

Name: Dr. Hafiz Iftikhar Hussain

Education:

DVM, MPhil, PhD

Designation: Assistant Professor

Department: Department of Pathology



Dr. Hafiz Iftikhar Hussain

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Cholistan University of Veterinary and Animal Sciences, Bahawalpur - Pakistan

- **Biography:**

Dr. Hussain earned his DVM and MPhil in Pathology from the University of Agriculture, Faisalabad, Pakistan, before completing a PhD in Pathology at Huazhong Agricultural University, China, on a Chinese Scholarship Council award, with doctoral research on multidrug-resistant, virulent *E. coli* in poultry. His expertise spans antibiotic resistance, molecular biology (PCR, RNA sequencing, whole-genome re-sequencing), ELISA, biofilm detection, and the pathology of bacterial and viral diseases in poultry and livestock, and human (One Health). He is active professionally as a journal reviewer (PLOS ONE, Scientific Reports, Frontiers in Veterinary Science), an editorial board member (Agrobiological Records, The Progress), and a member of the Pakistan Veterinary Medical Council and Pakistan Biological Safety Association, while also mentoring researchers, having supervised 7 MPhil students to completion and currently supervising 7 MPhil and 3 PhD students.

- **Areas of Interest:**

Dr. Hussain's research is centered on understanding and combating antimicrobial resistance and infectious diseases at the intersection of animal, human, and environmental health. His work delves into the molecular and genomic characterization of multidrug-resistant and highly virulent pathogens using advanced techniques such as whole-genome and transcriptome sequencing, PCR, and ESBL detection, alongside functional studies involving ELISA, biofilm formation, and animal modeling. He also investigates the toxicopathological effects of environmental and dietary toxicants (such as arsenic and mycotoxins) on poultry and livestock and explores phytomedicine as an alternative therapeutic approach to conventional antimicrobials. Central to his research philosophy is the One Health concept. As an active member of the One Health Club at CUVAS, Dr. Hussain applies this integrative framework to his work on zoonotic pathogens and drug-resistant organisms, aiming to generate scientific insights that inform disease surveillance, biosecurity, and public health policy across the human-animal-environment interface.

- **Trainings / Workshops:**

- “In-Service Competency Enhancement Training for University Faculty” 25th- 26th April 2019, Cholistan University of Veterinary & Animal Sciences, Bahawalpur.
- “Two days hands on training on Bioinformatics” 26th-27th September 2019, College of Veterinary & Animal Sciences, Jhang, Pakistan.
- “Animal Disease Diagnostics and Outreach Through Gross Pathology” 15 October 2019, College of Veterinary & Animal Sciences, Jhang.
- “3rd All Pakistan Veterinary Degree Awarding Institutes Talent Competition” on 09-11 December 2019, Organized by Faculty of Veterinary Science, University of Agriculture, Faisalabad, Pakistan
- One Day Hands on Training Workshop “Bio-risk Management in Biological Labs” 20th December 2019, Cholistan University of Veterinary & Animal Sciences, Bahawalpur.
- Five Days online “Faculty Orientation Training Workshop” under Punjab Higher Education Commission, Dated Nov. 02-06, 2020.
- “Five Days Virtual Training on Biorisk Management” dated Dec. 28, 2020, to Jan. 01, 2021, CUVAS-Bahawalpur.
- “One Day Training Workshop on Reproductive Ultrasonography of Small Ruminants”, held on 10 March 2021 in Cholistan University of Veterinary and Animal Sciences- Bahawalpur.
- “Two-days Biorisk Management refresher training course in collaboration with Health Security Partners” held on 7th – 8th October 2021, at Cholistan University of Veterinary & Animal Sciences, Bahawalpur.
- Faculty Development Workshop “Knowing Cancer in Small Animals to Improve their Quality of Life”, 08-10 July 2021 at UVAS-Lahore
- One-day workshop on “Biosecurity Measures and Necropsy Practices” organized by Coordinator DVM (2019-24) Faculty of Veterinary Science, Cholistan University of Veterinary & Animal Sciences, Bahawalpur, dated 07-12-2022.
- Training workshop on, “Self-Assessment Report (SAR) Writing” conducted at Cholistan University of Veterinary & Animal Sciences, Bahawalpur, dated 09-04-2025.
- “National Outreach Program for Faculty”, organized by National Academy of higher Education (NAHE) Higher Education Commission (HEC) in collaboration with Cholistan University of Veterinary & Animal Sciences, Bahawalpur, dated 21st April - 8th May 2025.

