

## **CURRICULUM VITAE**

### **DR. FARHAN ANWAR KHAN**

Associate Professor, College of Veterinary Sciences (CVS), Faculty of Animal Husbandry and Veterinary Sciences (FAHVS), The University of Agriculture, Peshawar (UoA), Khyber Pakhtunkhwa, Pakistan.

Email: [farhan82@aup.edu.pk](mailto:farhan82@aup.edu.pk)

[drfarhananwar2003@yahoo.com](mailto:drfarhananwar2003@yahoo.com)

Expertise and Interest: Pathology, Infectious diseases, Diagnostics, Vaccines, Biosafety, Biosecurity and Biorisk Management

<https://scholar.google.com/citations?user=jciL7IwAAAAJ&hl=en&oi=ao>

<https://www.researchgate.net/profile/Farhan-Khan-8>

<https://orcid.org/0000-0001-6024-1269>

<https://loop.frontiersin.org/people/84553/overview>

<https://www.webofscience.com/wos/author/record/GPG-1036-2022>

<https://pubmed.ncbi.nlm.nih.gov/?term=Farhan+Anwar+Khan#>

### **EDUCATION:**

1. Ph.D, 2012-2016, Preventive Veterinary Medicine (Pathology), Huazhong Agricultural University (HZAU), Wuhan, PR China
2. M.Phil, 2006-2008, Pathology, University of Veterinary and Animal Sciences (UVAS), Lahore, Pakistan
3. DVM, 2000-2005, Veterinary Medicine, Sindh Agriculture University (SAU), Tandojam, Sindh, Pakistan

### **PROFESSIONAL POSITIONS (Experience):**

1. 04-03-2022- present, Associate Professor, CVS, FAHVS, UoA.
2. 26-06-2014 – 03-03-2022, Assistant Professor, CVS, FAHVS, UoA.
3. 12-05-2011 – 25-06-2014, Lecturer, Department of Animal Health, FAHVS, UoA.
4. 28-05-2007 – 11-05-2011, Research Officer, Veterinary Research Institute (VRI), Peshawar.
5. 01-06-2006 to 27-05-2007, Teaching Assistant, Department of Anatomy & Histology, UVAS, Lahore, Pakistan.

### **ADMINISTRATIVE POSITIONS (Experience):**

1. 16-12-2020- present, Additional Director, Endowment Fund Secretariat, UoA.
2. 25-11-2007 – 11-05-2011, Biosafety and Biosecurity Officer (Additional Charge), VRI Peshawar.

### **HONORS AND DISTINCTIONS:**

1. Research Award, 2024, presented by Vice Chancellor, The University of Agriculture, Peshawar
2. Bill and Melinda Gates Award, 2021
3. Health Security Partners (HSP), USA, 2021
4. Advisor to the Khyber Pakhtunkhwa Public Service Commission (KPPSC)
5. Honored as a Judge in a competition titled “Hult Prize, The University of Agriculture, Peshawar, Pakistan” on November 22, 2019.
6. National Award “6<sup>th</sup> HEC Outstanding Research Award 2017”
7. HEC approved supervisor
8. Vice Chairman of HZAU Alumni Association in Pakistan.
9. State Key Laboratory of Agricultural Microbiology, HZAU, Wuhan, Hubei, China
10. International Award “Best Sportsman Award 2015-2016”, HZAU, Wuhan, Hubei, China
11. Chinese Government Scholarship awarded in support of Ph.D degree (2012).
12. Kissan Time Award meant for the best student of the year (2006).

13. 17th Star Award, South Asian Publication (SAP) in favor of the best student of the year (2006).
14. Nominated for "Presidential Award" (2006).
15. Gold Medal in favor of securing 1<sup>st</sup> position throughout DVM degree (2005).
16. Scholarship holder and merit winner throughout DVM degree (2001-2005).

### **MEMBERSHIPS AND AFFILIATIONS:**

1. Member of the Committee, Uniform Synopsis Format, UAP
2. Member of the Varietal Development and Patent Registration Groups, The University of Agriculture, Peshawar
3. UAP Office of Research Innovation and Commercialization (ORIC) Focal Person from FAHVS
4. Lifetime member of Pakistan Bio-Safety Association (PBSA-198-2024)
5. Coordinator DVS batch 2023-2026
6. Coordinator DVM 3<sup>rd</sup> Year Students
7. Member of the refreshment committee of Convocation
8. Member Board of Studies, College of Veterinary Sciences, The University of Agriculture, Peshawar
9. Member Board of Studies, Department of Animal Nutrition, The University of Agriculture, Peshawar
10. Member of the Institutional Scholarship Award Committee (ISAC), The University of Agriculture, Peshawar
11. Member of Institutional Disciplinary Committee (IDC), The University of Agriculture, Peshawar
12. Member of the International Organization of Mycoplasmaology (IOM)
13. Member of American Society for Microbiology (ASM) - ID-200262172.
14. Lifelong Member of Pakistan Veterinary Medical Council (PVMC), Islamabad, Pakistan.
15. Registered Veterinary Medical Faculty (RVMF) of PVMC, Islamabad, Pakistan
16. Member of International Society for Infectious Diseases (ISID), USA.
17. Member of the Technical Committee of Dairy Science Park, UoA Peshawar, Pakistan

### **SIGNIFICANT ACHIEVEMENTS:**

1. Facilitated linkage, coordination and collaboration of the University of Agriculture, Peshawar, Pakistan with the internationally recognized and highly reputed International Biological and Chemical Threat Reduction (IBCTR) team of Sandia National Laboratories, New Mexico, USA, INRA France, HZAU China, Zhejiang University China.
2. Visited 05 countries (USA, Jordan, China, Thailand, Sri Lanka) of the world meant for study, training, participation in seminars / workshops / conferences.
3. Inclusion in South Asian Publication "Who's who in Pakistan" biographical record (2006) as a best student of the year 2006.

