**Dr. Mudasir Mohd Rather**  

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**Career Objective**

A dedicated Veterinary Microbiologist with a strong background in microbiology, molecular biology, and immunology. Passionate about vaccine development, virus-host interactions, and innovative research in virology to combat emerging infectious diseases.

**Educational Qualifications**

* **Ph.D. in Veterinary Microbiology**
*ICAR-Indian Veterinary Research Institute (IVRI), Izzatnagar, Bareilly, UP*
	+ **Research Topic:** *Development and Evaluation of Chimeric PCV1-2 as a Vaccine Candidate for Porcine Circovirus-Associated Disease*
	+ **Major:** Virology | **Minor:** Biotechnology & Biochemistry
* **Master’s in Veterinary Virology(MVSc)** (2017–2019)
*ICAR-Indian Veterinary Research Institute (IVRI), Izzatnagar, Bareilly, UP*
	+ **Research Topic:** *Development of Standard Reagents for the Quality Control of Rabies Vaccine*
	+ **Major:** Virology | **Minor:** Biotechnology & Biochemistry
* **Bachelor of Veterinary Science and Animal Husbandry (B.V.Sc & A.H.)** (2012–2017)
*Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST-J), Jammu*

**Research Interests & Expertise**

* Molecular virology & viral pathogenesis
* Virus-host interactions and immune response
* Vaccine development and evaluation
* Diagnostic assay development for viral diseases
* Epigenetics and viral genome analysis

**Technical Skills**

* **Molecular Biology Techniques:** DNA/RNA extraction, plasmid isolation, cloning & gene expression
* **Virology Techniques:** Virus genome analysis, viral culture, virus titration, viral neutralization assays
* **Protein Analysis:** Western blotting, immunofluorescence, ELISA
* **PCR Technologies:** Droplet Digital PCR (ddPCR), Real-time PCR (qPCR)
* **Cell Culture Techniques:** Mammalian and bacterial cell culture
* **Immunological Assays:** Vaccine development, antigen-antibody interactions
* **Laboratory Animal Research:** In vivo and in vitro models for viral infections

**Publications**

** Rather, M.M**., Upmanyu, V., Vasavi, K., Pande, T., Singh, S., Pawaskar, N.K. and Poloju, D., 2023. Expression of Nucleocapsid Protein of Rabies Virus and its Diagnostic Potential. Journal of Experimental Zoology India, 27(1), pp.XX-XX.

 Mohd, G., **Rather, M.M**., Pande, T., Rai, V., Singh, S., Tiwari, A.K., Pandey, A.B., Dhar, P. and Upmanyu, V., 2023. Quantification and Evaluation of Neutralizing Antibody Titer Against Rabies Virus Using Modified RFFIT. Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases(IJCMID), 44(1), pp.1-8.

 Pande, T., Tiwari, A.K., Singh, S**., Rather, M.M**., Koppu, V. and Upmanyu, V., 2023. Quantitative Real-Time PCR as an Alternative to Plaque Assay Titration for Recombinant Baculovirus Expressing Porcine Parvovirus VP2 Gene. Journal of Animal Research, 13, pp.1-6.

 Vasavi, K., Poloju, D., Madineni, K., Manchikanti, S.S., **Rather, M.M**., Purvala, B., Balaji, S. and Chadana, M.S., 2023. Incidence of Canine Parvovirus in Different Breeds of Dog in Ludhiana During 2020-2021. The Pharma Innovation Journal, 23(6), pp.4450-4456.

 **Rather, M.M**., Koppu, V., Singh, S., Puvvala, B., Pande, T., Poloju, D. and Chandra, P., 2023. Epitope Dampening: Potential for Development of New Generation Vaccines. The Pharma Innovation Journal, 23(6), pp.4492-4498

 **Rather, M.M.,** Vasavi, K., Barkathullah, N., Singh, S., Pande, T., Poloju, D. and Tiwari, V.K., 2023. From virus to vaccines: A critical review of rabies prevention. The Pharma Innovation Journal, 12(7), p.658.

