

Dr. Muhammad Ilyas Riaz

IFBA Certified Professional
Lecturer (IOM, UVAS Lahore)
Ph.D., M.Phil, DVM

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Vision

To obtain a challenging position in a high quality research environment where my resourceful experience, academic and research skills will add value to organizational operations. I have a lot of energy, motivation, and a bit of that “vision thing” and I am not afraid to start from the beginning.

Education

Ph.D. (Microbiology):
(2017-22)

University of Veterinary and Animal
Sciences (UVAS) Lahore, Pakistan

CGPA 3.92/4.00

Research Topic: Study on Preparation
and Evaluation of Gene Deleted *Brucella*
abortus Vaccine.

M.Phil (Microbiology):
(2015-17)

University of Veterinary and Animal
Sciences (UVAS) Lahore, Pakistan

CGPA 3.97/4.00

Research Topic: Microbial Analysis and
Quality Control of Milk Samples Collected
From All Ten Towns of Lahore District.

D.V.M
(2010-15)

University of Veterinary and Animal
Sciences (UVAS) Lahore, Pakistan

CGPA 3.66/4.00

Position

- **Lecturer at Institute of Microbiology UVAS, Lahore (2017- to date):**

Since November 2017, I am working as a lecturer at the Institute of Microbiology of UVAS Lahore and I am acquiring teaching experience by actively involving in different theoretical and practical courses of Doctor of Veterinary Medicine (D.V.M), B.S Hons. Applied Microbiology, M.Phil, and Ph.D. programs.

- **Teaching Assistant at UVAS, Lahore (2016- 2017):**

I worked as Teaching Assistant in the University Diagnostic Lab (UDL), UVAS, Lahore, and in this regard, I was actively involved in different lab operations as a researcher as well as supervisor of different sections of this **1st ISO accredited Veterinary Diagnostic Lab of Pakistan.**

Research Experience

- **Ph.D. Project (2017-22):** Study on Preparation and Evaluation of Gene Deleted *Brucella abortus* Vaccine.
- **Research Fellow at The Roslin Institute, University of Edinburgh, United Kingdom (2021):** Illumina Miseq of the rDNA ITS-2 to identify the nematode species through deep amplicon sequencing of the mt-nd4 and phylogenetic networking of nematode mt-nd4 locus.
- **Researcher at BSL-3 Lab for Emerging Pathogens, Institute of Microbiology, UVAS (2020-21):** Worked on clinical samples of SARS-CoV-2 during the pandemic and expertise on RTq-PCR and clinical data analysis.
- **M.Phil. Project (2015-17):** Microbial Analysis and Quality Control of Milk Samples Collected From All Ten Towns of Lahore District.
- **Intern at National Agricultural Research Center NARC (2015):**
Spent 3 months at the National Institute of Genomics and Advance Biotechnology (NIGAB) and worked on a project entitled “Recombinant DNA subunit vaccine of FAD-4 causes Hydro pericardium syndrome in broilers”.
- Spent 3 weeks in National Reference Lab for Poultry Diseases (NRLPD) which is a regional reference lab for avian influenza for SAARC countries and has state of the art research facilities for avian influenza in Pakistan.
- **Molecular Biological Techniques Learnt:** PCR, qPCR, RTq-PCR, Gene cloning, Gene expression, Recombinant plasmid construction, Bacterial transformation, RFLP, Electroporation, Site-directed mutagenesis, Recombinant vaccine production, SDS-PAGE, at Institute of Microbiology, UVAS, Lahore.
- **Cell Culture Techniques Learnt:** BoHV-1 virus culturing on MDBK cell line, ED50, MTT Assay at Quality Operations Laboratories, UVAS, Lahore
- **Microbiological Techniques Learnt:** Microbial media preparation, sterilization techniques, Microbial culturing techniques, Total Viable & Coliform counts, Isolation & identification of food-borne pathogens, Membrane filtration technique, Most Probable Number for water testing, Phenol coefficient test, antibiotic sensitivity test, chemical adulteration testing of milk samples, DNA/ RNA / Plasmid isolation, Nanodrop method, and Agarose gel electrophoresis at Institute of Microbiology, UVAS, Lahore
- **Immunological Techniques Learnt:** Haemagglutination & Haemagglutination Inhibition assays, ELISA, Western Blot, AGPT, RBPT, Aflatoxin M1 & antibiotic residues detection at University Diagnostic Lab, UVAS, Lahore