### **RESEARCH STUDENTS/PUBLICATION RECORD:**

1. Number of Ph.D Scholars Supervised = 08
2. Number of M. Phil Scholars Supervised = 57
3. Number of M.Phil/Ph.D Trained from different institutions = 105
4. Patent = 01
5. Total Citations = 1982
6. H-index = 23
7. I-index = 46
8. Books Published = 01

### **EDITORIAL SERVICES:**

- Editor- Frontiers in Veterinary Sciences – ([https://www.frontiersin.org/research\\_topics/46239/genomics-and-proteomics-approaches-for-the-improved-biologics-against-infectious-agents](https://www.frontiersin.org/research_topics/46239/genomics-and-proteomics-approaches-for-the-improved-biologics-against-infectious-agents))

### **RESEARCH PROJECTS UNDERTAKEN AS A PRINCIPAL INVESTIGATOR (PI) and Co.PI:**

1. Molecular characterization of *Mycoplasma capricolum subsp. capripneumoniae* Pakistan strain for the establishment of effective diagnostics and vaccines "under the Pak-US Science & Technology cooperation program, Phase 7, 2017, HEC, Islamabad, Pakistan. HEC/R&D/PAK-US/2017-957 (Rs. 20.475 Million)-**PI**

2. Seroprevalence of *Mycobacterium avium* subsp. *paratuberculosis* causing Johne's disease in domestic ruminants, under Startup research grant program, HEC, Islamabad, Pakistan (Rs. 0.48 Million)- **PI**
3. Molecular Epidemiology of *Mycoplasma bovis* (local strain) for the effective biologics against bovine mycoplasmosis PSF/NSLP/KP-UAP-887, Rs. 6.3 Million- **PI**
4. Creation of Virology Section and Animal Houses at VRI, Peshawar, at Veterinary Research Institute, Khyber Pakhtunkhwa, Peshawar, (Rs.65 Million)- **PI**
5. Molecular Characterization of local isolates of *Mycoplasma gallisepticum* for the development of efficient vaccine. PSF/NSLP/KP-UAP-891, (Rs. 4.67 Million)- **PI**
6. Bulkhi Sheep mutton production and quality potential through testes mediated gene transfer (TMGT) transgenesis. HEC/NRPU-No: 16746, (Rs. 6.4 Million)- **Co.PI**
7. Development of in-vitro culture facility for *Theileria annulata* and Production of *Theileria annulata* Surface Protein (TaSP): a step toward the control of tropical Theileriosis. PSF/NSLP/KP-LSDDR-1045, (Rs. 5.206 Million)- **Co.PI**
8. Standardization of diagnostics and antimicrobial susceptibility testing and clinical interpretation in animal *Mycoplasmas*, JPIAMR NETWORK, French Agency for Food, Environmental and Occupational Health and Safety (ANSES), Network coordinator-Dr. Tardy Florence (46,000 €)- **Member of the Project Network from Pakistan**

### **CURRICULUM/COURSE DEVELOPED:**

1. Developed the course code No. Path-1022 with titled "Biosafety and Biosecurity" for postgraduate students of Pathology.
2. University of Agriculture Peshawar (UAP) Biorisk Management Curriculum Development Phase III" September 5-7, 2017, Colombo, Srilanka, organized by International Biological and Chemical Threat Reduction (IBCTR), Sandia National Laboratories (SNL), New Mexico, USA.

### **TECHNOLOGY TRANSFER/COMMERCIALIZATION ACTIVITIES:**

- Memorandum of Understanding (MoU) with VRI, Lahore for commercialization of MRG-Vaccine for the control of contagious caprine pleuropneumonia

### **ORGANIZED CONFERENCE/WORKSHOP/SEMINAR/SYMPOSIUM:**

1. Seminar titled "Academic Excellence: Charting the future of Graduates", December 19, 2023
2. Symposium titled "Introduction to Biosecurity and the Biological Weapon Convention", November 15, 2023
3. Workshop titled "Artificial Insemination in Goats", October 24, 2023
4. National Seminar titled "Controlling threats to the Livestock", February 06, 2023.
5. Seminar titled "Antimicrobial Resistance (AMR), Antimicrobial Use (AMU), Transboundary Animal Diseases (TADs) and Herd Health Management", September 29, 2022.
6. Workshop titled "Ultrasonography in Bovines", September 13-15, 2022.
7. Workshop titled "Molecular Diagnostics and Bioinformatics for the Infectious Diseases", February 26, 2022
8. Seminar titled "Veterinary diagnostic pathology in relation to clinical microbiology", October 27, 2021.
9. Seminar titled "Molecular diagnostics for pathogen detection and typing", November 03, 2021.
10. Workshop "Applications of PCR", September 25-26, 2021.
11. Seminar titled "Novel Corona Virus Emergence, Threats and Prevention", February 27, 2020.
12. Workshop titled "Biorisk Management" on October 31 – November 1, 2019.
13. Workshop titled "Integration of ICT in Agriculture and applied research" February 21, 2019.
14. Workshop titled "Developing a winning research proposal" December 26, 2018.
15. Workshop titled "Laboratory Biosafety and Biosecurity" March 20, 2018.
16. 3rd International workshop on Dairy Science Park Nov 16-18, 2015, The University of Agriculture Peshawar-Pakistan
17. 2<sup>nd</sup> International workshop on Dairy Science Park Nov 18-20, 2013, The University of Agriculture Peshawar-Pakistan
18. 1<sup>st</sup> International workshop on Dairy Science Park Nov 21-23, 2011, The University of Agriculture Peshawar-Pakistan

**RESEARCH PROJECT REVIEWED:** Reviewed research projects for;

- Higher Education Commission (HEC) Pakistan,
- Pakistan Science Foundation (PSF)

**RESEARCH ARTICLES REVIEWED:** Reviewed research articles for:

- Journal of Bacteriology- ASM, EMI: Animal & Environment, BMC Animal Diseases, Small ruminant research, Sarhad Journal of Agriculture, Oncotarget, Microbial Pathogenesis, Frontiers in Veterinary Science, Research in Veterinary Science, Open Veterinary Journal, Tropical Animal Health Production, Pure and Applied Biology.

