MUHAMMAD RIZWAN, PhD

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BIOGRAPHICAL SKETCH

I completed my DVM at the University of Veterinary and Animal Sciences (UVAS), Lahore, in 2012, followed by an MPhil in Clinical Veterinary Medicine at the same institution in 2014. I joined Bahauddin Zakariya University (BZU), Multan, Pakistan, as a Lecturer of Clinical Veterinary Medicine (2016–2020), and then earned my PhD in Clinical Veterinary Medicine (2020–2023) under the Higher Education Commission's Faculty Development Scholarship. I also completed a Research Fellowship at the Department of Veterinary Population Medicine, University of Minnesota, USA (2023–2024). Since 2024, I have served as an Assistant Professor of Clinical Veterinary Medicine at BZU, Multan, Pakistan, where I am actively engaged in academic, research and clinical extension activities that contribute to livestock health and productivity. My research focuses on infectious and tick-borne diseases and antimicrobial resistance. I have authored over 30 peer-reviewed research articles and several book chapters, and have presented numerous conference abstracts at national and international forums. I have also supervised PhD and MPhil students and collaborated with leading institutions in Pakistan. Through my teaching, research and extension work, I continue to contribute to the advancement of clinical veterinary medicine and remain committed to improving animal health and production through evidence-based, sustainable approaches.

EDUCATION

Research Fellowship, Veterinary Medicine and One Health, Department of Veterinary Population Medicine, University of Minnesota, United States of America (2023-2024)

PhD in Clinical Veterinary Medicine, University of Veterinary and Animal Sciences, Lahore, Pakistan (2020-2023)

MPhil in Clinical Veterinary Medicine, University of Veterinary and Animal Sciences, Lahore, Pakistan (2012-2014)

DVM, University of Veterinary and Animal Sciences, Lahore, Pakistan (2007-2012)

SKILLS AND EXPERTISE

Clinical: Diagnosis, treatment and prevention of infectious, non-infectious, and metabolic diseases of cattle, buffalo, sheep, goats, camels, canines and felines.

Experimental: Advanced microbiological techniques, HPLC, PAGE, Sanger sequencing, Western blot, PCR, plasmid isolation, protein extraction from tissue, immunohistochemistry, and immunofluorescence microscopy.

Computational: Whole-exome sequencing data analysis, BioEdit/mutation analysis, phylogenetic analysis, GraphPad Prism, MEGA, PyMOL, ExPASy, and databases (Ensembl, NCBI, HGMD, UCSC, UniProt, GeneCards).

TEACHING AND RESEARCH EXPERIENCE

Research Fellowship, Veterinary Medicine and One Health, Department of Veterinary Population Medicine, University of Minnesota, United States of America (2023-2024)

Assistant Professor of Clinical Veterinary Medicine at the Department of Clinical Sciences, Faculty of Veterinary Sciences, Bahauddin Zakariya University, Multan, Pakistan (06/03/2024 – to date).

Lecturer of Clinical Veterinary Medicine at College of Veterinary Sciences, Bahauddin Zakariya University, Sub-campus Layyah, Pakistan (06/10/2016 – 05/03/2024).

ADMINISTRATIVE EXPERIENCE

- **In-charge, College of Veterinary Sciences**, Bahauddin Zakariya University, Bahadur campus, Layyah, Pakistan (24/01/2019 – 20/09/2020).

- **Assistant Superintendent, Ijaz Hall (Boys)**, Bahauddin Zakariya University, Bahadur campus, Layyah, Pakistan (23/02/2018 – 20/09/2020).
- **Deputy Director Student Affairs (M),** Bahauddin Zakariya University Bahadur campus, Layyah, Pakistan (04/01/2017 – 20/09/2020).
- **In-charge of Examinations,** College of Veterinary Sciences, Bahauddin Zakariya University, Multan, Pakistan (17/04/2017 – 20/09/2020).
- **Program Coordinator,** Distance Learning Education, Bahauddin Zakariya University, Bahadur Campus, Layyah, Pakistan (20/02/2017 – 15/08/2017).

PhD THESIS (OWN RESEARCH)

Clinico-molecular investigation of *Staphylococcus aureus* and ethnoveterinary therapy of subclinical mastitis in lactating Beetal goats

PhD AND MPhil STUDENTS SUPERVISED

- **Dr. Sadia Sanaullah** (2016-VA-662) PhD in Clinical Veterinary Medicine, Thesis: Clinico-epidemiological investigation of trypanosomiasis in horses and mules along with therapeutic efficacy of *Calotropis procera* in District Lahore. University of Veterinary and Animal Sciences, Lahore.
- **Mr. Zaid Baloch,** MPhil in Clinical Veterinary Medicine, Thesis: Determination of antibiotic residues in the raw and processed milk and their impact on public health. Bahauddin Zakariya University, Multan, Pakistan.

