



**Dr. B. N. Tripathi**  
Director

### **Area of Research Interests**

Molecular pathogenesis of paratuberculosis, PPR, equine influenza, glanders, EIA

### **Educational qualifications**

<b>Degree</b>	<b>Institution</b>	<b>Year of Award</b>
B.V.Sc & AH	C.S.A. Uni. Of Agri & Tech, Kanpur, Mathura Campus	1984
M.V.Sc (Pathology)	I.V.R.I, Izatnagar (Deemed University)	1987
Ph.D (Pathology)	I.V.R.I, Izatnagar (Deemed University)	1990
Post-doc.	BBSRC, UK	1998 - 1999
Post-doc.	Wellcome Trust, London, UK	2003 - 2004
Diplomate, ICVP	Certification examination by Indian College of Veterinary Pathologists	2008

### **Positions held**

<b>Position</b>	<b>Institution</b>	<b>Period of Appointment</b>
Director	ICAR-NRC on Equines, Hisar	19 Aug, 2014 - Contd.
Principal Scientist	IVRI, Izatnagar	Mar, 2014 - Aug, 2014
Director	NIAH, Baghpat, Govt of India, MOA	Dec, 2012 - Feb, 2014,
Principal Scientist & Head	Animal Health Div, CSWRI, Avikanagar	22.9.2009 - Nov. 2012
Principal Scientist	IVRI, Izatnagar	9.10.2008 - 21.9.2009
Senior Scientist	IVRI, Izatnagar	9.10.2000 - 9.10.2008

Scientist (SS)	IVRI, Izatnagar	9.10.1995 - 8.10.2000
Scientist	IVRI, Izatnagar	1.06.1993 - 8.10.1995
Scientist	NAARM, Hyderabad, NRCE, Hisar	9.10.1990 -30.05.1993

### Awards

1. **Young scientist award (2015)** (SKM animal feed sponsored) for outstanding research work in Veterinary Pathology conference IAVP-2015 (Jointly)
2. **Best Teacher Award (2009)** of Indian Veterinary research Institute, Deemed University, Izatnagar.
3. **Prof. P. Rama Rao award** for best PhD thesis of my student Dr A. Anand Kumar.
4. **Drs N.C.Jain and J.L.Vegad award (2005)** for outstanding work in Vet Pathology IAVP-2005 Cash award (Rs. 10,000/-) and a certificate.
5. **Dr. C.M. Singh Best paper award (2005)** for publishing paper in Indian J. Vet. Pathol. 2005, 29(2): 71-77. (Gold Medal and certificate).
6. **Best poster presentation award (2005)** during XXIII Ann.Conf.of IAVP at Shirwal on topic 'Role of certain cytokines in pathogenesis of experimentally induced paratuberculosis infection in sheep'. IAVP-2005 Medal and Certificates (Jointly).
7. **Best poster presentation award (2004)** during XXII Annual Convention of IAVP at Kolkata on topic Molecular diagnosis of paratuberculosis IAVP-2004 Cash award and a certificate (Jointly).
8. **Dr. C.M. Singh Best paper award (2003)** for publishing paper in Indian J. Vet. Pathol. 26(1&2): 15-18 IAVP-2003 Cash award and a certificate (Jointly)

### Fellowships received

- a. **Fellow** of National Academy of Veterinary Sciences in 2007. (**FNAVS**)
- b. **Fellow** of Indian Society for Veterinary Immunology and Biotechnology (**FISVIB**) in 2015
- c. **Fellow** of Indian Association of Veterinary Pathologists in 2008. (**FIAVP**)
- d. **Diplomate, ICVP (2008)**: Certificate of Diplomate, Indian College of Veterinary Pathologists (**DICVP**)
- e. **Fellow** of Society for Immunology and Immunopathology) in 2004. (**FSIIP**)

### Patent filed

- **Development of an agar-gel immuno diffusion test for diagnosis of paratuberculosis (Johne's disease) in ruminants'**. Patent numbered '2725/DEL', dated 26.12.2007)

