

DR. MUHAMMAD UMER ASHRAF

DVM · MPhil · PhD (Immunology)

Assistant Professor (TTS), Institute of Microbiology, Faculty of Veterinary Science, University of Agriculture, Faisalabad

drumerashraf@gmail.com | drumerashraf@uaf.edu.pk | +92-314-6476368

[Faculty Profile](#) | [Google Scholar](#) | [ORCID](#) | [ResearchGate](#)

PROFESSIONAL SUMMARY

Assistant Professor (Tenure Track System) at the Institute of Microbiology, Faculty of Veterinary Science, University of Agriculture, Faisalabad (UAF), Pakistan. Holds a PhD in Immunology from Sungkyunkwan University (SKKU), South Korea (2018-2024, CGPA 4.46/4.50), completed under the Government of Punjab's "50 Overseas PhD Scholarships Program." Research expertise spans host-pathogen interactions, cellular and molecular immunology, dendritic cell biology, innate and adaptive immune regulation, vaccinology, antimicrobial resistance, and One Health approaches to infectious disease. Author of international peer-reviewed publications (including work in journals with impact factors up to 8.2) and a book chapter, with an active and growing record of international collaboration, postgraduate and doctoral supervision, competitive grant applications, and journal peer review. Since returning to Pakistan, have progressed from Lecturer (2018-2025) to Assistant Professor (TTS, Oct 2025-present), building a translational immunology and vaccine research program that bridges veterinary and human infectious disease. Long-term research vision: advancing translational immunology and vaccine development through multidisciplinary, globally collaborative research grounded in One Health principles.

Research Areas: Immunology · Microbiology · Vaccinology · Dendritic Cell Biology · Antimicrobial Resistance · One Health · Epitranscriptomics

EDUCATION

Ph.D. in Immunology-Sungkyunkwan University (SKKU)

2018 - 2024

Suwon, South Korea

CGPA: 4.46/4.50

Doctoral research focusing on dendritic cell–NK cell crosstalk and neutrophil-mediated protective immunity against acute bacterial infection. Funded by the Government of Punjab's Overseas PhD Scholarships Program and SKKU research/international student scholarships.

M.Phil. in Microbiology-University of Agriculture, Faisalabad-Institute of Microbiology

2015 -2017

CGPA: 4.00/4.00-Silver Medalist

Doctor of Veterinary Medicine (DVM) UAF-Faculty of Veterinary Science

2015

CGPA: 3.80/4.00-Silver Medalist

ACADEMIC & PROFESSIONAL EXPERIENCE

Assistant Professor (TTS)-Institute of Microbiology (IOM), UAF

Oct 2025-Present

Faisalabad, Pakistan

- Teach undergraduate and postgraduate courses in microbiology and immunology.
- Supervise MPhil and PhD (major and co-supervision) and undergraduate research projects.
- Develop national and international research proposals and collaborations, including competitive grant applications.
- Contribute to curriculum development and departmental academic activities.
- Serve as Academic Advisor for BS Microbiology (undergraduate) and Co-Advisor for the Media Club and Veterinary Medical Society.

Lecturer-Institute of Microbiology (IOM), UAF

2018-2025

Faisalabad, Pakistan

- Taught undergraduate and postgraduate microbiology and immunology courses.
- Participated in curriculum development and departmental activities.

- Taught virology lectures and laboratory practicals to undergraduate students.

RESEARCH PROJECTS & GRANT APPLICATIONS

- Agricultural Linkages Program (ALP-PARC, Pakistan)-11th Batch (application submitted).
- Punjab Youth Innovation and Incubation Competition 2026 (application submitted).
- AFSIC-Agriculture and Food Security Innovation Challenge 2026 (application submitted).