RESEARCH PROJECTS: IN PROGRESS / COMPLETED

- Development and Field Validation of Multiplex Diagnostic Kit to detect Clostridial Diseases of Livestock in Pakistan.
- Development and Field Validation of Multiplex Rapid Diagnostic Kit to detect Meat Borne Pathogens and Antimicrobial Resistance Markers in Pakistan.
- Clinico-bacteriological investigation of mastitis in dairy goats.
- Determination of the therapeutic potential of ivermectin, doramectin, and trichlorfon against *Psoroptes ovis* in sheep and cattle.

HONOURS AND SCHOLARSHIPS

- Scholarship awarded for PhD studies under the Project "Faculty Development Program for Pakistani Universities" Batch-II by the Higher Education Commission of Pakistan (2020–2023) – availed.
- Scholarship awarded for PhD studies by the Chinese Government Scholarship Council at Harbin Veterinary Research Institute, Chinese Academy of Agricultural Sciences (2020–2024) – not availed.
- Awarded University Merit-based Academic Scholarship (2013).
- Awarded School Merit-based Academic Scholarship (2002, 2003).
- Secured First position throughout the school academic career.

MEMBERSHIPS, COMMITTEES AND OTHER ACTIVITIES

- Member, Purchase Committee, Bahauddin Zakariya University, Bahadur campus, Layyah, Pakistan.
- Member, Campus Auction Committee, Bahauddin Zakariya University, Bahadur campus, Layyah, Pakistan.
- Member, Campus Media / PR Committee, Bahauddin Zakariya University, Bahadur Sub-campus, Layyah, Pakistan.
- Member, Discipline Committee, Bahauddin Zakariya University, Bahadur campus, Layyah, Pakistan.
- Member, Pakistan Veterinary Medical Council, Islamabad, Pakistan.
- Member, Vets Care Organization, Pakistan (VCO).
- Member, Alumni Association, University of Veterinary and Animal Sciences, Lahore.
- Member, Blood Donor Society, University of Veterinary and Animal Sciences, Lahore.
- Member, Mass Vaccination Program, Punjab Livestock and Dairy Development Department, Pakistan (2015).
- Member, Vaccination Team, Flood-affected areas in and around Multan, Pakistan (2014).
- Organizer, Kisan Mela and Cotton Seminar, MNS University of Agriculture, Multan (30-31 March 2016).

UNDERGRADUATE (DVM) AND POSTGRADUATE (MPhil) COURSES TAUGHT

- Biotechnology in Animal Health (MPhil Clinical Veterinary Medicine)
- Diseases of Mammary Glands (MPhil Clinical Veterinary Medicine)
- Advanced Herd Health (MPhil Clinical Veterinary Medicine)
- General and Systemic Veterinary Medicine (DVM)
- Preventive Veterinary Medicine-I (DVM)
- Preventive Veterinary Medicine-II (DVM)
- Veterinary Medicine Clinic-I (DVM)
- Veterinary Medicine Clinic-II (DVM)
- Veterinary Medicine Clinic-III (DVM)

RESEARCH PUBLICATIONS (SELECTED 10)

