

AMANPREET BEHL

Ph.D. Candidate | Molecular Ecology | Conservation Genomics | Population Genetics | Environmental Toxicology

United Arab Emirates |

Phone: +971 55 271 0669 /+91 9910769552 |

Email: damanpreetbehl@gmail.com, 700039847@uaeu.ac.ae

LinkedIn: <https://www.linkedin.com/in/amanpreet-behl-86754b170/>

Google Scholar: https://scholar.google.com/citations?view_op=list_works&hl=en&hl=en&user=DJ_GD0oAAAAJ

ORCID: <https://orcid.org/0000-0003-2363-1801>

PROFESSIONAL SUMMARY

Final-semester Ph.D. Candidate in Cellular and Molecular Science with research experience in molecular ecology, conservation genomics, population genetics, marine biodiversity and environmental toxicology. Experienced in studying genetic diversity and population structure of reef-associated fish and assessing heavy metal bioaccumulation to support ecosystem health, sustainable fisheries and conservation decision-making. Skilled in DNA extraction, PCR, gel electrophoresis, sequencing-related workflows, ddRAD-based population genetics, ICP-MS/AAS analysis, bioinformatics tools, scientific writing, student training and stakeholder collaboration. Targeting Research Assistant, Junior Scientist, Molecular Ecology Researcher and Conservation Genomics roles supporting biodiversity assessment.

EDUCATION

Ph.D. Candidate in Cellular and Molecular Science | United Arab Emirates University, UAE | 2022 - Present | Expected completion: 2026

Master's in Toxicology | Jamia Hamdard, Delhi, India | 2018 - 2020

Bachelor of Science in Forensic Science | Amity University, Noida, India | 2015 - 2018

PROFESSIONAL AND RESEARCH EXPERIENCE

Ph.D. Researcher | United Arab Emirates University, UAE | 2022 - Present

- Conduct doctoral research integrating **molecular genetics, molecular toxicology, and environmental health sciences** to investigate the biological effects of environmental stressors in Arabian Gulf marine species.
- Conduct interdisciplinary doctoral research in **molecular genetics and molecular toxicology**, examining genetic diversity, molecular responses to environmental contaminants, and mechanisms of toxicity in marine organisms from the Arabian Gulf.
- Conduct heavy metal contamination and bioaccumulation studies in *Lutjanus ehrenbergii* and *Acanthopagrus bifasciatus* to assess potential public health relevance.
- Apply ICP-MS, AAS, molecular biology and bioinformatics tools to evaluate links between environmental pollution, marine species health and conservation priorities.
- Use STACKS, STRUCTURE and Arlequin for population genetics analysis, including Hardy-Weinberg equilibrium assessment and genetic data interpretation.
- Support additional conservation genetics projects, including beetle genetics and Arabian Oryx-related student research; train students in laboratory workflows and research documentation.

ADERN Member / Research Contributor | Environment Agency - Abu Dhabi, UAE | 2024- Present

- Conducted tissue sample analysis to evaluate heavy metal bioaccumulation trends relevant to marine ecosystem health and sustainable fisheries.
- Contributed scientific data interpretation and policy-relevant recommendations for conservation and environmental management.

Junior Research Fellow | Indian Institute of Technology Delhi, India | Nov 2020 - Nov 2021

- Led laboratory R&D experiments evaluating CoVDecon and MicrobeDecon antimicrobial/decontamination technologies and generated data supporting patented and licensed technologies.
- Designed, optimised and documented laboratory workflows while troubleshooting technical bottlenecks and maintaining reproducibility. Supervised students in SARS-CoV-2-related research from concept development through experimental execution and publication preparation.

Research Intern | Institute of Nuclear Medicine and Allied Sciences, DRDO, Delhi, India | Jan 2020 - Jun 2020

- Completed research exposure in combat casualty management, stem cell biology and gene therapy-related scientific projects.

Intern | Central Bureau of Investigation, Central Forensic Science Laboratory, Delhi, India

- Performed forensic document analysis in support of criminal investigation workflows and laboratory documentation.

RESEARCH AND TECHNICAL SKILLS

Conservation genomics and molecular ecology: Population genetics; genetic diversity; population structure; marine biodiversity; reef-associated fish research; ecosystem health assessment; biodiversity monitoring; conservation management; working knowledge of DNA barcoding, metabarcoding and eDNA applications.