Research Publications

- Muhammad Abu Bakr Shabbir, Aziz Ul-Rahman, Muhammad Rizwan Iftikhar, Majeeda Rasheed, Muhammad Kashif Maan, Adeel Sattar, Mehmood Ahmad, Farid Ahmed Khan, Waqas Ahmad, **Muhammad Ilyas Riaz** and Hassaan Bin Aslam (2024) **Exploring the Interplay of the CRISPR-CAS System with Antibiotic Resistance in *Staphylococcus aureus*: A Poultry Meat Study from Lahore, Pakistan** Article Published in Medicina (IF=2.60)

- Muhammad Asif Rasheed, Sohail Raza, Wadi B. Alonazi, Muhammad Adnan Ashraf, Muhammad Tariq Navid, Irfana Aslam, Muhammad Nasir Iqbal, Sarfraz Ur Rahman and **Muhammad Ilyas Riaz (2023) Design and Assessment of a Novel in Silico approach for Developing a Next-Generation Multi-Epitope Universal Vaccine Targeting Coronaviruses** Article Published in *Microorganisms* (IF=4.962)
- **Muhammad Ilyas Riaz**, Masood Rabbani, Sohail Raza , Ali Raza Awan and Aleena Kokab (2023) “**Construction and In Vivo Evaluation of *purD* Gene Deleted *Brucella abortus* as Potential Vaccine Candidate for Control of Brucellosis**” Abstract Published in American Society for Microbiology Conference
- Aleena Kokab, Ali Ahmad Sheikh, Masood Rabbani, Wasim Shehzad, **Muhammad Ilyas Riaz**, Sohail Raza and Rida Haroon Durrani (2023) “**Physiological Profiling of Lytic Bacteriophages and Post-harvest Biocontrol of *Salmonella* Enteritidis on Chicken Breast Meat using Multiphage Cocktail**” Abstract Published in American Society for Microbiology Conference
- **Muhammad Ilyas Riaz**, Masood Rabbani, Sohail Raza, Ali Raza Awan, Aleena Kokab and Rida Haroon Durrani (2022): **In Vivo Evaluation of *purD* Gene Deleted *Brucella abortus* in Mice as Potential Vaccine Candidate for Control of Brucellosis** Article Published in Pakistan Journal of Zoology (IF=0.687)
- Rida Haroon Durrani, Ali Ahmad Sheikh, Masood Rabbani, Muti-ur-Rehman Khan, **Muhammad Ilyas Riaz**, Muhammad Anas Naeem, Salman Ashraf Chattha, Aleena Kokab, Munazzah Maqbool, Muhammad Athar Abbas, Naila Siddique (2022) **Physiological Properties of Indigenous Lytic Bacteriophages as Monophage Suspension and Cocktail against Poultry-Adapted Typhoidal *Salmonella* Variants** Article Published in Veterinary Research Forum (IF=1.054)
- **Muhammad Ilyas Riaz**, Masood Rabbani, Sohail Raza, Ali Raza Awan, Aleena Kokab and Iqra Nazir (2022) “**Construction and Characterization of *purD* Gene Deleted *Brucella abortus***” Article Published in Pakistan Journal of Zoology (IF=0.687)
- Aleena Kokab, Ali Ahmad Sheikh, Masood Rabbani, Wasim Shehzad, **Muhammad Ilyas Riaz**, Qurat ul Ain (2022) “**Post-harvest Biocontrol of *Salmonella* Enteritidis on Chicken Breast Meat and Shell Eggs using Multiphage Cocktail**” Article accepted in Veterinaria Italiana (IF= 1.434)
- Aleena Kokab, Ali Ahmad Sheikh, Masood Rabbani, Wasim Shehzad, **Muhammad Ilyas Riaz**, Sohail Raza and Rida Haroon Durrani (2022) “**Physiological Profiling of Lytic Bacteriophages and their Efficiency against *Salmonella* Enteritidis on Chicken Breast Cuts**” Article Published in Pakistan Journal of Zoology (IF=0.687)
- Lucinda Slater, Shoaib Ashraf, Osama Zahid, Qasim Ali, Muhammad Oneeb, Muhammad Haroon Akbar, **Muhammad Ilyas Riaz**, Kiran Afshan, Neil Sargison, Umer Chaudhry (2022) “**Current Methods for the Detection of *Plasmodium* Parasite Species Infecting Humans**” Review Article Published in Current Research in Parasitology & Vector- Borne Diseases

