Dr. YASHPAL S. MALIK, PhD, PostDoc (USA)

ICAR NATIONAL FELLOW DIVISION OF BIOLOGICAL STANDARDISATION INDIAN VETERINARY RESEARCH INSTITUTE (IVRI) IZATNAGAR 243 122, BAREILLY, UTTAR PRADESH PHONE: 7500777999, 9410938913

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Experience:

19 years in research/academic institutions

Professional profile:

As microbiologist have extensive experience in laboratory techniques, able to successfully apply broad knowledge base in microbiology and molecular biology to novel research challenges.

Skills:

Proficient with cultivation and isolation of viruses, tissue culture, development of enzyme immunoassays, viral protein characterization, protein extraction/purification/ quantification, PCR, RT-PCR, Real-time PCR, Hybridization and some other diagnostic method development, reporting research findings and developing grant proposals for future research.

Education:

- **PhD in Veterinary Microbiology** from CCS Haryana Agricultural University, (CCSHAU) Hisar (1997-2000).

 Thesis title "Nucleic acid based approaches for detection of bluetongue virus"
- Master's degree in Veterinary Microbiology from CCSHAU, Hisar (1995-1997).

Thesis title "Antigenic characterization of soluble proteins of sheep pox virus"

• **Bachelor's degree in Veterinary Sciences** from CCSHAU, Hisar (1990-1995).

Employment:

- ICAR National Fellow, Division of Biological Standardization, IVRI Izatnagar Campus, Bareilly 243 122, Uttar Pradesh, India (25th November 2014- continue).
- **Principal Scientist/Professor,** Division of Biological Standardization, IVRI Izatnagar Campus, Bareilly 243 122, Uttar Pradesh, India (8 May 2014- 24 November 2014).
- Senior Scientist/Associate Professor, Division of Biological Standardization, IVRI Izatnagar Campus, Bareilly 243 122, Uttar Pradesh, India (January 11, 2013- 7 May 2014).
- Senior Scientist/Associate Professor, Division of Virology, IVRI, Mukteswar Campus, Nainital 263138, Uttarakhand, India (Sept. 2008- January 10, 2013).
- **Associate Professor,** Department of Microbiology, College of Veterinary Science & Animal Husbandry, JN Krishi Vishwa Vidayalaya, Jabalpur- 482 001, Madhya Pradesh (May 2008 Sept. 2008).

- **Post-Doctoral Associate, Molecular Virology,** Veterinary Diagnostic Laboratory, University of Minnesota, St. Paul, Minnesota 55108, USA (May 2002-June 2003)
- Scientist/Assistant Professor (Senior Scale), Department of Microbiology, College of Veterinary Science & Animal Husbandry, JN Krishi Vishwa Vidayalaya, Jabalpur- 482 001, Madhya Pradesh (25 June 2007 8 May 2008).
- Scientist/Assistant Professor, Department of Microbiology, College of Veterinary Science & Animal Husbandry, JN Krishi Vishwa Vidayalaya, Jabalpur- 482 001, Madhya Pradesh (June 2001-24 June 2007).
- **Research Associate**, National Agricultural Technology Project (NATP), Department of Microbiology, College of Veterinary Sciences, CCS HAU, Hisar (March 2000 to June 2001).

Educational qualifications

Degree/ Diploma	University	Field (s)	Division	Year
B.V.Sc. & A.H.	CCS Haryana Agricultural University, Hisar	Vet. Sci. & A.H.	First 3.5/4.00 (76.25%)	1995
M.V.Sc.	CCS Haryana Agricultural University, Hisar	Microbiology	First 3.86/4.00 (87.20%)	1997
PhD	CCS Haryana Agricultural University, Hisar	Microbiology	First 3.97/4.00 (89.40%)	2000
PGdip in Animal Welfare	Madras Vet. College, Chennai (TN)	Animal welfare	First	2001
Certificate course in Computers	Haryana State Council, India	Computer Packaging & Applications	First (80%)	1996

Research/Training Experience:

Dura	ation		
From	То	Institution	Designation
1994	1997	CCSHAU, Hisar, Haryana	Junior Research Fellow
1997	2000	CCSHAU, Hisar, Haryana	Senior Research Fellow
March 2000	June 2001	NATP, CCSHAU, Hisar	Research Associate
May 2002	June 2003	College of Vet. Medicine, University of Minnesota, USA	Post-Doctoral Fellow
June	24	College of Vet. Sci. & A.H., Jabalpur	Assistant Professor/

2001	June 2007		Scientist
25 June 2007	7 May 2008	College of Vet. Sci. & A.H., Jabalpur	Assistant Professor (Senior Scale)
8 May	10 Sep	College of Vet. Sci. & A.H., Jabalpur	Associate Professor /
2008	2008		Senior Scientist
10 Sep	10 Jan	Division of Virology, IVRI, Mukteswar,	Senior Scientist
2008	2013	Nainital, UKD	
11 Jan,	7 May	Div. Biological Standardization, IVRI	Senior Scientist
2013	2014	Izatnagar Campus, Bareilly 243 122	
8 May	24 Nov	Div. Biological Standardization, IVRI	Principal Scientist
2014	2014	Izatnagar Campus, Bareilly 243 122	
25 Nov 2014	Cont.	ICAR-IVRI Izatnagar Campus, Bareilly 243 122	ICAR National Fellow

Research Specialization

(Major Scientific fields of Interest): Diagnostic Virology & Vaccinology

Research Interests

- Diagnosis & Epidemiology of principal enteric viral infections in animals.
- Development of molecular biology techniques (PCR, RT-PCR, Nested PCR) and their application to viral diagnosis.

