

DR. RIDA ZAINAB

PhD Biotechnology (2023)

[Peer-reviewed articles = 15; Impact Factor = 60; h-index = 6; i10-index = 6; Citations = 230]

MAILING ADDRESS

Lahore, Punjab, Pakistan. Mobile: +923324658314, WhatsApp. E-mail: ridazainabphd@gmail.com

RESEARCH EXPERTISE

- **Genomics:** DNA and RNA Extraction, PCR, Agarose Gel Electrophoresis
- **Proteomics:** SDS-PAGE, Western Blotting, Protein Extraction, ELISA, IP
- **Phytochemistry:** Extraction of bioactive compounds, DPPH assay
- **Bioinformatics:** AutoDock Vina, PyMol, USCF ChimeraX, MD Simulations, VMD, Computer-Aided Drug Design, Network Pharmacology, Genome-Wide Association Analysis, and Computational Vaccine Design
- **Statistics:** SPSS, Minitab

RESEARCH/TEACHING EXPERIENCE

Jan 2026 to May 2026- Supervised final semester bachelor's research students in various domains of Bioinformatics

May 2025 to May 2026- Assistant Professor (IPFP Fellow), University of Okara, Okara, Pakistan

Feb 2025- IPFP Training by HEC

Sep 2024 to April 2025- Research Assistant, University of Sharjah, Sharjah, United Arab Emirates

Apr 2024 to Aug 2024- Visiting Lecturer, Riphah International University, Gulberg III, Lahore, Pakistan

Jan 2019 to Jun 2019- Visiting Lecturer, Lahore College for Women University, Lahore, Pakistan

EDUCATION

Doctorate. 2016-2023 (LCWU): Biotechnology, Specialization – Computational Biology, Bioinformatics and Proteomics (Ph.D. Scholar Funded By HEC, Pakistan)

Thesis Title: The Concerted Proteomics and Bioinformatics Approaches to Determine the Role of PCSK9 and IRS Proteins in Familial Hypercholesterolemia

Masters. 2014-2016 (UVAS): Molecular Biology and Biotechnology, Specialization – Genomics and Cell Biology (Highest CGPA)

Thesis Title: Molecular Investigation of Low-Density Lipoprotein Receptor Gene causing Familial Hypercholesterolemia and its Evolutionary Relationship with Pan Troglodytes

Bachelors. 2010-2014 (KCW): Biotechnology, Specialization – Bioinformatics (Awarded Financial Aid)

Thesis Title: Computational Pharmacophore Modelling of 5-HT_{2a} and D₂ Receptor Inhibitors of Schizophrenia