### Research and Development

PI or Co-PI / associated Scientist/CPI	Title of Project(s)	Period (From-To)	Budget	Funding agency
Associate	Indo-UK influenza project ( NRCE, Hisar)	1991-93	Not known	BBSRC, UK
Associate	Network project on Haemorrhagic septicaemia (HS) (IVRI, Izatnagar)	2008-09	~5 crores For all Centre	ICAR, New Delhi
Co-PI	Establishment of Business Planning and Development unit at IVRI, Izatnagar. The project starts in July, 2009. (IVRI).	2008-09	4.77 crores	NAIP-component-I, ICAR, New Delhi
PI	Network project on Veterinary type culture (CSWRI, Avikanagar), Lead centre: NRCE, Hisar	2009-12 Project continued in 12 <sup>th</sup> plan	12.5 lakh for CSWRI	ICAR, New Delhi
PI	Network project on bluetonguedisease (CSWRI, Avikanagar),	2009-12	66.7 lakh	ICAR, New Delhi
CCPI	'RNAi mediated comparative functional analysis of immune response genes in ruminants and fish against <i>Mycobacterium avium</i> ssp. <i>paratuberculosis</i> and <i>M. fortuitum</i> '	2011-15	298.0769 lakh 50.37520 lakh for CSWRI	National Fund NFBSFARA

CCPI	Zoonotic potential of <i>Mycobacterium avium</i> subspecies paratuberculosis (MAP in human ulceroinfective ileocaecal disease (In collaboration with AIIMS, New Delhi)	2011-2014	62.372 lakh (43.556 lakh for CSWRI)	ICMR, New Delhi
Project coordinator	DBT-NER Project: Advanced Animal Disease Diagnosis and Management Consortium (ADMaC), (Project Coordinator: BN Tripathi).	Sept., 2013- April, 2019	Rs. 585.20 lakh	DBT, New Delhi
Co-PI	OIE Twining program for Glander	July, 2012- Dec, 2015	Euro 86110/-	OIE, Paris
Co-PI	OIE Twining program for Equine influenza	Oct., 2012- Sept., 2015	Euro 86,000/-	OIE, Paris
PI (Inter-institutional)	Feasibility Studies on biogas and compost production from mule dung in hilly regions in India  Other collaborator: CSIR-NEERI, Nagpur	November, 2015-Oct. 2017	37.512 Lakh	DST (Govt of India, Office of the Principal Scientific Advisor to the Govt of India.

### **Important publications**

1. Naveen Kumar, Bidhan Chandra Bera, Benjamin D. Greenbaum, Sandeep Bhatia, Richa Sood, Pavulraj S, Taruna Anand, **Tripathi, B.N.** and Nitin Virmani (2016). Revelation of Influencing Factors in Overall Codon Usage Bias of Equine Influenza Viruses. *PLoS ONE* 11(4): e0154376. doi:10.1371/journal.pone.0154376.
2. Pavulraj, S., Bera, B.C., Alok Joshi, Anand Taruna, Virmani Meenakshi, Vaid, R.K., Shanmugasundaram, K., Singh Rajendra, Singh, R.K., **Tripathi, B.N.** and Virmani Nitin. 2015. Pathology of equine influenza virus (H3N8) belonging to Clade 2 of Florida sublineage in BALB/c mouse model. *PLoS ONE*. 10(11): e0143094. doi:10.1371/journal.pone.0143094, pp1-22. (if=3.234, ci=published recently).
3. Sivakumar P., **Tripathi, B.N.**, Nem Singh. 2013. Mechanisms of *Mycobacterium avium* subsp. *paratuberculosis* induced apoptosis and necrosis in bovine macrophages. *Veterinary Microbiology*. 165: 392-401. (if=2.511, ci=6)