PubMed link

https://www.ncbi.nlm.nih.gov/pubmed/?term=malik%ys

Google scholar link

https://scholar.google.co.in/citations?user=fSWUKlUAAAAJ&hl=en

Mendeley link

https://www.mendeley.com/profiles/yashpal-singh-malik/?viewAsOther=true

ORCID

0000-0002-2832-4854

Scopus

Author ID: 55407524100

URL

https://plus.google.com/+YashpalMalikivri

LiveDNA

http://livedna.org//91.380

Academic Assignments

- Serving as **member International Committee on Taxonomy of Viruses** (ICTV) on Birnaviridae and Picobirnaviridae Study Group (https://talk.ictvonline.org/information/w/members/535/birnaviridae-and-picobirnaviridae-study-group)
- Served as **Student Welfare Officer** at Indian Veterinary Research Institute since October 2016.
- Serving as **CPCSEA nominee** (main) for Institutes Animal Ethics Committee (IAEC) of Govind Ballabh Pant University of Agriculture and Technology (GBPUAT), Pantnagar, Uttarakhand, India
- Served as **DBT nominee for Institute Biosafety Committee** (IBC) of Central Avian Research Institute, Izatnagar, UP
- Served as **CPCSEA nominee for Institutes Animal Ethics Committee** (IAEC) Shri Guru Ram Rai Mehant Medical College, Dehradun
- Served as CPCSEA nominee for Pharmacology Institutes, Rudrapur, Uttarakhand
- Served as **Member Secretary- Institutes Animal Ethics Committee** (IAEC) Indian Veterinary Research Institute's Mukteswar campus, Uttarakhand
- Serving as "Secretary" Indian Virological Society (Animal Virology)
- Serving as "Joint Secretary" Indian Society for Veterinary Immunology and Biotechnology
- Serving as "Joint Secretary & Treasurer" Indian Association of Veterinary Microbiology, Immunology and Infectious Disease Specialist (IAVMI)
- Member Editorial Board for ICAR-IVRI Annual Report 2015, 2016

Chairing of Technical Sessions

- 1. As an **expert Panelist** attended 9th National Conference on "One Health-Anti Microbial Resistance and Diseases of Public Health Importance (Zoonotic Diseases)" with focus on "Transboundary Diseases-Preparedness for Early Diagnosis & Prevention at the Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi. Organized by Millennium India Education Foundation in association with ICAR (AS Division), Govt. of India and Indian Public Health Association on Wednesday 3rd July 2019.
- 2. Chaired the **Dr Mahendra Pal Award session-2019** as expert evaluator of judging committee during the XVI Annual Symposium of IAVPHS & National Conference on "Challenges and Opportunities for Tackling Veterinary Public Health Issues at the Human Animal and Environment Interface" held at Department of Veterinary Public Health, Nagpur Veterinary College, Nagpur from 26-27th February 2019.
- 3. Chaired the "Viral Diagnostics and Disease Management" technical session IV, held on 14th November 2018, during INTERVIROCON–2018 on "Global Viral Epidemics: A Challenging Threat" organized by Indian Virological Society and PGIMER, Chandigarh, India from 12-14 November 2018.
- 4. Co-chaired the "Goat Health and Welfare", technical session 1, held on 22nd October 2018, during Asian Regional Conference on Goats organized by Amity University, Jaipur, India from 22-26 October 2018

- 5. Chaired the **IVS-Young Scientist Award-2017 Session** as member judging committee during the during XXVI National Conference of Indian Virological Society on "Viruses to Viromes in Health and Disease" during the Industry -Academia Meet, organized by the Nitte University, Deralakatte, Mangalore, Karnataka, from 7-9 December, 2017.
- 6. Chairman for the **Virocon-2017 Animal and Fisheries Poster Session** during the XXVI National Conference of Indian Virological Society on "Viruses to Viromes in Health and Disease" during the Industry -Academia Meet, organized by the Nitte University, Deralakatte, Mangalore, Karnataka, from 7-9 December, 2017
- 7. Chairman during XXVI National Conference of Indian Virological Society on "Viruses to Viromes in Health and Disease" during the Industry -Academia Meet, organized by the Nitte University, Deralakatte, Mangalore, Karnataka, from 7-9 December, 2017
- 8. Chairman in the **Industry- Academia Meet** during XXVI National Conference of Indian Virological Society on "Viruses to Viromes in Health and Disease", organized by the Nitte University, Deralakatte, Mangalore, Karnataka, from 7-9 December, 2017.
- 9. Chairman during XXIV Annual Convention and National Symposium of Indian Society for Veterinary Immunology and Biotechnology on "Recent Trends in Veterinary Immunology and Biotechnology for Doubling Farmers income through Livestock Health and Production" during the **technical session -T8 on Bioinformatics and Molecular Epidemiology** organized by College of Veterinary Sciences, Maharashtra Animal & Fishery Sciences University (MAFSU), Parbhani, Maharashtra, from 5-7th December 2017.
- 10. Chairman, during International Conference on "Virus Diseases: One Health One World" held at Kuching, Sarawak, Malaysia from 25-27th July 2017.
- 11. Co-Chairman, during Global Symposium on "Animal Health: Newer Technologies and Their Applications" and XXIX Annual Convention of Indian Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases (IAVMI), organized jointly by Department of Microbiology, College of Veterinary Science, Agricultural University, Khanapara and ICAR-National Research Centre on Pig, Rani, Guwahati, Assam
- 12. Chairman during XXII Annual Convention and National Symposium of Indian Society for Veterinary Immunology and Biotechnology on "Immunomics and Proteogenomics in Livestock Health & Productivity" organized by the National Research Centre on quines, Hisar, Haryana, from 17-19 December, 2015
- 13. Chairman during XXIV National Conference (VIROCON-2015) on "Transboundary Viral Diseases Under One Health: Perspectives & Challenges" organized by the Department of Microbiology, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong Meghalaya, from 8-10 October 2015
- 14. Chairman during XXIII National Conference of Indian Virological Society on Recent Trends in Virology Research in the Omics Era" held at TNAU, Coimbatore, TN from 18-20 December 2014.
- 15. Chairman during XXVIII Annual Convention of Indian Association of Veterinary Microbiologists, Immunologists and Speciliasts in Infectious Diseases (IAVMI) and International Conference on "Challenges and Opportunities in animal Health at the face of globalization and climate change" held at Department of Veterinary Microbiology and Immunology, DUVASU, Mathura, UP during 30th October to 1st November, 2014.