- **Muhammad Ilyas Riaz**, Masood Rabbani, Aleena Kokab, Qurat ul ain, Munazzah Maqbool, Iqra nazir, Rida Haroon Durrani and Kiran Imtiaz (2021) **“Microbial and Quality Control Analysis of Milk Samples From Lahore District”** Abstract Published in 4th WPSA International Virtual One Health Conference
- Iqra nazir, Masood Rabbani, Ali Ahmad Sheikh, **Muhammad Ilyas Riaz**, Sohail Raza, Qurat ul ain, Arfat Yousaf Shaheen and Aleena Kokab (2021) **“Evaluation of in ovo antiviral activities of medicinal flowers against Newcastle Disease Virus and Avian Influenza Virus”** Article Published in International Journal of Agriculture and Biology (IF=0.822)
- Muhammad Asif Rasheed, Sohail Raza , Ali Zohaib , **Muhammad Ilyas Riaz** , Amina Amin, Muhammad Awais, Sami Ullah Khan , M. Ijaz Khan , Yu-Ming Chu (2021) **“Immunoinformatics based prediction of recombinant multi-epitope vaccine for the control and prevention of SARS-CoV-2”** Article Published in Alexandria Engineering Journal by Elsevier (IF=2.46)
- Iqra nazir, Masood Rabbani, Ali Ahmad Sheikh, Sehrish Firyal, Sohail Raza and **Muhammad Ilyas Riaz** (2021) **“Antibacterial Activity of Medicinal Flowers against Multi Drug Resistant *E. Coli* ”** Article Published in Pakistan Veterinary Journal (IF=1.20)
- Rida Haroon Durrani, Fareeha Akhtar, Ali Ahmad Sheikh, Munazzah Maqbool, Aleena Kokab, Kiran Imtiaz and **Muhammad Ilyas Riaz** (2020) **“Effects of Storage Temperature on the Microbiological Quality of Fish Meat from Two Different Managemental Systems”** Article Published in Pakistan Journal of Zoology (IF=0.790)
- Arslan Tariq, Mushtaq Ahmad, Sajid Iqbal, **Muhammad Ilyas Riaz**, Muhammad Zahid Tahir, Aamir Ghafoor, Amjad Riaz (2019) **“Effect of Carboxylated Poly L-Lysine as a Cryoprotectant on Post-thaw Quality and in vivo Fertility of Nili Ravi Buffalo (*Bubalus bubalis*) Bull Semen”** Article Published in Theriogenology by ELSEVIER (IF=2.29)
- Kiran Imtiaz, Ali Ahmad Sheikh, Masood Rabbani, Aleena Kokab, Rida Haroon Durrani, **Muhammad Ilyas Riaz**, Farhan Towakal (2018) **“ Biological Control of Salmonellosis in Poultry Through Bacteriophage”** Abstract Published in 3rd International Symposium on Advances in Molecular Biology of Plants and Health Sciences
- **Muhammad Ilyas Riaz**, Muhammad Awais Nawaz, Muhammad Usman Sajjad, Naseeb Gul, Shumaila zakria, Muhammad Naeem Riaz, Ghulam Muhammad Ali, Asma Jabeen (2015) **“Conventional Diagnosis of Field Isolates of FAV-4 Causing Hydropericardium Syndrome(HPS)”** Abstract Published in Asian Journal of Agriculture and Biology
- Shumaila zakria, Naseeb Gul, **Muhammad Ilyas Riaz**, Muhammad Awais Nawaz, Muhammad Naeem Riaz, Ghulam Muhammad Ali, Saba Farooq, Asma Jabeen (2015) **“Pathogenic potential of FAV-4 field strain associated with HPS from Pakistan”** Abstract published in Asian Journal of Agriculture and Biology

