

DR. PRIYANKAR PAL

Email: priyankarpal97@gmail.com | Mobile: +91 8167678566 | Kolkata, West Bengal, India

PROFESSIONAL SUMMARY

Doctoral fellow with six years of research experience in environmental toxicology and animal physiology using rat models, and more than four years of teaching experience across two institutes in the fields of Zoology and Biotechnology.

WRITING EXPERIENCE

- ❖ Author of several publications in peer-reviewed journals.
- ❖ Author of several book chapters.
- ❖ Author of Doctoral thesis entitled “*Assessment of fluoride induced male reproductive disorders in adult Wistar rats and its amelioration by supplementation of vitamin C and E*” (submitted January 2024).

PUBLICATIONS

Research Articles

1. Biswas S, **Pal P**, Maity J, Mondal R, Mukhopadhyay PK. Arsenic intervened anarchy in cauda epididymis and spermatozoa of adult rats is amended by casein and pea enriched high protein diet. *Biometals*. 2026 Oct;39(5):2061-2077. doi: 10.1007/s10534-026-00850 6. Epub 2026 Jul 20. PMID: 42474890.
2. **Pal, P.**, Biswas, S., Ghosh, M., Maity, J., Mondal, R., Ghosh, T., Chakraborty, S., & Mukhopadhyay, P. K. (2026). Ascorbate-tocopherol co-supplementation attenuates fluoride-mediated inflammatory and apoptotic responses in male reproductive organs. *Toxicology Research*, 15, Article tfaf039. <https://doi.org/10.1093/toxres/tfaf039>
3. Basak, T., Banik, R. D., De, D., **Pal, P.**, & Pal, P. (2026). Tissue-Specific Arsenic Bioaccumulation in Labeo Rohita and Catla Catla Across Contaminated Districts of West Bengal, India. *Bulletin of Environmental Contamination and Toxicology*, 116:50, DOI: 10.1007/s00128-026-04210-5
4. Maity J, **Pal P**, Ghosh M, Naskar B, Chakraborty S, Pal R, Mukhopadhyay PK. Molecular Dissection of the Arsenic-Induced Leukocyte Incursion into the Inflamed Thymus and Spleen and Its Amelioration by Co-supplementation of L-Ascorbic Acid and α -Tocopherol. *Biol Trace Elem Res*. 2024 Sep 26. doi: 10.1007/s12011-024-04378-z. Epub ahead of print. PMID: 39325335.
5. Maity, J., **Pal, P.**, Pal, R. et al. Co-administration of L-Ascorbic Acid and α -Tocopherol Alleviates Arsenic-Induced Immunotoxicities in the Thymus and Spleen by Dwindling Oxidative Stress-Induced Inflammation. *Biol Trace Elem Res* (2023). <https://doi.org/10.1007/s12011-023-03841-7>
6. Biswas S, **Pal P**, Mondal R, Mukhopadhyay PK. Casein and pea enriched high-protein diet attenuates arsenic provoked apoptosis in testicles of adult rats. June 2023, *Toxicology Research*. DOI: 10.1093/toxres/tfad043
7. Mondal R, **Pal P**, Biswas S, Chattopadhyay A, Bandyopadhyay A, Mukhopadhyay A, Mukhopadhyay PK. Attenuation of sodium arsenite mediated ovarian DNA damage, follicular atresia, and oxidative injury by combined application of vitamin E and C in post pubertal Wistar rats. *Naunyn-Schmiedeberg's Arch Pharmacol*. 2023 Oct;396(10):2701-2720.

8. **Pal P**, De A, Roychowdhury T, Mukhopadhyay PK. Vitamin C and E supplementation can ameliorate NaF mediated testicular and spermatozoal DNA damages in adult Wistar rats. *Biomarkers*. 2022 Mar 8;1:14. doi: 10.1080/1354750X.2022.2048891. Epub ahead of print. PMID: 35232301.
9. **Pal P**, Mukhopadhyay PK. Fluoride induced testicular toxicities in adult Wistar rats. *Toxicol Mech Methods*. 2021 Jun;31(5):383-392. doi: 10.1080/15376516.2021.1891489. Epub 2021 Feb 28. PMID: 33641618