4. **Tripathi, B.N.**, Sivakumar, P., Paliwal, O.P., Singh, N. 2006. Comparison of tissue PCR, bacterial culture, johnin and serological test in the diagnosis of naturally Zoonosis and Public Health occurring paratuberculosis in goats. *Veterinary Microbiology*, 116 129-137.(if=2.511, ci=33).
5. Sivakumar. P., **Tripathi. B.N**, Singh, N and Sharma, A.K. 2006. Pathology of naturally occurring paratuberculosis in water buffaloes (*Bubalus bubalis*). *Veterinary Pathology*, 43: 455-462. (if=1.869, ci=22).
6. Munjal, S.K., **Tripathi, B.N.**, Paliwal, O.P. and M. Homuth. 2006. Application of different methods for the diagnosis of experimental paratuberculosis in goats. *Zoonoses and Public Health*, 54: 140-146. (if=2.369, ci=10).
7. Sivakumar P., **Tripathi. B.N.** and Singh, N. 2005. Detection of Mycobacterium avium subsp.paratuberculosis from intestinal and lymph node tissues of water buffaloes by PCR and bacterial culture. *Veterinary Microbiology*, 108: 263-270. (if=2.511, ci=60).
8. Kurade, N.P., **Tripathi, B.N.**, Rajukumar, K., and Parihar, N.S. 2004. Sequential development of histological lesions and their relationship with bacteruial isolation, fecal shedding and immune responses during progressive stages of experimental infection of lambs with Mycobacterium avium subsp. paratuberculosis. *Veterinary Pathology* 41: 378-387. (if=1.869, ci=69).
9. Kumar,P. **Tripathi, B.N**, Sharma, A.K., Kumar, R., Sreenivas, B.P. Singh, R.P., Dhar, P., Bandyopadhyay SK. 2004. Pathological and immunohistochemical study of experimental peste des petits ruminants (PPR) virus infection of goats. *Journal of Veterinary Medicine, series B*, 51(4): 1-7.(Now Zoonoses and Public Health) 24(1): 43-47. (if=2.369, ci=46).
10. Munjal, S.K., **Tripathi, B.N.**, Paliwal, O.P. 2005. Progressive immunopathological changes during early stages of experimental infection of goats with Mycobacterium avium subsp. paratuberculosis. *Veterinary Pathology*, 42: 427-436. (if=1.869, ci=20).
11. Bispham, J., **Tripathi, B.N.**, Watson, P. R and Wallis, T. S. 2001. Salmonella pathogenicity island-2 influences both systemic salmonellosis and Salmonella induced enteritis in calves. *Infection and Immunity*, 69(1):367-377. (if=3.73198, ci=113)

### **Books written**

1. Chauhan, R.S. and **Tripathi, B.N.** (2002). Veterinary Immunopathology:\_Therory and Practice, International Book Distributing Co.,Lucknow, 221 pp. (ISBN: 81-85860-84-X)
2. **Tripathi, B.N.** 2007 Immunopathological and Molecular Techniques in Diagnostic Pathology. Published by Communication Centre, Indian Veterinary Research Institute (IVRI), Izatnagar, 160 pp with 8 colored plates. Printed by Printing Palace Bareilly.

3. Karim, S.A., Joshi, A., Sankhyan, S.K., Shinde, A.K., Shakhyawar, D.B., Naqvi, S.M.K. and **Tripathi, B.N.** (Eds). 2010. Climate Change & Stress management: Sheep & Goat Productuion. Satish Serial Publishing House, Delhi, India, (ISBN 81-89304-81-X) 825 pp.

### **Book Chapters**

1. Tripathi, B.N. (2001). Recent advances in pathogenesis and diagnosis of paratuberculosis (Johne's disease) in animals. In: *Advances in Immunology and Immunopathology*. (Eds R.S. Chauhan, G.K.Singh and D.K.Agrawal) pp. 288-294.
2. Tripathi, B.N. (2001) Application of polymerase chain reaction (PCR) in the diagnosis of bacterial diseases. In: Monograph on *Recent Advances in Diagnostic Pathology*. (Eds P. Dwivedi and R. Somvanshi), IVRI, Izatnagar, pp 19-23.
3. Tripathi, B.N. (2001) Immunocytochemical techniques in diagnostic pathology. In: Monograph on '*Recent Advances in Diagnostic Pathology*'. (Eds P. Dwivedi and R.Somvanshi), IVRI, Izatnagar, pp 86-90.
4. Tripathi, B.N (2001) Immunopathological and molecular diagnosis of Johne's disease. In Monograph on '*Recent Advances in Diagnostic Pathology*'. (Eds P.Dwivedi and R.Somvanshi), IVRI, Izatnagar, pp147-151.
5. Tripathi, B.N (2002). Phosphorus deficiency with special reference to Post parturient haemoglobinuria in cattle. In: *An Introduction to Bovine Haematuric and Haemoglobinuric diseases*. Somavanshi R. (Ed), Jaypee Brothers Medical Publishers (p) Ltd, New Delhi, pp. 180-185.
6. Tripathi, B.N., Singh, N. (2006). Diagnosis and management of diseases of small ruminants' at *National Training Program on Mass Media Support on Agriculture*, (Eds Sharma, MC et al), Joint Directorate of Extension Education, IVRI, Izatnagar, pp-168-174.
7. Tripathi, B.N. (2006). Diagnosis and management of mycobacterial diseases of farm animals. In: '*Current concept in diagnosis and health management of domestic animals*'. (Eds Sharma M.C.et al), Joint Directorate of Extension Education, IVRI, Izatnagar, pp-58-61.
8. Tripathi, B.N. (2007). Diagnosis and prevention of TB, JD and other zoonotic diseases in bovine. In: '*Important issues related to management of livestock and commercial aspects*'. (Eds Sharma M.C.et al), Joint Directorate of Extension, IVRI, Izatnagar, pp- 74-77.
9. Tripathi, B.N. (2007). Molecular approaches for the diagnosis and control of paratuberculosis (Johne's disease) in ruminants. In: *Molecular diagnosis of Animal Tuberculosis with Particular Reference to Recent Developments in Tuberculosis Research for its Diagnosis and Prophylaxis*. (Ed, Verma, R). IVRI, Izatnagar, pp-100-109.
10. Tripathi, B.N. (2008). Recent developments in the diagnosis and control of paratuberculosis (Johne's disease) in ruminants. In: '*Diagnosis and prophylaxis of Economically Important Diseases of Farm Animals and Poultry*'. (Ed. R. Somvanshi) Center, IVRI, Izatnagar, pp- 98-105.
11. Tripathi, B.N. (2009). Principle and procedures of processing tissues for histopathological/histochemical examination. In: '*Necropsy techniques and necropsy conference manual*'. (Eds. R. Somvanshi & J R Rao), IVRI, Izatnagar, pp- 91-98.