**EXTERNAL EXAMINER:**

1. Abasyn University Peshawar, Pakistan
2. Kohat University of Science and Technology (KUST), Kohat, Pakistan
3. Abdul Wali Khan University, Mardan, Pakistan

**PUBLICATIONS:**

1. Qudrat U, Shakoor A, Sarzamin K, Ijaz A, Samiullah K, Rajwali K, **Khan F.A.**, (2025) Hydroxamic Acid Isolated from Maize Roots Exhibits Potent Antimicrobial Activity Against Pathogenic Escherichia coli in Broiler Chickens. Microbiology Research, 16, 222. <https://doi.org/10.3390/microbiolres16100222>
2. **Khan F.A.**, Zahir S, Ijaz A, Muhammad S (2025). Vaccine: a rational strategy for the control of *Mycoplasma bovis*. Pure and Applied Biology. Vol. 14 (3), 908-916. <http://dx.doi.org/10.19045/bspab.2025.140083>
3. Akhtar MF, Khan R, Suhail SM, Rehman A, Ahmad I, Ahmad I, **Khan F.A.**, Ahmad F, Rehman A, Ayaz M, Khan K, Ayari-Akkari A (2025). Transcriptional variation of meat quality marker genes in different age and sex groups of Balkhi breed sheep. Trop Anim Health Prod. 57(7):316. doi: 10.1007/s11250-025-04548-8. PMID: 40691340.
4. Ul Hassan S, **Khan F.A.**, Shuaib M, Shahid M, Shah SSA, Siddiqui SA, et al. (2025) Investigation into the sero-molecular prevalence of Brucella melitensis in small ruminants in districts Mohmand and Charsadda Khyber Pakhtunkhwa Pakistan. PLoS ONE 20(2): e0315206. <https://doi.org/10.1371/journal.pone.0315206>
5. Hayatullah K., **Khan F.A.**, Sadique U, Ahmad I, Ahmad F., Rahman H.U., Saeed M (2025) Development and Evaluation of Inactivated Whole-Cell Contagious Caprine Pleuropneumonia Vaccine Against *Mycoplasma capricolum* subsp. *capripneumoniae* Pakistan Strain, Pakistan Journal of Zoology. DOI: <https://dx.doi.org/10.17582/journal.pjz/20240114191217>
6. Farhad A., S.M Suhail., **Khan F.A.**, Ahmad I (2024). Microsatellite Markers & Mitochondrial D-Loop Based Phylogenetic and Diversity Analysis in Gabrali Cattle. Tropical Animal Health and Production, 56:380. <https://doi.org/10.1007/s11250-024-04229-y>
7. Yousafzai HA, Shahid HA, Sajid A , Rahman HU, Abro R, Baitullah, **Khan F.A.**, Kalhoro DH (2024). Improving Mccp vaccine in sheep: novel strategies for Development, efficacy and cross-protection. Pakistan Journal of Biotechnology, 21(2), 272-278. <http://doi.org/10.34016/pjbt.2024.21.02.919>
8. Hayatullah K., **Khan F.A.**, Sadique U, Ahmad I., Saeed M., Ahmad F., Rahman F.U, Rahman H.U. (2024). Development and validation of an indirect ELISA for the serodiagnosis of contagious caprine pleuropneumonia in goats. Small Ruminant Research, doi: <https://doi.org/10.1016/j.smallrumres.2024.107271>
9. Inayat U., Khan. RW., Suhail SM., Ahmad Ijaz., **Khan F.A.**, Shoaib M., Farid K., Ayari-Akkari A., Morfeine EA., (2024). Association of polymorphism in the promotor area of the caprine BMP1B gene with litter size and body measurement traits in Damani goats. Tropical Animal Health and Production, 56:137. <https://doi.org/10.1007/s11250-024-03991-3>
10. Lionel Kinkpe., Khan RW., Suhail SM., Ahmad I., **Khan F.A.**, Akkari A.A., Siddiqui S., (2023). Polymorphism and association study of lactoferrin (LF) gene with milk yield, milk composition, and somatic cell count in Beetal goats. Tropical Animal Health and Production, 55:415 <https://doi.org/10.1007/s11250-023-03834-7>
11. Ahmad F, **Khan F.A.**, Khan H, Saeed M (2023). Determination of anti-Mycoplasma capricolum subsp. capripneumoniae antibodies for the Serological prevalence of contagious caprine pleuropneumonia in North-western Pakistan. Pakistan Journal of Zoology, 531-538, 2023. <https://dx.doi.org/10.17582/journal.pjz/20230205100201>

