

EMPLOYMENT

Designation	Place	Years
Scientist – G	National Institute of Animal Biotechnology, Hyderabad, India	30-03-2017 to present
Associate Director	Ella Foundation (Formerly Bharat Biotech Foundation), Hyderabad, India	01-04-2013 to 27-03-2017
Group Leader		30-06-2006 to 31-03-2013
Research Assistant Professor	Department of Molecular Microbiology and Immunology, Oregon Health & Science University, Portland, Oregon, USA	04/2004 – 05/2006
Post-doctoral Research Fellow		08/1998 – 03/2004
Graduate Research Associate	Department of Veterinary and Biomedical Sciences, University of Nebraska, Lincoln, Nebraska, USA	07/1993 – 07/1998
Graduate Research Assistant		01/1993 – 06/1993

EDUCATION

1993 – 1998 **Ph.D.**, Department of Veterinary and Biomedical Sciences, Medical Sciences Inter-departmental Area, University of Nebraska Medical Center, Omaha, Nebraska, USA
Dissertation: Bovine cytotoxic T lymphocyte response to bovine herpesvirus 1

1990 – 1992 **M.V.Sc.**, Department of Veterinary Microbiology and Public Health, Veterinary College, University of Agricultural Sciences, Bangalore, India.
Thesis: Hemagglutination by *peste des petits ruminants* virus (PPRV), characterization of hemagglutinin protein and seroconversion in experimental sheep and goats

1984 – 1989 **B.V.Sc.**, Veterinary College, University of Agricultural Sciences, Bangalore, India

RELEVANT RESEARCH EXPERIENCE

- Epidemiology and genetic characterization of infectious agents – bluetongue virus, mastitis-associated staphylococci
- Vaccines – bluetongue, poultry salmonellosis, staphylococcal mastitis, human influenza, Ebola, hantavirus disease
- Diagnostics – adventitious agents, virus/cell identity, genetic testing and health monitoring of laboratory animals, hemagglutination by peste des petits ruminant virus
- Host-pathogen interaction – virus entry and movement, immune evasion
- Basic biology – bovine major histocompatibility complex

PUBLICATIONS**Original Articles**

1. D Hemadri, S Maan, MM Chanda, PP Rao, K Putty, Y Krishnajyothi, GH Reddy, V Kumar, K Batra, YV Reddy, NS Maan, YN Reddy, KP Singh, SB Shivachandra, **NR Hegde**, H Rahman, PPC Mertens. 2017. Dual infection with bluetongue virus serotypes and first time isolation of serotype 5 in India, *Transboundary and Emerging Diseases*, Epub ahead of print, 2016 Dec 21.
2. J Gogoi-Tiwari, V Williams, CB Waryah, P Costantino, H Al-Salami, S Mathavan, K Wells, HK Tiwari, **N Hegde**, S Isloor, H Al-Sallami, T Mukkur. 2017. Mammary gland pathology subsequent to acute infection with strong versus weak biofilm forming *Staphylococcus aureus* bovine mastitis isolates: a pilot study using non-invasive mouse mastitis model. *PLoS ONE* **12(1):e0170668**.
3. M Uma, PP Rao, **NR Hegde**. 2016. Expression and purification of polioviral proteins in *E. coli*,

- and production of antisera as reagents for immunological assays. *Protein Expression and Purification* 128:115-22.
4. M Uma, S Mallavarapu, N Kartika, PP Rao, **NR Hegde**. 2016. Parameters of controlled expression of potentially toxic recombinant proteins in *E. coli* with picornaviral 3ABC as a model. *Indian Journal of Comparative Microbiology Immunology and Infectious Diseases* 37(1):9-15.
 5. YV Reddy, Y Krishnajyothi, B Susmitha, BV Devi, Y Brundavanam, SR Gollapalli, N Karunasri, B Sonali, K Kavitha, SR Patil, G Sunitha, K Putty, GH Reddy, YN Reddy, **NR Hegde**, PP Rao. 2016. Molecular typing of bluetongue viruses isolated over a decade in South India. *Transboundary and Emerging Diseases* 63(5):e412-8.
 6. Y Krishnajyothi, S Maan, K Kandimalla, NS Maan, RB Tutika, YV Reddy, A Kumar, N Mrunalini, GH Reddy, K Putty, SM Ahmed, YN Reddy, D Hemadri, KP Singh, PPC Mertens, **NR Hegde**, PP Rao. 2016. Isolation of bluetongue virus 24 from India – an exotic serotype to Australasia. *Transboundary and Emerging Diseases* 63(4):360-4.
 7. PL Preethirani, S Isloor, S Sundareshan, V Nuthanalakshmi, K Deepthikiran, AY Sinha, D Rathnamma, K Nithin Prabhu, R Sharada, TK Mukkur, **NR Hegde**. 2015. Isolation, biochemical and molecular identification, and in-vitro antimicrobial resistance patterns of bacteria isolated from bubaline subclinical mastitis in South India. *PLoS ONE* 10(11):e0142717.
 8. KM Chandrashekhar, S Isloor, BH Veeresh, R Hegde, D Rathnamma, S Murag, BM Veeregowda, HA Upendra, **NR Hegde**. 2015. Limit of detection of genomic DNA by conventional PCR for estimating the load of *Staphylococcus aureus* and *Escherichia coli* associated with bovine mastitis. *Folia Microbiologica (Praha)* 60(6):465-72.
 9. PP Rao, YV Reddy, **NR Hegde**. 2015. Isolation and complete genome sequencing of bluetongue virus serotype 12 from India. *Transboundary and Emerging Diseases* 62(5):e52-9.
 10. A Singh, M Mitra, G Sampath, P Venugopal, JV Rao, B Krishnamurthy, MK Gupta, SS Krishna, B Sudhakar, NB Rao, Y Kaushik, K Gopinathan, **NR Hegde**, MM Gore, VK Mohan, KM Ella. 2015. A Japanese encephalitis vaccine from India induces durable and cross-protective immunity against temporally and spatially wide-ranging global field strains. *Journal of Infectious Diseases* 212(5):715-25.
 11. J Gogoi-Tiwari, CB Waryah, R Sunagar, HB Veeresh, V Nuthanalakshmi, PL Preethirani, R Sharada, A Bhat, S Isloor, H Al-Salami, **NR Hegde**, TK Mukkur*. Typing of *Staphylococcus aureus* isolated from bovine mastitis cases in Australia and India. *Australian Veterinary Journal* 3(8):278-82.
 12. S Manjunath, PG Kulkarni, K Nagavelu, RJ Samuel, S Srinivasan, N Ramasamy, **NR Hegde**, RS Gudde. 2015. Sero-prevalence of rodent pathogens in India. *PLoS ONE* 10(7):e0131706.
 13. S Gauthami, K Meena, M Uma, YV Reddy, D Kumar, PP Rao, **NR Hegde**. 2015. MPGIT: a concentrated monophasic phenol guanidinium isothiocyanate reagent for isolation of viral RNA. *Indian Journal of Biotechnology* 14(3):376-81.
 14. S Maan, NS Maan, M Belaganahalli, PP Rao, KP Singh, D Hemadri, K Putty, A Kumar, K Batra, Y Krishnajyothi, BS Chandel, GH Reddy, K Nomikou, YN Reddy, H Attoui, **NR Hegde**, PP Mertens. 2015. Full genome sequencing as a basis for molecular epidemiology of bluetongue virus in India. *PLoS ONE* 10(6):e0131257.
 15. J Gogoi-Tiwari, CB Waryah, KY Eto, M Tau, K Wells, P Costantino, HK Tiwari, S Isloor, N **Hegde**, TK Mukkur. 2015. Relative distribution of virulence-associated factors among Australian bovine *Staphylococcus aureus* isolates: potential relevance to development of an effective bovine mastitis vaccine. *Virulence* 6(5):419-23.
 16. S Maan, NS Maan, M Belaganahalli, A Kumar, K Batra, PP Rao, D Hemadri, YN Reddy, K Putty, Y Krishnajyothi, GH Reddy, KP Singh, **NR Hegde**, K Nomikou, D Sreenivasulu, PP Mertens*. Genome sequence of bluetongue virus type 2 from India: evidence for reassortment between outer capsid protein genes. *Genome Announcements* 3(2):e00045-15.
 17. S Sundareshan, S Isloor, Y Hari Babu, B Awati, R Hegde, R Sunagar, CB Waryah, J Gogoi-Tiwari, TK Mukkur, **NR Hegde**. 2014. A comparative evaluation of four detection tests and the isolation of coagulase-negative staphylococci from subclinical mastitis cases in South Indian cattle. *Indian Journal of Comparative Microbiology Immunology and Infectious Diseases* 35(2):73-8.