Office bearer position in Professional Scientific Societies

- Secretary of Indian Virological Society (Animal Virology)
- **Joint Secretary & Treasurer** of Indian Association of Veterinary Microbiology, Immunology and Infectious Disease Specialist (IAVMI)
- Joint Secretary of Indian Society for Veterinary Immunology and Biotechnology

Awards/Fellowship/Recognitions:

FELLOWSHIPS

- Elected as "Fellow Indian Association of Veterinary Public Health Specialists (IAVPHS-2018)"
- Recognized as member International Committee on Taxonomy of Viruses (ICTV) on Birnaviridae and Picobirnaviridae Study Group
- Elected as "Fellow of Indian Society for Veterinary Immunology and Biotechnology 2017 (ISVIB-2017)"
- Elected as "Fellow National Academy of Biological Sciences-FNABS 2017"
- Elected as "Fellow Academy for Environment and Life Sciences-FAELS 2015"
- Elected as "Fellow Society of Applied Biotechnology-FSAB 2015"
- Elected as "Fellow International Science Congress Association-FISCA2015"
- Elected as "Fellow Indian Virology Society-FIVS 2014"
- Membership (2010) of National Academy of Veterinary Sciences (NAVS).
- Associateship (2010) of National Academy of Agricultural Sciences (NAAS).
- Senior Research Fellowship (1997-2000) of Council of Scientific and Industrial Research (CSIR) New Delhi for Doctorate studies in Veterinary Microbiology (1997-2000) for development of molecular approaches for the detection of bluetongue virus.
- Junior Research Fellowship (1995-1997) of Indian Council of Agricultural Research (ICAR) New Delhi for Master's research in Veterinary Microbiology (1995-1997).
- Merit scholarship and Honors certificate for best consecutive academic record during Bachelor's degree in Veterinary Sciences.

AWARDS

- Awarded with "Certificate of Appreciation" by the ICAR-Indian Veterinary Research Institute, Izatnagar for publishing highest impact factor publication for the year 2018-19.
- Awarded with "FM Burnett Award" for the team research work done on "Evolutionary epidemiology of emerging enteric viruses in wildlife animals and their relationship to human strains" by Indian Society for Veterinary Immunology & Biotechnology (ISVIB) during the XXV Annual Convention and National Conference VIBCON-2018 held at ICAR–National Research Centre on Mithun, Medziphema, Dimapur, Nagaland from 13th to 15th December 2018.
- Received "Travel Grant Award" from Department of Science and Technology under ITS scheme for attending the 13th International Double Stranded RNA Virus Symposium held at KU Leuven, Houffalize, Belgium from 24-28 September 2018.

- Received "Travel Grant Award" from KU Leuven University for attending the 13th International Double Stranded RNA Virus Symposium at Houffalize, Belgium from 24-28 September 2018.
- Awarded with "Eminent Scientist Award" for the work done in the field of Agriculture and Allied Sciences by Samagra Vikas Welfare Society during the "International Seminar on Agriculture & Food for Inclusive Growth and Development" held at CSIR-NBRI, Lucknow from 14-15 January 2017.
- Awarded with Mid-career Award (2015) of Indian Society for Veterinary Immunology and Biotechnology (ISVIB) for the research work "Whole genome analysis of bovine rotavirus strains carrying novel genomic constellation with evidence of multispecies reassortment" during XXII Annual Convention and National Symposium of ISVIB held at ICAR National Research Centre on Equines, during 17-19 December, 2015.
- **ICAR National Fellow Award** for research project (2014-2019) by Indian Council of Agricultural Research in the field of Animal Sciences.
- **Prof. PK Uppal Promising Young Scientist Award** (2013) of Indian Association of Veterinary Microbiologists, Immunologists and Speciliasts in Infectious Diseases (IAVMI) for the research work "Development of Innovative Diagnostic Approaches and Genetic analysis of Viruses Associated with Gastrointestinal Infections in Bovine, Porcine and Poultry in India" presented during XXVII National Symposium of IAVMI held at Department of Animal Husbandry, Govt. of Uttar Pradesh, Lucknow (India) from December 13-15, 2013.
- Young Scientist Award (2010) of Uttarakhand State Science & Technology in the field of Veterinary and Animal Sciences. Presented at 5th Uttarakhand State Science & Technology Congress held at Doon University, Dehradun, Uttarakhand on 12th November 2010.
- **Jawaharlal Nehru Award (2001)** for Outstanding Post Graduate Agricultural Research (2001-02) by Indian Council of Agricultural Research in the field of Animal Biotechnology.
- Young Scientist Award (2000) of Association of Microbiologists of India for best research work in Veterinary/Medical field. Presented at 41st National Conference of the Association of Microbiologists of India held at Birla Institute of Scientific Research, Jaipur, Rajasthan.

BEST PAPER/POSTER AWARDS

- Awarded with "**Dr SP Singh Best Research Paper Award**" for the research paper "G and P typing of bovine group A rotaviruses isolated from Northern and Central Indian, published in Journal of Veterinary Public Health, 2016, Vol 41(1): 1-6 at XVI Annual Symposium of IAVPHS & National Conference on "Challenges and Opportunities for Tackling Veterinary Public Health Issues at the Human Animal and Environment Interface" held at Department of Veterinary Public Health, Nagpur Veterinary College, Nagpur from 26-27th February 2019.
- Awarded with best poster award during Asian Regional Conference on Goats organized by Amity University, Jaipur, India from 22-26 October 2018 for research work by S. Sircar, S. Shanmuganathan, JJ Kattoor, P. Kumar, R. Singh, K. Dhama, RK Singh, and YS Malik on "Molecular epidemiology of rotavirus in caprine population, India" in the technical session "Goat Health Management and Welfare".