12. Ahmad F, **Khan F.A**, Khan H, Midrar U, Saeed M (2023). Molecular surveillance revealed increasing trend of mycoplasmosis in respiratory infections of goats (*Capra hircus*) in northern Pakistan. *Pakistan Journal of Zoology*, 1-10. <https://dx.doi.org/10.17582/journal.pjz/20230413100417>
13. Ahmad I., Hao H., Sanders P., Iqbal Z, Ahmed S., **Khan F.A.**, Shah Z., Ibrahim M., Huang L., (2023). New HPLC Method for Determination of Cefquinome in Cattle Plasma and its Application for Pharmacokinetic Study. *Pakistan Journal of Zoology.*, 55(5), 2199-2206, DOI: <https://dx.doi.org/10.17582/journal.pjz/20200312100316>.
14. Ahmad, F., Khan, H., Khan, K., **Khan, F.A**, Ahmad, N., Saeed, M., & Ayasan, T. (2023). Effects of ochratoxin on the performance, haematobiochemical profile, macroscopic and histopathological lesions in quails (*Coturnix coturnix Japonica*). *Journal of the Hellenic Veterinary Medical Society*, 74(3), 5953–5960. <https://doi.org/10.12681/jhvms.30561>.
15. Abdul Sajid, Muhammad Ali , Hazir Rahman , Natasha Kashif , Hammad Ullah , Irshad Ahmad , Nighat Nawaz , **Khan F.A.**, and Fazal Rabbani (2023), Sero-Epidemiology of Crimean Congo Hemorrhagic Fever Virus (CCHFV) in Human and Livestock Population in District Mardan, Pakistan. *International Journal of Agriculture and Biology*, 30 (1), 9–13. DOI: 10.17957/IJAB/15.2052
16. Khan K, Suhail SM, Khan R, Ahmed I, **Khan F.A**, Khan MJ (2023). Genetic polymorphism of B-casein gene and its association with milk production and composition in Azi-Kheli buffalo. *Tropical Animal Health and Production*, 55(2):94. doi: 10.1007/s11250-023-03511-9. PMID: 36809577.
17. Aftab U, Khan RW, Suhail SM, Ahmad I, **Khan F.A**, Qureshi MS, Khan NA, Akkari AA, El Moneim DA (2022). Bioinformatics analysis and the association of polymorphisms within the caprine *GDF9* gene promoter with economically useful traits in Damani goats. *Animal Biotechnology*, DOI: 10.1080/10495398.2022.2154676.
18. Akhtar, Arooba; Boissière, Anne; Hao, Huafang; Saeed, Muhammad, Dupuy, Virginie, Exbrayat, Antoni; **Khan F.A**; Chu, Yuefeng; Manso-Silván, Lucía (2022) Multi-locus sequence analysis reveals great genetic diversity among *Mycoplasma capricolum* subsp. *capripneumoniae* strains in Asia. *Veterinary Research*, 53:92, <https://doi.org/10.1186/s13567-022-01107-z>.
19. Muhammad I.H, **Khan F.A**, U.Sadique, H.Khan, Z.Rehman, et al., (2023). Molecular, serological, and pathological detection of *Mycobacterium avium* subsp. *paratuberculosis* infection in small ruminants at Peshawar, Pakistan. *Pakistan Journal of Zoology*, 55(1), 307-314, 2023 DOI: <https://dx.doi.org/10.17582/journal.pjz/20191014071021>.
20. Faiz UR, **Khan F.A**, Saeed M, Ali M, Khan H, Ahmad F, Ullah Q (2022). Clinicopathological and Sero-Molecular Detection of *Mycoplasma capricolum* subsp. *capripneumoniae* in Goats in Southern Areas of Pakistan. *Veterinary Medicine International*, <https://doi.org/10.1155/2022/9508810>.
21. Muhammad S.N, Rehman Z, Khan H, **Khan F.A**, Hussain T, Ahmad A, Farmanullah, Husnain A, Muhammad S, Murtaza G, Gang L (2022). Glycine Improved Cryopreserved Spermatozoa Quality in Achai Bull. *BioMed Research International*, [doi.org/10.1155/2022/8282387](https://doi.org/10.1155/2022/8282387).
22. Atta.M., FZ Chen, SB Khan, XZ Guo, RW Khan, **Khan F.A**, Yinxing Zhu & Qigai He (2022). Development and evaluation of polyclonal antibodies based antigen capture ELISA for detection of porcine rotavirus, *Animal Biotechnology*, 34(5), 1807–1814, DOI: 10.1080/10495398.2022.2052304.
23. Lu, D.; Zhang, H.; Zhang, Y.; Zhao, G.; **Khan F.A**; Chen, Y.; Hu, C.; Yang, L.; Chen, H.; Guo, A. Secreted MbovP0145 Promotes IL-8 Expression through Its Interactive  $\beta$ -Actin and MAPK Activation and Contributes to Neutrophil Migration. *Pathogens* 2021, 10, 1628. <https://doi.org/10.3390/pathogens10121628>.
24. Ahmad F., H. Khan, **Khan F.A.**, B.D. Carson, U.Sadique, I.Ahmad, M. Saeed, F.U. Rehman, H.U.Rehman (2021). The first isolation and molecular characterization of *Mycoplasma capricolum* subsp. *capripneumoniae* Pakistan strain: A causative agent of contagious caprine pleuropneumonia. *Journal of Microbiology Immunology and Infection*, 54, 710-717. <https://doi.org/10.1016/j.jmii.2020.06.002>.
25. Zahir Shah, Shakoor Ahmad, Ijaz Ahmad, Taif Shah, **Khan F.A**, Haq Amanullah (2021). Antinociceptive, physiologic and biochemical effects of electroacupuncture combined with xylazine in hybrid goats. *Veterinary Anaesthesia and Analgesia*. 48 (5), 671-678. <https://doi.org/10.1016/j.vaa.2021.06.014>.
26. Shoaib M, MI Rashid, H Akbar, AA Sheikh, SH Farooqi, MA Khan, **Khan F.A**, R Khan (2021). Prevalence and Molecular characterization of *Anaplasma marginale* in cattle population of Khyber Pakhtunkhwa province, Pakistan. *International Journal of Agriculture and Biology*, 25:1016–1023. doi: 10.17957/IJAB/15.1759
27. Mumtazur R., **Khan F.A.**, U.Sadique, I.Ahmad, S.Ahmad et. al., (2021). In-vitro susceptibility of *Mycoplasma capricolum* subsp. *capripneumoniae* Pakistan strain to commercially available quinolones. *Pakistan Journal of Zoology*, 53(2), 409-415. doi: 10.17582/JOURNAL.PJZ/20191231101203.