18. CB Waryah, J Gogoi-Tiwari, K Wells, P Costantino, H Al-Salami, R Sunagar, S Isloor, **N Hegde**, P Richmond, T Mukkur. 2014. Serological versus molecular typing of surface-associated immune evading polysaccharide antigen-based phenotypes of *Staphylococcus aureus*. *Journal of Medical Microbiology* **63(11):1427-31**.
19. C Babra, J Gogoi-Tiwari, P Costantino, R Sunagar, S Isloor, **N Hegde**, T Mukkur. 2014. Human methicillin-sensitive *Staphylococcus aureus* biofilms: potential associations with antibiotic resistance persistence and surface polysaccharide antigens. *Journal of Basic Microbiology* **54(7):721-8**.
20. SB Rao, V Gupta, M Kumar, **NR Hegde**, GA Splitter, P Reddanna, GK Radhakrishnan. 2014. Draft genome sequence of the field isolate *Brucella melitensis* strain Bm IND1 from India, *Genome Announcements* **2(3): e00497-14**.
21. VH Basavaraj, G Sampath, **NR Hegde**, VK Mohan, KM Ella. 2014. Evaluation of safety and immunogenicity of HNVAC, an MDCK-based H1N1 pandemic influenza vaccine, in Phase I single centre and Phase II/III multi-centre, double-blind, randomized, placebo-controlled, parallel assignment studies, *Vaccine* **32(35):4592-4597**.
22. **NR Hegde**, D Kumar, PP Rao, PK Kumari, Y Kaushik, R Ravikrishnan, SD Prasad, KM Ella. 2014. Development and preclinical testing of HNVAC, a cell culture-based H1N1 pandemic influenza vaccine from India. *Vaccine* **32(29):3636-43**.
23. V Sairaju, B Susmitha, PP Rao, **NR Hegde**, K Meena, YN Reddy. 2013. Type-specific seroprevalence of bluetongue in Andhra Pradesh, India, during 2005-2009. *Indian Journal of Virology* **24(3):394-97**.
24. AK Santhosh, AR Gomes, R Hegde, D Rathnamma, BM Veeregowda, SM Byregowda, C Renukaprasad, V Bhanuprakash, K Prabhudas, **NR Hegde**, S Isloor. 2013. Comparative immunogenicity of two peste des petits ruminants (PPR) vaccines in South Indian sheep and goats under field conditions. *Indian Journal of Virology* **24(3):373-9**.
25. C Babra, J Gogoi-Tiwari, G Pier, TH Thein, R Sunagar, S Sundareshan, S Isloor, **NR Hegde**, S de Wet, M Deighton, J Gibson, P Costantino, J Wetherall, T Mukkur. 2013. The persistence of biofilm-associated antibiotic resistance of *Staphylococcus aureus* isolated from clinical bovine mastitis cases in Australia. *Folia Microbiologica* **58(6):469-74**.
26. PP Rao, YN Reddy, K Ganesh, SG Nair, V Niranjan, **NR Hegde**. 2013. Deep sequencing as a method of typing bluetongue virus isolates. *Journal of Virological Methods* **193(2):314-19**.
27. R Hegde, S Isloor, K Nithin Prabhu, BR Shome, D Rathnamma, VVS Suryanarayana, S Yathiraj, CR Prasad, N Krishnaveni, S Sundareshan, DS Akhila, AR Gomes, **NR Hegde**. 2013. Incidence of subclinical mastitis and prevalence of major mastitis pathogens in organized farms and unorganized sectors. *Indian Journal of Microbiology* **53(3):315-20**.
28. R Sunagar, SN Deore, PV Deshpande, A Rizwan, AD Sannejal, S Sundareshan, DB Rawool, SB Barbuddhe, MK Jhala, AS Bannalikal, DM Mugalikal, VJ Kumari, K Dhanalakshmi, YN Reddy, PP Rao, C Babra, JG Tiwari, TK Mukkur, P Costantino, JD Wetherall, S Isloor, **NR Hegde**. 2013. Differentiation of *Staphylococcus aureus* and *Staphylococcus epidermidis* by PCR for the fibrinogen binding protein gene (*fib*). *Journal of Dairy Science* **96(5):2857-65**.
29. S Sundareshan, Y Hari Babu, S Isloor, B Awati, **NR Hegde**. 2012. Isolation and phenotype-based speciation of coagulase-negative staphylococci (CoNS) isolated from bovine milk samples. *Frontier Journal of Veterinary and Animal Science* **1(1):34-9**.
30. PP Rao, YN Reddy, **NR Hegde**. 2012. Complete genome sequence of bluetongue virus serotype 9: implications for serotyping. *Journal of Virology* **86(15):8333**.
31. B Susmitha, D Sudheer, PP Rao, M Uma, G Prasad, P Minakshi, **NR Hegde**, YN Reddy. 2012. Evidence of bluetongue virus serotype 21 (BTV-21) divergence. *Virus Genes* **44(3):466-9**.
32. PP Rao, YV Reddy, K Meena, B Susmitha, N Karunasree, M Uma, PUVS Prasad, P Chaitanya, YN Reddy, **NR Hegde**. 2012. Genetic characterization of bluetongue virus serotype 9 isolates from India, *Virus Genes* **44(2):286-94**.
33. SRK Gollapalli, S Mallavarapu, M Uma, PP Rao, B Susmitha, PUVS Prasad, P Chaitanya, G Prasad, **NR Hegde**, YN Reddy. 2012. Sequences of genes encoding type-specific and group-specific antigens of Indian isolates of bluetongue virus serotype 10 (BTV-10) and implications for their origin. *Transboundary and Emerging Diseases* **59(2):165-72**.
34. D Kumar, NM Beach, X-J Meng, **NR Hegde**. 2012. Use of PCR-based assays for the detection of