 Nautiyal, S., Rai, V., Bhat, S., Kumar, R., **Rather, M.M.** and Sanker, M., 2020. I-MOTIF DNA: Significance and future prospective. Exploratory Animal Medical Research, 10(1), pp.18-23.

 Vasavi, K., Poloju, D., **Rather, M.M.,** Sravathi, V., Supriya, R. and Singh, S., 2023. Porcine Circovirus Type 2 (PCV-2) and its economic implications: A brief review. The Pharma Innovation Journal, 12(7), pp.2692-2697.

 Poloju, D., Vasavi, K., Supriya, R., Sravathi, V. and **Rather, M.M.,** 2023. Immune response to lumpy skin disease virus: Host-virus interactions and immunopathogenesis. The Pharma Innovation Journal, 12(7), p.463.

Pawasker, N.K., Kumar, A., Gupta, P.K., Muneeb, J.M., Yadav, S., Saini, M. and **Rather, M.M.,** 2024. Synthesis and characterization of chitosan nanoparticles: Insights from in-vitro analysis. International Journal of Advanced Biochemistry Research, 8(8), pp.421-426

**POPULAR ARTICLES**

 **Rather, M.M**., Puvvala, B. and Vasavi, K., 2023. Giant viruses and their future. Veterinary World, 1(6), June, pp.45-49.

 **Rather, M.M.,** Vasavi, K., Puvvala, B. and Poloju, D., 2023. Microfluidics: Revolutionizing science on a tiny scale. Veterinary World, 1(6), June, pp.321-325.

 **Rather, M.M.,** Vasavi, K., Puvvala, B. and Pande, T., 2023. The potential of CRISPR-Cas technology in combating infectious diseases. The Science World, 3(05), May, pp.911-916.

 Vasavi, K., **Rather, M.M.,** Puvvala, B. and Pande, T., 2023. Synthetic viruses: A double-edged sword in scientific advancement. The Science World, 3(06), May, pp.969-973.

 Vasavi, K., Pande, T., Puvvala, B., Poloju, D. and **Rather, M.M.,** 2023. Nanobodies: A novel approach in viral disease diagnosis and therapeutics. The Science World, 3(01), May, pp.90-93.

 Vasavi, K., Upmanyu, V., **Rather, M.M.,** Gangwar, S. and Raghavesh, A.N., 2024. Unlocking the future of animal health: Beyond antibiotics. Veterinary World, 2(02), February, pp 121-125.

Fayaz, I.B., Zehgeer, M.M., **Rather, M.M**. and Irshad, S., 2024. Status of orphan disease in India. Veterinary World, 2(02), May.

**Sequence submission**

Malla, B.A., Dubal, Z.B., Kumar, A., Gandham, R.K.M. and **Rather, M.M**., 2023. Consensus 1002 bp human Group A Rotavirus VP6 sequence submitted to GenBank. Final Accession Number: OQ925956.

**BOOK CHAPTERS**

 **Rather, M.M**., Kuniyal, A., Singh, S. and Amani, M., 2023. Occupational zoonosis. In: AkiNik Publications. ISBN: 978-93-5570-551-8.

 Kuniyal, A., **Rather, M.M.** and Katira, B., 2023. Biosafety and biosecurity measures to prevent the spread of disease from the laboratory. In: AkiNik Publications. ISBN: 978-93-5570-551-8.

 Singh, C., Vihan, V. and **Rather, M.M.,** 2023. Major meat-borne parasitic, bacterial, viral, fungal, and prion zoonoses: An introduction. In: Scorpion Publications. ISBN: 978-93-94375-10-9.

 Vasavi, K., Poloju, D., **Rather, M.M.,** Pande, T., Puvvala, B., Madineni, K. and Manchikanti, S.S., 2023. Technological development in diagnosis of bovine mastitis. In: Narendra Publishing House. ISBN: 978-93-56512-38-2.

 Pande, T., Sanjana, S. and **Rather, M.M.,** 2023. The viral vortex: Navigating the rotavirus disease, epidemiology, and immunization. Emerging Human Viral Diseases, Volume II.

 Rather, M.M., **Rafiq, M.M.** and Rafiqui, M.U., 2023. CRISPR as a diagnostic tool. In: ISBN: 978-93-94151-22-2.

