

Resume

Naveen Kumar, Ph.D

Senior Scientist (Veterinary Virology)

National Center for Veterinary Type Cultures

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Career:

- 2015- cont- Senior Scientist (Veterinary Microbiology)
National Center for Veterinary Type Cultures, ICAR-NRC on Equines, Hisar
- 2011- 2015. Senior Scientist (Veterinary Microbiology)
Central Institute for Research on Goats, Makhdoom, Mathura, India
- 2006-2011: Postdoctoral research fellow
Emory University, Atlanta, USA
- 2004-2006: DAAD fellow (PhD research)
Friedrich Loeffler Institute, InselRiems, Greifswald, Germany
- 2003-2006: Ph.D. (Veterinary Virology)
CCS Haryana Agricultural University, Hisar, India
- 2002-2003: Scientist
BioMed Pvt. Ltd. Ghaziabad, UP, India
- 2000-2002: M.V.Sc. (Veterinary Microbiology)
Rajasthan Agricultural University, Bikaner, India
- 1995-2000: B.V.Sc. & A.H.
Rajasthan Agricultural University, Bikaner, India

International Awards:

- 2016: Commonwealth Professional Fellowship by Commonwealth Scholarship Commission, UK
- 2010: Fellowship, American Society of Virology, USA
- 2008: Fellowship, American Society of Virology, USA
- 2008: Fellowship, Influenza Pathogenesis & Immunology Research Center, Atlanta, USA
- 2006: Postdoctoral Research Fellowship, Emory University, Atlanta, USA
- 2004: DAAD fellowship, DAAD Bonn, Germany

National Awards:

- 2016: Societal Innovation Award for development of indigenous vaccine against Johne's disease, by National Research Development Corporation, Ministry of Science and Technology, Govt. of India
- 2016: Reviewer Excellence Award, Indian J. Animal Research
- 2015: Best paper award by Executive Board of Advances in Veterinary and Animal Sciences for paper published in 2014 (2015)
- 2015: Best paper award by Executive Board of Advances in Veterinary and Animal Sciences for paper published in 2013 (2015)
- 2015: Best Poster award, ISVIB annual conference 2015
- 2013: CSIR International travel grant to attend the Annual meeting of the American Society of Virology at Pennsylvania, USA
- 2012: First prize among best posters in ISSGPU annual conference 2012
- 2002: Gold Medal, RAU Bikaner, India for first in M.V.Sc. (Vety. Microbiology).
- 2000: Sarabhai Zydus Animal Health Award for academic achievements.

Honors:

1. OIE/FAO expert on progressive control of PPR
2. Invited by **Veterinary Microbiology** for writing a review on Advances in PPR vaccine (2016)
3. Invited by **Viruses** for writing a review on PPR (2014)

4. Expert/Reviewer in SERB/DST, India for evaluation of research projects for extramural funding
5. Member, Editorial Board, The Scientific Pages of Vaccine
6. Member, Editorial Board, Austin J. Microbiology
7. Member, Editorial Board, Austin Virology and Retrovirology, Austin Publishing Group, USA
8. Editor for special issue for the International Journal of Microbiology (2015)
9. Member Reviewer Board, Journal of Nanomedicine and Nanotechnology
10. Founder member, International Academy of Biosciences, UK
11. Reviewer, Analytical and Bioanalytical Chemistry, PLOS One, Journal of Medical Virology, Journal of interferon and cytokine research, Transboundary and Emerging Diseases, J. Virological Methods, Veterinary Record, Open Veterinary Journal, Journal of Biochemistry and Physiology

Current Research Projects:

1. Targeting a host cell protein kinase for development of antiviral therapeutics against PPR virus, SERB (DST) funded project, 2015-2018 (**Principal Investigator**).
2. Isolation, characterization and development of repository of pox viruses of bovine, caprine & ovine origin, Institute project, (VTCC- ICAR), 2015 onward (**Co-PI**).
3. Authentication and Accessioning of Viruses of animal origin, Institute project, (VTCC- ICAR), 2015 onward (**Co-PI**).
4. Consortia research project (CRP) on agro-biodiversity, ICAR, Rs. 400 Lakhs (**Co-PI**).