- the adventitious agent porcine circovirus type 1 in vaccines, and for confirming the identity of cell substrates and viruses used in vaccine production. *Journal of Virological Methods* 179(1):201-11.
35. D Safronetz, **NR Hegde**, H Ebihara, M Denton, GP Kobinger, S St Jeor, H Feldmann, DC Johnson. 2009. Adenovirus vectors expressing hantavirus proteins produce sterile immunity and protect hamsters against lethal challenge with Andes virus. *Journal of Virology* 83(14):7285-95.
 36. **NR Hegde**, MS Chevalier, TW Wisner, MC Denton, K Shire, L Frappier, DC Johnson. 2006. The role of BiP in ER-associated degradation of major histo-compatibility complex class I heavy chain induced by cytomegalovirus proteins. *Journal of Biological Chemistry* 281:20910-19.
 37. **NR Hegde**, C Dunn, DM Lewinsohn, MA Jarvis, JA Nelson, DC Johnson. 2005. Endogenous human cytomegalovirus gB is efficiently presented by MHC class II molecules to CD4+ CTL. *Journal of Experimental Medicine* 202(8):1109-19.
 38. **NR Hegde**, DC Johnson. 2003. Human cytomegalovirus US2 causes similar effects on both major histocompatibility complex class I and II proteins in epithelial and glial cells. *Journal of Virology* 77(17):9287-94.
 39. **NR Hegde**, RA Tomazin, TW Wisner, C Dunn, J Boname, DM Lewinsohn, DC Johnson. 2002. Inhibition of assembly, transport and loading of HLA-DR by human cytomegalovirus glycoprotein US3: a novel mechanism for evading MHC class II antigen presentation. *Journal of Virology* 76(21):10929-41.
 40. MS Deshpande, TC Ambagala, **NR Hegde**, M Navaratnam, MJ Hariharan, S Srikumaran. 2002. Induction of cytotoxic T lymphocyte and antibody responses to bovine herpesvirus-1 by DNA immunization. *Vaccine* 20(31-32):3744-51.
 41. MT Huber, TW Wisner, KA Goldsmith, **NR Hegde**, KA Goldsmith, D Rauch, RJ Roller, C Krummenacher, RJ Eisenberg, GH Cohen, DC Johnson. 2000. Herpes simplex virus with highly reduced gD levels can efficiently enter and spread between human keratinocytes. *Journal of Virology* 75(21):10309-18.
 42. R Tomazin, J Boname, **NR Hegde**, DM Lewinsohn, Y Altschuler, TR Jones, P Cresswell, JA Nelson, SR Riddell, DC Johnson. 1999. Cytomegalovirus US2 destroys two components of the MHC class II pathway, preventing recognition by CD4+ T cells. *Nature Medicine* 5(9):1039-43.
 43. **NR Hegde**, MS Deshpande, DL Godson, LA Babiuk, S Srikumaran. 1999. Bovine lymphocyte antigen A11-specific peptide motif as a means to identify bovine cytotoxic T lymphocyte epitopes of bovine herpesvirus 1. *Viral Immunology* 12(2):149-61.
 44. S Zatechka, Jr., **NR Hegde**, K Hariharan, S Srikumaran. 1999. Identification of murine cytotoxic T lymphocyte epitopes of bovine herpesvirus 1. *Vaccine* 17(7-8):686-94.
 45. **NR Hegde**, HA Lewin, MJ Duggan, JR Stabel, S Srikumaran. 1998. Development of a syngeneic bovine fibroblast cell line: Implications for the generation of the study of bovine cytotoxic T lymphocytes. *Viral Immunology* 11(1):37-48.
 46. **NR Hegde**, S Srikumaran. 1997. The use of bovine MHC class I allele-specific peptide motifs and proteolytic cleavage specificities to predict potential cytotoxic T lymphocyte epitopes of bovine viral diarrhea virus. *Virus Genes* 14(2):111-21.
 47. MS Rao, **NR Hegde**, Jayashreet CR, Raghavan R. 1997. Investigation into a severe outbreak of ulcerative stomatitis due to *Fusobacterium necrophorum* in a piggery farm. *Indian Journal of Animal Science* 67(1):31-2.
 48. **NR Hegde**, S Srikumaran. 1996. Prediction of potential cytotoxic T lymphocyte epitopes of bovine herpesvirus 1 based on allele-specific peptide motifs and proteolytic cleavage specificities. *Virus Genes* 13(2):121-31.
 49. **NR Hegde**, SA Ellis, RM Gaddum, CA Tregaskes, G Sarath, S Srikumaran. 1995. Peptide motif of cattle MHC class I antigen, BoLA-A11. *Immunogenetics* 42(4):302-03.

Reviews

1. **NR Hegde**, MM Gore. 2017. Japanese encephalitis vaccines: immunogenicity, protective efficacy, effectiveness, and impact on the burden of disease. *Human Vaccines and Immunotherapeutics* 13(6):xxx-yyy, 2017 Feb 22 [Epub ahead of print]. doi: 10.1080/21645515.2017.1285472.

2. PP Rao, YV Reddy, B Susmitha, Y Krishnajyothi, GH Reddy, K Putty, D Sreenivasulu, **NR Hegde**, YN Reddy. 2016. A decade of BTV research in Andhra Pradesh, a southern state of India. *Veterinaria Italiana* 52(3-4):299-304.
3. R. Sunagar, **NR Hegde**, GJ Archana, AY Sinha, K Nagamani, S Isloor. 2016. Prevalence and clonotype distribution of methicillin-resistant *Staphylococcus aureus* (MRSA) in India. *Journal of Global Antimicrobial Resistance* 7:46-52.
4. PP Rao, **NR Hegde**, YN Reddy, YK Jyothi, YV Reddy, B Susmitha, K Putty, GH Reddy. 2015. Epidemiology of bluetongue in India. *Transboundary and Emerging Diseases* 63(2):e151-64.
5. **NR Hegde**. 2015. Cell culture-based influenza vaccines: a necessary and indispensable investment for the future. *Human Vaccines and Immunotherapeutics* 11(5):1223-34.
6. S Sundareshan, S. Isloor, Y Hari Babu, TK Mukkur, **NR Hegde**. 2014. Coagulase-negative staphylococci in mastitis. *Journal of Commonwealth Veterinary Association* 30(1):5-15.
7. **NR Hegde**, SV Kaveri, J Bayry. 2011. Recent advances in the administration of vaccines for infectious diseases: microneedles as painless delivery devices for mass vaccination. *Drug Discovery Today* 16(23-24):1061-68.
8. **NR Hegde**. 2011. The saga of the humanized mouse: a giant leap into the galaxy or a small step for humankind? *Journal of Laboratory Animal Science* 1(1):9-23.
9. **NR Hegde**, PP Rao, J Bayry, SV Kaveri. 2009. Immunotherapy of viral infections, *Immunotherapy* 1(4):691-711.
10. **NR Hegde**, DN Strelbow. 2008. Understanding the biology of animal viruses and the pathophysiology of animal viral diseases through genomics, proteomics and systems biology. *International Journal of Integrative Biology* 2(1):32-42.
11. **NR Hegde**, M Chevalier, DC Johnson. 2003. Viral inhibition of MHC class II antigen presentation. *Trends in Immunology* 24(5):278-85.
12. AS de Groot, V Nene, **NR Hegde**, S Srikumaran, J Rayner, W Martin. 2003. T cell epitope identification for bovine vaccines: an epitope mapping method for BoLA-A11. *International Journal of Parasitology* 33(5):641-53.
13. **NR Hegde**, S Srikumaran. 2000. Reverse immunogenetic and polyepitopic approaches for the induction of cell-mediated immunity against bovine viral pathogens. *Animal Health Research Reviews* 1(2):103-18.

Chapters in books, monographs, compendia

1. PP Rao, **NR Hegde**, KP Singh, K Putty, D Hemadri, NS Maan, YN Reddy, S Maan, PPC Mertens. 2016. Bluetongue: aetiology, epidemiology, pathogenesis, diagnosis and control. In "Emerging and re-emerging infectious diseases of livestock." Ed. J Bayry, Springer International Publishing AG, Switzerland, Chapter 1, pg. 3-54.
2. DC Johnson, **NR Hegde**. 2002. Inhibition of the MHC class II antigen presentation pathway by human cytomegalovirus. In "Viral proteins counteracting host defences," *Current Topics in Microbiology and Immunology* 269:101-15, Springer-Verlag, Berlin Heidelberg, Germany.

Correspondences, Opinions, Editorials

1. PP Rao, **NR Hegde**, YN Reddy. 2012. Intercontinental movement of blue-tongue virus and consequences for trade. *Journal of Virology* 86(15): 8341.
2. **NR Hegde**, MS Mohan, SV Kaveri, J Bayry. 2009. Reasons to include viruses in the tree of life. *Nature Reviews Microbiology* 7(8):615.
3. **NR Hegde**, MS Mohan, PP Rao, SV Kaveri, J Bayry. 2009. Thermostable foot-and-mouth disease virus as a vaccine candidate for endemic countries: a perspective. *Vaccine* 27:2199-201.
4. **NR Hegde**, DC Johnson. 2005. A seek and hide game between CD1-restricted T cells and herpesviruses. *Journal of Clinical Investigation* 115(5):1146-9.