Review Articles

1. **Pal P**, Jha NK, Pal D, Jha SK, Anand U, Gopalakrishnan AV, Dey A, Mukhopadhyay PK. Molecular basis of fluoride toxicities: Beyond benefits and implications in human disorders. *Genes Dis*. 2022 Sep 21;10(4):1470-1493.
2. **Pal P**, Biswas S, Mukhopadhyay PK. Molecular perspective concerning fluoride and arsenic mediated disorders on epididymal maturation of spermatozoa: A concise review. *Hum Exp Toxicol*. 2021 Dec;40(12):2025-2038. doi: 10.1177/09603271211021474. Epub 2021 Jun 4. PMID: 34085563.
3. Guchhait, A., Sarkar, M., Ghosh, A., Thakur, S., Banik, R. D., **Pal, P.**, De, D., & Pal, S. (2025). MicroRNA-protein interaction networks in Down syndrome-linked Alzheimer's pathogenesis: A compact review. *Journal of Research in Allied Life Sciences*, 1(2), 1–8.
4. Mondal P, **Pal P**; Immunotoxicity caused by excessive mercury exposure: A brief overview, *International Journal of Immunology Research* 2024; 6(1): 01-03
5. Chourasia S, **Pal P**; Impact of chlordecone exposure on reproductive system: A concise review, *International Journal of Biology Sciences* 2024; 6(1): 124-128
6. Das R, **Pal P**; The mechanistic approach of arsenic mediated neurotoxicity-a concise review, *International Journal of Neurology Research* 2024; 6(1): 05-08

Book Chapters

1. **Pal P**, Biswas S, Mondal R, Mukhopadhyay PK. The role of reactive oxygen species in health and disease – a chapter entitled “Fluoride and arsenic mediated oxidative damage can cause disorders in reproductive system”. Nova Science Publishers. Accepted October, 2022.
2. Sengupta, T., Ghosh, A., De, D., Pal, S., Dutta Banik, R., & **Pal, P.** (2026). Epigenetic reprogramming by cadmium: DNA methylation, histone modification, and miRNA dysregulation as drivers of neurotoxicity and neurodegenerative disease. In S. Pal (Ed.), *The biotechnological palimpsest: From evolutionary scratches to the synthetic future* (pp. 128–143).
3. Ghosh, A., Guchhait, A., Sarkar, M., Paria, D., Roy, S., Dutta Banik R, T., De, D., **Pal, P.**, Dutta Banik, R., Pal, P. K., Koner, D., & Pal, S. (2026). From genotype to metabolic phenotype: A multi-omics protocol for systems-level analysis of Down syndrome. In S. Pal (Ed.), *The biotechnological palimpsest: From evolutionary scratches to the synthetic future* (pp. 252–292).
4. Banerjee, S., Sultana, M., Das, T., Mukherjee, T., Patra, S., & **Pal, P.** (2025). Ubiquitous & noxious mercury: Effect on reproductive system of an organisms: A review of evidence. In S. Ghosh (Ed.), *Life at the molecular level: An understanding of biology* (pp. 71–85). Bright Sky Publications. <https://doi.org/10.62906/bs.book.332>

5. Mukherjee, S., & **Pal, P.** (2025). Quantitative and topical analysis of anthocyanins in food. In S. Ghosh (Ed.), *Life at the molecular level: An understanding of biology* (pp. 87–115). Bright Sky Publications. <https://doi.org/10.62906/bs.book.332>
6. Das, T., Patra, S., Sultana, M., Mukherjee, T., Banerjee, S., & **Pal, P.** (2025). Advancements in gene therapy for leukemia: From bench to bedside: A review. In P. Pal (Ed.), *The living laboratory: Biotechnology & microbial frontiers* (pp. 65–84). AkiNik Publications. <https://doi.org/10.22271/ed.book.3211>
7. Mukherjee, T., Das, T., Sultana, M., Banerjee, S., Patra, S., & **Pal, P.** (2025). Unravelling severe combined immunodeficiency (SCID): From genetic roots to lifesaving treatments. In D. De (Ed.), *Bio-architects: Designing with nature's smallest tools* (pp. 41–66). Bright Sky Publications. <https://doi.org/10.62906/bs.book.403>
8. Paria, D., Roy, S., Dutta Banik, T., Pal, P. K., De, D., **Pal, P.**, Koner, D., Dutta Banik, R., & Pal, S. (2026). Designing an integrated multi-omics bioinformatics pipeline to identify biomarkers of brain insulin resistance in down syndrome mouse models. In P. K. Pal (Ed.), *Biotechnology: Bridging fundamental science and applied innovation* (pp. 22–42).
9. Roy, R., & **Pal, P.** (2026). Huntington's disease: Pathogenesis, clinical features, and emerging therapeutic strategies - A comprehensive review. In P. K. Pal (Ed.), *Biotechnology: Bridging fundamental science and applied innovation* (pp. 101–108).
10. Dutta, B., Mitra, D., Saha, A., Chakraborty, A., & **Pal, P.** (2026). From inheritance to complexity: A new perspective on X-linked diseases. In S. Ghosh (Ed.), *Biotech horizons: Translational research in human health* (pp. 8–31).
11. **Pal, P.**, Dutta Banik, R., Pal, S., & De, D. (2026). The gut microbiome-immune system brain axis: Implications for neurological disorders. In D. De (Ed.), *Biotechnology: Future of synthetic biology* (pp. 53–70).
12. Dutta Banik, R., **Pal, P.**, De, D., Pal, S., & Dutta Banik, R. (2026). Biodegradation of pharmaceutical pollutants using immobilized microbial consortia: A comprehensive review.
13. Thakur, S., Sarkar, S., **Pal, P.**, & Ghosh, B. (2025). Mechanistic approach of esophageal cancer due to microbial growth. In P. Pal (Ed.), *Blueprints of life: Unlocking the power of modern biotechnology* (pp. 63–77).
14. Ghosh, A., & **Pal, P.** (2025). Cardiovascular diseases associated with immune response: A comprehensive review. In P. Pal (Ed.), *Blueprints of life: Unlocking the power of modern biotechnology* (pp. 253–263).
15. Roy, B., & **Pal, P.** (2025). *Bdellovibrio bacteriovorus*: A natural solution for controlling harmful bacteria. In P. Pal (Ed.), *Blueprints of life: Unlocking the power of modern biotechnology* (pp. 264–296).
16. Das, I., & **Pal, P.** (2025). Advancing vaccine development and delivery: The role of genetic engineering. In P. Pal (Ed.), *Blueprints of life: Unlocking the power of modern biotechnology* (pp. 297–318).
17. Mondal, K., & **Pal, P.** (2025). Effects of intoxicating substances on gut and oral cavity. In P. Pal (Ed.), *Blueprints of life: Unlocking the power of modern biotechnology* (pp. 319–332).