Research Projects Completed:

1. Isolation, identification and characterization of important viruses of goats: A pilot study (2011-2013).
2. Characterization of innate immune receptor following exposure to Peste des Petits Ruminants virus (2012-2015).
3. Isolation, identification and characterization of major infectious agents associated with neonatal kid diarrhea (2012-2015).
4. Development and Characterization of 'Indigenous Vaccine and Diagnostics' for Johne's Disease (NMITLI-CSIR project, 5.0 crore) (2011-2014).
5. Outreach programme on zoonotic diseases: Zoonotic potential of Mycobacterium avium subspecies paratuberculosis, as cause of inflammatory bowel disease (Crohn's disease) in human beings (ICAR Network project, 90.00 Lakhs) (2011-2015).
6. Isolation, identification and characterization of different viral and bacterial pathogens of veterinary importance from goats (ICAR Network project-VTCC) (2013-2015).
7. Patho-epidemiological studies on emerging and existing diseases of goats, ICAR, CIRG (2012-2015).
8. Genetic resistance study in Indian goats against gastrointestinal nematode, *Hemonchus contortus* infection, ICAR, CIRG (2013-2016).

Publications:

1. **Kumar N**, Sharma R and Kakker NK. (2007). Non-structural protein 3A for differentiation of foot-and-mouth disease infected and vaccinated animals in a Haryana (India). **Zoonoses and Public Health**, 54, 376-382.
2. Brehm KE, **Kumar N**, Thulke, HH and Haas B. (2008). Protection against heterologous challenge with foot and mouth disease by high potency emergency vaccines. **Vaccine**, 26, 1681-1687.
3. **Kumar N**, Zin Z, Liang Y, Ly H and Liang Y. (2008). NF- κ B signaling differentially regulates influenza viral RNA synthesis. **Journal of Virology**. 82:9880-9889.
4. Lan S, McLay L, Wang J, **Kumar N**, Ly H, and Liang Y. (2009). Development of infectious clones for virulent and avirulent Pichinde viruses – a model virus to study arenavirus-induced hemorrhagic fevers. **Journal of Virology**, 83, 6357-6352.
5. **Kumar N**, Liang Y, Parslow TG and Liang Y. (2011). Tyrosine kinase inhibitors block multiple steps of influenza A virus replication. **Journal of Virology**, 85, 2818-27.
6. Sharma S, Sundararajan A, Suryawanshi A, **Kumar N**, Tamara VP Kuchroo VK, Thomas PG, Sangster MY and Rouse BT. Tim-3/Galectin-9 interaction regulates influenza A virus specific humoral and CD8 T cell responses. **Proc. Natl . Acad. Sc., USA**, 108, 19001-19006.