PATENTS

1. **NR Hegde**, PP Rao, M Umakantha. Vaccine against foot-and-mouth disease. Provisional Indian Application No. TEMP/E-1/2730/2017/CHE filed 24-01-2017.

2. PP Rao, **NR Hegde**. Bluetongue virus vaccine. PCT/IN2014/000204 filed 28-03-2014; Indian Patent Application No. 1268/CHE/2013 filed 22-03-2013.
3. KM Ella, K Sumathy, JS Pydigummala, **NR Hegde**. A vaccine for Chikungunya virus infection. IN/1583/CHE/2006 (Priority 1st September 2006), WO/2008/026225 (Published 6th March 2008), PCT/IN2007/000383 (27th Feb 2009), US8865184 (Granted 21st October 2014).
4. DC Johnson, R Tomazin, J Boname, **NR Hegde**. Inhibition of the MHC class II antigen presentation pathway and presentation to CD4+ cells. WO/2000/0046361, US2000/002740, EP1157102, Published 8th October 2000.

CONTRIBUTION AT SCIENTIFIC CONFERENCES/MEETINGS

Presentations only

1. Viral haemorrhagic fevers, 19th Asian Regional Meeting of Commonwealth Veterinary Association and International Conference on Control of Zoonotic Diseases - a One Health Initiative, Hassan Veterinary College, India, **2017**
2. Priorities and control strategies for animal influenza group of viral zoonoses. XIII Annual Conference of The Indian Association of Veterinary Public Health Specialists & National Symposium on Safety of Foods of Animal Origin for Domestic and Export Markets, Bengaluru, India, **2015**
3. Live attenuated vaccines: from blind to rational approaches. Seminar on New Vaccine Development and Immunology of Infectious Diseases, Indo-French Centre for the Promotion of Advanced Research (IFCPAR), Hyderabad, India, **2012**
4. Food-borne zoonoses: the need to be nosy about the zoo of microbes. Department of Biotechnology (India) – Biotechnology and Biological Sciences Research Council (BBSRC, UK) Livestock Health and Disease Workshop, New Delhi, India, **2012**
5. Vaccine technologies: developments and challenges. 71st Congress of the International Pharmaceutical Federation, Hyderabad, India, Hyderabad, India, **2011**
6. Manufacturing pandemic flu vaccines in cell culture versus eggs in developing countries: which system provides more promises in the long run? Influenza India Summit, New Delhi, India, **2011**
7. The painful wait for painless vaccine delivery: technological advances and mechanistic implications. Andhra Pradesh Science Congress and Annual Convention of Andhra Pradesh Akademi of Sciences, Hyderabad, India, **2010**

Full papers published as part of the proceedings

1. S Gauthami, D Kumar, KSR Siva Sai, **NR Hegde**. A non-radioactive method of protein labelling. International Conference on Biotechnology and Bioengineering Trends. pp. 162-168, **2017**.
2. YV Reddy, PP Rao, KSR Siva Sai, **NR Hegde**. Growth kinetics of bluetongue virus in insect and mammalian cells. International Conference on Biotechnology and Bioengineering Trends. pp. 157-161, **2017**.
3. **NR Hegde**. Assays to monitor laboratory animal health: an assortment to choose from. National Workshop on Health Monitoring of Laboratory Animals, Bengaluru, India, pp. 2-6, **2012**
4. **NR Hegde**, PP Rao, J Bayry and SV Kaveri. Immunotherapy of viral infections. National Conference on Biotechnology Perspectives in The New Millennium, Hyderabad, India, pp. 175-195, **2009**
5. SN Singh and **NR Hegde**. Application of biotechnology in animal health and production for livestock development. National Symposium on Animal Biotechnology: Biotechnological Intervention for the Enhancement of Livestock Productivity, Bangalore, India, pp. 27-30, **2007**
6. **NR Hegde**, PP Rao and DN Streblov. Current trends in integrative approaches to understanding viruses, their interaction with hosts and viral pathogenesis. National Seminar on Genome Analysis Perspective in the Post-Genomic Era and its Relevance to Society, Hyderabad, India, pp. 57-64, **2007**

Poster presented without publication of abstract

1. D Kumar, S Gauthami, U Madala, PP Rao, A Basu, KM Ella, **NR Hegde**. Adenovirus vectored

Ebola vaccine. India-Africa Health Sciences Meet, New Delhi, India, 2016

Proceedings Abstracts

1. **NR Hegde**, D Kumar, S Gauthami, M Uma, PP Rao. International Conference on Biotechnology and Bio-engineering Trends, Jawaharlal Nehru Technological University, Hyderabad, India, 2017.
2. PP Rao, **NR Hegde**. Trends in viral genomics and disease diagnosis. Golden Jubilee Memorial National Conference on Molecular Insights in Genetics and Biotechnology – Emerging Trends and Future Prospects, Hyderabad, India, 2017.
3. M Jacquot, PP Rao, YV Reddy, **NR Hegde**, R Biek. Contrasting selective patterns across the genome of a segmented vector-borne virus in a reassortment hotspot. Population Genetics Group 50, Cambridge, UK, 2017.
4. AK Santosh, D Kumar, S Isloor, R Nandhini, R Sharada, V Balamurugan, D Rathnamma, S Yathiraj, ML Sathyanaraya, **NR Hegde**. Cloning of rabies virus glycoprotein in baculovirus expression system. Association for the Prevention and Control of Rabies in India Conference, Bengaluru, India, 2016.
5. D Kumar, S Gauthami, U Madala, PP Rao, A Basu, KM Ella, **NR Hegde**. Development of an Ebola vaccine based on an inducible adenovirus system. 6th Vaccine World Summit, Hyderabad, India, 2016.
6. D Kumar, S Gauthami, U Madala, PP Rao, KM Ella, **NR Hegde**. An Ebola vaccine candidate based on controlled expression of antigen through the recombinant adenovirus system. 17th International Congress on Infectious Diseases (ICID), Hyderabad, India, 2016.
7. KV Pramina, S Isloor, BH Veeresh, D Rathnamma, S Yathiraj, M Narayanaswamy, R Sharada, Y Chaitanya, **NR Hegde**. A study on genetic variability of G-L intergenic region sequences of Indian rabies virus strains circulating in animals. 17th ICID, Hyderabad, India, 2016.
8. PP Rao, V Reddy, **NR Hegde**. Epidemiology of bluetongue virus in Australasia. 17th ICID, Hyderabad, India, 2016.
9. D Kumar, S Gauthami, U Madala, PP Rao, A Basu, KM Ella, **NR Hegde**. Ebola hemorrhagic fever: biology, vaccines and therapeutics. Symposium on biology and molecular pathogenesis of viruses, Indian Institute of Science, Bengaluru, India, 2016.
10. D Kumar, S Gauthami, U Madala, PP Rao, KM Ella, **NR Hegde**. Development of a vaccine candidate for ebolavirus disease. 103rd Indian Science Congress, Mysuru, India, 2016.
11. U Madala, PP Rao, N Karthika, **NR Hegde**. Generation and mutagenesis of an infectious clone of poliovirus. 103rd Indian Science Congress, Mysuru, India, 2016.
12. YV Reddy, Y Krishnajyothi, GH Reddy, YN Reddy, K Putty, S Maan, NS Maan, D Hemadri, KP Singh, **NR Hegde**, PP Rao. Circulation of multiple serotypes of BTV in southern states of India. Double-stranded RNA Virus Symposium, Goa, India, 2015
13. S Akula, N Kammili, D Kumar, **N Hegde**, PR Anuradha. Serological and virological profile of Dengue fever in southern part of Hyderabad during 2011-2012. National Conference on Emerging and Re-emerging Viral Outbreaks in India – Clinical Challenges and Management, Hyderabad, India, 2015.
14. S Gauthami, D Kumar, **NR Hegde**. Interaction of human cytomegalovirus US2 protein with host major histocompatibility complex (MHC) class II DR α protein. National Conference on Emerging and Re-emerging Viral Outbreaks in India – Clinical Challenges and Management, Hyderabad, India, 2015.
15. U Madala, PP Rao, **NR Hegde**. Generation of infectious clone for poliovirus type – 1. National Conference on Emerging and Re-emerging Viral Outbreaks in India – Clinical Challenges and Management, Hyderabad, India, 2015.
16. YV Reddy, YN Reddy, YK Jyothi, GH Reddy, K Putty, **NR Hegde**, PP Rao. Isolation of bluetongue virus using *Culicoides* cells. National Conference on Emerging and Re-emerging Viral Outbreaks in India – Clinical Challenges and Management, Hyderabad, India, 2015.
17. PP Rao, S Maan, YV Reddy, YK Jyothi, YN Reddy, B Susmitha, GH Reddy, K Putty, NS Maan, PPC Mertens, **NR Hegde**. Evolution of a foreign topotype segment bluetongue virus in India. 5th International Conference on Bluetongue and Related Orbiviruses, Rome, Italy, 2014
18. YN Reddy, YK Jyothi, YV Reddy, B Susmitha, GH Reddy, K Putty, D Sreenivasulu, **NR Hegde**, PP Rao. A decade of BTV research in Andhra Pradesh, a southern state of India. 5th International