28. Shah, Z., S. Munawar, I. Ullah, T. Shah, H.A. Ullah, S. Nawaz, **Khan F.A.**, M.K. Shah. (2020). Combined physico-chemical and analgesic effects of electroacupuncture plus clonidine in goats. *Sarhad Journal of Agriculture*, 36(4): 1127-1135. doi: 10.17582/journal.sja/2020/36.4.1127.1135
29. Muhammad S, I. Rashid, H.Akbar, A.A Sheikh, S.H. Farooqi, M. Asif, M.A.Khan, S.Mahmood, **Khan F.A.** (2020). Prevalence of Rhipicephalus and Hyalomma Ticks in Cattle and Associated Risk Factors in Three Districts of Khyber Pakhtunkhwa, Pakistan. *Pakistan Journal of Zoology*. 53 (2), 777-780. doi.org/10.17582/journal.pjz/20191025111028.
30. Ullah, A., U. Sadique, S. Ayaz, M.S. Qureshi and **Khan F.A.** 2020. Bovine tuberculosis (bTB)-isolation and species-specific identification of *Mycobacterium bovis* from bovine raw milk in Pakistan. *Sarhad Journal of Agriculture*, 36(2): 489-498. doi: 10.17582/JOURNAL.SJA/2020/36.2.489.498
31. Nighat N, Irshad A, Nizam M. D, Amjad W, Sadeeq R, Abdul S, **Khan F.A.**, Sher B.K, Simon G. P., Kamal U. (2020). Synthesis, Characterization and Antioxidant Activity of Nickel(II) Schiff Base Complexes Derived from 4-(Dimethylamino)benzaldehyde. *Journal Chemical Society of Pakistan* 42(2):238-242.
32. Arshad Z , Yaping Y , Chao Y , Sher B.K , Christine R , **Khan F.A** , Meng-yao G , Ganzhen D, (2020). MerTK negatively regulates Staphylococcus aureus induced inflammatory response via Toll-like receptor signaling in the mammary gland. *Molecular Immunology*, 122, 1-12. doi: 10.1016/j.molimm.2020.03.007
33. Zubair M, **Khan F.A.**, Menghwar H, Faisal M, Ashraf M, et al., (2020). Progresses on bacterial secretomes enlighten research on Mycoplasma secretome. *Microbial Pathogenesis*. 144, 104160. doi: 10.1016/j.micpath.2020.104160.
34. Zubair M., S.A.Muhammed , **Khan F.A.**, Gang Zhao, H. Menghwar , et al., (2020). Identification of 60 secreted proteins for Mycoplasma bovis with secretome assay. *Microbial Pathogenesis*. 143, 104135 DOI: 10.1016/j.micpath.2020.104135.
35. Aminullah, Arsala K, Muhammad K.K, Muhammad Z, Hashmat U, **Khan F.A.**, Zubair L, Usman G, (2019). Toxicopathological effects of moldy feed in commercial white leghorn layers and its amelioration with milk thistle seed. *International Journal of Scientific and Engineering Research*, 10(9):1687-1698
36. Anwar, S., **Khan F.A** and A. Rahman. 2019. Impact of karakoram highway on land use and agricultural development of Gilgit-Baltistan, Pakistan. *Sarhad Journal of Agriculture*, 35(2): 417-431. <http://dx.doi.org/10.17582/journal.sja/2019/35.2.417.431>
37. Khan MF, Siddique U, Shah AA, Khan I, **Khan F.A.**, Ahmad I, Zeb MT, Hassan MF Ali T, 2019. Seroprevalence of Bovine Leukemia Virus (BLV) in Cattle from the North West of Pakistan. *Pakistan Veterinary Journal*. 40(1), 127-129. <http://dx.doi.org/10.29261/pakvetj/2019.103>.
38. Chao Jin, Xiaoxiao Han, Kai Liu, Qingni Li, Qingjie Peng, Siyi Lu, Gang Zhao, Xifang Zhu, Guyue Hu, Yaqi Dong, Changmin Hu, Yingyu Chen, Jianguo Chen, **Khan F.A.**, Huanchun Chen, Aizhen Guo (2019). Calves Infected with Virulent and Attenuated Mycoplasma bovis Strains Have Upregulated Th17 Inflammatory and Th1 Protective Responses, Respectively. *Genes*, 10, 656; doi: 10.3390/genes10090656.
39. **Khan F.A.**, Chen X, Shoaib M, Shah M, Ahmad F, Khan H, Ur Rehman F, Saeed M, Ahmad I, Ahmad I, Guo A (2019). Two dimensional gel electrophoresis (2-DE) for high-throughput proteome analyses of Mycoplasma bovis. *Acta biochimica polonica*. 66 (3), 321–327 doi: 10.18388/abp.2019\_2794.
40. Hayatullah Khan, **Khan F.A.**, Umar Sadique, Shakoor Ahmad, Zahoor ul hassan, Faisal Ahmad, Abdul Ahad, Muqader Shah, Ijaz Ahmad, Zahir Shah, Zia-ur-rehman (2019). Genotoxic and Toxicopathological Effect of Aflatoxin B1 in Grass Carp (Ctenopharyngodon idella). *Kafkas Üniversitesi Veteriner Fakültesi Dergisi*, 25 (6), 841-848, doi: 10.9775/kvfd.2019.21988.
41. Rajput SA, Sun L, Zhang NY, Khalil MM, Ling Z, Chong L, Wang S, Rajput IR, Bloch DM, Khan FA, Shaikat A, Qi D. (2019). Grape Seed Proanthocyanidin Extract Alleviates AflatoxinB<sub>1</sub>-Induced Immunotoxicity and Oxidative Stress via Modulation of NF-κB and Nrf2 Signaling Pathways in Broilers. *Toxins (Basel)*. 7;11(1). pii: E23. doi: 10.3390/toxins11010023.
42. Ahmed S, Ahmad I, Ahmad S, Shah Z, Shah M, **Khan F.A.**, Ahmad I. (2019) Analysis of pilus biogenesis genes in bacteria expressing type IV pili. *Kafkas Univ Vet Fak Derg*, 25 (1): 125-128, DOI: 10.9775/kvfd.2018.19910.
43. M. Shah, H. Zaneb, S. Masood, I. Khan, A. Sikandar, S. Ashraf, H.F. Rehman, M.M. Usman, **Khan F.A.**, H. Amanullah, H. Rehman. (2018). Effect of zinc and probiotics supplementation on performance and immune organs morphology in heat stressed broilers. *South African Journal of Animal Science*, 48 (6). doi: 10.4314/sajas.v48i6.3