- Awarded with best poster award (3rd) of Indian Virology Society for research work by Deol P, Kattoor J.J, Sircar S, Saurabh S, Dhama K, Batra M, Singh RK and <u>Malik YS</u> on "Molecular detection and genetic analysis of structural and non-structural genes of species D rotavirus from chicken in India". *In:* INTERVIROCON 2018 on "Global Viral Epidemics: A Challenging Threat" Organized by Indian Virological Society and PGIMER, Chandigarh, India from 12-14 November 2018 (Abstract No. APP12, Page 71).
- Awarded with best poster award of Indian Virology Society for research work by S. Sircar, A.K. Verma, J.K. Kala, A.B. Joshi, H.C Chauhan, B.S. Chandel, S.K. Mohapatra and Malik YS on "Genome segment 2 encoded RNA polymerase gene based characterization of camelid origin picobirnaviruses, India". In: XXVI National Conference of Indian Virological Society on "Viruses to Viromes in Health and Disease", organized by the Nitte University, Deralakatte, Mangalore, Karnataka, from 7-9 December, 2017. (AVPP-21, page 174).
- Awarded with **Savithree Jibachch Sinha Best Poster Presentation Award** for work on "Gut pathology of enteric calves and experimental rotavirus group A infection in suckling mice" to G. Kashyap, **YS Malik**, P. Kumar, M. Sahoo, Rahul Singh, S. Sircar and R. Singh during the Annual Conference of Indian Association Veterinary Pathologists held at Chhattisgarh Kamdhenu Vishwavidhyalaya, Anjora, Durg (CG) held between 9-11 November 2016.
- Awarded with best poster award for "Virus like particles (VLPs) as vaccine for FMD" presented by S.A. Bhat, P. Saravanan, S. Nandi, V. Gupta, Y.S. Malik, P. Sharma and V.K. Gupta during National Workshop held on "Current Trends and Future Research Challenges in Vaccines and Adjuvants" organized at Indian Veterinary Research Institute, Izatnagar 243122, Bareilly, Uttar Pradesh, India during 19-20 November 2015.
- Awarded with best poster award of Indian Virology Society for research work by Jobin Jose Kattoor, Kuldeep Sharma, Naveen Kumar, Shubhankar Sircar, Sharad Saurabh, Raj Kumar Singh and Yashpal Singh Malik on "Structural analysis of important genes of an Indian isolate of avian rotavirus D". *In:* Indian Virological Society (IVS) XXIV National Conference (VIROCON-2015) on "Transboundary Viral Diseases Under One Health: Perspectives & Challenges" organized by the Department of Microbiology, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong Meghalaya, from 8-10 October 2015 (abstract no. PV-17, page 245).
- **Best paper award 2013** by the Executive Board of International Journal "Advances in Animal and Veterinary Sciences" for the paper published in Volume 1 Issue 1 of 2013 on Sequence and Phylogenetic Analysis of Bovine Rotavirus Isolates (G6 Genotypes) from India (Authored by : **YS Malik**, N. Kumar, K. Sharma, A.A. Haq, A. Kumar, M. Prasad) Adv. Anim. Vet. Sci. 1 (1): 41 43, 2013.
- **Best paper award 2013** by the Executive Board of International Journal "Advances in Animal and Veterinary Sciences" for the paper published in Volume 1 Issue 4 of 2013 on Epidemiology and Genetic Diversity of Rotavirus Strains Associated with Acute Gastroenteritis in Bovine, Porcine, Poultry and Human Population of Madhya Pradesh, Central India, 2004–2008 (Authored by: **YS Malik**, N. Kumar, K. Sharma, R. Sharma, H. B. Kumar, A. Kusumakar, S. Kumari, S. Shukla, KM Chandrashekar) Adv. Anim. Vet. Sci. 1 (4): 111 115.
- Awarded with best poster award of Indian Virology Society for research work "Host-Virus Adaptation and Evolutionary Analysis of Rotavirus Serogroups of Avian Origin

Based on Codon Usage Patterns" to J.J. Kattoor, **Y.S. Malik**, K. Sharma, A.K. Tiwari and R.K. Singh. Presented during "XXII National Conference on Recent Trends in Virology Research in the Omics Era" held at TNAU, Coimbatore, TN from 18-20 December 2014.

- Awarded with best paper award of Society of Veterinary Science and Biotechnology for research work "G and P types of bovine group A rotavirus in Mathura region" to Tripati Singh, Rashmi Singh, AP Singh, Rajesh Nigam, YS Malik and Minakshi Prasad. Presented during 2nd Annual meeting of Society of Veterinary Science and Biotechnology on "Biotechnological approaches to challenges in animal health and production" held at Department of Veterinary Biochemistry, College of Veterinary Science and Animal Husbandry, DUVASU, Mathura, Uttar Pradesh from 6-7th March 2014
- Best Research Paper Oral Presentation Award (2013) on "Evolutionary analysis of emerging enteric picobirnaviruses in bovine population of India" during XXVII National Symposium of Indian Association of Veterinary Microbiologists, Immunologists and Speciliasts in Infectious Diseases, on "Productivity enhancement through Improved Animal Health and Nutrition" held at Department of Animal Husbandry, Govt. of Uttar Pradesh, Lucknow (India) during December 13-15, 2013.
- Best Research Paper Poster Presentation Award (2013) on "Sequence and phylogenetic characterization of emerging group D rotaviruses from chicken, India, 2012-2013" during XXVII National Symposium of Indian Association of Veterinary Microbiologists, Immunologists and Speciliasts in Infectious Diseases, on "Productivity enhancement through Improved Animal Health and Nutrition" held at Department of Animal Husbandry, Govt. of Uttar Pradesh, Lucknow (India) during December 13-15, 2013.
- Best Research Paper Oral Presentation Award (2011) in Animal Virology category of Indian Virological Society (IVS) during the XX National Conference on "Managing Emerging and Re-emerging Plant, Animal, Human and Aquatic Viral Diseases: One Health Perspective" held at National Research Centre on Equines (NRCE), Hisar-125001, Haryana from 29-31 December, 2011.
- Best Research Paper Award (2000) of Association of Microbiologists of India in Veterinary/Medical section, presented at 41st National Conference of the Association of Microbiologists of India held at Birla Institute of Scientific Research, Jaipur, Rajasthan.

International Visits

- 1st Scientific meeting of World Society for Virology held at Karolinska Institutet, Stockholm, Sweden, from 25th to 27th August 2019.
- Indian National Science Academy (INSA) Scientific Bilateral Exchange Programme 2019 international training (4 weeks) at Wuhan Institute of Virology, Chinese Academy of Sciences, 44 Xiao Hong Shan, 430071 Wuhan, Hubei, China from May 20, 2019 to June 16, 2019.
- INTERVIROCON–2018 on "Global Viral Epidemics: A Challenging Threat" organized by Indian Virological Society and PGIMER, Chandigarh, India from 12-14 November 2018.
- Asian Regional Conference on Goats organized by Amity University, Jaipur, India from 22-26 October 2018.

- 13th International Double Stranded RNA Virus Symposium organized by KU Leuven, Houffalize, Belgium from 24-28 September 2018.
- 13th Rotavirus International Symposium held at Minsk, Belarus from 29-31 August 2018.
- International Conference on "Virus Diseases: One Health One World" held at Kuching, Sarawak, Malaysia from 25-27 July 2017.
- Asian Council of Scientific Editors Annual Conference-2016 held during August 10-11, 2016, at Dubai, U.A.E.