- Muhammad Kashif, Amar Nasir, Hashim Khan, Farhan Ahmad Atif, Shahid Nazir, Safi Ullah, Muhammad Umer Farooq, and **Muhammad Rizwan**. (2026). Equine piroplasmosis in Punjab, Pakistan: A Clinico-epidemiological and molecular study with therapeutic insights. Egypt. J. Vet. Sci., pp. 1-12.
- Kashif, M., Nasir, A., Ullah, S., Tunio, M. T., Sikandar, A., **Rizwan, M.**, Abbas, M. (2024). Seroprevalence and associated risk factors of brucellosis in buffaloes in the district of Layyah. Buffalo Bulletin, 43(3), 349–356. https://doi.org/10.56825/bufbu.2024.4334278
- Rahman A, Kashif M, Nasir A, Ehtisham-ul-Haque S, Ullah H, Sikandar A, Ahmed I, Rehman AU, Saeed MA, Nazar MW, **Rizwan M**, Saher S, Abbas A (2023): Seroprevalence and haemato-biochemical effects of bovine leucosis in buffalo, Punjab, Pakistan. Vet Med-Czech 68. https://doi.org/10.17221/57/2023-VETMED
- Jawad Zahoor, Muhammad Kashif, Amar Nasir, Muhammad Bakhsh, Aziz-ur Rehman, Arbab Sikandar, Muhammad Waseem Nazar, **Muhammad Rizwan**. Sero-epidemiology, therapeutic study, and the risk factors associated with Trypanosomiasis (Surra) in camels in district Jhang, Punjab, Pakistan. Continental Vet J, 2023, 3(1):42-48.
- **Muhammad Rizwan**, Aneela Zameer Durrani, Tanveer Ahmad, Syed Saleem Ahmad, Mamoona Chaudhry. Prevalence of blaZ gene and antibiotics susceptibility test profile of β-lactams resistant *Staphylococcus aureus* isolated from subclinical mastitis in lactating Beetal goats. Livestock Science Volume 255, January (2022), 104797, https://doi.org/10.1016/j.livsci.2021.104797
- **Muhammad Rizwan**, Aneela Zameer Durrani, Tanveer Ahmad, Syed Saleem Ahmad, Mamoona Chaudhry. Comparative therapeutic efficacy of procaine penicillin, *Phyllanthus emblica* fruit extract, and *Cocos nucifera* oil against subclinical mastitis. Livestock Science 251 (2021) 104655. https://doi.org/10.1016/j.livsci.2021.104655
- Shafiq Ahmad, Shujait Ali, Asghar Abbas, Rao Zahid Abbas, Muhammad Zubair, Muhammad Asif Raza, Naheed Bano, Muhammad Usman Shafi, Syed Nadeem Badar, Kashif Hussain, **Muhammad Rizwan**, Tanveer Ahmad. Effects of dietary supplementation of linseed oil (Omega-3) on quality parameters of Nili Ravi bull spermatozoa. Livestock Science. Volume 224, June 2019, Pages 57-59. https://doi.org/10.1016/j.livsci.2019.04.007
- Aimal Khan, Tanveer Ahmad, **Muhammad Rizwan**. Comparative therapeutic efficacy of *Phyllanthus emblica* (Amla) fruit extract and procaine penicillin in treating subclinical mastitis in dairy buffaloes. Microbial Pathogenesis; 115 (2018) 8-11. http://doi.org/10.1016/j.micpath.2017.12.038
- **Muhammad Rizwan**, A.S. Qureshi, M.F. Hassan, M. Usman, and M. Saleem, 2018. Effect of GnRH, hCG, and P4 therapy on pregnancy rate of crossbred cattle. Int. J. Agric. Biol., 20: 1433–1436. http://doi.org/10.17957/IJAB/15.0000
- Muhammad Kashif, **Muhammad Rizwan**, Aneela Zameer Durrani, Amar Nasir, Gonhyung Kim. Risk factors assessment and in vivo therapeutic trials to evaluate topical Clotrimazole and Nystatin on clinical cases of otitis externa in dogs caused by *Malassezia pachyderma* in the district Lahore and its suburbs, Pakistan. J Biomed Transl Res 2016; 17(2): 026-029.

EDITOR OF CONFERENCE PROCEEDINGS

Editor of the Proceedings book of the International Conference on Zoonoses as Threat to Global Health, organized by UVAS, Pakistan, in collaboration with Cornell University, USA, University of Minnesota, USA, and Harbin Veterinary Research Institute, Chinese Academy of Agricultural Sciences, China (20th April 2021).

BOOK CHAPTERS PUBLISHED

- **Rizwan M**, Umer S, Saher S, Kashif M, Ahmad T, and Rehman A, 2025. Blood Transfusion Practices and Advancements in Veterinary Medicine. In: Editors (eds), Veterinary Internal and Preventive Medicine. H & M Academic Publisher, Multan, Pakistan, Vol. 1: 157-166. https://doi.org/10.5281/zenodo.17367639
- Integrated approach for disaster risk reduction in agriculture through crop, livestock, forestry, poultry, and fish farming. In: Ahmed, M., Ahmad, S. (eds) Disaster Risk Reduction in Agriculture. Disaster Resilience and Green Growth. Springer, Singapore. https://doi.org/10.1007/978-981-99-1763-1_24
- Amla (*Phyllanthus emblica*) and its medicinal importance. Medicinal and economic importance of plants. Chapter 2, Page 21. ISBN: 978-625-367-401-4. DOI: https://dx.doi.org/10.5281/zenodo.10119599
- Plant extracts and other local (Ethnoveterinary) treatments. Chapter 4. Page No. 51. ISBN: 978-625-367-401-4. DOI: https://dx.doi.org/10.5281/zenodo.10119632
- Economical and medicinal uses of various hepatoprotective herbal plants. Chapter 11. Page No. 243. ISBN: 978-625-367-401-4. DOI: https://dx.doi.org/10.5281/zenodo.10119829