- Conference on Bluetongue and Related Orbiviruses, Rome, Italy, 2014
19. PP Rao, YN Reddy, YN Reddy, K Putty, B Susmitha, S Gollapally, YK Jyothi, GH Reddy, **NR Hegde**. Epidemiological factors influencing incidence and severity of bluetongue in India. International Conference on Host-Pathogen Interactions (ICHPI), Hyderabad, India, 2014
 20. D Kumar, S Gauthami, **NR Hegde**. A novel method to study the protein-protein association and protein fate. ICHPI, Hyderabad, India, 2014
 21. M Uma, **NR Hegde**, PP Rao. A novel point mutation L70P in 3C protease of picornaviruses inactivates the enzyme. ICHPI, Hyderabad, India, 2014
 22. SR Gollapalli, S Mallavarapu, **NR Hegde**, PP Rao, YN Reddy. Possible entry of an exotic bluetongue virus into India. ICHPI, Hyderabad, India, 2014
 23. YV Reddy, YK Jyothi, GH Reddy, B Susmitha, K Putty, YN Reddy, **NR Hegde**, PP Rao. RT-PCR typing of bluetongue viruses isolated in Andhra Pradesh over a decade. ICHPI, Hyderabad, India, 2014
 24. R Nandhini, M Shrruthi, N Krishnaveni, JS Rosa, S Sandhya, GK Prachet, **NR Hegde**. Seroprevalence of rodent pathogens in India. ICHPI, Hyderabad, India, 2014
 25. D Kumar, S Gauthami, **NR Hegde**. Human cytomegalovirus (HCMV) US2 and US3 proteins interact through their luminal domain with the major histocompatibility complex class II (MHC-II) proteins. Indian Immunology Society Continual Medical Education and National Seminar, Vishakhapatnam, India, 2013
 26. JG Tiwari, C Babra, R Sunagar, S Isloor, **NR Hegde**, TK Mukkur. Serological versus molecular capsular typing of *Staphylococcus aureus* isolates from bovine mastitis cases in Australia. 5th Congress of European Microbiologists, Leipzig, Germany, 2013
 27. PP Rao, YN Reddy, YK Jyothi, GH Reddy, **NR Hegde**. Diagnosis and epidemiology of bluetongue in Andhra Pradesh. XXXIII Indian Veterinary Congress and XX Annual Convention of Indian Association for the Advancement of Veterinary Research, Bengaluru, India, 2013
 28. S Gauthami, K Meena, M Uma, YV Reddy, D Kumar, PP Rao, **NR Hegde**. MPGIT: a concentrated monophasic phenol-guanidium isothiocyanate reagent for isolation of viral RNA. 100th Indian Science Congress, Kolkata, India, 2013
 29. YV Reddy, B Yoganand, B Susmitha, GS Krishna, Karunasri, M Sonali, PP Rao, YN Reddy, **NR Hegde**. Standardization of serotype-specific RT-PCR for the Indian isolates of bluetongue virus. XXVI Annual Convention of Indian Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases (IAVMI), Chennai, India, 2012
 30. PP Rao, YN Reddy, **NR Hegde**. Next generation sequencing as a method of genotyping of bluetongue virus. XXVI Annual Convention of IAVMI, Chennai, India, 2012
 31. Sairaju, B Susmitha, PP Rao, **NR Hegde**, K Meena, YN Reddy. Type-specific seroprevalence of bluetongue in Andhra Pradesh. XXVI Annual Convention of IAVMI, Chennai, India, 2012
 32. B Susmitha, D. Sudheer, PP Rao, **NR Hegde**, YN Reddy. Isolation of BTV-1 and BTV-16 from 2008 bluetongue outbreaks in Andhra Pradesh. XXVI Annual Convention of IAVMI, Chennai, India, 2012
 33. V Nuthanalakshmi, VB Hanchinal, S Sundareshan, TK Mukkur, **NR Hegde**, S Isloor. Detection of biofilm production in coagulase-negative Staphylococci isolated from bovine mastitis cases in Karnataka. XXVI Annual Convention of IAVMI, Chennai, India, 2012
 34. VB Hanchinal, V Nuthanalakshmi, BM Akshatha, TK Mukkur, **NR Hegde**, S Isloor. Application of multiplex PCR for detection of accessory gene regulator (*agr*) in *Staphylococcus aureus* isolated from bovine mastitis in Karnataka. XXVI Annual Convention of IAVMI, Chennai, India, 2012
 35. BM Akshatha, S Sundareshan, VB Hanchinal, V Nuthanalakshmi, D Rathnamma, JG Tiwari, TK Mukkur, **NR Hegde**, S Isloor. Development of duplex PCR for detection of *ClfA* and *IsdA* surface proteins of *Staphylococcus aureus* of bovine mastitis origin. XXVI Annual Convention of IAVMI, Chennai, India, 2012
 36. S Sundareshan, YH Babu, S Isloor, B Awati, **NR Hegde**. Detection and molecular characterization of rare coagulase negative variants of *Staphylococcus aureus* in bovine milk samples. XXVI Annual Convention of IAVMI, Chennai, India, 2012
 37. S Sundareshan, S Isloor, YH Babu, B Awati, PV Deshpande, S Deore, R Hegde, KN Pradhu, R Sunagar, C Babra, JG Tiwari, TK Mukkur, **NR Hegde**. Development of multiplex PCR for the