12. Tripathi, B.N., Dixit, S.K. and Sonawane, G.G. (2010). Animal borne diseases: Human health and environmental concern. In: *Climate Change & Stress management: Sheep & Goat Productuion*. (Karim, S.A., Joshi, A., Sankhyan, S.K., Shinde, A.K., Shakhyawar, D.B., Naqvi, S.M.K. and Tripathi, B.N., Eds). Satish Serial Publishing House, Delhi, India, pp- 587-607.

#### International Visits

- i. Institute for Animal Health, Compton, United Kingdom, Sept 1998-May 1999, funded by BBSRC, London, UK Under Colombo plan (Indo-UK TOMBIT Project)
- ii. Edinburgh, Scotland, UK for attending conference of Society for Microbiology during March 14-16, 1999, sponsored by Institute of Animal Health, Compton, and BBSRC, London.
- iii. Moredun Research Institute, Edinburgh (UK), Wellcome Trust International Fellowship, London (internationally highly competitive fellowship). Oct. 2003- Feb. 2004
- iv. St George Hospital, London to attend Acid-Fast Club Meeting Jan 9-10, 2004, (sponsored by MRI, Edinburgh & Wellcome Trust, London).
- v. KVL, Copenhagen, Denmark, for attending 8th International Colloquium on Paratuberculosis (ICP), presented 5 papers, 13-18 Aug 2005, (sponsored by International Association for Paratuberculosis (IAP), USA, DST and INSA, New Delhi.
- vi. National Veterinary Institute, Tsukuba, Japan for attending 9th ICP and presented 5 research papers (one oral and 4 poster), 28 Oct-2 Nov, 2007, (sponsored by International Association for Paratuberculosis, USA).
- vii. University of Sidney, Attended 11<sup>th</sup> ICP and presented one oral and 4 posters. (University of Sidney), 5-10 Feb, 2012, DST, New Delhi, Govt of India.
- viii. Attended European Pathology Congress and presented oral and poster presentations, Leon, Spain 5-10 Sept. 2012 ICVP (IAVP), India
- ix. 37<sup>th</sup> APHCA meeting & APHCA-OIE Regional Workshop: Zoonoses, Food-borne Diseases and AMR in the Asia-Pacific Region 22-26 Sept. 2013 FAO of United Nations Regional Office for Asia and Pacific, Bangkok and OIE.
- x. Visited Animal Health Trust, New Market, UK 16 -23 July, 2015 Under OIE Twinning Programme on Equine Influenza

#### Chief-Editor/Editor/Editorial Board member

1. **Chief Editor**, Indian Journal of Veterinary Pathology from 2009-2011
2. **Editor**, Indian Journal of Veterinary Pathology from 2006-09.
3. **Editor**, Special Silver Jubilee Issue of Indian Journal of Veterinary Pathology
4. **Editorial Board Member** of The Open Veterinary Science Journal (Bentham Publication, open access journals) since 2008.
5. **Asia Editor**, International Journal of Cow Sciences since 2006-09.

6. **Editorial Board Member** of Gyan-Vigyan Patrika published (biannual) by the Krishi Vigyan Kendra of the IVRI, Izatnagar.
7. **Editor, 'The Lesion'** (An IAVP Newsletter).
8. **Executive member** of Society for Immunology and Immunopathology (SIIP) 2005-2007.