TRAININGS AND WORKSHOPS (NATIONAL / INTERNATIONAL)

- Participated in the fully funded program on: Integrating Bioinformatics into Biotech Fields, organized by Genomac Institute Inc. US incorporated (21st Oct, 2025).
- Participated in a training program: Critical thinking and innovation in the biotech space, organized by Genomac Institute Inc. US incorporated (3rd Oct, 2025).
- Participated in the short course on Bioinformatics Course 201, organized by Genomac Institute Inc. US incorporated (1st Sep, 2025).
- Participated in the Master Class Mastitis Training Cohort 7, on 19-21 August 2025, hosted by Cowfully Proud and sponsored by Ecowize.
- Participated in the training course on Mastitis Challenge on 11th August, 2025, hosted by Cowfully Proud and sponsored by Ecowize.
- Participated in the fully funded International Bootcamp on Research Writing in Bioinformatics organized by Genomac Institute Inc. US incorporated (8th – 9th August, 2025).
- Participated in the Master Class Mastitis Training Cohort 6, focusing on personal hygiene in the dairy parlor, on 11-13 July 2025, organized by Genomac Institute Inc. US incorporated.
- Participated in the short course: Explore AI in Bioinformatics, organized by Genomac Institute Inc. US incorporated (11th July, 2025).
- Participated in the International Training Programme on Social Mobilization and Community Engagement for Rural Development, held at AHK National Centre for Rural Development (AHKNCRD), Islamabad, Pakistan (23-26 June 2025).
- Short course on Applied Functional Genomics and Bioinformatics organized by Genomac Institute Inc. US incorporated (18 June 2025).
- Master Class Mastitis Training Cohort 5 held on 6 June to 8 June, 2025, organized by Mastitis Champion Pvt. Ltd.
- Five-day Professional Development Training Program Level-1 organized by ORIC BZU Multan, dated 5th to 8th May, 2025.
- Attended the International Bootcamp on Genomics and Bioinformatics for analysing genomic data, organized by Genomac Institute Inc., USA incorporated. (8th – 9th May, 2025).
- One-day seminar on “Recent Advances in Feed Manufacturing Technology” at the Department of Livestock & Poultry Production, FVS, BZU Multan (30th April 2025).
- Participated in a training program (online) on “Advancements in Food Technologies: Bridging Innovation with a Sustainable Future” organized by MARDI, Malaysia (25-29 November 2024; AARDO/OTP/MARDI/25-29 November 2024/6928).
- Participated in a workshop (online) on Sustainable Development Goals at Jamia Hamdard, New Delhi, India (11th to 15th November, 2024).
- Participated in an international training program (online) on “Coral Reef Preservative: Science, Management, and Action Course” organized by AARDO, Amman, Jordan (07-09 November 2024).