- detection of coagulase negative staphylococci (CoNS) – the emerging mastitis pathogens in bovines in India, and their antimicrobial resistance. XXVI Annual Convention of IAVMI, Chennai, India, 2012
38. BM Akshatha, S Sundareshan, VB Hanchinal, V Nuthanalakshmi, D Rathnamma, BR Shome, BM Veeregowda, HA Upendra, R Sunagar, C Babra, JG Tiwari, TK Mukkur, **NR Hegde**, S Isloor. Biofilm formation and antibiotic resistance in *Staphylococcus aureus* isolates from bovine mastitis. XXVI Annual Convention of IAVMI, Chennai, India, 2012
 39. G Arakere, B Chakrakodi, S Prabhakara, S Isloor, **N Hegde**. Comparison of Bengal Bay clone ST772 with bovine *Staphylococcus aureus* isolates from India. 52nd Interscience Conference on Antimicrobial Agents and Chemotherapy, San Francisco, USA, 2012
 40. PP Rao, GS Krishna, YV Reddy, K Meena, B Susmitha, N Karunasree, B Yoganand, Sairaj, YN Reddy, **NR Hegde**. Diagnosis and serotyping of bluetongue: does one assay fit all? XXVII Annual Conference of the Indian Association of Veterinary Pathologists, Chennai, India, 2011
 41. SN Deore, R Sunagar, P Deshpande, A Rizwan, AD Sannejal, S Sundareshan, C Babra, JG Tiwari, P Constantino, DB Rawool, PP Rao, VJ Kumari, K Dhanalakshmi, YN Reddy, MK Jhala, DR Kalorey, SB Barbuddhe, TK Mukkur, SM Isloor, **NR Hegde**. Development of multiplex PCR for the rapid detection of mastitis-associated *Staphylococcus aureus*. XVIII Annual Convention of the Indian Society for Veterinary Immunology and Biotechnology (ISVIB), Sardarkrushinagar, India, 2011
 42. PV Deshpande, R Sunagar, S Sundareshan, SN Deore, AK Sannejal, A Rizwan, RV Hegde, K Nithin Prabhu, DB Rawool, VJ Kumari, K Dhanalakshmi, YN Reddy, AS Banalikal, DM Mugalikal, AB Mahadevappa, D Rathnamma, C Babra, JG Tiwari, P Constantino, MK Jhala, SB Barbuddhe, TK Mukkur, **NR Hegde**, S Isloor. Capsular typing of *Staphylococcus aureus* isolates from bovine mastitis cases by triplex PCR. XVIII Annual Convention of ISVIB, Sardarkrushinagar, India, 2011
 43. R Sunagar, S Sundareshan, SN Deore, R Apsana, PV Deshpande, S Isloor, **NR Hegde**. Biochemical, antibiogram and molecular characterization of *Staphylococcus aureus* isolates associated with bovine mastitis. XXV Annual Convention of IAVMI, Bengaluru, India, 2011
 44. S Sundareshan, R Apsana, PV Deshpande, S Isloor, N Krishnaveni, DS Akhila, R Hegde, M Thyageeswaran, SN Deore, **NR Hegde**, Y Haribabu, D Rathnamma. Isolation and speciation of coagulase negative staphylococci (CoNS) isolated from bovine milk samples. XXV Annual Convention of IAVMI, Bengaluru, India, 2011
 45. S Sundareshan, PV Deshpande, R Apsana, S Isloor, R Hegde, N Prabhu, Y Haribabu, B Awati, R Sunagar, **NR Hegde**. In-vitro antimicrobial sensitivity of coagulase negative staphylococci (CoNS) isolated from bovine milk. XXV Annual Convention of IAVMI, Bengaluru, India, 2011
 46. D Kumar, **NR Hegde**. Development of an assay for testing quality of a live attenuated vaccine: standardization of polymerase chain reaction for the detection of porcine circovirus contamination. 98th Indian Science Congress, Chennai, India, 2011
 47. **NR Hegde**, D Kumar, G Ravi, PP Rao, K Kumari, Y Kaushik, Chakrapani, K Gopinathan, MS Kumar, R Ravikrishnan, S Prasad, VK Mohan, KM Ella. Development of a platform for cell culture-based influenza vaccine: experience with H1N1 vaccine. 98th Indian Science Congress, Chennai, India, 2011
 48. PP Rao, **NR Hegde**, YN Reddy. Phylogenetic analysis of bluetongue virus as a potential tool to reveal virus movement. Virocon2010, Tirupati, India, 2010
 49. **NR Hegde**. Biotechnological applications in Virology. National Conference on Biotechnology Perspectives in the New Millennium, Hyderabad, India, 2009
 50. **NR Hegde**. Biotechnology in basic and applied virology. Neozion09, Chaitanya Bharathi Institute of Technology, Hyderabad, India, 2009
 51. **NR Hegde**, MS Chevalier, TW Wisner, MC Denton, K Shire, L Frappier, DC Johnson. BiP is involved in the ER-associated degradation of MHC molecules mediated by HCMV proteins. 31st International Herpesvirus Workshop, Seattle, USA, 2006
 52. **NR Hegde**, C Dunn, M Jarvis, DM Lewinsohn, DC Johnson. Inhibition of endogenous antigen presentation to CD4⁺ cells by human cytomegalovirus immune evasion proteins. 4th International Workshop on Antigen Processing and Presentation, Bar Harbor, USA, 2004
 53. **NR Hegde**, C Dunn, T Compton, MA Jarvis, DM Lewinsohn, JA Nelson, DC Johnson.

- Inhibition of endogenous human cytomegalovirus glycoprotein B to CD4+ T cells by US2 and US3. 29th International Herpesvirus Workshop, Reno, USA, 2004
54. **NR Hegde**, M Chevalier, C Dunn, DC Johnson. HCMV immune evasion proteins inhibit endogenous antigen presentation to CD4+ T cells. 27th International Herpesvirus Workshop, Cairns, Australia, 2002
 55. DC Johnson, **NR Hegde**, M Chevalier, C Dunn. HCMV US2 and US3 inhibit MHC class II-mediated antigen presentation to CD4+ T cells. Instituto Juan March de Estudios e Investigaciones, Madrid, Spain, 2002
 56. **NR Hegde**, M Chevalier, R Tomazin, TW Wisner, C Dunn, GM Daniels, D Tortorella, DM Lewinsohn, HL Ploegh, DC Johnson. Inhibition of MHC class II assembly and trafficking by US3: a novel mechanism of evasion of antigen presentation to CD4+ T cells. 26th International Herpesvirus Workshop, Regensburg, Germany, 2001
 57. **NR Hegde**, R Tomazin, DM Lewinsohn, J Boname, P Cresswell, JA Nelson, SR Riddell, DC Johnson. US2-mediated degradation of human MHC molecules involves a cellular intermediate. 25th International Herpesvirus Workshop, Portland, USA, 2000
 58. R Tomazin, J Boname, **NR Hegde**, DM Lewinsohn, Y Altschuler, TR Jones, P Cresswell, JA Nelson, SR Riddell, DC Johnson. Human cytomegalovirus US2 destroys two components of MHC class II antigen presentation pathway. Keystone Symposium on Cell Biology of Virus Entry, Replication and Pathogenesis, Taos, USA, 2000
 59. R Tomazin, J Boname, **NR Hegde**, DM Lewinsohn, Y Altschuler, TR Jones, P Cresswell, JA Nelson, SR Riddell, DC Johnson. Human cytomegalovirus US2 destroys two components of the MHC class II antigen presentation pathway. 24th Herpesvirus Workshop, Boston, USA, 1999
 60. **NR Hegde**, MS Deshpande, DL Godson, LA Babiuk, S Srikumaran. Identification of bovine CTL epitopes of bovine herpesvirus-1. 5th International Veterinary Immunology Symposium, Ludhiana, India, 1998
 61. **NR Hegde**, J R Stabel, S Srikumaran. Generation of a syngeneic cell line for the study of bovine cytotoxic T lymphocytes. 78th Conference of Research Workers in Animal Diseases (CRWAD), Chicago, USA, 1997
 62. **NR Hegde**, JR Stabel, S Srikumaran. Generation of a syngeneic cell line for the study of bovine cytotoxic T lymphocytes. 8th University of Nebraska Inter-campus Virology Meeting, Louisville, Nebraska, USA, 1997
 63. **NR Hegde***, S Srikumaran. The use of BoLA-A11 allele-specific peptide motif for the prediction of cytotoxic T lymphocyte epitopes of bovine herpesvirus-1. 77th CRWAD, Chicago, USA, 1996
 64. JJ Luebbe, **NR Hegde**, S Srikumaran. Cell tropism of *Pasteurella hemolytica* leukotoxin. 77th CRWAS, Chicago, USA, 1996
 65. **NR Hegde**, S Srikumaran. The use of BoLA-A11 allele-specific peptide motif for the prediction of cytotoxic T lymphocyte epitopes of bovine herpesvirus-1. 21st Herpesvirus Workshop, DeKalb, USA, 1996
 66. **NR Hegde**, S Srikumaran. The use of BoLA-A11 allele-specific peptide motif for the prediction of cytotoxic T lymphocyte epitopes of bovine herpesvirus-1. 10th Annual Bovine Herpesvirus Workshop, DeKalb, USA, 1996
 67. **NR Hegde**, S Srikumaran. The use of BoLA-A11 allele-specific peptide motif for the prediction of cytotoxic T lymphocyte epitopes of bovine herpesvirus-1. 23rd Annual University of Nebraska Medical Center Student Research Forum (UNMC SRF), Omaha, USA, 1996
 68. JJ Luebbe, **NR Hegde**, S Srikumaran. Cell tropism of *Pasteurella hemolytica* leukotoxin. 23rd Annual UNMC SRF, Omaha, USA, 1996
 69. **NR Hegde**, S Srikumaran. The use of BoLA-A11 allele-specific peptide motif for the prediction of cytotoxic T lymphocyte epitopes of bovine herpesvirus-1. The 1996 Ethnic Minority Graduate Research Symposium of the University of Nebraska, Lincoln, USA, 1996
 70. **NR Hegde**, SA Ellis, S Srikumaran. The use of BoLA-A11 allele-specific peptide motif for the prediction of cytotoxic T lymphocyte epitopes of bovine herpesvirus-1. 76th Conference of Research Workers in Animal Diseases, Chicago, USA, 1995
 71. **NR Hegde**, SA Ellis, G Sarath, RM Gaddum, CA Tregaskes, S Srikumaran. 6th Allele-specific peptide motif of a cattle MHC class I antigen, BoLA-A11. University of Nebraska Inter-campus Virology Meeting, Louisville, Nebraska, USA, 1995