- Workshop on “PSG 2023 Pakistan Percepts Standards and Guidelines for Quality Assurance” organized by Pakistan Scientific and Technological Information Center, Pakistan Science Foundation and Cholistan University of Veterinary & Animal Sciences, Bahawalpur, dated June 19, 2025, at CUVAS Bahawalpur-Pakistan.
- Organized, “One day national workshop titled "Fundamentals of Fine Needle Aspiration (FNA) Cytopathology for Thyroid and Breast Lesions", held on May 21, 2026, at Central Diagnostic Laboratory (CDL), CUVAS, Bahawalpur
- **Publications:**
 - Usman, M., Ashraf, S., Yousaf, M.S., Hussain, H.I., Ijaz, N., Ullah, Q., Khaliq, H., Rauf, M., Raiz, S., Gondal, M.A. and Zaneb, H., 2026. Effect of dietary supplementation of mannan oligosaccharide on gut morphology of pre-weaning calves. *Sarhad Journal of Agriculture*, 42(1), pp.326-338. <https://dx.doi.org/10.17582/journal.sja/2026/42.1.326.338>
 - Rafique, N., Riaz, N., Zubair, F., Parveen, M., Shahbaz, A.T., Kanwal, H., Tahir, T., Ishaq, M.T., Amjad, N. and Hussain, H.I., 2025. Bacteriocin power: harnessing *Lactobacillus acidophilus* against pathogenic bacteria. *Discover Applied Sciences*. <https://doi.org/10.1007/s42452-025-08022-w>
 - Waheed, M., Batool, S., Hussain, H.I., Liaqat, U.E.S., Arshad, A., Muzammil Hasnain, M., Riaz, M.M., Fatima, M. and Talib, S., 2025. Prevalence and Determinants of Anemia Among Rural Women: A Comprehensive Review. *Ecology of Food and Nutrition*, pp.1-22. <https://doi.org/10.1080/03670244.2025.2580013>
 - Shareef, Z., Murtaza, A., Fatima, G., Aqib, A.I., Manzoor, Z., Malik, M.S.U. and Hussain, H.I., 2025, March. Pharmacological and Herbal Approach to Diabetes Mellitus Type 2 Management: A Comparative Analysis of Conventional Therapy and Alternative Remedy. In *Annales Pharmaceutiques Françaises*. Elsevier Masson. <https://doi.org/10.1016/j.pharma.2025.03.002>
 - Liaqat, U. S., Naz, S. and Hussain, H.I., 2024. Optimization and production of highly stable amylase isolated from *Citrobacter portucalensis* using low-cost agro-industrial wastes as substrates: Prospective therapeutics. *Kuwait Journal of Science*, 51(1), p.100156. <https://doi.org/10.1016/j.kjs.2023.11.005>.
 - Khan, M., Manzoor, Z., Rafiq, M., Munawar, S.H., Waqas, M.Y., Majeed, H., Ali Shah, S.Z., Hussain, R., Hussain, H.I., Tahir, T. and Kotwica-Mojzych, K., 2022. Phytochemical Screening, Anti-Inflammatory, and Antidiabetic Activities of Different Extracts from *Caralluma edulis* Plant. *Molecules*, 27(16), p.5346. doi.org/10.3390/molecules27165346
 - Kulyar, M.F.E.A., Ashfaq, K., Aqib, A.I., Duan, K., Asif, M., Bhutta, Z.A., Shoaib, M., Shabbir, S., Nawaz, S., Naseer, M.A. Sarwar, I., Akhtar, M., Chaudhry S. A., Hussain R.,

Hussain H.I., Wu Y., and Li K., 2022. Enhanced Healing Activity of Manuka Honey and Nitrofurazone Composite in Full-Thickness Burn Wounds in the Rabbit Model. *Frontiers in Veterinary Science*, 9. doi: [10.3389/fvets.2022.875629](https://doi.org/10.3389/fvets.2022.875629)