Molecular biology and laboratory workflows: DNA extraction; PCR; gel electrophoresis; sequencing-related sample workflows; fish tissue processing; biological sample handling; contamination-aware laboratory practice; SOP preparation; microscopy/histology exposure.

Environmental toxicology and analytical methods: Heavy metal contamination studies; bioaccumulation assessment; ecological risk assessment; ICP-MS; AAS; marine ecosystem health; sustainable fisheries recommendations.

Bioinformatics and data analysis: STACKS; STRUCTURE; Arlequin; Hardy-Weinberg equilibrium analysis; dartRverse training; conservation genomics in R; genetic data interpretation; statistical modelling; data visualisation; working knowledge of R and Python.
Research operations and communication: Scientific writing; literature review; manuscript preparation; technical reports; policy-relevant recommendations; project coordination; student training; stakeholder collaboration.

PUBLICATIONS: ARTICLES AND BOOK CHAPTER(S)

- Dahiya, A., Ranjan, P., & Behl, A. (2025). Bioresorbable materials in plastic and reconstructive surgery. In *Bioresorbable materials and bioactive surface coatings* (pp. 443–476). Springer.
- Nair, A., Behl, A., Yadav, P., Meel, P., Sharma, N., & Butola, B. S. (2023). Dynamic mechanism-based portable anti-microbial green decontamination station. *Indian Journal of Science and Technology*, 16(45), 4280–4290. <https://doi.org/10.17485/IJST/v16i45.1757>
- Behl, A., Nair, A., Mohagaonkar, S., Yadav, P., Gambhir, K., Tyagi, N., ... (2022). Threat, challenges, and preparedness for future pandemics: A descriptive review of phylogenetic analysis-based predictions. *Infection, Genetics and Evolution*, 98, 105217. <https://doi.org/10.1016/j.meegid.2021.105217>.
- Nair, A., Yadav, P., Behl, A., Sharma, R. K., Kulshrestha, S., Butola, B. S., & Sharma, N. (2021). Toxic blister agents: Chemistry, mode of their action and effective treatment strategies. *Chemico-Biological Interactions*, 350, 109654. <https://doi.org/10.1016/j.cbi.2021.109654>
- Verma, Y. K., Verma, R., Tyagi, N., Behl, A., Kumar, S., & Gangenahalli, G. U. (2021). COVID-19 and its therapeutics: Special emphasis on mesenchymal stem cells-based therapy. *Stem Cell Reviews and Reports*, 17(1), 113–131. <https://doi.org/10.1007/s12015-020-10037-2>

PATENT

- Triple Shield: Portable Universal Biological Green Decontamination Station (Indian Patent Application No. 202011047606)
- CoVDecon Antimicrobial Coating for Fabrics (Indian Patent Application No. 202011054573)

LICENSED TECHNOLOGIES

- CoVDecon Antimicrobial Coating – Licensed to ProgenBioLab Pvt. Ltd.; adapted for Indian Army medical supplies.
- Triple Shield – Licensed to SMS Hydrotech, Faridabad, India.

CONFERENCE PRESENTATIONS

- Behl, A. (2024). Evaluating Heavy Metal Levels in Blackspot Snapper and Implications for Public Health and Arabian Gulf Marine Ecosystems. GULF-4 Conference, UAEU.November,2024.
- Poster Presentation, National Conference on Alternatives to Animal Experiments (2018).

CERTIFICATIONS, TRAINING AND PRESENTATIONS

- Certificate of Participation: dartRverse: Harnessing the Force of R for Conservation Genomics - Centre for Biodiversity Analysis, Australian National University. Online, 9 Mar - 13 Mar 2026, 26 hours. URL: <https://cba.anu.edu.au/news-events/events/dartverse>
- Biology Graduate Research Day Competition, 2025 – Awarded Third Rank for research/scientific presentation excellence.
- Finalist in 3MT thesis competition and was awarded participation prize. 2025
- Marine Biology and Genetics Research Training - NUWAT, Bahrain – March,2024.
- Scientific Leadership Certificate - 34th International Biology Olympiad, UAE. (2023)
- Ph.D. Student Teaching Academy Graduate - UAEU CETL and CGS.
- WHO Training: One Health Approach to Zoonotic Diseases.
- Flow Cytometry and Biological Research Applications - TETC.

ADDITIONAL INFORMATION

Languages: English, Hindi and Punjabi | IELTS: Overall 7.5 | Valid UAE driving license | References available on request