72. **NR Hegde**, SA Ellis, S Srikumaran. Allele-specific peptide motif of a cattle MHC class I antigen, BoLA-A11. 22nd Annual UNMC SRF, Omaha, USA, 1995
73. **NR Hegde**, SA Ellis, G Sarath, RM Gaddum, CA Tregaskes, S Srikumaran. Allele-specific peptide motif of a cattle MHC class I antigen, BoLA-A11. 4th International Veterinary Immunology Symposium, Davis, USA, 1995
74. S Ramachandran, **NR Hegde**, R Raghavan, MS Subbarao, G Shyam. Hemagglutination by peste des petits ruminant virus. 3rd International Sheep Veterinary Conference, Edinburgh, U.K., 1993

OTHER MEETINGS / CONFERENCES / SYMPOSIA / WORKSHOPS ATTENDED

1. Keystone Symposia on Translational Vaccinology for Global Health, London, U.K., **2016**
2. Research and Development Blueprint: Technical workshop on ideas for potential platforms to support development and production of health technologies for priority infectious diseases with epidemic potential, World Health Organization, Geneva, Switzerland, **2016**
3. Clinical Trial and Cold Chain Management, Hyderabad, India, **2016**
4. India Bioforum – Virus Safety, Hyderabad, India, **2016**
5. Informal Consultation on Regulatory Considerations for Evaluation of Ebola Vaccines Intended for Emergency Use, World Health Organization, Geneva, Switzerland, **2015**
6. One-day Workshop on Bluetongue, Bengaluru, India, **2014**
7. Workshop and Interactive Meet on Diagnosis and Control of Bluetongue and Other Arboviral Diseases, Hyderabad, India, **2014**
8. BioAsia2014, Hyderabad, India, **2014**
9. Multi-stakeholder Consultancy Workshop on Opportunities, Challenges and Strategies in Animal Biotechnology, Agri-Biotech Foundation, Hyderabad, India, **2013**
10. 5th Conference on Laboratory Animal Scientists Association, Hyderabad, India, **2013**
11. International Symposium on “Rotavirus vaccines for India – the evidence and the promise,” New Delhi, India, **2013**
12. 5th Congress of the Federation of Immunological Societies of Asia Oceania (Translational Immunology in Health and Disease), New Delhi, India, **2012**
13. Keystone Symposium on Malnutrition, Gut-Microbial Interactions and Mucosal Immunity to Vaccines, New Delhi, India, **2011**
14. Lecture on Good Laboratory Practices, Bharat Biotech International Ltd., Hyderabad, India, **2011**
15. Mini-workshop on Laboratory Animal Health Monitoring, Indian Institute of Science, Bengaluru, India, **2011**
16. 71st Congress of the International Pharmaceutical Federation, Hyderabad, India, **2011**
17. Workshop on Translational Research Resources and Platforms for Veterinary Vaccines and Diagnostics, Madras Veterinary College, Chennai, India, **2011**
18. Vaccine World Summit, New Delhi, India, **2011**
19. Dendritic cells and initiation of adaptive immunity, Keystone Symposium, Santa Fe, USA, **2011**
20. 2nd Molecular Virology Meeting, Bengaluru, India, **2011**
21. International Vaccine Technology Workshop, Hyderabad, India, **2010**
22. Good Manufacturing Practices (GMP) Awareness Week – lectures on Organization for Economic Cooperation and Development (OECD) Principles of Good Laboratory Practice (GLP), Animal Toxicology, and Current GMP, Bharat Biotech International Limited, Hyderabad, India, **2010**
23. BioAsia2010, Hyderabad, India, **2010**
24. 36th Annual Conference of the Indian Immunological Society, Bengaluru, India, **2009**
25. Workshop on Intellectual Property Rights and Vaccines: Promoting R&D and Production in Developing Countries, World Health Organization and the Developing Country Vaccine Manufacturers’ Network Tokyo, Japan, **2009**
26. 10th Annual Foot-and-Mouth Disease Scientists’ Meet, Shimla, India, **2009**
27. CPCSEA National Conference on Ethical Use of Animals in Research & Education and Dissemination of Norms & Guidelines of CPCSEA, Hyderabad, India, **2009**
28. Indo-German Workshop on Molecular Epidemiology of Infectious Diseases, Hyderabad, India, **2008**

29. 13th Human Genome Meeting: Genomics and the Future of Medicine, Hyderabad, India, **2008**
30. National Institutes of Health Grants Policy and Management Workshop, New Delhi, India, **2008**
31. Symposium on Vaccinology and Antiviral Therapeutics, Mukteshwar, India, **2007**
32. International Conference on Emerging and Re-emerging Viral Diseases of the Tropics and Sub-tropics, New Delhi, India, **2007**
33. International Workshop on Capacity Building in the Areas of Avian Viral Diseases and Animal Biotechnological Applications, Chennai, India, **2007**
34. Workshop on Emerging Bioagents, Haldwani, Uttarakhand, India, **2007**
35. 26th American Society for Virology Conference, Corvallis, USA, **2007**
36. Council for Scientific and Industrial Research-Industry Meet, Hyderabad, India, **2007**
37. Asia-Pacific Congress of Medical Virology, New Delhi, India, **2006**
38. Indo-US Symposium on Viral Diagnostics, Epidemiology and Pathogenesis, Delhi, India, **2006**
39. Workshop and hands-on training on intracellular cytokine staining, Oregon Health & Science University, Portland, Oregon, USA, **1999**

DATABASE SUBMISSIONS

Complete genomes

Sl. No.	Database	Acc./ID No.	Organism
Primary submissions – viral genomes			
1	GenBank	JF443158 – 67	BTV-9 (BBF)
2	GenBank	JX003687 – 96	BTV-9 (Ind-R1-2007)
3	GenBank	JX399148 – 57	BTV-1 (K23/08)
4	GenBank	KC662612 – 21	BTV-12 (NMO1/11)
5	GenBank	Submitted	BTV-9 (M10/2003)
6	GenBank	Submitted	BTV-9 (M11/2003)
7	GenBank	Submitted	BTV-21 (KMN07/05)
8	GenBank	Submitted	BTV-1 (KRN7/2010)
9	GenBank	Submitted	BTV-1 (VC012/2010)
10	GenBank	Submitted	BTV-2 (KRN8/2010)
11	GenBank	Submitted	BTV-16 (VC07/2010)
12	GenBank	Submitted	BTV-16 (AP04/2010)
13	GenBank	Submitted	BTV-16 (AP06/2010)
14	GenBank	Submitted	BTV-16 (NR82/2011)
15	GenBank	KP696507 – 15	BTV-1/IND1985/01
16	GenBank	KP696552 – 61	BTV-1/IND2003/04
17	GenBank	KP696562 – 71	BTV-1/IND2003/05
18	GenBank	KP696572 – 81	BTV-1/IND2003/10
19	GenBank	KP696582 – 91	BTV-2/IND1993/01
20	GenBank	KP696592 – 601	BTV-2/IND2003/01
21	GenBank	KP696602 – 11	BTV-2/IND2003/03
22	GenBank	KP696612 – 21	BTV-9/IND2004/02
23	GenBank	KP696622 – 31	BTV-9/IND2004/04
24	GenBank	KP696641 – 50	BTV-9/IND2005/02