- Aqib, A.I., Muzammil, I., Naseer, M.A., Shoaib, M., Bakht, P., Zaheer, T., Khan, Y.R., Khan, R.L., Usman, M., Shafeeq, M. Tanveer Q., Hussain H.I., Saleem A. and Prince K. 2022. Pathological insights into camel mastitis. *Acta Tropica*, p.106415. doi.org/10.1016/j.actatropica.2022.1064158
- Hussain, H.I., Iqbal, Z., Iqbal, M., Kuang, X., Wang, Y., Yang, L., Ihsan, A., Aqib, A.I., Kaleem, Q.M., Gu, Y. and Hao, H., 2022. Coexistence of virulence and β -lactamase genes in avian pathogenic *Escherichia coli*. *Microbial Pathogenesis*, 163, p.105389. doi.org/10.1016/j.micpath.2022.105389
- Zahid Iqbal and Hafiz Iftikhar Hussain, Mohamed N. Seleem, Muhammad Abu Bakr Shabbir, Adeel Sattar, Amjad Islam Aqib, Xiuhua Kuang, Awais Ihsan, Haihong Hao. 2021. “RNA-seq-based transcriptome analysis of a cefquinome-treated, highly resistant, and virulent MRSA strain”. *Microbial Pathogenesis*, 160 (2021) 105201. doi.org/10.1016/j.micpath.2021.105201.
- Hafiz Iftikhar Hussain, Amjad Islam Aqib, Mohamed N. Seleem, Muhammad Abubakar Shabbir, Haihong Hao, Zahid Iqbal, Muhammad Fakhar-e-Alam Kulyar, Tean Zaheer, Kun Li. 2021. “Genetic basis of molecular mechanisms in β -lactam resistant gram-negative bacteria”. *Microbial Pathogenesis*, 158 (2021) 105040. doi.org/10.1016/j.micpath.2021.105040
- Wang, F., Mi, K., Ahmad, I., Xie, S., Hussain, H.I., Yuan, Z., Dai, M. and Huang, L., 2020. Antibacterial activity of cyadox against *Clostridium perfringens* in broilers and a dosage regimen design based on pharmacokinetic-pharmacodynamic modeling. *Microbial pathogenesis*, 141, p.103981. doi.org/10.1016/j.micpath.2020.103981
- Hussain, Hafiz I. Iqbal, Zahid, Seleem, Mohamed N., Huang, Deyu Sattar, Adeel, Hao, Haihong and Yuan, Zonghui. (2017). Virulence and transcriptome profile of multidrug-resistant *Escherichia coli* from chicken. *Scientific Reports*. 7, 8335; [10.1038/s41598-017-07798-1](https://doi.org/10.1038/s41598-017-07798-1)
- Li, Jun, Hao, Haihong, Cheng, Guyue, Liu, Chunbei, Ahmed, Saeed, Shabbir, Muhammad A B, Hussain, Hafiz I, Dai, Menghong, Yuan, Zonghui, Allen, Heather K. (2017). Microbial Shifts in the Intestinal Microbiota of *Salmonella* Infected Chickens in Response to Enrofloxacin. *Frontiers in Microbiology*. 8, 1-14, DOI:10.3389/fmicb.2017.01711
- Zahid Iqbal, Mohamed N. Seleem, Hafiz I. Hussain, Lingli Huang, Haihong Hao, Zonghui Yuan. (2016). Comparative virulence studies and transcriptome analysis of *Staphylococcus aureus* strains isolated from animals. *Scientific Reports*. 6, 35442; doi: [10.1038/srep35442](https://doi.org/10.1038/srep35442).