- Participated in a training workshop on “Animal Health Mentoring Framework and Farriery Mentoring Framework” organized by the Department of Clinical Sciences, Bahauddin Zakariya University, Multan, in collaboration with Brooke Pakistan (October 17, 2023).
- Participated in the AARDO online international training program on “Horticulture crops for food security” organized in collaboration with Malaysian Agricultural Research and Development Institute (MARDI), Malaysia (09-13 October 2023).
- Organizer of Seminar on New Approaches to Control and Prevent FMD at the National and International Level held at the Department of Clinical Sciences, Bahauddin Zakariya University, Multan (26 October 2023).
- Organizer of a two-day Workshop on “Primer designing and Phylogenetic analysis” held at the Department of Veterinary Medicine, University of Veterinary and Animal Sciences, Lahore (October 25-26, 2023).
- International training programme on “Agri-Business through Cooperative Business Model” hosted by Vaikunth Mehta National Institute of Co-operative Management (VAMNICOM), India, organized by African Asian Rural Development Organization (AARDO); 3-6 October 2023. E-certificate ID: AARDO/OTP/VAMNICOM/3-6 Oct 2023/5163.
- Completed a 72-hour training course, “Veterinary in Biological Security”, within the International Summer School framework organized by Kazakh National Agrarian Research University (05-16 June 2023).
- International Training Programme on Emerging Trends in Agricultural Technologies hosted by Indian Institute of Technology Kharagpur (IITKGP), India (27th March to 04th April 2023; e-certificate ID: AARDO/OTP/IITKGP/27th March – 04th April 2023/4646).
- International training program on Climate Change Challenge: The way forward to the reinforcement of livestock systems in developing countries at College of Veterinary Medicine (CVM), University of Bahri, Khartoum, Sudan (23 to 26th August 2022).
- Organizer of Animal Health Mentoring Framework Workshop held at the University of Veterinary and Animal Sciences, Lahore, in collaboration with Brooke Pakistan (17th to 19th November 2021).
- International Training Programme on “Sustainable Practices for Smart Agriculture and Livelihood in African-Asian Countries” organized by FERO, at Seoul, Republic of Korea, during 25-29 October 2021 (An Online Initiative of AARDO and FERO) e-certificate ID: AARDO/FERO/25-29 Oct. 2021/1582.
- Participated in an international training program on “Food and Nutrition Security in a Post-Pandemic World” organized by African-Asian Rural Development Organization (AARDO) and the Indian Institute of Technology, Bombay (IITB) (14th to 23rd September 2021).
- International Online training program on “Advanced Techniques in fishing and fish processing” at ICAR-CIFT Cochin, Kerala, India. 31 August – 09 September, 2021 (e-certificate ID: AARDO/CIFT/ 31 Aug. - 09 Sept. 2021/1241).
- Workshop on the Public Health Significance of MRSA and an Insight into its Diagnosis, organized by the Department of Veterinary Medicine, University of Veterinary and Animal Sciences, Lahore, Pakistan (09th July 2021).
- Five-day international training program on Climate change implications and adaptations at Akhtar Hameed Khan National Centre for Rural Development (AHKNCRD), Islamabad, Pakistan (31st May to 04th June 2021).
- Training for Faculty on Professional Ethics organized by Bahauddin Zakariya University (31st January 2019).
- International Workshop on “Animal Handling and Modelling for Advanced Research” organized by the Department of Physiology, University of Veterinary and Animal Sciences, Lahore, in collaboration with University of Cambridge, UK; Salford University, UK; Chonbuk National University, South Korea; University of Eastern Philippines; Hajvery University; HEC, Pakistan (19th-20th December 2018).
- National Workshop on “Pathological Readings for Clinicians Part II” Under PAK US S and T Vector Borne Project, organized by the University of Veterinary and Animal Sciences, Lahore, Pakistan (22nd to 25th October 2018).
- 5th National Workshop on “Reproductive Ultrasonography in Domestic Animals” organized by the Society for Animal Reproduction of Pakistan (SARP) in collaboration with the Department of Theriogenology, University of Veterinary and Animal Sciences, Lahore, Pakistan (19th–23rd February 2018).
- National workshop on “Teaching and Research Techniques in Anatomy” organized by the Department of Anatomy, University of Agriculture, Faisalabad, Pakistan (Feb.15-16, 2017).
- Workshop on Development of Sustainable and Collaborative Research Networks at University of Veterinary and Animal Sciences, Lahore, Pakistan (2012).

CONFERENCES, CONGRESSES, SEMINARS AND WEBINARS (NATIONAL / INTERNATIONAL)