44. Rahim D, A.B.Kalhor, A.B.Kachiwal, I. B.Kalhor, D.H.Kalhor, S.Ahmed, **Khan F.A.**, H.S.Talpur, Z.U.Rehman, D.Bhattaria.(2019).Comparative effects of Propofol and Thiopentone sodium in sheep sedated with Xylazine hydrochloride. *Pakistan J. Zool.*, 51(1), 1-7. doi: 10.17582/journal.pjz/2019.51.1.1.7
45. Hanif, U.R, Umer, S., Zahoor, U.H., Shakoor, A., Muhammad, K.S., Said, S.A.S., **Khan F.A.**, Fazli, R., Muhammad, A.H., Atta, U.R., Irshad, A., Sadeeq, U.R. 2018. The Predominant Incidence of *Mycoplasma mycoides* subsp. *capri* in Suspected Cases of Contagious Caprine Pleuropneumonia in Sheep and Goats of Northern Pakistan. *Pakistan Journal of Zoology*, 50(5), 1995-1998. DOI: <http://dx.doi.org/10.17582/journal.pjz/2018.50.5.sc9>
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### **CONFERENCE PAPERS**

1. Mumtaz. N., Z.I. Chaudhry., N. Mahmood., A.Z. Durrani., **Khan, F.A.** (2008). Comparison of multiplex PCR and conventional methods for the detection of tuberculosis (TB) in humans and bovines. Abstract of 1<sup>st</sup> International Symposium on Biotechnology; Current Trends organized by Department of Biotechnology, University of Malakand, Sponsored by HEC, Pakistan- Abstract.
2. 8<sup>th</sup> International Annual Health Research Conference “One Health: The way forward”, April 24-26, 2017, organized by Khyber Medical University (KMU), Peshawar, Pakistan. Page 14-Proceedings
3. MK Shah, U. Sadique, S. Ahmad, S. Qureshi, **Khan F.A.**, S. Khan, W. Shahzad, H. Rehman, SSA Shah, M. Faisal. (2017). Prevalence of *Mycoplasma mycoides* sub.sp capri in different climatic zones of KPK, Pakistan. 3<sup>rd</sup> International Conference, January 10-11, 2017, Agriculture, Food, and Animal Sciences ICAFAS 2017, Sind Agricultural University Tandojam, Pakistan- Abstract.
4. Sher BK, Geng Z, Zia UR, **Khan F.A.**, Atta MM, Ijaz A, Zahir S, Farman U, Shakoor A, Asad S, Hu, Liu L, Rui Z (2017). Quantification, isolation and pathogenomics of pathogenic shiga toxin *Escherichia coli* O157:h7 along the production and supply chain around Hubei of China. Page 113- Proceedings- *Dairy Science Park IV, Nov 1-5, 2017* <http://dairysciencepark.org.pk/dsp2017>
5. **Khan F.A.**, et al (2017) Vaccine; a rational control strategy for *Mycoplasma bovis* infection in cattle. Page 190- Proceedings- *Dairy Science Park IV, Nov 1-5, 2017* <http://dairysciencepark.org.pk/dsp2017>
6. Ijaz A, Haihong H, Jun L, Pascal S, Sher BK, **Khan F.A.**, et al (2017). A simple and sensitive HPLC method for determination of cefquinome in plasma: application to pharmacokinetic study in cattle. Page 203- Proceedings- *Dairy Science Park IV, Nov 1-5, 2017* <http://dairysciencepark.org.pk/dsp2017>
7. Keynote Speaker in “International Symposium on Mycoplasma biology, pathogenesis, immunity, and mycoplasmosis control” held on November 27 – 30, 2018 at HZAU, Wuhan, China-
8. Presented iPoster in World Microbe Forum, June 20-24, 2021, jointly organized by American Society for Microbiology (ASM), and Federation for European Microbiological Societies (FEMS).
9. Keynote Speaker in “International Symposium on research of Brucellosis, Tuberculosis and Mycoplasmosis in Animals” held on August 27-29, 2023 at Lanzhou Veterinary Research Institute (LVRI), Chinese Academy of Agricultural Sciences (CAAS), College of Veterinary Medicine, Lanzhou University, PR China- Page 4-5- Proceedings.
10. Sohaib ul Hassan and Khan FA (2023), First report on the sero-molecular prevalence of *Brucella melitensis* in local small ruminants. 1<sup>ST</sup> INTERNATIONAL CONFERENCE (IRAD-2023) recent trends in improving resistance against diseases using molecular genetics and omics tools. December 6-7, 2023- Page-29-Proceedings
11. Imdadullah and Khan FA (2023). Isolation and pathological investigation of *Mycoplasma bovis* in yaks in district chitral. 1<sup>ST</sup> INTERNATIONAL CONFERENCE (IRAD-2023) recent trends in improving resistance against diseases using molecular genetics and omics tools. December 6-7, 2023- Page-105-Proceedings
12. Presented poster titled “Molecular epidemiology of *Mycoplasma capricolum* subsp. *capripneumoniae*; causative agent of contagious caprine pleuropneumonia in Pakistan” on January 22, 2024 at the Conference of Research Workers in Animal Diseases (CRWAD).
13. Presented poster titled “*Mycoplasma Bovis* in Yaks” in 3rd International Conference on The Yak (*Bos grunniens*) Lifeline in High Mountains 20-21 November, 2024 at Skardu, Gilgit-Baltistan, PAKISTAN