- Naseeb Gul, Shumaila zakria, **Muhammad Ilyas Riaz**, Muhammad Awais Nawaz, Muhammad Naeem Riaz, Ghulam Muhammad Ali, Saba Farooq, Asma Jabeen (2015) “**Protective Efficacy of Commercial Water Based Vaccine Against Hydro Pericardium Syndrome**” Abstract Published in Asian Journal of Agriculture and Biology

Honors & Awards

- International Federation of Biosafety Association (IFBA) Biorisk Management Re-certified Professional (2023)
- International Federation of Biosafety Association (IFBA) Biosecurity Certified Professional (2022)
- Member Faculty of Veterinary Sciences Board of Studies (2022)
- International Federation of Biosafety Association (IFBA) Biological Waste Management Certified Professional (2021)
- Research Fellow under International Research Support Fellowship by Punjab Higher Education Commission at The Roslin Institute, University of Edinburgh, United Kingdom (2021)
- International Federation of Biosafety Association Global Mentee Awardee (2019)
- Health Security Partners (HSP) Future Fellowship Awardee (2018)
- International Federation of Biosafety Association (IFBA) Biorisk Management Certified Professional (2017)
- Among the top 3 of the UVAS D.V.M session (2010-15)
- Higher Education Commission (HEC) Scholarship Holder (2013-15)
- Member of Youth Parliament of Pakistan (2015)
- Prime Minister’s Laptop Award Winner (2015)
- Member of UVAS Proctorial Board (2013-14)
- UVAS Merit Scholarship Holder (2011-13)

Volunteer Work

- Participated in UVAS Flood Relief Campaign (2022) services as a volunteer and was involved in the distribution of food, goods, and collection of funds in this natural disaster.
- Volunteer at BSL-3 Lab for Emerging Pathogens, Institute of Microbiology, UVAS (2020-22)
- UVAS Civic Engagement Projects (2014)
- UVAS Flood Relief Campaign (2014)

Memberships

- American Society for Microbiology (2016-23)
- Pakistan Veterinary Medical Council (2015-2023)
- UVAS Alumni Association (2015-23)
- UVAS Blood Donor Society (2014)

- Vets Care Organization (2011-14)
- Joint Secretary of the Special Animals & Veterinary Emergency Relief Society (2013)

Project Executed as Team Member

- Virtual Training Program for Veterinary Students to Bolster Field Biosafety Funded by Health Security Partners, USA (2020)
- Training Program for Bolstering Biosafety and Community-based Seminars for Prevention, Preparedness, and Reporting of Zoonotic Infections Funded by Health Security Partners, USA (2018)
- Milk Quality Research Program, a joint venture research project of Tetra Pack Pakistan and UVAS to evaluate the quality of milk and possible adulteration in the milk marketed in 3 big cities Lahore, Karachi, and Islamabad (2016)