Course/Workshop attended

- Attended the workshop of Asian Council of Scientific Editors held during August 10-11, 2016, at Dubai, U.A.E.
- Attended one week National workshop for CPCSEA nominees organized by National Institute of Animal Welfare (NIAW), Balbhgarh, Faridabad, Haryana from 28th July to 2nd August 2013.
- Attended a National Agricultural Innovation Project Management Development Programme (MDP) workshop on "Priority setting, Monitoring and Evaluation (PME) of Agricultural Research Projects" from January 21st to 25th January 2013 organized by National Academy of Agricultural Research Management (NAARM) Hyderabad, Andhra Pradesh.
- Attended a National workshop on "Stem Cell Research and Therapeutics: Current Status and Future Strategies" during from 28th to 29th September 2012 under the aegis of Indian Society for the study of reproductive and fertility, organized by the Division of Physiology and Climatology, Indian Veterinary Research Institute, Izatnagar.
- Attended an International workshop on **Innovative Teaching for Improved Learning** held on 16th to 18th July 2012 under the Agricultural Innovation Partnership (AIP) programme in collaboration with USAID, University of Illinois at Urbana and Cornell University, Ithaca, NY.
- Attended a **Refreshers course on Agricultural Management System** at National Academy of Agricultural Research Management (NAARM) Hyderabad from January 19th January to 8th Feb 2012.
- Attended a Workshop on Faculty Development Program on R &D Innovation and "Novel Research Ideas in Biotechnology department" (NRIB) organized by Uttarakhand State Biotechnology Department (USBD), held at Graphic Era University Dehradun, Uttarakhand from 23-24th December, 2011.
- Attended ICAR-NAIP National Workshop on "Gene Expression And Snp Analysis" from 2nd to 4th February 2011 conducted by Dept. of Animal Biotechnology, Madras Veterinary College, Tamil Nadu Veterinary and Animal Sciences University, Chennai 600 007, Tamil Nadu, India
- Attended CME cum Workshop on "Molecular Techniques for the Diagnosis of Viral Infections" from 11th-13th December 2008 conducted by Department of Virology, PGIMER, Chandigarh.

- Attended sensitization workshop on "Biosafety issues Related to Agri-Biotechnology" conducted by GB Pant University of Agriculture and Technology, Pantnagar, Uttarakhand from 3rd 4th November 2008.
- Attended training workshop on "Detection of bluetongue virus group specific anti body by indirect ELISA using recombinant VP7 protein" under ICAR funded project from 9-10th August 2007 at Division of Virology, IVRI, Mukteswar, Uttarakhand.
- Attended **Grant writing seminar cum workshop** organized by Office of the Executive Vice President and Provost, Academic Health Center from 17th to 18th October 2002 at Aragon Ballroom, Holiday Inn, Minneapolis, Minnesota, USA.
- Attended training workshop conducted by National and International Experts from the Institute for Animal Health, Pirbright, UK on "Bluetongue virus Epidemiology and Laboratory Diagnosis" from February 19-22, 2001. Organized by Department of Veterinary Microbiology, Punjab Agricultural University, Ludhiana, Punjab, India
- One year's training course sponsored by Animal Welfare Board of India on "Animal Rights" in January 2000, held at Madras Veterinary University, Tamil Nadu, India.
- **Computer Appreciation Course** held at computer center, CCS HAU, Hisar from June 3-28, 1995.
- Computer course on packaging and applications, Chandigarh, Haryana.

Trainings attended

- International training (4 weeks) under Indian National Science Academy (INSA) Scientific Bilateral Exchange Programme 2019 on "Unveiling the mechanism of virus evolution through metagenomic approach" at Wuhan Institute of Virology, Chinese Academy of Sciences, 44 Xiao Hong Shan, 430071 Wuhan, Hubei, China from May 20, 2019 to June 16, 2019.
- Attended a short course on "Real time PCR data analysis" under Human Resource Development programme of Indian Veterinary Research Institute, Izatnagar (Uttar Pradesh), during March 07-09, 2018.
- Attended a "Sensitization Training-II on Data Analysis using Statistics Analysis Software (SAS)" under NAIP project "Strengthening Statistical Computing for NARS" organized by Consortium Partner Indian Veterinary Research Institute, Izatnagar (Uttar Pradesh), during March 24-25, 2014.
- **Short term training in innate immunity receptors** at Division of Virology, Ontario Research Institute, University of Ottawa, 401 Smyth Road, Ottawa, Ontario, Canada from 8th November 2013 to 28th November 2013.
- Center of Advanced Studies, Indian Council of Agricultural Research training course on Current Concepts in Immunoassays for Diagnosis of Animal Diseases organized by Department of Veterinary Microbiology, CCS HAU, Hisar, Haryana from 16th January 2009 to 5th February 2009.
- Short term training in molecular disease diagnostics at Molecular Biology Section, Minnesota Veterinary Diagnostic Laboratory, University of Minnesota, St. Paul, MN, USA from 24 February 2005 to 27th May 2005.
- Indian Council of Agricultural Research training course on **Production and Use of Instructional Material on Veterinary Virology** from Feb. 8-28, 2002, organized by

- Center of Advanced Studies, Department of Veterinary Microbiology, CCS HAU, Hisar, Haryana.
- Indian Council of Agricultural Research Training course on **Herpes virus-1 infection in equines: present scenario and future strategies** from Jan 17th to 8th Feb 2002 at National Research Center on Equines, Hisar, Haryana.

Trainings/conference/workshop organized

- As **Organizing Secretary** of International Academy of Biosciences (IAB) organized an International Satellite Symposium (ISS)–2016 on "Advances in Animal Sciences and Biomedicine in 21st Century" held on 12th October 2016.
- As Organizing Secretary organized a two days National Workshop on "Current Trends and Future Research Challenges in Vaccines and Adjuvants" at Indian Veterinary Research Institute, Izatnagar 243122, Bareilly, Uttar Pradesh, India during 19-20 November 2015.
- As **Organizing Secretary** organized a one day National Workshop on "Influenza: Risk Factors, Massive Impact and Uncertain Future" under the aegis of Indian Virological Society (IVS) at Indian Veterinary Research Institute, Izatnagar 243122, Bareilly, Uttar Pradesh, on 19th October, 2015.
- As Scientific Coordinator Animal Virology organized the XXIII National Conference of Indian Virological Society on Recent Trends in Virology Research in the Omics Era" held at TNAU, Coimbatore, TN from 18-20 December 2014.
- As Course coordinator organized the ICAR short training course on "Frontier Approaches in Diagnosis and Control of Animal Viral Diseases with Quality Assurance and Quality Control of Veterinary Biologicals" at the Division of Biological Standardization, Indian Veterinary Research Institute, Izatnagar, from 10-19 November 2014.
- As Technical Coordinator organized the XXVII National Symposium of IAVMI held at Department of Animal Husbandry, Govt. of Uttar Pradesh, Lucknow (India) from December 13-15, 2013.
- As Organizing Secretary organized the XXI National conference of Indian Virological Society on "Immunobiology and Management of Viral Diseases in 21st Century" at Indian Veterinary Research Institute, Mukteswar Campus, Nainital, Uttarakhand, from 8-10 November 2012.
- As **Training Coordinator** organized a training course on "**Advances in Immunobiotechnological Techniques in Animal Disease Diagnosis**" sponsored by Uttarakhand State Biotechnology Department (USBD), Govt. of Uttarakhand at Indian Veterinary Research Institute, Mukteswar Campus from November 1-14, 2011.
- As **Technical Coordinator** organized a ICAR sponsored Short Term Training Programme under Niche Area of Excellence on "**Immuno and Molecular Techniques for Diagnosis of Diseases of Small Ruminants**" at Indian Veterinary Research Institute, Mukteswar Campus from 3rd March to 12th March 2010.
- Under Continue Veterinary Education (CVE) programme of Veterinary Council of India organized two training of 3 days duration on Brucellosis and Rabies for Madhya Pradesh State Veterinary Officers.

