

Curriculum Vitae

Muhammad Azhar



PERSONAL DATA

Date and Place of Birth: 06 May 1986, Faisalabad, Punjab, Pakistan
Citizenship: Pakistani
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OBJECTIVE

As a dedicated professional in comparative and evolutionary genomics, structural bioinformatics, network pharmacology, NGS data analysis, system biology, data-mining, and database design mainly in Bioinformatics. I am eager to secure a challenging career position in a professional environment. My goal is to utilize my diverse skill set and passion for science to contribute meaningfully while staying abreast of advanced technologies. Committed to advancing scientific knowledge and enhancing life quality, my extensive background in Omics data analysis, biochemistry, and evolutionary and molecular biology underpins my ability to drive innovation and excel in a technology-forward setting."

EDUCATION

2014-2019	PhD-Bioscience/Bioinformatics Thesis title: CTCF and Cohesin binding on aging tissues coupled with Sex biased gene expression in mouse aging tissues, piRNA-Disease A manually curated associated database (University of Science and Technology, China)
2009-2011	M.Phil.-Bioinformatics CGPA: 3.3/4 Thesis title: Comparative and Evolutionary study of functional human enhancer elements. (Quaid-i-Azam University, Islamabad, Pakistan)
2004-2009	BS Bio-informatics CGPA: 3.03/4.00 Thesis title: isolation and characterization of pseudomonas stutzeri strain k1 proteins under various physical conditions (Government College University Faisalabad, Pakistan)

PROFESSIONAL EXPERIENCE

June 06 2024 to current	Assistant Professor Cholistan University of Veterinary and Animal Sciences (CUVAS), Bahawalpur
July 2021 to June 06 2024	Assistant Professor Department of Biosciences/Bioinformatics, COMSATS University Islamabad, Sahiwal campus.
Dec 2012 to July 2021	Lecturer Department of Biosciences/Bioinformatics, COMSATS University Islamabad, Sahiwal

campus.

July 2011 to Dec 2012

Area manager

Lahore scientific corporation company, Faisalabad region, Pakistan.

SKILLS

Bioinformatics Research Software's: ChIP-Seq, RNA-Sequencing Analysis, Hi-C analysis, Comparative and Evolutionary genomics, Computational aided Drug Design, Database Design, Functional Analysis, MACS, HOMER, Linux based pipelines, Python (SPIDER), R (Bioconductor)STAR, TOPHAT, Feature count, DSeq2, Limma, Galaxy,Hisat2,Htseq, MEME, MEGA 7, IGV, ggplot, ,Modeler,UCSC, Autodock, PHP, MySql, MS-Office.

Research Techniques: ChIP-Seq, Cell culture, qPCR, Spectrophotometer, si-RNA, Western Blot

Research Courses: Molecular Biology
Principle of Neural Science
Biological NMR I
Molecular modelling of Biomacromolecules

University Level Taught Courses: Bioinformatics Analysis
Introduction to Bioinformatics
Bioinformatics Database Development
Bioinformatics Scripting
Linux for Bioinformatics
Bioinformatics colloquium
Bioinformatics Software Development
Introduction to Molecular Biology
Advances in Molecular bioinformatics
Introduction to Genomics and Proteomics
Epigenetics
Cancer informatics
Applications of Bioinformatics
Trends In genomics

AWARDS or ACHIEVEMENTS

1. CAS-TWAS President Fellowship award for PhD
2. Merit Scholarship in Masters
3. 0.3 million RMB research funding during PhD
4. NIGRI Research Project Funding (Pakistan)
5. NRPU Research Project Submitted (Pakistan)

RESEARCH CONTRIBUTION

Cumulative Impact Factor	45.9
Citations	>156
h-index	6
i10-index	8
Link Google Scholar	https://scholar.google.com/citations?hl=en&user=4PM15XwAAA
ResearchGate ORCID	https://www.researchgate.net/profile/Muhmma-Azhar