Conferences and Workshops

- One Day 2nd Technical Working Group (TWG) Meeting Leadership Project on ISO 35001 Organized by Association for Biorisk Management (2024)
- Two Days National Laboratory Infectious Waste Management Guidelines Writeshop Organized by Health Security Partners, USA (2024)
- Two Days Training Workshop on Detection Techniques for Mycotoxins and Toxigenic Fungi in Food & Feed Organized by Institute of Microbiology, UVAS (2023)
- One Day Hands on Training Workshop on Operations of Lab Equipment Organized by Institute of Microbiology in Collaboration with The Worldwide Scientific (2023)
- Poster Presentation in American Society for Microbiology (ASM) Conference at Houston, Texas, United States (2023)
- Enhancing Molecular Biology Techniques and Cybersecurity at Irbid, Jordan organized by Sandia National Laboratories (USA) & Jordan University of Science and Technology (2023)
- Virtual Series of Workshop to Enhance Molecular Biology, Epidemiology & Sequencing Capabilities at Select Pakistani Universities Organized by Sandia National Laboratories (USA) & Jordan University of Science and Technology (2021-22)
- 6th Annual MLCON by Pakistan Medical Laboratory Association (2022)
- Asia-Pacific Biosafety Association's 15th Annual Biosafety Conference, Two Days Virtual Conference (2022)
- International Poultry Science Conference (Member of Organizing Committee) (2022)
- Virtual Preparatory Course for IFBA's Professional Certification Exam in Biosecurity by Health Security Partners, USA (2022)
- IFBA's Virtual Biosafety Conference "A Vision of Tomorrow", Three Day Virtual Conference (2021):
- 4th WPSA International Virtual One Health Conference (Member of Organizing Committee) (2021)
- Two days BRM Refresher Virtual Training on Biorisk Management (2021)

- World Microbe Forum by American Society for Microbiology (2021)
- Five days Virtual Training on Biorisk Management Organized by Health Security Partners, USA (2020)
- Seven Days Training on Controlling Disease Outbreaks of Especially Dangerous Pathogens by Strengthening One Health Strategies in Pakistan by the University of Tennessee in Bali, Indonesia (2019)
- International Poultry Science Conference (Member of Organizing Committee) (2019)
- Three Day Workshop on Dual Use Research of Concern by Health Security Partners, USA (2019)
- International Buffalo Congress (Member of Organizing Committee) (2019)
- 38th All Pakistan Science Conference (2018)
- International Poultry Science Conference (Member of Organizing Committee) (2018)
- One Year Future Fellowship at Health Security Partners, USA (2018-19)
- Four Days Training in Baku, Azerbaijan Organized by Health Security Partners on Global Health Challenges and Community Health (2018)
- Eight Days Training on Poultry Viral Diagnostics by Royal Veterinary College (U.K) & UVAS (2018)
- Three Days Training on Research Methodology by the Center for Educational Policy & Administration (CEPA) (2017)
- Training on Biorisk Management by TSY Consultancy International & CRDF Global in Kuala Lumpur, Malaysia (2017)
- 52 Weeks of Biosafety Program by American Society for Microbiology (2016-17)
- Frontline Health Care Workers Safety Association Biosafety Courses entitled Bio risk Management, Bio Waste Management, Care and Use of Biosafety Cabinet and Dual Use Research of Concern (2017)
- 1st National Conference on Emerging Trends in Bioinformatics & Biosciences at Hazara University, Mansehra (2017)
- 6th International Halal Conference & Exhibition (2017)
- Workshop on Food Safety & Halal Standards Compliance Management (2017)
- Basic Chinese Language Course (2017)
- Workshop on Bio Risk Management in Biological Labs at Islamia University of Bahawalpur (2017)
- Poster Presentation in 4th International Molecular Biology and Biotechnology Congress and Conference on Life Sciences Research at ISRA University, Islamabad (2015)

Trainings Conducted as Resource Person

- One-Day Awareness Seminar on Assessment of Impact and Overcoming Challenges of EPI in Punjab Organized by Institute of Microbiology, UVAS (2024)
- One-Day Hands-on Training Workshop Capacity-Building Training of Lab Attendants Regarding Biosecurity Protocols in Research Institutes Organized by Institute of Microbiology, UVAS in Collaboration with Health Security Partners, USA (2024)