Students guided

As major advisor:

Guided seventeen M.V.Sc. (master's) degree students for their thesis research work. Students worked on molecular characterization of bovine, porcine, human and avian rotaviruses, evaluation of recombinant proteins of Japanese encephalitis virus as subunit vaccine and immunoassays for virus detection, bluetongue virus and avian influenza virus.

Guided three PhD students and presently guiding one PhD student in Veterinary Virology discipline at Division of Biological Standardization, IVRI Izatnagar.

As minor advisor:

Guided two PhD students on development of immunodiagnostic assays for detection of animal schistosomosis in livestock, ocharatocosis in poultry and twenty five students from various departments including Biotechnology, pathology, wildlife, medicine, biochemistry, surgery and parasitology for their master's thesis research. Member of Interdisciplinary Committee for 15 students of masters and PhD programme.

Membership of Scientific bodies:

- 1. Association of Microbiologists of India (AMI)
- 2. Indian Science Congress Association (ISC)
- 3. Indian Virology Society (IVS)
- 4. Indian Association for Advancement of Veterinary Research (IAAVR)
- 5. Indian Association of Microbiologists, Immunologists and Specialists of Infectious Diseases (IAVMI)
- 6. Indian Association of Veterinary Public Health Specialists (IAVPHS)
- 7. Society of Immunologists and Immunopathologists (SIIP)
- 8. Indian Society of Veterinary Immunology and Biotechnology (ISVIB)
- 9. National Academy of Vector-Borne Diseases (NAVBD) REGD. NO IS 311
- 10. International Academy of Science and Technology (IAST)
- 11. National Academy of Biological Sciences (NABS, LM-030-15)
- 12. National Academy of Veterinary Sciences, India (NAVSI) Member
- 13. National Academy of Agricultural Sciences (NAAS) Associate Fellow
- 14. Biotech Research Society, India Life Membership (LM-1825)
- 15. Academy for Environment and Life Sciences
- 16. International Science Congress Association
- 17. Society of Applied Biotechnology-Life member

Research Experience:

1. ICAR National Fellow

Since joining (25-11-2014) as ICAR-National Fellow at Division of Biological Standardization, IVRI Izatnagar campus working on development of molecular platform for diagnosis of enteric viruses. In the division also heading externally funded projects from ICAR funded All India Network Programme on Neonatal Morality in farm animals and DBT, New Delhi and institute funded projects as PI. Involved in developing rapid antigen capture enzyme

immunoassays for detection of rotavirus in clinical samples. Characterizing enteric viruses of animal origin at molecular level. In the division also involved with quality assurance and quality control of veterinary diagnostics and vaccines. Analysis of the manufacturing protocols as per DCGI Act 1940 for import licensing.

2. Senior Scientist

Since joining (11-01-2013) as Senior Scientist at Division of Biological Standardization, IVRI Izatnagar campus working on quality assurance and quality control of veterinary diagnostics and vaccines. Analysis of the manufacturing protocols as per DCGI Act 1940 for import licensing. In the division also heading externally funded projects from DBT, New Delhi and institute funded project as PI. Involved in developing rapid antigen capture enzyme immunoassays for detection of rotavirus in clinical samples. Characterizing enteric viruses of animal origin at molecular level. Before, this, worked as Senior Scientist, Division of Virology, IVRI Mukteswar Campus and worked on molecular characterization of Toll like receptors of Yak and Mithun under the World Bank funded NAIP project of ICAR. In the project we are also worked to assess the expression of TLRS after in vitro stimulation with viral, bacterial and parasitic antigens.

3. Post-doctoral Associate

Worked at Minnesota Veterinary Diagnostic Laboratory, University of Minnesota in multi-disciplinary collaborative research projects on detection of human and animal pathogens like *Escherichia coli*, enterococcus, fecal coliforms, male specific and somatic coliphages, enteroviruses in subsurface water samples using conventional and molecular tools. Also worked on evaluation of surrogate model for human calicivirus. Collaborated with researchers from State Department of Public Health for evaluation of these surrogates on food and food contact surfaces. Work involved development of methods for experimental, quantitative contamination of fresh fruits and vegetables using feline calicivirus, MS2 coliphages. In another project worked on pathogen losses to subsurface tile drainage from swine manure, in association with researchers from Department of Soils, Water and Climate, College of Agriculture, UMN. Work involved experimental contamination of swine manure with Salmonella followed by its application on field and detection of Salmonella and coliphages in subsurface water after rainy season. Successfully developed multiplex RT-PCR assay for detection of avian respiratory viruses and porcine respiratory viruses. Specificity and sensitivity of the method has been evaluated on laboratory virus and clinical samples and compared to routine diagnostic assay.

3. Associate Professor and Assistant Professor

In Department of Microbiology, College of Veterinary Science engaged in diagnosis of animal diseases. Created facility for the diagnosis of brucellosis, TB, Paratuberculosis, Salmonellosis, Colibacillosis, Rotavirus, Bluetongue, PPR, IBD, RD etc. Regular testing of the samples received from Veterinary Clinics or Department of Wildlife Health and Management is done for microbiological cause. Samples are evaluated for culture and antibiotic sensitivity.

4. Research Associate

Worked in National Agricultural Technology Project (NATP) on Development of molecular diagnostic tests for bluetongue and infectious bursal disease viruses from March 2000

to June 2001. The main focus of research was to develop RT-PCR assay targeting different conserved genes of bluetongue virus and development of monoclonal antibody based enzyme immunoassay for diagnosis of infectious bursal disease virus. RT-PCR assay targeting VP2, VP3 and VP7 gene were successfully developed and tested in laboratory conditions. In infectious bursal disease virus successful attempts were made to develop monoclonal antibodies.

