

Obaid Hayat, PhD

Timergara, 18300, Dir Lower, Pakistan

Phone: +92 345 9518192

Email: OBAID_HAYAT@YAHOO.COM | Obaidhayat1987@gmail.com

LinkedIn: [linkedin.com/in/obaid-hayat-686117180](https://www.linkedin.com/in/obaid-hayat-686117180)

Professional Summary

Molecular Biologist with a Ph.D. in Biotechnology and a Master's in Molecular Biology, complemented by international research experience as a Visiting Scientist at the University of California, San Diego. Skilled in drug discovery, parasite biology, molecular cloning, molecular diagnostics, high-throughput screening, and advanced microscopy. Published author in peer-reviewed indexed journals with demonstrated expertise in grant writing, laboratory management, and student mentorship. Actively seeking postdoctoral or research-intensive roles in molecular biology, infectious diseases, or global health.

Research Interests

- Drug discovery and high-throughput screening of anti-parasitic compounds
 - Host-pathogen interactions in infectious diseases
 - Biomarker identification for early disease diagnosis
 - Molecular mechanisms of drug resistance in parasites
 - Chemical genetics and proteomics approaches in parasitology
-

Core Competencies

- Confocal Microscopy, Image Analysis, and Processing
 - Parasite and Mammalian Cell Culture Techniques
 - Protein Biochemistry and Molecular Biology
 - Gene Expression Analysis (qPCR)
 - Co-Immunoprecipitation (Co-IP) Assays
 - Molecular Cloning and Genetic Engineering
 - SDS-PAGE, Western Blotting, DNA/RNA Extraction
 - LC-MS/MS Data Analysis
 - Transfection Methods (PEI, Lipofectamine, Neon Electroporation)
 - Flow Cytometry (FACS) and ELISA-based Assays
 - Human/Mouse Blood and Tissue Sample Handling
-

Education

PhD in Biotechnology

Abdul Wali Khan University, Mardan, Pakistan — 2023

Dissertation: Identification of potent leishmanicidal compounds and evaluation of their mechanism of action

MPhil/MSc in Molecular Biology

University of Lahore, Lahore, Pakistan — 2014

Thesis: Role of MicroRNA-221 in Head and Neck Squamous Cell Carcinoma

BSc in Biotechnology/Biology

University of Malakand, Pakistan — 2009

Professional Experience

Lab Scientist/Manager

*Ittefaq Medical Complex, Timergara, Dir Lower, Pakistan
June 2024 – Present*

- Oversee daily laboratory operations ensuring efficiency and high-quality output.
- Maintain and calibrate laboratory equipment and instruments.
- Recruit, train, and supervise laboratory staff.
- Develop and enforce safety protocols and quality control measures.
- Implement new testing methodologies and support clinical research projects.
- Manage laboratory inventory and oversee supply procurement.

PhD Researcher

*Abdul Wali Khan University, Mardan, Pakistan
October 2017 – May 2023*

Screened small molecules/natural products against Leishmania and mammalian cells

- Performed mechanistic studies (e.g., apoptosis assays, proteomic profiling)
- Developed molecular biology protocols including qPCR, Co-IP, Western blotting
- Supervised students and coordinated lab activities
- Presented findings at national/international conferences

Visiting Research Scholar (IRSIP Fellow)

UC San Diego, Skaggs School of Pharmacy, USA — Apr–Oct 2021

- Conducted high-throughput screening and imaging assays
- Co-authored high-impact publications
- Trained in biosafety and blood borne pathogen protocols

Lab Technologist

Al-Hayat Clinical Lab, Timergara, Dir Lower, Pakistan
April 2015 – August 2017

- Performed advanced diagnostic and molecular testing.
- Assisted in developing and refining laboratory protocols.
- Mentored junior lab technicians and ensured regulatory compliance.
- Maintained laboratory instrumentation and conducted troubleshooting.

Research Assistant

University of Lahore, Pakistan
October 2012 – January 2014

- Conducted molecular biology experiments (PCR, cloning, sequencing).
- Prepared and managed biological samples and reagents.
- Maintained a sterile and organized laboratory environment.

Scholarships & Awards

- **International Research Support Initiative Program (IRSIP) Scholarship** – Center for Discovery and Innovations in Parasitic Diseases (CDIPD), UC San Diego, USA (2021).
- **Merit-Based Scholarship** – Prime Minister Fee Reimbursement Program (2017-2020).
- **USAID-Funded Scholarship** – Talented Students of FATA & KP War-Affected Areas (2008-2009).

Scientific Workshops & Trainings

- Python Course (Intermediate Level) – Wild Learner Online (2023).
- British Society for Parasitology Autumn Symposium – Keele University, UK (2022).