STUDENT SUPERVISION

Ph.D. Students-Major Supervision (Ongoing)

- Mishaal Fatima (2019-ag-9206)
- Malaika Faisal (2019-ag-9227)
- Khalid-ur-Rehman (2025-ag-1588)

M.Phil. Students-Major Supervision (Ongoing)

- Asma Yasin (2021-ag-9702)
- Amna Arif (2025-ag-175)
- Tanveel Akhtar (2021-ag-9653)
- Nazkhatoon Sudheer (2020-ag-8986)
- Fabiha Mamoon (2025-ag-200)

M.Phil. Students-Co-Supervision (Ongoing)

- Maryam Fatima (2021-ag-9693)
- Zainab Ijaz (2021 -ag-9707)
- Areeba Allah Ditta (2025-ag-186)
- M. Mohsin Khan (2025-ag-195)

Undergraduate Supervision

- Capstone Project
- Millennium Fellowship-MCN (in process)

PUBLICATIONS

International peer-reviewed publications and book chapter · Q1/Q2 journals · Collaborative work spanning South Korea and Pakistan (2017–2026)

1. Azeem A, Khan MK, Mehmood MS, et al., **Ashraf MU**. GenBank-derived global inventory of benzimidazole resistance markers in the *Haemonchus contortus* β -tubulin 1 gene. *Molecular and Biochemical Parasitology*, 2026 (**IF 1.5**).
2. **Ashraf MU**, Kang MH, Lim YT, Yang S, Bae YS. Egr2-dependent Mo-DCs regulate immunosuppressive NK cells, promoting neutrophil-mediated protective immunity against acute *Listeria* infection. *Molecules and Cells*, 2025 (**IF 8.2**).
3. Kumar SA, **Ashraf MU**, Aman AK, Bae YS. Advances in personalized therapy: co-targeting intracellular immune checkpoints in controlling acute myeloid leukemia. *Recent Developments in Medicine and Medical Research*, 2021 (**Book Chapter**).
4. Kumar S, Sarthi P, Mani I, **Ashraf MU**, Kang MH, Kumar V, Bae YS. Epitranscriptomic approach to improve the efficacy of ICB therapy by co-targeting intracellular checkpoint CISH. *Cells*, 2021 (**IF 6.0**).
5. Kumar S, Nagpal R, Kumar A, **Ashraf MU**, Bae YS. Immunotherapeutic potential of m6A-modifiers and microRNAs in controlling acute myeloid leukaemia. *Biomedicines*, 2021 (**IF 4.5**).
6. Kumar S, **Ashraf MU**, Kumar A, Bae YS. Therapeutic potential of microRNA against Th2-associated immune disorders. *Current Topics in Medicinal Chemistry*, 2021 (**IF 3.6**).
7. **Ashraf MU**, Kim Y, Kumar S, Seo D, Bae YS. COVID-19 vaccines (revisited) and oral-mucosal vector system as a potential vaccine platform. *Vaccines*, 2021 (**IF 3.5**).

8. **Ashraf MU**, Jeong Y, Roh SE, Bae YS. Transendothelial migration (TEM) of in vitro generated dendritic cell vaccine in cancer immunotherapy. *Archives of Pharmacal Research*, 2019 (**IF 8.2**).
9. Kumar S, Jeong Y, **Ashraf MU**, Bae YS. Dendritic cell-mediated Th2 immunity and immune disorders. *International Journal of Molecular Sciences*, 2019 (**IF 5.6**).
10. Ishaq MU, Rafique A, Cheema HM, **Ashraf MU**, Rahman SU, Abbas RZ, Mahmood MS. Role of CpG oligodeoxynucleotides (CpG ODNs) as adjuvant in poultry vaccines. *World's Poultry Science Journal*, 2018 (**IF 3.5**).
11. **Ashraf MU**, Mahmood MS, Rafique A, Abbas RZ, Iqbal Z, Younas M, Sadiq SA, Usman M, Asghar MO, Ishaq MU. Factors responsible for the continuous persistence and evolution of low pathogenic avian influenza virus (H9N2). *World's Poultry Science Journal*, 2017 (**IF 3.5**).