PUBLICATIONS

Corresponding and First Author Publications

1. **Muhammad A**, Waheed R, Khan NA, Jiang H, Song X. piRDisease v1.0: a manually curated database for piRNA associated diseases. Database (Oxford). 2019;2019:baz052. doi:10.1093/database/baz052 **(I.F: 5.6)**.
2. M. Hassan, **M. Azhar***, Q. Abbas, H. Raza, A.A. Moustafa, S. Shahzadi, Z. Ashraf* and S.Y. Seo*, Finding Novel Anti-carcinomas Compounds by Targeting SFRP4 Through Molecular Modeling, Docking and Dynamic Simulation Studies, Current Computer-Aided Drug Design, volume 14, issue 2, pages 160-173, year 2018, issn 1573-4099/1875-6697, doi 10.2174/1573409914666180112100122, **(I.F:1.6)**
3. Jun Li,, Gang Liu, Awais Ihsan, Xuejia Yi, Da-Gui Wang, Han Cheng, **Azhar Muhammad*** and Xian-Ju Huang, Effects of Veratrilba baillonii Extract on Hepatic Gene Expression Profiles in Response to Aconitum brachypodum-Induced Liver Toxicity in Mice, Frontiers in Pharmacology., 10, 568. **(I.F: 3.8)**.
4. Khan MS, Mehmood B, Yousafi Q, Bibi S, Fazal S, Saleem S, Sajid MW, Ihsan A, **Azhar M***, Kamal MA. Molecular Docking studies reveals Rhein from rhubarb (Rheum rhabarbarum) as a putative inhibitor of ATP-binding Cassette Super Family G member 2. Med Chem. 2019 Dec 19. doi:10.2174/1573406416666191219143232. Epub ahead of print. PMID: 31854281. **(I.F: 2.3)**.
5. **Azhar, Muhammad**, Faiz-ul Hassan, and Muhammad Asif Arain. "The Mighty Microproteins: From Versatile Cellular Regulators to Precision Medicine Therapeutics." 3 Biotech, vol. 16, no. 1, 2026, p. 408. SpringerLink, doi.org.

Co-Author Publications

1. Kang Dai, Xue-Jia Yi, Xian-Ju Huang, Azhar Muhammad, Mei Li, Jun Li, Guang-Zhong Yang and Yue Gao, Hepatoprotective activity of iridoids, seco-iridoids and analog glycosides from Gentianaceae on HepG2 cells: Via CYP3A4 induction and mitochondrial pathway. Food Funct., 9, 2673–2683. **(I.F: 2.3)**
 2. Miss Kalsoom Siddique, Dr Tahir Yaqub, Dr Muhammad Ibrahim, Dr Aftab Ahmad Anjum, Dr Farrukh Jamil, **Dr Muhammad Azhar**, Dr Sohail Raza, Dr Masood Rabbani*, In silico analysis of four structural proteins of Aphthovirus serotypes revealed significant B and T cell epitopes, Microbial Pathogenesis 2019 Mar;128:254-262. doi: 10.1016/j.micpath.2019.01.007. Epub 2019 Jan 5 **(I.F: 2.5)**
 3. A.R. Ghanam, Qianlan Xu, Shengwei Ke, Muhammad Azhar, Qingyu Cheng, Xiaoyuan Song¹, (2017) Shining the Light on Senescence Associated LncRNAs. *Aging Dis.*, 8, 149. **(I.F: 5.2)**
 4. Jun Li,, Gang Liu, Awais Ihsan, Xuejia Yi, Da-Gui Wang, Han Cheng, Azhar Muhammad* and Xian-Ju Huang, Effects of Veratrilba baillonii Extract on Hepatic Gene Expression Profiles in Response to Aconitum brachypodum-Induced Liver Toxicity in Mice, Frontiers in Pharmacology., 10, 568. **(I.F: 3.8)**
 5. Huang XJ, Wang J, **Muhammad A**, Tong HY, Wang DG, Li J, Ihsan A, Yang GZ. Systems pharmacology-based dissection of mechanisms of Tibetan medicinal compound Ruteng as an effective treatment for collagen-induced arthritis rats. J Ethnopharmacol. 2021 May 23;272:113953. doi: 10.1016/j.jep.2021.113953. Epub 2021 Feb 18. PMID: 33610711. **(I.F: 3.4)**
 6. Yue DONG , Yu-Jia HUANG , Ghulam MURTAZA , Xian-Ju HUANG *, Qi-En LI *, Zhi-Hao ZHANG, Shi-Quan LIU, Azhar MUHAMMAD & Jian-Xun SHI Cardioprotective Ingredients Prediction and Quality Evaluation of Five Aconitum Plants Based on Grey Relational Analysis and Network Pharmacological Research, Lat. Am. J. Pharm. 41 (1): 24-34 (2022) **(I.F:0.6)**
 7. Yan, Chun-Lan, et al. "Veratrilba baillonii Franch alleviate the symptoms of diabetes in type 2 diabetic rats induced by high-fat diet and streptozotocin." Food Science and Human Wellness (2023). **(I.F:8.8)**
 8. Meng X, Liu YP, Dai JW, Bai Y, Hu X, Azhar M, Huang XJ. The preventive effect and mechanism of Tibetan medicine Aconitum tanguticum (Maxim.) Stapf on acute lung injury. Chin Med. 2025 Feb 12;20(1):21. doi: 10.1186/s13020-025-01072-7. PMID: 39939884; PMCID: PMC11816786. **(I.F: 5.7)**
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In Progress Articles