5. Doctorate research

In Ph.D. thesis research worked on Nucleic acid based approaches for detection of bluetongue virus. RT-PCR and DIG-labeled DNA probe systems were developed targeting NS1 gene of bluetongue virus for detection of the virus in blood and semen samples. Specificity and sensitivity of both methods was evaluated on laboratory virus and clinical samples and compared to RNA-PAGE. The study revealed that by PCR as low as 10 infectious viral particles and 100fg of viral nucleic acid could be detected. Similarly DIG-labeled DNA probe was able to detect $10^{3.3}$ TCID $_{50}$ /ml and 20pg of viral nucleic acid. Both these assays would be very useful in certification of animals and their germ-plasm for export and import purposes.

5. Master's research

During master's thesis research worked on Antigenic characterization of soluble proteins of sheep pox virus. Research work was mainly focused on molecular characterization of soluble proteins of the virus. Viral proteins were characterized using SDS-PAGE, western blotting and immunoblotting techniques. During the study seroepidemiological surveys in un-organized and organized animal farms were also done with successful isolation of the virus responsible for the disease. P32 polypeptide was characterized using SDS-PAGE, western blotting and immunoblotting techniques, which is of major importance in differential diagnosis and development of subunit vaccine to prevent the spread of virus and disease. Another significant contribution was observation of 'A' type intra-cytoplasmic inclusion bodies in sheep pox infected lamb testes cells. This observation has not been reported earlier. Seroepidemiological surveys in the un-organized farms in Haryana state were also attended with successful isolation of the virus responsible for the disease.

Ongoing Research projects (working as Project Investigator/PI):

Name of the Agency	Title of the Scheme	Period		Grant
		From	To	
National Fellow project-Indian Council of Agricultural Research, New Delhi	Development of molecular platforms for point-of-care detection of major enteric viruses responsible for neonatal mortality in animals	2014	2019	2.21 crore
Indian Veterinary Research Institute, Izatnagar	Investigation of viral causes of neonatal mortality in lab animals	2016	2018	20 lakhs

Ongoing Research projects (working as Co-PI):

Name of the Agency	Title of the Scheme	Period		Grant
		From	To	
Indian Council of	All India Network Programme on	2014	2019	6.47 crore
Agricultural Research	Neonatal Mortality (AINP-NM)			
New Delhi	•			

Research schemes (worked as PI):

Name of the Agency	Title of the Scheme	Period		Grant	
		From	To		
Department of	Development of Improved	2012	2016	86.16 lakhs	
Biotechnology,	Diagnostics with Monitoring and				
Govt. of India	Characterization of Viral and				
	Bacterial Pathogens Associated with				
	Piglet Diarrhoea in North Eastern				
T 1' T7 . '	Region of India	2000	20155	20.001.11	
Indian Veterinary	Prevalence, Characterization and	2009	20155	30.00 lakhs	
Research Institute,	development of indigenous				
Izatnagar NAID ICAD New	diagnostics for animal rotaviruses	2008	2013	134.34lakhs	
NAIP, ICAR, New Delhi	Toll like receptors in farm animals-	2008	2013	134.341aKiis	
Dellii	Evolutionary lineage and application in disease resistance				
Uttarakhand State	Development of Molecular	2012	2014	08.00 lakhs	
	Approaches for Improved Diagnosis	2012	2017	00.00 lakiis	
Biotechnology	and Effective Monitoring of Enteric				
Department,	Viral Infections in Animals and				
Govt. of Uttarakhand	Humans of Uttarakhand				
ICAR, New Delhi	All India Network Project on	2005	2008	5 yr plan	
	Bluetongue			• •	
MP Council of Science	Monitoring of Infectious Causes of	2007	2009	05.00 lakhs	
and Technology	Death in Neonatal Calves				
MP Rural Livelihood	Investigation of Infectious Causes of	2007	2008	11.73 lakhs	
Project, Govt. of MP	Death in Goats, Cattle and Poultry				
	Reared in Tribal Areas of MP				

Research schemes worked as Co-PI:

Name of the Agency	Title of the Scheme	Period From To	Grant
Indian Veterinary Research Institute, Izatnagar	Epidemiosurveillance of piglet diarrhoea in organized farms	2015 2017	Institute project
DBT (BT/PR6980/AAQ/01/ 258/2005)	Molecular diagnosis of infectious bronchitis in poultry and development of data base	2006 2009	28.00 lakhs
MPCST, Bhopal	Hands on Training on viral disease diagnosis	2008 2009	06.17 lakhs
NATP Mission Mode	Immunodiagnosis of parasitic	2000 2004	44.00 lakhs

Project as Co-PI	diseases of domestic animals			
ICAR-Adhoc Project as Co-PI	Immunophysiological assessment of neonatal buffalo calves to explore the cause of high mortality	2004	2007	30.00 lakhs

EDITOR-IN-CHIEF

- Journal of Immunology and Immunopathology
- Research Journal of Animal, Veterinary and Fishery Sciences

EDITOR

- Advances in Animal and Veterinary Sciences (Nexus)
- Virus Research News (Indian Virological Society)
- Veterinary Immunology and Biotechnology
- Journal of Experimental Biology and Agricultural Sciences

ASSOCIATE EDITOR

- Frontiers in Veterinary Science
- Journal of Pure and Applied Microbiology

REVIEW EDITOR

- Frontiers in Microbiology
- Frontiers in Immunology

REGIONAL EDITOR

- Asian Journal of Animal and Veterinary Advances (AJAVA)
- Pakistan Journal of Biological Sciences (PJBS)
- International Journal of Virology (IJV)
- Research Journal of Veterinary Sciences (RJVS)

Member Editorial Board

- World Journal of Veterinary Sciences
- International Research Journal of Biological Sciences
- The Open Virology Journal (Bentham's journal)

REVIEWER OF SCIENTIFIC JOURNALS

- 1. Archives of Virology
- 2. Small Ruminants
- 3. Indian Journal of Microbiology (Elsevier Publisher)
- 4. Indian Journal of Animal Sciences (ICAR, New Delhi)
- 5. Journal of Basic Microbiology (Wiley-VCH Publisher)
- 6. Royal Veterinary Journal
- 7. Haryana Veterinarian
- 8. Preventive Medicine
- 9. VirusDisease/Indian Journal of Virology (Springer)
- 10. Infection Genetics Evolution (Elsevier)
- 11. Journal of Virological Methods (Elsevier)
- 12. Journal of Infectious Diseases in Developing countries