7. **Kumar N**, Liang Y, Parslow TG and Liang Y. (2011). Tyrosine kinase inhibitors as novel anti-influenza compounds and with broad spectrum antiviral activities. **Antimicrobial agents and chemotherapy**. (doi:10.1128/AAC.00725-11).
8. Xin Z, Carrol K, **Kumar, N**, Song K and Ly H. (2011). Transcriptional activation of TIN2, a gene encoding the telomerase-associated protein by SP1 and NF- κ B. **PLOS one**, 6(6): e221333. doi:10.1371/journal.pone.0021333.
9. Sharma S, Mulick S, **Kumar N**, Suryavanshi A and Ruse B. (2011). An Anti-inflammatory role of VEGFR2/Src kinase inhibitor in HSV-1 induced immunopathology, **Journal of Virology**, 85, 5995-6007.
10. **Kumar N**, Wang J, Lan S, Danzy S, Schelde LM, Seladi, J, Ly H and Liang Y. (2012). Characterization of virulence-associated determinants in the envelope glycoprotein of Pichinde virus, **Virology**, 433, 97-103.
11. Wang J, Danzy S, **Kumar N**, Ly H and Liang Y. (2012). Biological Roles and Functional Mechanisms of Arenavirus Z Protein in Viral Replication. **Journal of Virology**, 86, 9794-801.
12. **Kumar N**, Chaudhary K, Chaubay KK, Sharma DK and Singh SV. (2013). Isolation, identification, and characterization of a Peste des Petits Ruminants virus from outbreak in Nanakpur India, **J. Virological Methods** 189, 388-92 (*Corresponding author).
13. Kaur G, Khandelwal N, **Kumar N** and Tiwari A (2013). Revival of medicinal plants: changing the traditional uses towards modern applications. **International Journal of Indigenous Medicinal Plants**, 46, 1196-2105.
14. Singh SV, **Kumar N**, Singh SN, Bhattacharyya TK, Gupta S, Chaubay KK, Singh PK, Singh AV and. (2013). Complete genome sequence analysis of Indian Bison type (S5) *Mycobacterium avium* subspecies *paratuberculosis*, **J. Bacteriology** (GenomeA), Volume 1, Issue 1 e00005-13).
15. **Singh S.V.**, Dhama, K., Chaubey, K.K., Kumar, N., Singh, P.K., Sohal, J.S., Gupta S., Singh A.V., Verma, A.K., Tiwari, R., Mahima, S., Chakraborty and Deb, R. 2013. Impact of host genetics on susceptibility and resistance to *Mycobacterium avium* subspecies *paratuberculosis* infection in domestic ruminants. **Journal of Biological Sciences** Vol. 16, Issue 6, pp. 251-266.
16. Khandelwal N, Kaur G, Singh P, Sharma S, Tiwari A, Singh SV and **Kumar N***. (2014). Silver nanoparticles impair Peste des Petits Ruminants virus replication. **Virus Research**, 190, 1-7.
17. **Kumar N***, Sharma S and Singh SV (2014). Peste des Petits Ruminants Virus Infection of Small Ruminants: A Comprehensive Review. **Viruses**, 6, 2287-2327. (*Corresponding author).
18. **Kumar N***, Chaubay KK, Singh, SV, Gupta S, Sharma S, Sharma DK, Mishra AK and Singh MK. (2014). Phylogenetic analysis of an orf virus from an outbreak in sheep at Makhdoom, India, **Virus Genes**, 48, 312-319 (*Corresponding author).
19. Singh S.V., Singh P.K., Singh A.V., Sohal J.S., Kumar N., Chaubey K.K., Gupta S., Kumar A., Bhatia A.K., Srivastav A.K., Dhama K. 2014. Bio-load and bio-type profiles of *Mycobacterium avium* subspecies *paratuberculosis* infection in the farm and farmer's herds / flocks of domestic livestock: A 28 years study (1985-2013). **Transboundary and Emerging Diseases**, 61: 1-13.
20. Khandelwal N, Kaur G, **Kumar, N** and Tiwari A. (2014). Application of silver nanoparticles in viral inhibition: a new hope for antivirals. **Digest J. Nanomaterials Biostructures**, 9:175-186.
21. Raghuvanshi, T., S.V. Singh, R.B. Sharma, S. Gupta, K.K. Chaubey, **N. Kumar** and K. Dhama, 2014. A pilot study on the presence of *Mycobacterium avium* subspecies *Paratuberculosis* in fresh cheese (paneer) prepared from goat milk of herds endemic for Johne's disease. **J. Infect. Mol. Biology**, 1: 46-48.
22. Chaudhry K, Kundan KK, Singh SV and **Kumar N***. (2015). Receptor tyrosine kinase regulates Peste des petits ruminants virus replication. **Acta Virologica**, 89, 78-83 (*Corresponding author).
23. **Kumar N***, Barua S, Riyesh T and Tripathi BN. (2016). Systems perspective of morbillivirus replication **Journal of Molecular Microbiology and Biotechnology** 26, 389-400 (*Corresponding author).
24. **Kumar N***, Barua S, Riyesh T, Singh SV, Sharma DK, Sharma S and Tripathi BN. (2016). Complexities in isolation and purification of multiple viruses from mixed viral infection: viral interference, persistence and exclusion, **PLOS One**, 11(5):e0156110 (*Corresponding author).
25. Riyesh T, **Kumar N*** Bera BC, Jindal N, Singh RK Tripathi BN and Barua S. (2016). Isolation and phylogenetic analysis of swinepox virus from outbreak in India. **Comp Immunol Microbiol Infect Dis**, 46, 60-65.

26. Singh SV, Chaubey KK, Gupta S, Dhama AK, **Kumar N** and Sohal S. (2016). Concurrent cure of Crohn's disease and infection with Mycobacterium avium paratuberculosis. **Frontiers in Medicine**, 3, 49-53.
27. Chaubey KK, Gupta RK, Gupta S, Singh SV, Bhatia AK, Jayaraman S, Kumar N, Goel A, Rathore AS, Sahzad, Sohal JS, Stephen BJ, Singh M, Goyal M, Dhama K and & Derakhshandeh A. (2016). Trends and advances in the diagnosis and control of paratuberculosis in domestic livestock, **Veterinary Quarterly**. doi.org/10.1080/01652176.2016.1196508.
28. Dhama K, Kumar N, Malik YPS, Kumar A, Tiwari R, Karthik K, Zubair SM, Singh R. (2016). Duck virus enteritis (duck plague) - a comprehensive update, **Veterinary Quarterly** (Invited review), In press.
29. **Kumar N***, Barua S, Riyesh T and Tripathi BN. (2017). Advances in peste des petits ruminants vaccine, Invited Review. **Veterinary Microbiology** (In press) (***Corresponding author**).