1. Data extraction and analysis from colorectal cancer sample
2. Data Mining to extract chromatin marker and gene associations.
3. Inhibiting effect and mechanism of Aconitum tanguticum (maxim) .Stapf on intestinal fibrosis of CCD-18Co cells
4. piRNA-Disease 2.0: A Data mining approach to upgrade the database embedded with piRNA target prediction tool
5. Network Pharmacology combining molecular docking to unveil the mechanism of Aconitum Heterophyllum on anti-inflammatory response
6. The protective effect and mechanism of tibetian medicine Aconitum tanguticum (Maxim) Stapf on acute lung injury
7. CTCF and Cohesin binding occupancy to regulate gene expression in neurodegenerative diseases
8. The protective effect of aconitum tanguticum (Maxim) on acute lung injury
9. Metabolomics combined with Network pharmacology reveals the anti-asthmatic effects of Nepeta Bracteata Benth on allergic asthma rats.

MS Bioscience Students Supervised Projects

Sr	Name	Registration	Thesis Title
1.	Basra Jawwad	CIIT/FA21-RBS-017/SWL	Screening and Identification of Potential Target Genes in Sjogren Syndrome using Bioinformatics Analysis
2.	Shalim	CIIT/FA21-RBS-003/SWL	Gender Biased Gene Expression Analysis and Potential Biomarkers Identification in Autism Disease.
3.	Ayesha Noor	CIIT/FA21-RBS-016/SWL	Evaluation of Alternanthera Sessilis Antimicrobial and Anti-pathogenic Activity, In-Silico Activity of Bio-active Compounds against Virulence Factors of Bacteria
4.	Asad Bilal	CIIT/FA-19-RBS-009/SWL	A Data-Mining Suite Powered by Identification of Gene Association in DNA Methylations and Histone Modification in Diseases Using Machine Learning Approach

Undergraduate students supervised 35

TRAININGS, WORKSHOPS, and CONFERENCES

1. Faculty Development Program COMSATS University Islamabad Faculty Development Academy FDA Jan ,1-31, 2013.
2. Structural and Functional Bioinformatics workshop COMSATS University Islamabad, Oct, 22-28, 2014
3. Protein Modelling Docking and Simulation Workshop Quaid I Azam University Islamabad, Oct, 17-20, 2015
4. International conference on Biotechnology and Bioinformatics BUITMS, Quetta, Pakistan, April, 09-11,2006
5. 15th Asia Pacific Bioinformatics Conference Shenzhen, China, March 22-25, 2017.

6. 18th Asia Pacific Bioinformatics conference Seoul, Korea. 18-20 August 2020.
7. Proceedings of the 29th International Conference on Genome Informatics (GIW 2018): genomics Yunnan, China. 3-5 December 2018
8. Next generation sequencing analysis workshop COMSATS University Islamabad 20-23 March 2020
9. The 29th International Conference on Genome Informatics December 3-5, 2018 Kunming, China
10. IEEE International Conference on Bioinformatics and Biomedicine, BIBM 2019, San Diego, CA, USA, November 18-21, 2019 (online)

REVIEWER OF SCIENTIFIC JOURNALS

1. BMC Genomics
 2. BMC Bioinformatics
 3. Scientific Reports
 4. BMC Complementary Medicine and Therapies
 5. Springer Pneumonia
 6. Journal of Orthopedic Surgery and Research
 7. Springer Nature Scientific Reports
 8. BMC Musculoskeletal Disorders
 9. Measles
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REFERENCES

1. Professor Dr. XJ. Huang

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