- Facilitated Workshop on *Identification of Sandfly and Diagnosis of Cutaneous Leishmaniasis* – Ege University, Turkey (2022).
 - Biorisk Management Training – Abdul Wali Khan University & Health Security Partners (2021).
 - Biosafety: Bloodborne Pathogen Training – University of California, San Diego (2021).
 - Delegate of Nigeria – WHO at Indus Model United Nations (2021).
 - Migration and Health Training – WHO Regional Office for Europe (2020).
 - Biorisk Management Virtual Training for COVID-19 Testing – PBSA-HSP (2020).
 - e-Poster Presentation: *miRNA-221 in Head and Neck Squamous Cell Carcinoma* – Shaikat Khanum Cancer Symposium (2020).
 - Oral Presentation: *Organotin (IV) Derivatives and Leishmania Tropica* – ICURB, Islamabad (2019).
-

Scientific Publications

Publications in Impact or Well-Indexed Journals

Ahmad, S., Mehmood, A., Begum, Q., Rafiq, K., Aithesham, A., Lodhi, M., **Obaid Hayat**, Waheed, F., & Naeem, S. (2025). *Synergistic effects of silver nanoparticle-amoxicillin combinations against multidrug-resistant bacterial pathogens*. *Frontiers in Medical and Health Research*, **3**(3), 1236–1245. <https://fmhr.org/index.php/fmhr/article/view/354> (Indexed; Emerging journal with promising visibility)

Obaid Hayat, Ullah, N., Sirajuddin, M., Giardini, M. A., Nguyen, J. V., Francisco, K. R., Liu, L. J., Sun, Y. U., Maurya, S., Grosso, D., Gonzalez, D. J., Caffrey, C. R., Debnath, A., & Siqueira-Neto, J. L. (2022). *Broad-spectrum anti-parasitic activity of organotin (IV) derivatives and its untargeted proteomic profiling using Leishmania donovani*. *Pathogens*, **11**(12), 1424. (IF ~3.6, PubMed indexed)

Naz, S., Nalcaci, M., **Obaid Hayat**, Toz, S., Minhas, A., Waseem, S., & Ozbel, Y. (2024). *Genetic diversity and epidemiological insights into cutaneous leishmaniasis in Pakistan: A comprehensive study on clinical manifestations and molecular characterization of Leishmania species*. *Parasitology Research*, **123**(9), 320. (IF ~2.4, Springer, PubMed/Scopus indexed)

Naz, S., Aroosh, A., Raza, N., Islam, A., Fatima, A., Ozbel, Y., Toz, S., **Obaid Hayat**, & Waseem, S. (2023). *Comparative analysis of the severity and progression of cutaneous leishmaniasis caused by Leishmania tropica in untreated and Glucantime-treated patients*. *Acta Tropica*, **248**, 107023. <https://doi.org/10.1016/j.actatropica.2023.107023> (IF ~2.6, Elsevier, PubMed/Scopus indexed; PMID: 37717686)

Mehwish, S., Khan, H., Rehman, A. U., Khan, A. U., Khan, M. A., **Obaid Hayat**, Ahmad, M., Wadood, A., & Ullah, N. (2019). *Natural compounds from plants controlling leishmanial growth via DNA damage and inhibiting trypanothione reductase and trypanothione synthetase: An in*

vitro and in silico approach. 3 Biotech, **9**(8), 1–14. <https://doi.org/10.1007/s13205-019-1826-1> (IF ~2.3, Springer, PubMed indexed; PMCID: PMC6650509)

Reema, Y., Khan, M. A., Ullah, N., Khan, I., **Obaid Hayat**, Shehzad, M. A., Khan, I., et al. (2019). *Biosynthesis of anti-leishmanial natural products in callus cultures of Artemisia scoparia. Artificial Cells, Nanomedicine, and Biotechnology*, **47**(1), 1122–1131. <https://doi.org/10.1080/21691401.2019.1593856> (IF ~4.5, Taylor & Francis, PubMed/Scopus indexed; PMID: 30942629)

Other Publications

Bangash, S. A., Sardar, S., Begum, Q., Nisa, I., Khan, H. A., Ullah, A., **Obaid Hayat**, Mehwish, S., Akbar, M., Bukhari, N. T., *Shireen, F.*, & Hayat, A. (2024). *Synergistic biogenic synthesis of zinc nanoparticles by probiotics Saccharomyces cerevisiae and Lactobacillus fermentum for farm animal health and nutrition. Journal of Population Therapeutics & Clinical Pharmacology*, **31**(3), 723–735. <https://doi.org/10.53555/jptcp.v31i3.5020> (Indexed but limited international impact)

Ullah, H., Aziz, S., Khan, S., Ullah, S., Ullah, I., Ali, Y., & **Obaid Hayat***. (2023). *A comparative study of the efficacy of Semont's maneuver against beta histidine in the management of benign paroxysmal positional vertigo. Journal of Xi'an Shiyu University, Natural Science Edition*, **19**(5), 824–832. (Not indexed in major global databases)

Ishaq, S., Habib, O., Aziz, A., Tahir, R., Afzal, M., Jabeen, M., Zaib-un-Nisa, **Obaid Hayat**, & Ali, Y. (2023). *ADMET and antineoplastic profiles of chlorinated miltefosine and perifosine. Journal of Xi'an Shiyu University, Natural Science Edition*, **19**(4), 962–986.

Obaid Hayat, Leghari, A. R., Sarwar, M. I., Qazi, M. H., & Nisar, B. (2016). *MiR-221 in the detection of head and neck squamous cell carcinoma. IOSR Journal of Biotechnology and Biochemistry (IOSR-JBB)*, **2**(5), 4–13.

References

- **Prof. Nazif Ullah**, Department of Biotechnology, Abdul Wali Khan University, Mardan, Pakistan. (Email: Ullahnazif@awkum.edu.pk)
 - **Dr. Jair Lage de Siqueria-Neto**, Associate Adjunct Professor, Skaggs School of Pharmacy, UC San Diego. (Email: jairlage@health.ucsd.edu)
 - **Dr. Conor R. Caffrey**, Professor, Skaggs School of Pharmacy, UC San Diego. (Email: ccaffrey@health.ucsd.edu)
-