Books:

1. Tripathi BN and Kumar N (2017). Peste des petits ruminants (In press)
2. N. Kumar, 2013, Persistence of FMD virus in cattle, LAP Lambert Academic Publishing, AV Akademikerverlag GmbH & Co. KG, Saarbrücken, Germany, ISBN 978-3-659-22943-5, paperback, pp 1-132
3. S.V. Singh, PK Singh, AV Singh, JS Sohal, Nem Singh, Naveen Kumar, VK Gupta, HA Tiwari, KK Chaubey and Saurabh Gupta, Avinash Kumar, Brijesh Singh and AK Bhatia. (2013). Bio-load and bio-type profiles of *Mycobacterium avium* subspecies *paratuberculosis* infection in the biotic (farm and farmer;s herd and flock of domestic livestock, wild ruminants, other animals, primates and human beings) and abiotic (soil and river water) environment of the country: A study of 28 years (1085-2013). Animal Health Division, Central Institute for Research on Goats, Makhdoom, Mathura, pp 1-77.

Book Chapter:

1. Kashyap SK, **Kumar N** and Maherchandani S. (2013). Ribotyping: An important tool in bacterial taxonomy. In, Animal Biotechnology: Models in discovery and translation, **Elsevier Press, USA**.
2. Singh SV, Chaubey KK, **Kumar N**, Singh PK, Sohal JS and Gupta S. (2012). Impact of host genetics on the control of Mycobacterium in Small Ruminants Production and Health, page: 255-280. Satish Serial Publishing House, Azadpur Delhi.
3. Naveen Kumar. Goat production and health management. Edited by SK Jindal, New India Publishing Agency, Pitampura, New Delhi, pp 1-293
4. Kashyap SK, **Kumar N** and Maherchandani S. (2016). Bacterial identification system. In, Animal Biotechnology: Models in discovery and translation, **Elsevier Press, USA**.

International meetings/workshop/symposium attended

1. 1st International Agrobiodiversity Congress, Science, technology, Policy and Partnership, organized by Indian Society of Plant Genetic Resources Biodiversity International, **New Delhi** from November 6-9, 2016.
2. Biorisk management capacity building workshop, 2015, Organized by National Center for Disease Control, New Delhi in collaboration with CDC, Atlanta, USA at **New Delhi** from May 5-9 2015.
3. International Conference on Emerging trends in Biotechnology and Sciences with Especial Reference to Climate change" organized by Indian Society of Genetics, Biotechnology Research and Development in collaboration with Krishi Vigyan Kendra (ICAR) **Banasthali Vidyapith, Rajasthan** from February 18-20, 2015.
4. Participated as an expert in a review meeting on progressive control of PPR, organized by FAO (SAARC) at Kathmandu, **Nepal** from 19-20 December 2013.
5. Annual meeting of American Society of Virology held at Montana State University Bozeman, **USA** from 17th-21st July 2010.
6. Postdoc symposium held at Emory University Atlanta, **USA**, May 20th 2010.
7. Eleventh Southeastern Regional Virology Conference 2010 held at Emory University, Atlanta, **USA**, March 19th -21st, 2010.
8. Annual meeting of American Society of Virology (ASV 2008) held at Cornell University, Ithaca, NY, **USA** from 12-16th July 2008.
9. Immunology and Pathogenesis of Viral Hemorrhagic Fevers. (2009). Held at Emory Vaccine Center on March 16th 2009, Atlanta, **USA**.

10. Immunobiology and Pathogenesis of Influenza virus A symposium organized by Influenza Pathogenesis & Immunology Research Center (IPIRC), Emory University, Atlanta, **USA** from 3-5th June 2008.
11. 10th South East Regional Virology (SERV) Conference 2008 held at Georgia State University, Atlanta, **USA** from 4-6th April 2008.
12. Annual Postdoctoral symposium organized by the office of the postdoctoral education, School of Medicine, Emory University, Atlanta, **USA** on 5th June 2008.
13. Making Vaccines towards AIDS; A symposium held at National Primate Research Center, Emory University, Atlanta, **USA** on 19th Sept 2008.
14. Animal disease control in 21st Century, held at Friedrich Loeffler Institute from 4-6th April 2005, Federal Research Institute of Animal Health, Greifswald, Insel-Riems, **Germany**.
15. Validation of SNT and ELISA for foot-and-mouth disease virus, held at Friedrich Loeffler Institute from Feb. 2nd -24th, 2005, Federal Research Institute of Animal Health, Greifswald, Insel-Riems, **Germany**.

Scientific Affiliations:

1. Life member, International Society of Biosciences, UK
2. Member, European Society of Virology
3. Member, American Society of Virology
4. Life member, Indian Society for Sheep and Goat Production and Utilization (**ISSGPU**).
5. Life member, Indian Association of Veterinary Microbiologist Immunologist & Specialist in Infection Diseases (**IAVMI**).
6. Member, Veterinary Council of India
7. Member, Rajasthan State Veterinary Council, India