ORIGINAL JOURNAL ARTICLES PUBLISHED

1. Manikandan SK, Hasnain M, **Zainab R**, Ridouane FL, Moalla AA, Sheteiwy M, Abideen Z, El-Keblawy A. **2026**. Treating palm oil mill effluent (POME): Opportunities, challenges, and sustainable practices. *Environmental Technology and Innovation*. <https://doi.org/10.1016/j.eti.2026.104857> (IF: 7.1)
2. Hasnain M, Hira I, **Zainab R**, Ali F, Fitzgerald M, Abideen Z. **2026**. Hazards and mitigation measures of applying biochar in water, soil, plants, animals and atmospheric for environmental safety. *Environmental Geochemistry and Health*. <https://doi.org/10.1007/s10653-026-03019-9> (IF: 3.8)
3. Alblooshi A, El-Keblawy A, Manikandan SK, Hasnain M, **Zainab R**, Soliman SSM. **2025**. Gray mangrove (*Avicennia marina*): Ecological resilience, cultural heritage, and sustainable conservation in the arid arab region. *Regional Studies in Marine Science*. <https://doi.org/10.1016/j.rsma.2025.104694> (IF: 2.4)
4. Hasnain M, Ali F, Hira I, **Zainab R**, Shanableh A, Abideen Z. **2025**. Navigating towards a plastic-free future: A holistic review of microplastic accumulation and management for land and environmental sustainability. *Environmental Research*. <https://doi.org/10.1016/j.envres.2025.122572> (IF: 7.7)
5. Hasnain M, **Zainab R**, Ali F, Abideen Z. **2025**. An overview of biosorption, remediation, and desalination potential of algae to remove wastewater toxic pollutants for environmental safety. *Environmental Monitoring and Assessment*. [10.1007/s10661-025-14279-w](https://doi.org/10.1007/s10661-025-14279-w) (IF: 3)
6. Hasnain M, Abideen Z, **Zainab R**, El-Sheikh M. **2024**. Evaluating poultry excreta leachate for algal biomass and biodiesel production for resource recovery and circular economy. *Biomass Conversion and Biorefinery*. [10.1007/s13399-024-06314-6](https://doi.org/10.1007/s13399-024-06314-6) (IF: 3.5)
7. **Zainab R**, Hasnain M, Ali F, Abideen Z, Siddiqui ZS, Jamil F, Hussain M, Park YK. **2024**. Prospects and challenges of nanopesticides in advancing pest management for sustainable agricultural and environmental service. *Environmental Research*. [10.1016/j.envres.2024.119722](https://doi.org/10.1016/j.envres.2024.119722) (IF: 7.7)
8. Hasnain M, **Zainab R**, Ali F, Abideen Z, Yong JWH, El-Keblawy A, Hashmi S, Radicetti E. **2023**. Utilization of microalgal-bacterial energy nexus improves CO₂ sequestration and remediation of wastewater pollutants for beneficial environmental services. *Ecotoxicology and Environmental Safety*. [10.1016/j.ecoenv.2023.115646](https://doi.org/10.1016/j.ecoenv.2023.115646) (IF: 7.129)
9. **Zainab R**, Hasnain M, Ali F, Dias DA, El-Keblawy A, Abideen Z. **2023**. Exploring the bioremediation capability of petroleum-contaminated soils for enhanced environmental sustainability and minimization of ecotoxicological concerns. *Environmental Science and Pollution Research*. [10.1007/s11356-023-29801-1](https://doi.org/10.1007/s11356-023-29801-1) (IF: 5.19)
10. Galgale S, **Zainab R**, Kumar P, Nithya M, Dinesh S, Sharma S. **2023**. Molecular docking, and dynamic simulation-based screening identifies inhibitors of targeted SARS-COV-2 3CLpro and Human ACE2. *International Journal of Applied Pharmaceutics*. [10.22159/ijap.2023v15i6.48782](https://doi.org/10.22159/ijap.2023v15i6.48782) (IF: 0.195)
11. **Zainab R**, Kaleem A, Ponczek MB, Abdullah R, Iqtedar M, Hoessli DC. **2021**. Finding inhibitors for PCSK9 using computational methods. *Public Library of Science ONE*. [10.1371/journal.pone.0255523](https://doi.org/10.1371/journal.pone.0255523) (IF: 3.24)
12. **Zainab R**, Elahi S, Kaleem A, Hoessli DC, Iqtedar M, Abdullah R, Saleem F, Khan S, Ijaz A, Naz S, Shakoori AR. **2018**. Computational pharmacophore modelling of 5-HT_{2a} and D₂ receptor inhibitors of schizophrenia. *Pakistan Journal of Zoology*. [10.17582/journal.pjz/2018.50.6.2331.2342](https://doi.org/10.17582/journal.pjz/2018.50.6.2331.2342) (IF: 0.8)

BOOK CHAPTERS PUBLISHED

1. **Zainab R**, Hasnain M, Abideen Z, Kayani HA. **2023**. The Role of Halophytic Plant Invasions for the Conservation and Restoration of Degraded Agricultural Lands. In: Tripathi, S., Bhadouria, R., Srivastava, P., Singh, R., Batish, D.R. (eds) *Plant Invasions and Global Climate Change*. (pp. 325-341). Springer, Singapore. [10.1007/978-981-99-5910-5_14](https://doi.org/10.1007/978-981-99-5910-5_14)

2. Bakhsh A, **Zainab R**, Ali MA, Chung G, Golokhvast KS, Nawaz MA. **2023**. Genetically modified organisms in Europe: state of affairs, birth, research, and the regulatory process(es). InGMOs and Political Stance. (pp. 165-172). Academic Press. [10.1016/B978-0-12-823903-2.00012-3](https://doi.org/10.1016/B978-0-12-823903-2.00012-3)

CONFERENCE ABSTRACTS PUBLISHED

1. **Zainab R**, Kaleem A, Abdullah R, Iqtedar M, Saleem F, Amjad H, Husnain M. **2018**. The role of post-translational modifications in the functioning of creatine kinase. 2nd International Conference on New Trends in Natural Sciences, Public Health, Food, Nutrition, and Safety. October 24-26, 2018.
2. Amjad H, Zahoor MY, **Zainab R**. **2018**. Multispecies computational homology modelling of Neurotrypsin protein involved in cognitive functioning and its genetic variability analysis in humans. 1st Annual Health Research Conference. September 24-25, 2018.