**PATENT:** *Mycoplasma bovis* MbovP579 and its applications (CCTCC NO: 2015763)

- Title: 一种牛支原体MbovP579蛋白及其应用 “A *Mycoplasma bovis* MbovP579 and its applications”
- Application number: 201610101212.8; Date: 26-02-2016

### **PROFESSIONAL ACTIVITIES/TRAINING UNDERTAKEN:**

1. Enhancing Advance Genomic Sequencing and Cybersecurity, September 22-26, 2025, Princess Haya Biotechnology Center (PHBC), Jordan University of Science and Technology (JUST), Amman, Jordan; SNL, New Mexico, USA

2. Enhancing Molecular Biology, Epidemiology, Sequencing, October 2021-November 2023, Princess Haya Biotechnology Center (PHBC), Jordan University of Science and Technology (JUST), Irbid, Jordan; SNL, New Mexico, USA
3. Training titled “Development of Decontamination and management strategies for the disposal of biological waste”, March 02-April 28, 2021, Organized by HSP, USA
4. Faculty Development Workshop “Knowing Cancer in Small Animals to improve their quality of Life”, July 8-10, 2021, organized by Pakistan Veterinary Medical Council (PVMC), Department of Pathology, UVAS.
5. Food Safety Inspection Technology and Management for the Belt and Road Countries (From June 23-July 6, 2021) Organized by China National Research Institute of Food and Fermentation Industries (CNRIFFI).
6. Paving the way for active biorisk management in agro-veterinary research to meet Global Health Security Agenda (GHSA), March 15 – May 2021, organized by HSP, USA.
7. Participated in 2<sup>nd</sup> International Workshop titled “Basic Mechanisms of Disease and Poultry Pathology” on March 2-4, 2020, organized by CL Davis and SW Thompson DVM Foundation, USA at UVAS.
8. GIST U.S. - Pakistan Startup Training, July 16 - August 14, 2020, Global Innovation through Science and Technology Initiative (GIST), United States Department, USA.
9. Molecular diagnostic advance technologies, September 15-26, 2019, PHBC, JUST, Irbid, Jordan, SNL, New Mexico, USA
10. Enhancing biological laboratories capabilities in Pakistan, 08-10-2018 – 12-10-2018, ABM, HSP & UoA, Peshawar.
11. Veterinary Epidemiology ,13-01-2014 – 17-01-2014, Jointly Organized by Murdoch University, Australia; FAO; Ministry of Agriculture, China; HZAU, Wuhan, China.
12. 16<sup>th</sup> Master Trainers – Faculty Professional Development Program, 20-09-2011 – 04-11-2011, Learning Innovation Division (LID), HEC, Pakistan.
13. Application of PCR, 24-01-2010 – 04-02-2010, PHBC, JUST, Irbid, Jordan, and SNL, New Mexico, USA
14. Biosafety for Safety and Health Professionals, 05-08-2009 – 07-08-2009, University of North Carolina, Occupational Safety and Health Education and Research Center (OSHERC), Norfolk, Virginia, USA.
15. Controlling Laboratory Biorisks, 16-02-2009 – 21-02-2009, Biosecurity Engagement program (BEP), US State department, SNL, New Mexico, USA.
16. Application of Molecular Techniques for the Improvement of Livestock, 14-12-2008– 16-12-2008, UVAS.
17. Field Epidemiology and Laboratory Training Program (FELTP), February 6-8, 2008, NIH, Islamabad, Pakistan

## **PARTICIPATION IN SEMINARS / WORKSHOPS/ CONFERENCES**

1. Keynote Speaker in “International Symposium on research of Brucellosis, Tuberculosis and Mycoplasmosis in Animals” held on August 27-29, 2023 at Lanzhou Veterinary Reserach Institute (LVRI), Chinese Academy of Agricultural Sciences (CAAS), College of Veterinary Medicine, Lanzhou University, PR China
2. Participated in workshop titled “Enhancing Molecular Biology Techniques and Cybersecurity” February 21-27, 2023, Princess Haya Biotechnology Center (PHBC), Jordan University of Science and Technology (JUST), Irbid, Jordan; SNL, New Mexico, USA
3. Resource Person in training titled “Histopathological and histochemical techniques”, CVS&AH, Abdul Wali Khan University, Mardan, Pakistan.
4. Participated in program titled “Countering Biological Threats and Securing Dual Use Information, Technology and Expertise in Pakistan”, held on Aug 18-31, 2022. Organized by Center for Agriculture and Food Security and Preparedness (CAFSP), College of Veterinary Medicine, The University of Tennessee, USA
5. Participated in one day training titled “Ultrasonography in Dairy Cattle”, held on January 06, 2022, at CVS, FAHVS, UoA.
6. Resource Person in workshop titled “Applications of PCR”, September 25-26, 2021 organized at CVS, UoA.
7. Presented iPoster in World Microbe Forum, June 20-24, 2021, jointly organized by American Society for Microbiology (ASM), and Federation for European Microbiological Societies (FEMS).
8. 6<sup>th</sup> Virtual Journal Club “Microbiology and Antimicrobials Resistance”, Application of PK/PD modeling in veterinary field, May 19, 2021, organized by NIH, Islamabad.
9. 2<sup>nd</sup> International Workshop titled “ Basic Mechanisms of Disease and Poultry Pathology” on March 2-4, 2020, organized by Department of Pathology in collaboration with CL Davis and SW Thompson DVM Foundation, USA at UVAS.
10. Workshop titled “ Biorisk Management” on October 31 – November 1, 2019, sponsored by Association for Biorisk Management (ABM) in collaboration with Health Security Partner (HSP) and UoA.