- Two Days Training Workshop on Overview of ISO 35001 Documentation Organized by Institute of Microbiology, UVAS in Collaboration with Health Security Partners, USA (2024)
- Two Days Training Workshop Capacity Building of TWG Members over ISO 35001 Organized by Association for Biorisk Management (2024)
- One Day Pre-Internship Seminar for Medical Laboratory Technology (2024)
- Two Days Training Workshop on Overview of ISO 35001 (2023) Organized by Institute of Microbiology, UVAS in Collaboration with Health Security Partners, USA (2023)
- Two Days Hands on Training Workshop on Building the Capacity of Laboratory Professionals in Bio-Risk Assessment: The New WHO Approach Organized by Shifa Tameer-e-Milat University Islamabad at UVAS (2023)
- Secretary Organizing Committee for One Day China Pakistan Training Forum of Major Livestock Disease Control Organized by China Agriculture University and UVAS (2023)
- Two Day Cyberbiosecurity Training Workshop at Institute of Microbiology, UVAS Organized by Government College University, Faisalabad in Collaboration with Health Security Partners, USA (2023)
- Advance BRM Trainer Development Workshop by Sandia National Laboratories (USA) in Collaboration with Pakistan Veterinary Medical Council (PVMC) and UVAS Organized Three Days Virtual Training to Meet Master Trainer's BRM Training Needs at The University Level (2021).
- Virtual Awareness Seminars Series on Field Biosafety for DVM Students (2021)
- Faculty Training Program For Veterinary Education Establishments of Pakistan on How To Effectively Teach Newly Introduced Course "Biorisk Management for Dvm Degree" (2020).
- One Day Awareness Seminar and Hands on Training on The Use of Personal Protective Equipment For Novel Coronavirus (2020).
- One Day Hands on Training on Food Safety at HICO Dairy Ice Cream Factory (2020).
- 2nd Awareness Seminar on Field Biosafety arranged by Health Security Partners, USA and UVAS (2019).
- Awareness Seminar on Field Biosafety arranged by Health Security Partners, USA and UVAS (2019).
- Two days International Buffalo Congress by the University of Veterinary and Animal Science in collaboration with the International Buffalo Federation (2019).
- One Day Workshop on Influence without Authority by Pakistan Biological Safety Association in collaboration with Fogarty International Center, National Institute of Health (USA) (2019)
- Two Days Advance Level Biosafety Workshop by Health Security Partners, USA and UVAS (2018).
- Member of Organizing Committee at The Poultry Science Conference (IPEX) Organized by The Pakistan Poultry Association and UVAS (2018).

- Five Day Training on One Health Approach towards Control of Rabies by Indus Hospital Karachi and UVAS (2018).
- Three Days Awareness Level Biosafety Workshop by Health Security Partners (HSP) and UVAS (2018)
- Two Days Workshop for Biosafety Officers by Institutional Biosafety Committee (IBC) of UVAS (2018)
- One Day Hands on Training Workshop on Basic Concept of Biosafety (2017)
- Ten Days Training Workshop for Lab Workers Working in the Different Government Diagnostic Labs of Punjab to Teach Lab Assisted Disease Diagnostic Techniques (2016)

Advisory Services

- **Lab Management System (ISO 17025):** Implementation of Lab Management System ISO 17025:2005 for the Sustainability of University Diagnostic Lab.
- **Advisory Services to UVAS Tutorial Group (2017- to date)**

References

- **Professor Emeritus Dr. Masood Rabbani**
Institute of Microbiology
University of Veterinary and Animal Sciences, Lahore
mrabbani@uvas.edu.pk
- **Professor Ali Ahmad Sheikh**
University Diagnostic Lab
Institute of Microbiology
University of Veterinary and Animal Sciences, Lahore
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