- Adeel Sattar, Shuyu Xie, Lingli Huang, Zahid Iqbal, Wei Qu, Muhammad A. Shabbir, Yuanhu Pan, Hafiz I. Hussain, Dongmei Chen, Yanfei Tao, Zhenli Liu, Mujahid Iqbal and Zonghui Yuan (2016). Pharmacokinetics and Metabolism of Cyadox and Its Main Metabolites in Beagle Dogs Following Oral, Intramuscular, and Intravenous Administration. *Frontiers in Pharmacology*. 7, 1-11. DOI: [10.3389/fphar.2016.00236](https://doi.org/10.3389/fphar.2016.00236).
- Adeel Sattar, Shuyu Xie, Mian Abdul Hafeez, Xu Wang, Hafiz I. Hussain, Zahid Iqbal, Yuanhu Pan, Mujahid Iqbal, Muhammad A. Shabbir, Zonghui Yuan. (2016). Metabolism and toxicity of arsenicals in mammals. *Environmental Toxicology and Pharmacology*, 48, 214-224, DOI: [10.1016/j.etap.2016.10.020](https://doi.org/10.1016/j.etap.2016.10.020).
- Sattar, Adeel, Khan, Ahrar, Hussain, Hafiz Iftikhar, He, Cheng, Hussain, Riaz, Zhiqiang, Shen, Saleemi, Muhammad Kashif and Gul, Shafia Tehseen (2016). Immunosuppressive effects of arsenic in broiler chicks exposed to Newcastle disease virus. *Journal of Immunotoxicology*, 6901, 1-9, DOI: [10.1080/1547691X.2016.1217105](https://doi.org/10.1080/1547691X.2016.1217105).
- Muhammad Abu Bakr Shabbir, Haihong Hao, Muhammad Zubair Shabbir, Hafiz Iftikhar Hussain, Zahid Iqbal, Saeed Ahmed, Adeel Sattar, Mujahid Iqbal, Jun Li, and Zonghui Yuan. (2016). Survival and evolution of crispr-cas system in prokaryotes and its applications. *Frontiers in Immunology*. 7, 1-14, DOI: [10.3389/fimmu.2016.00375](https://doi.org/10.3389/fimmu.2016.00375).
- Iqbal, Mujahid, Tao, Yanfei, Xie, Shuyu, Zhu, Yufei, Chen, Dongmei, Wang, Xu, Huang, Lingli, Peng, Dapeng, Sattar, Adeel, Shabbir, Muhammad Abu Bakr, Hussain, Hafiz Iftikhar, Ahmed, Saeed, Yuan, Zonghui (2016). Aqueous two-phase system (ATPS): an overview and advances in its applications. *Biological Procedures Online*. Vol. 19, Issue 1, Page 18, DOI: [10.1186/s12575-016-0048-8](https://doi.org/10.1186/s12575-016-0048-8).
- Haihong Hao, Guyue Cheng, Zahid Iqbal, Xiaohui Ai, Hafiz I. Hussain, Lingli Huang, Menghong Dai, YulianWang, Zhenli Liu, ZonghuiYuan. (2014). Benefits and risks of antimicrobial use in food-producing animals. *Frontiers in Microbiology*. 5, 288. DOI: [10.3389/fmicb.2014.00288](https://doi.org/10.3389/fmicb.2014.00288).
- Khan, Ahrar, Hussain, Hafiz Iftikhar, Sattar, Adeel, Khan, Muhammad Zargham and Abbas, Rao Zahid (2014). Toxicopathological aspects of arsenic in birds and mammals: A review. *International Journal of Agriculture and Biology*. 16(6), 1213-1224.

- **Books edited Book chapters or monographs published:**

- **Book Chapter:**

- Aqib, A.I., Ijaz, M., Shoaib, M., Muzammil, I., Hussain, H.I., Zaheer, T., Ahmed, R., Sarwar, I., Khan, Y.R. and Naseer, M.A., 2021. *Staphylococcus aureus* and Dairy Udder. In *Staphylococcus aureus*. IntechOpen publisher, DOI: [10.5772/intechopen.95864](https://doi.org/10.5772/intechopen.95864)
 - **Conferences attended/presented papers or posters**