Sl. No.	Database	Acc./ID No.	Organism
25	GenBank	KP696651 – 60	BTV-9/IND2005/03
26	GenBank	KP696670 – 79	BTV-23/IND2004/07
27	GenBank	KP696680 – 89	BTV-23/IND2004/08
28	GenBank	KP696690 – 99	BTV-23/IND2004/09
Secondary submissions (from collaborators) – bacterial genomes			
1	GenBank	NZ_JMKL01000001 – 102	<i>Brucella melitensis</i> strain Bm IND1

Genes or fragments thereof

Sl. No.	Database	Acc./ID No.	Organism	Gene(s)
Primary submissions – viral genes / fragments				
1	GenBank	JF443155	BTV-9 (K8)	<i>VP2</i>
2	GenBank	JF443156	BTV-9 (MBN)	<i>VP2</i>
3	GenBank	JF443157	BTV-9 (W20)	<i>VP2</i>
4, 5	GenBank	JF443168 & 9	BTV-9 (K8)	<i>NS1, VP7</i>
6	GenBank	JF727655	BTV-10 (N15)	<i>VP2</i>
7	GenBank	JF747592	BTV-21 (KMN07/05)	<i>NS1</i>
8, 9	GenBank	JF768738 & 9	BTV-21 (KMN07/05)	<i>VP2, VP7</i>
10	GenBank	JF776369	BTV-21 (KMN07/05)	<i>VP7</i>
11, 12	GenBank	JN108882 & 3	BTV-10 (N15)	<i>NS2, VP6</i>
Secondary submissions (from collaborators) – viral genes / fragments				
1-9	GenBank	KP696517 – 25	BTV-1/IND1988/01	<i>VP1, VP3, VP4, VP5, VP6/NS4, VP7, NS1, NS2, NS3</i>
10-17	GenBank	KP696526 – 34	BTV-1/IND1992/02	<i>VP1, VP4, VP5, VP6/NS4, VP7, NS1, NS2, NS3</i>
18-25	GenBank	KP696535 – 43	BTV-1/IND1999/01	
26-33	GenBank	KP696544 – 51	BTV-1/IND2001/01	
34-42	GenBank	KP696632 – 40	BTV-9/IND2005/01	<i>VP1, VP3, VP4, VP5, VP6/NS4, VP7, NS1, NS2, NS3</i>
43-51	GenBank	KP696661 – 69	BTV-23/IND1997/01	
Secondary submissions (from collaborators) – bacterial genes / fragments				
1	GenBank	JQ764624.1	<i>Staphylococcus arlettae</i>	<i>gap</i>
2	MLST	ST2453	<i>Staph. aureus</i> 4760	<i>arc, aroE, glpF, gmk, pta, tpi, yqil</i>
3	GenBank	JX240320	<i>Staph. xylosus</i> (KVAFSU-28/09)	<i>rpoB</i>
4	GenBank	JX240321	<i>Staph. haemolyticus</i> (KVAFSU-29/09)	<i>sodA</i>
5	GenBank	JX240322	<i>Staph. chromogenes</i> (KVAFSU-118/11)	<i>sodA</i>
6	GenBank	JX240323	<i>Staph. epidermidis</i> (KVAFSU-CLM160311)	<i>mecA</i>
7	GenBank	JX240324	<i>Staph. epidermidis</i> (KVAFSU-111/11)	<i>aacA/aphD</i>
8	GenBank	JX240325	<i>Staph. epidermidis</i> (KVAFSU-47/09)	<i>aph3'</i>
9	GenBank	JX240326	<i>Staph. chromogenes</i> (KVAFSU-20/09)	<i>sodA</i>

Sl. No.	Database	Acc./ID No.	Organism	Gene(s)
10	GenBank	JX240327	<i>Staph. chromogenes</i> (KVAFSU-23/09)	<i>sodA</i>
11	GenBank	JX240328	<i>Staph. chromogenes</i> (KVAFSU-31/09)	<i>sodA</i>
12	GenBank	JX240329	<i>Staph. chromogenes</i> (KVAFSU-106A/11)	<i>sodA</i>
13	GenBank	JX240330	<i>Staph. epidermidis</i> (KVAFSU-17/09)	<i>rpoB</i>
14	GenBank	JX240331	<i>Staph. epidermidis</i> (KVAFSU-108/11)	<i>rpoB</i>
15	GenBank	JX240332	<i>Staph. epidermidis</i> (KVAFSU-121/11)	<i>rpoB</i>
16	GenBank	JX240333	<i>Staph. epidermidis</i> (KVAFSU-129/11)	<i>rpoB</i>
17	GenBank	JX240334	<i>Staph. epidermidis</i> (KVAFSU-147/11)	<i>rpoB</i>
18	GenBank	JX240335	<i>Staph. epidermidis</i> (KVAFSU-157/11)	<i>rpoB</i>
19	GenBank	JX240336	<i>Staph. haemolyticus</i> (KVAFSU-75/10)	<i>sodA</i>
20	GenBank	JX240337	<i>Staph. haemolyticus</i> (KVAFSU-102/11)	<i>sodA</i>
21	GenBank	JX240338	<i>Staph. haemolyticus</i> (KVAFSU-119/11)	<i>sodA</i>
22	GenBank	JX240339	<i>Staph. saprophyticus</i> (KVAFSU-15/09)	<i>gap</i>
23	GenBank	JX240340	<i>Staph. saprophyticus</i> (KVAFSU-85/10)	<i>gap</i>
24	GenBank	JX240341	<i>Staph. saprophyticus</i> (KVAFSU-87/10)	<i>gap</i>
25	GenBank	JX240342	<i>Staph. saprophyticus</i> (KVAFSU-90/10)	<i>gap</i>
26	GenBank	JX240343	<i>Staph. sciuri</i> (KVAFSU-02/09)	<i>gap</i>
27	GenBank	JX240344	<i>Staph. sciuri</i> (KVAFSU-52/09)	<i>gap</i>
28	GenBank	JX240345	<i>Staph. xylosus</i> (KVAFSU-57/09)	<i>rpoB</i>
29	GenBank	JX240346	<i>Staph. xylosus</i> (KVAFSU-66/09)	<i>rpoB</i>
30-32	GenBank	JX240347, 52, 55	<i>Staph. aureus</i> (KVAFSU-107/11)	<i>nuc, 16S rRNA, coa</i>
33-36	GenBank	JX240348, 50, 53, 56	<i>Staph. aureus</i> (KVAFSU-109/11)	<i>nuc, fib, 16S rRNA, coa</i>
37-39	GenBank	JX240349, 51, 54	<i>Staph. aureus</i> (KVAFSU-145/11)	<i>nuc, fib, 16S rRNA</i>
40	GenBank	JX298872	<i>Staph. aureus</i> (KVAFSU-133)	<i>icaA</i>
41	GenBank	JX298873	<i>Staph. aureus</i> (KVAFSU-15)	<i>icaA</i>
42, 43	GenBank	JX298874, 75	<i>Staph. aureus</i> (KVAFSU-90)	<i>icaA, isdA</i>
44	GenBank	JX403946	<i>Staph. aureus</i> (KVAFSU-50)	<i>bap</i>