- Participated in the Webinar on Sample Size Calculation for Medical Research held on 22 June 2025, by Data master (ID: DMSS-2206-028).
- Participated in webinar: Democratizing Genomics: Making Bioinformatics Accessible Worldwide, organized by Genomac Institute Inc. US incorporated (20th June, 2025).
- International Conference on Evidence-Based Medicine-2025, jointly organized by MGEU, East Windsor Animal Hospital (New Jersey, USA), Vet Crescent Society, and UVAS Lahore on May 4, 2025.
- International Seminar on Frontier Health and Quarantine for Officials of Developing Countries sponsored by the Ministry of Commerce, organized by Jiangsu Inspection and Quarantine Institute of Quality from Sep. 12, 2023, to Sep. 26th, 2023, The People's Republic of China.
- Organizer of Seminar and Poster Exhibition on Ethno-Veterinary Medicine at the Department of Veterinary Medicine, University of Veterinary and Animal Sciences, Lahore (19th September 2023).
- Seminar on Medical Vector Surveillance and Control for Developing Countries sponsored by the Ministry of Commerce, organized by Jiangsu Inspection and Quarantine Institute of Quality (12th to 25th July, 2023), The People's Republic of China.
- Organizer of "Hands-on training on Antibiogram Assay and its Interpretation" at the Department of Veterinary Medicine, University of Veterinary and Animal Sciences, Lahore.
- Seminar on Agricultural Industry Development and Poverty Reduction in Developing Countries sponsored by International Exchange Centre of Yangling Demonstration Zone (18th May to 31st May 2023), organized by the Ministry of Commerce, People's Republic of China.
- Organizer and speaker at the International Conference on Health Security organized by the University of Veterinary and Animal Sciences, Lahore, Pakistan (14-15 March 2023).
- Participated in an International Webinar on "Building and Analysis of Molecular Phylogeny using Jalview" organized by the Biological Society, GCU Lahore (14th April 2023).
- Participated in International Webinar on World Health Day "Anti-Tumor Activity of Traditional Medicine Targeting LIF," organized by Biological Society, GCU Lahore (07th April 2023).
- Participated in the webinar on "Ecosystem Restoration for Sustainable Development: Agenda 2020 and COP27" held by AARDO, New Delhi, India (27th February 2023; e-certificate ID: AARDO/Webinar/27th February 2023/4437).
- Participated in the 12th Annual Public Health Conference entitled "Regional Research to Action Conference on SRHR" organized by Health Services Academy, Islamabad (1st and 2nd November 2022).
- Participated in Kazakhstan-Pakistan-Turkiye Youth Forum on Biotechnology jointly organized by COMSTECH, IOFS, and ICYF (13th to 15th September 2022).
- International Seminar on Rural E-commerce for Belt and Road Countries in 2022, organized by the International Exchange Centre of Yangling Demonstration Zone at Yangling Agricultural High-tech Industry Demonstration Zone, People's Republic of China (30th June to 20th July 2022).
- International Webinar on "Evidence-based Medicine Part II" organized by Vet Crescent Society- UVAS Pakistan in collaboration with East Windsor Animal Hospital, New Jersey, USA (24th July 2022).
- Participated in the Webinar "Rewriting Extinction" by Paul Goodenough in collaboration with the University of Chitral (15th November 2021).
- Participated in "Free Treatment and Deworming Camp" organized by Vets Care Club, University of Veterinary and Animal Sciences, Lahore, Pakistan (13th November 2021).
- Seminar on Cloud Computing and Big Data under the Belt and Road Initiative, organized by the Academy for International Business Officials (AIBO), MOFCOM (12th to 25 October 2021).
- Participated in an International webinar on "*Xanthomonas perforans*: A pathogen that is constantly changing" organized by the Department of Plant Pathology, The Islamia University of Bahawalpur, Pakistan (05th October 2021).
- Participated in the Seminar on Supervision Cooperation in Import and Export Food Safety for Developing Countries, sponsored by the Ministry of Commerce and organized by Jiangsu Inspection and Quarantine Institute of Quality, The People's Republic of China (3rd to 16th September 2021).
- Attended an international webinar on conservation through the lens of optimism, organized by the Horticulture Society, Government College University, Lahore, in collaboration with Conservation Optimism Pakistan (21st September 2021).