Post-PhD output (2025–present): 2 International peer-reviewed publications: 1 as first author (Molecules and Cells, IF 8.2) and 1 as co-author (Molecular and Biochemical Parasitology, **IF 1.5**).

NATIONAL & INTERNATIONAL COLLABORATIONS

International

- Sungkyunkwan University (SKKU), South Korea-ongoing collaboration with CIRNO group, reflected in continuing joint publications (e.g., Molecules and Cells, 2025).

Ashraf MU, Kang MH, Lim YT, Yang S, Bae YS. Egr2-dependent Mo-DCs regulate immunosuppressive NK cells, promoting neutrophil-mediated protective immunity against acute *Listeria* infection. *Molecules and Cells*, 2025 (**IF 8.2**).

National

- Collaborative publications with colleagues across departments at UAF, including Parasitology co-authors on the 2026 *Haemonchus contortus* paper.

Azeem A, Khan MK, Mehmood MS, et al., Ashraf MU. GenBank-derived global inventory of benzimidazole resistance markers in the *Haemonchus contortus* β -tubulin 1 gene. *Molecular and Biochemical Parasitology*, 2026 (**IF 1.5**).

HONORS, AWARDS & SCHOLARSHIPS

- Silver Medalist-DVM (2015) and M.Phil. Microbiology (2018), University of Agriculture, Faisalabad
- Government of Punjab ADP “50 Overseas PhD Scholarships Program” (2018)
- Research Scholarship, SKKU, South Korea (2021-2025)
- International Student Scholarship, Sungkyunkwan University (2018-2021)
- IELTS Academic (British Council)-Band 7.5/9.0 (2015)
- Certificate of Abstract Acceptance & Oral Talk, International AMR Conference (2026)
- Certificate of Participation, GCU Conference-IBBC (2026)

PROFESSIONAL SERVICE, ADMINISTRATION & OUTREACH

Professional Service

- Peer reviewer for multiple national and international scientific journals.

Administrative

- Academic Advisor, BS Microbiology (Undergraduate), UAF (2025-Present).

Outreach

- Co-Advisor, Media Club, Veterinary Medical Society (2025/2026-onward).

TRAININGS, WORKSHOPS & CONFERENCES

- Teaching Assistant, Virology lectures and laboratory practicals, SKKU, South Korea (2019-2020).
- International AMR Conference (FAO-2026)-abstract accepted and oral talk delivered.
- GCU 3rd International Brain and Biomedicines Conference (IBBC 2026)-participation.
- Capacity Building of UAF Faculty for AI: Basics & Application-Workshop (2026).

- AI Teaching-One-Day Workshop (2026).

TECHNICAL SKILLS & RESEARCH INTERESTS

Laboratory & Research: Flow Cytometry, RT-PCR & qRT-PCR, Western Blotting, ELISA, Immunofluorescence, Cell Culture, Cloning, Animal Infection Models, Bioinformatics, Transcriptomics, Vaccine Development, Host-Pathogen Interaction Studies

Professional: Teaching, Scientific Writing & Peer Review, Public Speaking, Leadership, Project & Time Management, Grant Writing

Research Interests: Immunotherapy & Vaccination, Host-Pathogen Interaction, Antimicrobial Resistance (AMR), One Health, Epitranscriptomics, Cell Biology (Dendritic Cells, Macrophages, NK cells, Tregs, T cells)

ADDITIONAL ACHIEVEMENTS-APPLYING PHD EXPERTISE LOCALLY

- Transitioned advanced immunology and dendritic-cell/vaccine research techniques acquired at SKKU (flow cytometry, RT-PCR/qRT-PCR, Western blotting, ELISA, immunofluorescence, cell culture, cloning, animal infection models) into teaching and research capacity at UAF.
- Applying vaccinology and host-pathogen interaction expertise from doctoral training toward One Health-oriented research directions that bridge veterinary and human infectious disease.

REFERENCES

Available on request.