- “The 6th International Symposium on Emerging Viral Diseases Control” Organized by Wuhan institute of Virology, Chinese Academy of Sciences (CAS) on 29-31, October 2014.
- “Two Days International Seminar on Poultry Diseases” Organized by Department of Pathology, University of Agriculture, Faisalabad (UAF), Pakistan, on 14-15 December.
- “The Belt and Road” Sino-Pakistan Forum” Organized by International college, Huazhong Agricultural University, Wuhan, China, on 04-08 December 2017.
- “The First Annual Academic Symposium for International Students” organized by International College, Huazhong Agricultural University, Wuhan, China, on 6th January 2018.
- “Seminar on World Rabies Day”, Organized by Department of Veterinary Pathology, Faculty of Veterinary and Animal Sciences, PMAS-Arid Agriculture University Rawalpindi, in joint venture with National Institute of Health Islamabad on 28 September 2018.
- “National Poultry Symposium on Health & Welfare”, Organized by Department of Poultry Sciences, Faculty of Veterinary and Animal Sciences, PMAS-Arid Agriculture University Rawalpindi, on 11-12, December 2018.
- “International Seminar on Avian Disease Diagnosis”, Organized by Department of Poultry Sciences, Faculty of Veterinary and Animal Sciences, PMAS-Arid Agriculture University Rawalpindi, on 13 December 2018.
- “1st National Conference Microbiology Infectious Diseases and Health Safety” April 4-5th, 2019, University of Swabi, Anbar, KP, Pakistan.
- “2nd International Buffalo Congress IBC” February 18-19, 2019, University of Veterinary & Animal Sciences, Lahore-Pakistan.
- “Virtual One Health International Conference” held on 25-26 Nov. 2020 in College of Veterinary & Animal Sciences, Jhang, Pakistan.
- “International Webinar on Cyanide Poisoning” Department of Vet. Medicine, UVAS, Lahore-Pakistan, dated 23 Sep. 2020.
- “Seminar and Walk on Dengue Awareness Day” organized by Faculty of Veterinary Science, Cholistan University of Veterinary & Animal Sciences, Bahawalpur, dated 04-11-2022.
- One Day Seminar on “Food security and Livestock” organized by Faculty of Veterinary Science, Cholistan University of Veterinary & Animal Sciences, Bahawalpur, dated 01-12-22.

- “The Belt and Road International Academic Conference on Animal Health Breeding and Disease Prevention (Talk online). Organized by Shihezi University and Huazhong Agricultural University, China, dated 30-12-2022.
- “International conference on Strengthening Collaboration for Improved Health Security (SCIHS), at UVAS Lahore, Pakistan, 14-15 March, 2023.
- An International conference on “Innovation in Biochemistry, Veterinary Medicine and Pharmacology” organized with Higher Education Commission (HEC) on February 06-07, 2023 at CUVAS, Bahawalpur-Pakistan
- One-day seminar on “Sire Summaries for Farmers” organized by Cholistan University of Veterinary & Animal Sciences, Bahawalpur, dated 21-12-2023.
- One Day Seminar “Assessment of Desert Ecology Through Animals” organized by Faculty of Bioscience, Cholistan University of Veterinary & Animal Sciences, Bahawalpur, dated 01-03-2024.
- “1st International Virtual Conference for Young Researchers on Applied Chemistry and Biological Sciences. Dated: February 25-26, 2025. Organized by Department of Applied Chemistry, Government College University Faisalabad, Pakistan.
- “21st Annual Conference of the Medical Microbiology and Infectious Diseases Society of Pakistan (MMIDSP)” held on February 7th and 8th, 2025, at Nishtar Medical University, Multan, Pakistan.
- Organized a one-day seminar on “World Tuberculosis Awareness Day” on 24th March 2025, jointly organized by Department of Microbiology and Department of Pathology, CUVAS-Bahawalpur, Pakistan.
- Delivered a talk as a “Guest Speaker” on “Beyond the Myths: The Science of Blood Donation and Thalassemia Prevention” during a webinar organized by Blood Chain Pakistan on August 16, 2026.
- **Any other addition (Please mention Title and details)**

HONORS AND AWARDS

- Sahadat-e-Hifz-ul-Quran, Wafaq-ul-Madaris, Islamabad.
 - Scholarship from “Chinese Scholarship Council” for PhD
 - Winner of “Best Student Paper Award” in “The First Annual Academic Symposium for International Students” held in Huazhong Agricultural University Wuhan, China on 6th January 2018.
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