- Attended the International conference on rabies awareness and its control organized by Vets Care Club, University of Veterinary and Animal Sciences, Lahore, Pakistan (19th September 2021).
- International Webinar on "Surgical Management of Urolithiasis in Animals" organized by the Indian Veterinary Association (05th September 2021).
- International symposium on "One Health meets Sequencing 2.0" organized by University Hospital Basel and Universität Zurich (17th August 2021).
- International Webinar on "Evidence-based Medicine Part II" organized by Vet Crescent Society- UVAS Pakistan in collaboration with East Windsor Animal Hospital, New Jersey, USA (25th July 2021).
- International seminar on "Host-Pathogen Interactions" organized by The Islamia University of Bahawalpur, Pakistan (15th July 2021).
- International e-Conference on *Listeria monocytogenes* from the detection to deep typing: present and new perspectives organized by Cholistan University of Veterinary and Animal Sciences, Bahawalpur, Pakistan, in collaboration with Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale", Italy (07th July 2021).
- International e-Conference on Vaccines against Arthropod-borne diseases organized by Cholistan University of Veterinary and Animal Sciences, Bahawalpur, Pakistan, in collaboration with the Institute of Pathobiology, Argentina (09th July 2021).
- International Webinar on Pandemic Preparedness, One Health: Lessons Learnt, organized by Pakistan Academy of Sciences, Islamabad, Pakistan (04th May 2021).
- International Virtual Conference on Emerging Challenges to the Veterinary Profession, organized by the Indian Veterinary Association in collaboration with the Confederation of Indian Industry (CII) (19-20 June 2021).
- One-day International Webinar "The redox regulatory network of the cell in the heart of metabolic regulation and stress acclimation" organized by the Department of Botany, Government College University, Lahore, Pakistan (24th June 2021).
- Virtual International Conference on "Food Security" organized by IVSA Pakistan National, in collaboration with IVSA Kelantan, Malaysia, and IVSA USP, Brazil (30th May 2021).
- International Webinar on "The nature of a cyst nematode population suppression" held by the Department of Plant Pathology, Faculty of Agriculture and Environment & Pakistan Phytopathological Society, Islamia University, Bahawalpur, Pakistan (27th May 2021).
- International Webinar on "Wildlife Conservation" held by Department of Zoology, Government College University, Lahore, Pakistan (24th May 2021).
- International Webinar on "Role of Youth in Global Biodiversity Conservation" organized by Horticultural Society, Government College University, Lahore, Pakistan (21st May 2021).
- International Webinar on "Role of Biodiversity Information in Global Biodiversity Information Facility (GBIF)" held by Department of Botany, Government College University, Lahore, Pakistan (18th May 2021).
- Webinar on "Aspirin in COVID-19" organized by the University of Health Sciences, Lahore, and ATCO Laboratories (09th May 2021).
- International Webinar on "Disease Diagnosis in Poultry- A Field Perspective" held by the Indian Veterinary Association (09th May 2021).
- International Webinar on "Malaria; Vector Biology and Control" held on World Malaria Day by Department of Zoology, Government College University, Lahore, Pakistan (01st May 2021).
- International Webinar on "Evidence-based Medicine" held by Vet Crescent Society in collaboration with East Windsor Animal Hospital, New Jersey, USA, at the University of Veterinary and Animal Sciences, Lahore, Pakistan (26th April 2021).
- Webinar on "Rooftop Gardening" organized by the Horticultural Society, Government College University, Lahore, Pakistan (24th April 2021).
- International Webinar on "Molecular Pathways of Cathepsin B in Aging and Alzheimer's disease" organized by Department of Botany, Government College University, Lahore, Pakistan (22nd April 2021).
- Organizer of "Virtual International Conference on Zoonoses as Threat to Global Health" organized by Department of Veterinary Medicine, University of Veterinary and Animal Sciences, Lahore, Pakistan, in collaboration with Cornell University, USA, University of Minnesota, USA, and Harbin Veterinary Research Institute, Chinese Academy of Agricultural Sciences, China (20th April 2021).
- Webinar on "Humanized Antibodies and Vaccine Development against COVID-19" organized by the Biological Society, Government College University, Lahore, Pakistan (07th April 2021).

- Attended 3rd Annual Bovine Udder Health Symposium, organized by the Department of Veterinary Medicine, University of Veterinary and Animal Sciences, Lahore, Pakistan (18th February 2021).
- Symposium on "Global Challenges of Antimicrobial Resistance" jointly organized by the Department of Microbiology, Government College University, Faisalabad, and American Society for Microbiology (15th November 2018).
- 1st International and 2nd National conference on "Challenges and Opportunities to boost agriculture in changing climate" organized by College of Agriculture, Bahauddin Zakariya University, Bahadur campus, Layyah, Pakistan (26 to 28th March 2018).
- Participated in the 37th Pakistan Congress of Zoology (International), Government College University, Faisalabad, Pakistan (February 28-March 2, 2017).
- Awareness seminar on "Profitable wheat production in Arid Region" at College of Agriculture, BZU, Bahadur sub-campus, Layyah, Pakistan (Nov. 22, 2017).
- Participated in the 2nd International Conference on Zoonoses organized by the Faculty of Veterinary Sciences, Bahauddin Zakariya University, Multan (October 20 and 21, 2016).
- Conference on "Sustainable Crop and Animal Production Systems" organized by Pakistan Agricultural Scientists Forum, The University of Haripur, Haripur, Pakistan (December 8-10, 2016).
- Certificate of Participation in Civic Engagement Project, Ravi campus, University of Veterinary and Animal Sciences, Lahore, Pakistan (15/08/2013 to 24/12/2013).
- Certificate Award Ceremony of Strengthening AI Services through Skill Development of Rural Youth, Punjab Livestock and Dairy Development Board, Lahore, Pakistan (2014).
- International Congress of Zoology held at Bahauddin Zakariya University, Multan, Pakistan (2014).
- Livestock and Agri Expo and Seminar, University of Veterinary and Animal Sciences, Lahore, Pakistan (2014).