POSTERS PRESENTED

1. Fatima N, **Zainab R**, Ponczek MB. **2024**. Unravelling the structure of human kininogen: cryoelectronic microscopy and computational methods - interdisciplinary search for molecular mysteries. IX Konferencja BioOpen. April 12, 2024.
2. Agrawal A, Baker QB, Thuy La VN, **Zainab R**, Zinsky R. **2019**. The druggable role of E-Cadherin (CDH1) and Cadherin 11 (CDH11) in claudin-low breast cancer cell lines compared to normal-like breast cancer cell lines revealed by Transcriptomic profiling. Baton Rouge. April 6, 2019.
3. **Zainab R**, Kaleem A, Abdullah R, Iqtedar M, Saleem F, Amjad H, Husnain M. **2018**. The role of post-translational modifications in the functioning of creatine kinase. 2nd International conference on new trends in Natural Sciences, Public Health, Food, Nutrition, and Safety. October 24-26, 2018. **(Award Won)**

MANUSCRIPT REVIEWER

Computational and Structural Biotechnology Journal (1), Journal of Trace Elements and Minerals (1), Scientifica (1), Journal of Soil Science and Plant Nutrition (1), Agronomy Research (1), International Journal of Environmental Science and Technology (4), Land Degradation & Development (1), Canadian Journal of Infectious Diseases and Medical Microbiology (1), Facilities (2)

GUEST EDITOR

Land Degradation & Development (4)

SUBJECTS TAUGHT

Nanobiotechnology, Bioinformatics, Inorganic Chemistry, Immunology, Food Biotechnology, Biochemistry I and II, Research Methodology and Skill Enhancement, Analytical Chemistry and Instrumentation, and Research Project.

SEMINARS/ CONFERENCES / WORKSHOPS

- **2025:** 43rd Pakistan Congress of Zoology (International) at University of Okara, Pakistan. June 23-25, 2025

- **2022:** Structural Bioinformatics Tools at University of the Punjab, Pakistan. February 23-25, 2022
- **2021:** Current techniques in Bioinformatics at University of Lahore, Pakistan. December 28-30, 2021
- **2021:** The world of Vaccines, Viruses and Pandemic at Lahore College for Women University, Pakistan. July 16, 2021
- **2019:** Awareness, Prevention, and treatment of Hepatitis at Lahore College for Women University, Pakistan. November 27, 2019
- **2019:** Biotechnology Insight 2019 at Lahore College for Women University, Pakistan. April 4, 2019
- **2019:** Basic tools in Bioinformatics: Molecular Modelling at Government College University, Pakistan. March 7-8, 2019
- **2018:** Tyrosine Kinase Inhibitors: Magic Bullets Against Cancer at Lahore College for Women, Pakistan. November 13, 2018
- **2018:** Advanced Quantitative Analysis using SPSS & AMOS" by IBM SPSS, Pakistan. November 1-2, 2018
- **2018:** New trends in natural sciences II: Public health, food nutrition & safety at Lahore College for Women University, Pakistan. October 24-26, 2018
- **2018:** Stratagem of Proteomics at Lahore College for Women University, Pakistan. May 10, 2018
- **2018:** Biosciences at Government College University, Pakistan. May 9-11, 2018
- **2018:** Mastering RNA-Seq by Tauber Bioinformatics Research Center, Israel. April 20, 2018
- **2018:** Biotechnology: From Molecular Cloning to Drug Development at International Islamic University, Pakistan. April 19-20, 2018
- **2017:** Basic Tools in Bioinformatics at Government College University, Pakistan. November 29, 2017
- **2016:** Cancer and Proteomics at Lahore College for Women University, Pakistan. November 8-10, 2016

AWARDS AND ACHIEVEMENTS

Competitive poster award, IPFP training by HEC, HEC Indigenous PhD Fellowship, PhD research featured in Polish Science Press

LANGUAGE SKILLS

- English C1 (IELTS General Training 2023, Overall Band Score 8)
Listening: 8, Reading: 8, Writing: 7.5, Speaking: 7.5
- Urdu: Proficient (Native)