18. Sultana, M., & **Pal, P.** (2025). Defender of the genome: Unravelling the mechanism of tumor suppressor genes (TSGs). In P. Pal (Ed.), *Blueprints of life: Unlocking the power of modern biotechnology* (pp. 333–345).
19. Dutta, P., & **Pal, P.** (2025). Molecular mechanism of lung cancer: Dysregulation of proto oncogene and tumor suppressor gene. In P. Pal (Ed.), *Blueprints of life: Unlocking the power of modern biotechnology* (pp. 346–358).
20. Banerjee, S., & **Pal, P.** (2025). The influence of proto-oncogenes on typical patterns of growth & development. In P. Pal (Ed.), *Blueprints of life: Unlocking the power of modern biotechnology* (pp. 359–383).
21. Das, T., & **Pal, P.** (2025). Unravelling the molecular basis of lung cancer: Pathways to progress. In P. Pal (Ed.), *Blueprints of life: Unlocking the power of modern biotechnology* (pp. 384–394).
22. Mukherjee, T., & **Pal, P.** (2025). Illuminating the ER-diabetes relationship: The hidden catalyst in diabetes development and progression. In P. Pal (Ed.), *Blueprints of life: Unlocking the power of modern biotechnology* (pp. 395–417).
23. Das, S., Saha, T., Bhowmick, T., Mazumdar, A., Ghosh, A., Dutta Banik, R., De, D., & **Pal, P.** (2025). Molecular pathways and therapeutic approaches in Parkinson's disease. In B. Ghosh, *Biobridges: Connecting technology with the future of life* (pp. 63–78). Integrated Publications.
<https://doi.org/10.62778/int.book.535>
24. Dinda, A., Saha, A., Sardar, S., Sinha, A., & **Pal, P.** (2025). The use of adverse outcome pathways in the safety evaluation of food additives. In S. Pal (Ed.), *The living world: Fundamentals of life sciences*
<https://doi.org/10.22271/ed.book.3190>
25. Sengupta, T., Ghosh, A., De, D., Pal, S., Dutta Banik, R., & **Pal, P.** (2026). Mercury induced Mechanisms, clinical manifestations and therapeutic considerations. In A. Guha (Ed.), *The microbial nexus: Intersections in modern science* (pp. 72–78).
26. Monika, K., & **Pal, P.** (2026). Decoding evolutionary transitions: From phylogenetic trees to trait architectures. In D. Koner (Ed.), *The macroworld of the microbes* (pp. 145–153).
27. Paria, D., Roy, S., Dutta Banik R, T., **Pal, P. K.**, De, D., Pal, P., Koner, D., Dutta Banik, R., & Pal, S. (2026). Targeting the purinome: An integrated in-silico and in vitro strategy for discovering novel adenosine deaminase inhibitors from marine-derived fungi. In D. Koner (Ed.), *The macroworld of the microbes* (pp. 170–184).
28. Sultana, M., & **Pal, P.** (2026). Effects of thermal stress and pollutants on fish physiology: A combined stressor approach. In B. Ghosh (Ed.), *Essentials of microbiology: Unearthing the unseen* (pp. 71–88).
29. **Pal, P.**, Dutta Banik, R., Pal, S., & De, D. (2026). Telomere biology and aging: A comprehensive review. In S. Sarkar (Ed.), *Microbial cosmos: The architects of life* (pp. 57–87).
30. Dutta Banik, R., **Pal, P.**, De, D., & Pal, S. (2026). Biodegradation of municipal wastes using bacterial strains: A comprehensive review. In S. Sarkar (Ed.), *Microbial cosmos: The architects of life* (pp. 98–110).
31. **Pal, P.**, De, D., Dutta Banik, R., Pal, P. K., Koner, D., & Pal, S. (2026). Development of plant-based bioreactors for recombinant enzyme production. In S. Sarkar (Ed.), *Microbial cosmos: The architects of life* (pp. 120–142).