11. Keynote Speaker in “International Symposium on Mycoplasma biology, pathogenesis, immunity, and mycoplasmosis control” held on November 27 – 30, 2018 at HZAU, Wuhan, China
12. Participated in a workshop titled “Research Methods and role of Molecular Biology” April 30 – May 1, 2018 Jordan organized by IBCTR, Sandia National Laboratories (SNL), New Mexico, USA.
13. Participated in UAP Biorisk Management Curriculum Development Phase III, September 5-7, 2017, Colombo, Sri Lanka, organized by IBCTR, SNL, New Mexico, USA.
14. Biorisk Management “Raising Awareness” Workshop For University of Agriculture Peshawar, organized by IBCTR, SNL, New Mexico, USA at Phuket, Thailand, dated 19<sup>th</sup> - 21<sup>st</sup> April, 2017.
15. 8<sup>th</sup> International Annual Health Research Conference “One Health: The way forward”, April 24-26, 2017, organized by Khyber Medical University (KMU), Peshawar, Pakistan.
16. “Rabies- Educate, Vaccinate, Eliminate’ Pakistan”, held on September 28, 2016, organized at UoA.
17. “Livestock for Life Fighting zoonoses in Pakistan”, held on December 28, 2011, by Relief International at UoA.
18. One Day Workshop “Higher Education Quality Assessment” held on December 13, 2011, by UoA.
19. International Workshop on Dairy Science Park (IW-DSP), November 21 – 23, 2011 at UoA.
20. Resource Person in a workshop organized by “Relief International”, Biosecurity Engagement Program (BEP) of US state department on “Crimean Congo Hemorrhagic fever (CCHF)”, 29 -30<sup>th</sup> June, 2010.
21. “Livestock for life” on Zoonotic Diseases organized by “Relief International” Biosecurity Engagement Program (BEP) of US state department on 17<sup>th</sup>- 18<sup>th</sup> May, 2010.
22. 1<sup>st</sup> Regional General Public Science and Technology Model Competition at Pakistan Forest Institute, Peshawar organized by Directorate of Science and Technology, Khyber Pakhtunkhwa, June 27 – 28, 2008.
23. Education for Wildlife Sustainability Conference at University of Veterinary and Animal Sciences, Lahore, Pakistan, January 30 – 31, 2008.
24. One day National Seminar titled “Bird Flu – Surveillance, Prevention and Control” organized by Veterinary Research Institute (VRI), Peshawar, June 16, 2007.
25. International Zoological Conference at SAU, Tandojam, Hyderabad, Sindh, Pakistan, March 1 – 3, 2005.

### **PARTICIPATION IN EXTRACURRICULAR ACTIVITIES:**

1. 3<sup>rd</sup> International Doubles Badminton Championship HZAU, April 2016”, Wuhan, China.
2. Inter-colleges “Badminton Championship, 2015” HZAU, Wuhan, China.
3. 2<sup>nd</sup> International Doubles Badminton Championship HZAU, Oct 2015”, Wuhan, China.
4. Certificate of excellent performance in the “New Year Party, 2014” HZAU, Wuhan, China.
5. First position in the Inter-faculties “Presidential Cup competition 2013” HZAU, Wuhan, China.
6. Member of team in “Volley ball competition”, got Certificate of Merit, 24-1-2007.
7. Member of team in “Hand Ball competition”, got Certificate of Merit, 24-1-2007.
8. Captain of cricket team in “Interfaculty Cricket Championship”, certificate of merit, 27-12-2004 – 03-01-2005.
9. Participated as a captain of cricket team in “Interschool Cricket competition” got certificate of Merit, 1999-2000.

### **REFERENCES:**

#### **1. Professor Guo Aizhen,**

DVM, MS, PhD, Post Doc (University of Pennsylvania, USA)  
 College of Veterinary Medicine, Huazhong Agricultural University Wuhan, 400070, China  
 Tel: 0086-27-87286861  
 Email: aizhen@mail.hzau.edu.cn.

#### **2. Professor Dr. Sarzamin Khan**

DVM, MSc Hons, PhD, Post Doc (Japan), Post Doc (University of Minnesota, USA)  
 Faculty of Animal Husbandry and Veterinary Sciences, The University of Agriculture, Peshawar, Pakistan  
 Mobil: +92 300 8592606  
 Phone Tel: +92 91 9221027

Email: dr.zamin@aup.edu.pk , dr.zaminaup@gmail.com

**3. Professor Dr. Umar Saddique**

DVM, MSc Hons, PhD (Pathology)

Department of Animal Health, Faculty of Animal Husbandry and Veterinary Sciences,  
The University of Agriculture, Peshawar, Pakistan

Phone Tel: +92 91 9221027

Mobil: +92 300 9030316

Email: druskhattak@yahoo.com