 Rafiq, M.M., **Rather, M.M.** and Muneeb, J.M., 2023. Applications of biotechnology for improved production of farm animals. In: ISBN: 978-93-94151-22-2.

 **Rather, M.M**. and Vasavi, K., 2023. Unleashing the truth: Understanding rabies in humans and animals. Emerging Human Viral Diseases, Volume II.

 Upmanyu, V., **Rather, M.M**. and Koppu, V., 2023. Potency testing of rabies veterinary vaccine, inactivated (cell culture). In: Techniques for Alternative Potency Estimation and Identification of Microbial Components in Biologicals. ISBN: 978-93-340-2829-4.

 Upmanyu, V., **Rather, M.M.** and Koppu, V., 2023. Determination of lethal dose of rabies challenge virus standard. In: Techniques for Alternative Potency Estimation and Identification of Microbial Components in Biologicals. ISBN: 978-93-340-2829-4.

 Upmanyu, V., Kumar, M.A., **Rather, M.M.,** Koppu, V., Pande, T., Puvvala, B., Behra, S., Dixit, T. and Latheef, S.K., 2023. Detection of hemagglutinating viruses by HA and HI tests. In: Advanced Virological Techniques for Research in Life Science. ISBN: 978-93-340-2763-1.

 Upmanyu, V., **Rather, M.M.,** Koppu, V., Pande, T., Puvvala, B., Behera, S., Dixit, T. and Latheef, S.K., 2023. An introduction to droplet digital PCR (ddPCR). In: Advanced Virological Techniques for Research in Life Science. ISBN: 978-93-340-2763-1.

 Rajak, K.K., Upmanyu, V., **Rather, M.M.,** Gangwar, S., Raghavesh, A.N., Yadav, A.K. and Bhatt, M., 2023. Neutralization assays. In: Techniques for Alternative Potency Estimation and Identification of Microbial Components in Biologicals. ISBN: 978-93-340-2829-4.

 Upmanyu, V., **Rather, M.M**., Bhatt, M., Yadav, A.K. and Singh, V., 2023. Nucleic acid amplification techniques. In: Techniques for Alternative Potency Estimation and Identification of Microbial Components in Biologicals. ISBN: 978-93-340-2829-4.

 Upmanyu, V., Yadav, A.K., **Rather, M.M**., Gangwar, S., Raghavesh, A.N., Yadav, A.K. and Bhatt, M., 2023. ELISA for quality control of veterinary biologicals. In: Techniques for Alternative Potency Estimation and Identification of Microbial Components in Biologicals. ISBN: 978-93-340-2829-4.

 Rather, N.M. and **Rather, M.M**., 2023. Fuat Sezgin: An advocate of unity in the history of science. In: Institute of Objective Studies, New Delhi.

**Awards & Achievements**

 **Late Dr. M.N. Kulkarni Memorial Award**
For research on "Development and Evaluation of Recombinant Baculovirus Expressing VP2 Protein of Porcine Parvovirus as a Vaccine Candidate"
(Tripti Pande, V. Upmanyu, A.K. Tiwari, Sudhir Singh, **Mudasir Mohd Rather**, A. Mandali)

 **Visionary Scholar Award**
For research on "Microfluidics: Revolutionizing Science on a Tiny Scale"
(**Mudasir M. Rather**, Koppu Vasavi Bhavani Puvvala, Poloju Deepa)

 **Dr. C.M. Singh Best Research Paper Award – 2024**
For research on "Quantification and Evaluation of Rabies Virus-Neutralizing Antibody Titers by Modified Rapid Fluorescent Focus Inhibition Test"
(G. Mohd, V. Upmanyu, **M.M. Rather**, T. Pande, V. Rai, S. Singh, N. Koherwal, A.B. Pandey, P. Dhar, and A.K. Tiwari)

**Professional Memberships**

 **Life Member**, Jammu & Kashmir State Veterinary Council

 **Life Member**, Indian Association of Veterinary Microbiologists, Immunologists, and Specialists in Infectious Diseases (IAVMI)