32. **Pal, P. K.**, Pal, S., Pal, P., & De, D. (2026). The Indian microbiome landscape: A systematic review of regional variations and their health implications. In S. Sarkar (Ed.), *Microbial cosmos: The architects of life* (pp. 143–166).

As Editor (whole book):

1. Pal, P. (Ed.). (2025). *The living laboratory: Biotechnology & microbial frontiers*. AkiNik Publications. <https://doi.org/10.22271/ed.book.3211>
2. Pal, P. (Ed.). (2025). *Blueprints of life: Unlocking the power of modern biotechnology*. Penprints.

RESEARCH EXPERIENCE & SKILLS

Presidency University (2017–23)

Evaluation of fluoride-mediated male reproductive disorders with special emphasis on testis, epididymis and spermatozoa. Adult male Wistar rats were used for an in-vivo study to assess fluoride-mediated reproductive anomalies. The extent of reproductive disorders was evaluated by analysis of structure-function integrity as well as signaling cascades. The primary goal of this research was to examine the disarrays of various epididymal segments and the spermatozoa isolated from those segments under the risk of fluoride exposure. The ameliorative potential of vitamin C and E against fluoride-mediated reproductive anomalies was also studied.

Technical Skills

- | | |
|---|-------------------------------|
| ❖ Histology | ❖ Histomorphometry |
| ❖ Scanning electron microscopy | ❖ Biochemical analysis |
| ❖ ELISA | ❖ Agarose gel electrophoresis |
| ❖ SDS-PAGE | ❖ PCR |
| ❖ FACS | ❖ Immunofluorescence |
| ❖ Expertise in preparing laboratory animal models | |

TEACHING EXPERIENCE

- ▶ Assistant Professor, Swami Vivekananda University, Barrackpore, West Bengal — **July 2023 to present**
- ▶ Academic Counselor, Indira Gandhi National Open University (IGNOU) — **September 2022 to June 2023**
- ▶ Visiting Faculty Member, Zoology, Vedanta College, Kolkata (affiliated to University of Calcutta) — **September 2022 to June 2023**

AWARDS & RECOGNITIONS

- ❖ Selected as Best Oral Presenter in the DST-SERB sponsored National Conference on Zoology for Ecosystem and Human Health, organized by the Department of Zoology, University of Kalyani.
- ❖ NPTEL topper in multiple courses.

EDUCATION

PhD

University: Presidency University, Kolkata

Year: 2024

Master of Science (M.Sc.)

University: University of Calcutta

Subject: Zoology

Special Paper: Entomology

Year of Passing: 2015

Bachelor of Science (B.Sc.) Honours

College / University: University of Calcutta

Honours Subject: Zoology

Year of Passing: 2013

PROFESSIONAL QUALIFICATIONS

- ❖ CSIR NET (Life Sciences) — December 2016; June 2017; December 2017
- ❖ West Bengal State Eligibility Test (WBSET) — 2019
- ❖ GATE Life Sciences — 2022

PERSONAL PROFILE

Name: Priyankar Pal

Date of Birth: 13/07/1992

Father's Name: Chandrakanta Pal

Mother's Name: Madhumita Pal

Spouse: Madhuchhanda Das

Permanent Address: Village and P.O. – Rajbalhat, Dist. Hooghly, Pin–712408, P.S. Jangipara

Present Address: 30/1E Latafat Hossain Lane, Kolkata–700085

DECLARATION

I hereby declare that all the statements in my curriculum vitae are authentic, complete and correct to the best of my knowledge and belief.

Priyankar Pal

Signature