CONFERENCE PRESENTATIONS (NATIONAL / INTERNATIONAL)

- Aneela Zameer Durrani, Muhammad Aftab, Sadia Sanaullah, Muhammad Usman, **Muhammad Rizwan**. Efficacy of indigenous mycotoxin binders in enhancing livestock feed safety and public health protection in Pakistan. 44th Pakistan Congress of Zoology held at Hazara University, Mansehra (November5-7, 2026).
- Aneela Zameer Durrani, **Muhammad Rizwan**. National Surveillance needs in pet practice with special reference to disease data in Pakistan. Fifth International Conference on Emerging Trends in Bioinformatics and Biosciences (September 14-16, 2023).
- Aneela Zameer Durrani, **Muhammad Rizwan**, Sadia Sanaullah, Muhammad Naveed Malik, Muhammad Kaleem Ullah. Risk factors assessment and investigation of coliform subclinical mastitis in Buffalo. Presented at the International Conference.
- Tanveer Ahmad, **Muhammad Rizwan**, Muhammad Nadeem. One Health paradigm to combat zoonotic health threats in Pakistan. International Conference on Food Security. 14, 15 March 2023.
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- Aneela Zameer Durrani, **Muhammad Rizwan**. Babesiosis. Kisan Wing, Lahore. (2013).

EXTERNAL EXAMINER OF MPhil THESIS DEFENCES

- **Ms. Mahrukh Ahmed**, (Regd. No. 2017-VA-1185), Student of Clinical Medicine, University of Veterinary and Animal Sciences, Lahore, Pakistan (2025).
- **Mr. Muhammad Hamza Khalid**, (Regd. No. 2016-VA-598), student of Clinical Medicine, University of Veterinary and Animal Sciences, Jhang campus, Pakistan (2025).
- **Ms. Ujala Fatima Shan** (Regd. No. 2017-VA-1187), student of Clinical Medicine, University of Veterinary and Animal Sciences, Lahore, Pakistan (2024).
- **Mr. Arshad Abbas** (Regd. No. 2022-VA-163), student of Clinical Medicine, College of Veterinary and Animal Sciences, Jhang, Pakistan (2024).
- **Mr. Taimoor Nasrullah**, (Regd. No. 2022-VA-1582), student of Clinical Medicine, College of Veterinary and Animal Sciences, Jhang, Pakistan (2024).
- **Mr. Muhammad Talha Talib**, (Regd. No. 2017-VA-119), student of Clinical Medicine, College of Veterinary and Animal Sciences, Jhang, Pakistan (2024).

JOURNAL REVIEWER (NATIONAL / INTERNATIONAL)

- Certificate of Reviewing a research article in Punjab University Journal of Zoology (5 June 2025).
- Certificate of Reviewing for serving as a Reviewer for “Journal of Research in Veterinary Sciences” (July 13, 2025).
- Certificate of Reviewing a manuscript in Journal of Animal Health and Production (5 July 2025).
- Certificate of Reviewing for serving as a reviewer for the Open Veterinary Journal, June 30, 2025.
- Certificate of Reviewing a manuscript in the Punjab University Journal of Zoology. 27 April 2025.
- Certificate as Reviewer for Journal of Research in Veterinary Sciences. June 11, 2025.
- Certificate of Reviewer, International Research Journal, Elsevier, Livestock Science (April 2021).

- Reviewer recognition certificate by Punjab University Journal of Zoology (May 2021).
- Certificate of reviewer, Infection and Drug Resistance (Oct. 4, 2022 2021).
- Letter of Appreciation for Services Rendered as a Reviewer – The Journal of Agricultural Sciences - Sri Lanka (Oct. 2022).

UNIVERSITY SERVICE

- Focal Person, Immediate Actions for Accessibility Enhancements for Disabled Students, Department of Clinical Sciences, FVS, BZU Multan (21/11/2024 – continuing).
- Focal Person, Job Fair and Career Expo, Bahauddin Zakariya University, Multan, Pakistan, 17th April 2025.
- Focal Person, Business Incubation Centre, Bahauddin Zakariya University, Multan, Pakistan (2026).
- Focal Person, Outdoor Clinic, Department of Clinical Sciences, Faculty of Veterinary Sciences, Bahauddin Zakariya University, Multan.

REFERENCES

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