021

- Understanding the role of galectin-3 in the migration of CD8+ T cells
- Cloning, Expression, Purification, and Characterization of Single Domain Antibody against MHC class I of Zebrafish.
- Purification and characterization of Single Domain Antibody (sdAb) against CD8 of

Zebrafish

IISER Mohali | Department of Biological Sciences | Immunology Lab | Graduate Researcher | Advisor: Dr. Arunika Mukhopadhyay | June 2020- Nov 2020

- Studied the role of Immunomodulatory proteins of Salmonella.

IISER Mohali | Department of Biological Sciences | Graduate Researcher | Advisor: Dr. Shravan Kumar Mishra | Jan 2020- March 2020

- Looked into the role of Dbr-1 in circular mRNA formation.

Ramakrishna Mission Vivekananda Centenary College | Department of Zoological Sciences | Advisor: Dr. Arunava Mukherjee | Jan 2017- Aug 2018

- Ecological sampling
- Rearing of 5 different species of Butterflies
- Phototactic movement of mosquito larvae

LAB SKILLS

- Two-photon microscopy
- Multicolor flow cytometric analysis
- Mouse handling: Scuffing, Intraperitoneal Injection administration, Neurocraniotomy
- Cell surface Staining
- Use of zebrafish models: Breeding and general maintenance, Retinal Injury, Intravitreal Injection, Intraperitoneal Injection, Dissection of spleen, heart, eye
- Size-exclusion chromatography, Affinity Chromatography
- In-vitro refolding of Protein (Galectin-3, Single Domain Antibody)
- Maintenance of Cell lines
- Cryosectioning
- Immunostaining (whole mount & cryosectioned samples)
- Confocal Imaging
- Construct cloning
- PCR, agarose gel electrophoresis, Restriction Digestion, Transformation, RNA isolation, Competent Cell preparation
- SDS gel electrophoresis, Coomassie Staining
- Western Blotting
- Co-immunoprecipitation
- Indirect & Sandwich ELISA
- Real-time PCR

SOFTWARE SKILLS

ImageJ , Imaris, FlowJo, Graphpad Prism, Nikon NIS Elements, SnapGene, , MEGA-X, Jalview, BioRender, Adobe Photoshop, Adobe Illustrator, Microsoft Suite Word, Excel, PowerPoint

PUBLICATIONS & PRESENTATIONS

- Bhatt, N. N., Tabrizi, Z., Franciosa, S. A., Chakraborty, S., Agatemor, C., & Bracko, O. (2025). Reducing Neutrophil Sialic Acid Residues Alleviates Cerebral Hypoperfusion in Alzheimer's Models, Manuscript in preparation.
- Chakraborty, S., Tabrizi, Z., Bhatt, N. N., Franciosa, S. A., & Bracko, O. (2023). A Brief Overview of Neutrophils in Neurological Diseases. Biomolecules, 13(5), 743. <https://doi.org/10.3390/biom13050743>
- Bhattacharya, A., Chakraborty, S., Das, K.L., Saha, A., Sardar, S., Mandal, B., Murkherjee, A. and Mitra, B. 2018. Temporal diversity of urban butterflies: A case study in the campus of Ramakrishna mission Vivekananda centenary College, Rahara, West Bengal. The Pharma Innovation Journal, 7(12): 395-400.
- Chakraborty, S., Das, K.L., Bhattacharya, A., Saha, A., Sardar, S., Mandal, B. and Murkherjee, A. 2017/12/14 & 2017/12/15. Temporal shifting in communities of butterflies in a suburban area and it's relation with social plantation. National Conference on Status of Invasive Alien Species in India. Pp-59
- Bhattacharya, A., Saha, A., Chakraborty, S., Das, K.L., Sardar, S., Mandal, B. and Murkherjee, A. 2016, 09, 09. Small scale social oresting in suburban area for upholding the temporalvariations of butterflies. National Seminar On Forest Resources: Conservation Issues and Management. pp- 30.

AWARDS AND ACHIEVEMENTS

- Secured All India Rank of 267 in IIT-Joint Admission Test National Level Exam- 2019 for Admission in M.Sc.
- Obtained All India Rank of 60 in Post Graduate Entrance Test of Banaras Hindu University

- Achieved the first position in a Poster presentation at the 7th National Conference on Respiratory Allergy and Immunology- ALLERCON-2017

CONFERENCES/SEMINARS

1	09/09/2017	National Seminar on FOREST RESOURCES: CONSERVATION ISSUES AND MANAGEMENT	Poster presentation
2	14/12/2017 15/12/2017	National Conference on Status of Invasive Alien Species in India	Poster presentation
3	14/01/2018	ALLERCON-2017, The 7th National Conference on Respiratory Allergy and Immunology	Poster presentation
4	23/07/2021	BDC-2021 Summer Seminar series on “Anti-viral therapeutics” organized by Emory University	Participation
5	23/02/2022- 25/02/2022	International symposium on “COVID-19: Delta, Omicron and Beyond” organized by National Institute of Immunology, India	Participation
6	01/12/2023	Neuroscience Research Day organized by the Neuroscience Graduate Program, University of Miami	Poster presentation
7	27/08/2024- 01/08/2024	Alzheimer’s Association International Conference 2024	Poster presentation
8	06/12/2024	Neuroscience Research Day organized by the Neuroscience Graduate Program, University of Miami	Poster presentation

EXTRACURRICULAR ACTIVITIES

- Managing the social media profiles of Everglades Bicycle Club
- Judged poster presentation in the LSSF undergraduate research symposium-2024 at the Florida International University.
- Served as a course instructor in the Immunology Summer School-2023 of RKMVC college.
- Led Integrated PhD team at the IISER Mohali Chess Club (2021)

- Participated in Cycling Marathon: FIT INDIA CYCLOTHON -2020
- Organized and hosted a Quiz competition at the Freshers welcome (2019)
- Participated in the volunteer work organized by the World-Wide Fund for Nature-India at the Chintamani Kar Bird Sanctuary, Kolkata (2019)