- 13. Virus Genes
- 14. Genes (Elsevier)
- 15. Frontiers in Microbiology
- 16. Frontiers in Veterinary Sciences
- 17. Tropical Animal Health and Production
- 18. Alexandria Journal of Medicine (Elsevier)
- 19. Pathogens and Global Health (Elsevier)
- 20. Journal of Pure and Applied Microbiology

List of Publications

1. Research Articles: 154

(i) International: 88(ii) National: 66

2. Reviews: 49

(i) International: 36

(ii) National: 10(iii) Editorial:03

- 3. Popular Scientific articles: 26
- 4. Books: 5
- 5. Book chapters: 11
- 6. National/International conferences: 86
- 7. Lectures as resource person: 25
- 8. Lectures in ICAR trainings: 22
- 9. Technical Extension Bulletins/pamphlets: 7

- 10. NCBI GenBank sequence submissions: 375
 - a. Infectious bronchitis virus- 07
 - b. PPR virus-07
 - c. Bovine rotavirus- 122
 - d. Human rotavirus -22
 - e. Porcine rotavirus-10
 - f. Toll like receptors- 115
 - i. Bos grunniens (YAK)-52
 - ii. Bos frontalis (Mithun)-40
 - iii. Bos indicus -09
 - iv. Capra hircus laniger -14
 - g. Avian group D rotavirus- 05
 - h. Picobirnavirus
 - i. Bovine PBVs -08
 - ii. Bubaline PBVs-01
 - iii. Porcine PBVs-30
 - iv. Caprine/ovine-07
 - g. Astrovirus
 - i. Porcine AstV- 17
 - h. Protein model database- 72
 - i. IBD virus- 08
 - j. Porcine rotavirus C-18
 - k. Porcine Teschovirus A-25
- 11. Manual-3
- 12. Souvenir-cum-abstract book -03 (Virocon-2012, ISVIB-2013 and IAVMI-2013)
- 13. Electronic teaching aids: 5
- 14. Success story: 01
- 15. Patent: 02

Patent Filled

- 1. Naveen Kumar, **Yashpal Singh Malik**, Satish Kumar, Vinay G. Joshi, Kuldeep Sharma, AK Tiwari (Inventors). Synthetic Multiple Antigenic Peptide-based Effective Diagnostic for Bovine Rotavirus Infection. PATENT NO. 1130/DEL/2014, CLAIMS-4.
- 2. Naveen Kumar, Yashpal Singh Malik, Satish Kumar, Kuldeep Sharma, Kuldeep Dhama, BR Gulati, Minakshi Prasad, RK Singh (Inventors). Peptide-recombinant protein based antigen capture immunoassay for diagnosis of rotavirus group A infection in animals. (Patent application No, 201611021466, Temp/E-1/19995/2016-DEL).

List of Publications

International articles

- Sachan S, Dhama K, Latheef SK, Samad HA, Mariappan AK, Munuswamy P, Singh R, Singh KP, <u>Malik YS</u>, and Singh RK (2019). Immunomodulatory potential of *Tinospora* cordifolia and CpG ODN (TLR21 agonist) against the very virulent, infectious bursal disease virus in SPF Chicks. Vaccines, 7, 106; doi: 10.3390/vaccines7030106.
- VinodhKumar O.R.*, S. Sircar, B.S. Pruthvishree, K.R. Nirupama, B.R. Singh, D.K. Sinha, R. Rupner, A. Karhtikeyan, R. Karthikeyan, Z.B. Dubal and <u>YS Malik</u>* (2019). Cross-sectional study on rotavirus A (RVA) infection and assessment of risk factors in pre- and post- weaning piglets in India. *Tropical Animal Health and Production*. https://doi.org/10.1007/s11250-019-01999-8

- 3. Singh S, Singh R, Singh KP, Singh V, <u>Malik YS</u>, Kamdi B, Singh R & Kasyap G (2019). Epidemiological study of naturally occurring bovine rotavirus infection in organized dairy farms, India. *Biological Rhythm Research*. doi: 10.1080/09291016.2019.1614749
- 4. Kooti W, Abdi M, <u>Malik YS</u>, Nouri B, Jalili A, Rezaee MA, Rahmani MR, Kalmarzi RN (2019). Association of CYP2C19 and HSP70 genes polymorphism with aspirinexacerbated respiratory disease in Kurdistan province. *Endocrine Metabolic Immune Disorders Drug Targets*. doi: 10.2174/1872214812666190527104329.
- 5. Hassan Boulahyaoui, Nadia Touil, Saad Mrani, Reda Tagajdid, Chafiqa Loutfi, <u>YS</u> <u>Malik</u>, Hicham Elannaz, Marouane Melloul, Sanaa Alaoui Amine, Elmostafa El Fahime (2019). Molecular Characterization of G2P[4] and G9P[8] Rotaviruses Strains Isolated from Moroccan Children Fully Vaccinated with Rotarix™ between 2013-2014. *Alexandria Journal of Medicine* 55(1):7-14. doi:10.1080/20905068.2019.1592887.
- 6. Vinodhkumar OR, Singh BR, Sinha DK, Pruthvishree BS, Tamta S, Dubal ZB, Karhikeyan R, Rupner RN, <u>Malik YS</u> (2019). Risk factor analysis, antimicrobial resistance and pathotyping of *Escherichia coli* associated with pre- and post-weaning piglet diarrhoea in organized farms, India. *Epidemiology and Infection* 147, e174, 1-8. doi: 10.1017/S0950268819000591.
- 7. Chethan GE; Ujjwal De, Jugal Garkhal; Shubhankar Sircar; **YS Malik**; N.R Sahoo; R.K. Agarwal (2019). Immunomodulating dose of levamisole stimulates innate immune response and prevents intestinal damage in porcine rotavirus diarrhoea: A restricted-randomized, single-blinded and placebo controlled clinical trial. *Tropical Animal Health and Production* 51(6):1455-1465. doi: 10.1007/s11250-019-01833-1.
- 8. Kattoor JJ, Malik YS*, Saurabh S, Sircar S, Vinodhkumar OR, Bora DP, Dhama K, Ghosh S, Banyai K, Nadia T, Moneim ASA, Vlasova AN, Kobayashi N, and Singh RK (2018). First report and genetic characterization of porcine astroviruses of lineage 4 and 2 in diarrheic pigs in India. *Transboundary and Emerging Diseases* 66(1):47-53. doi: 10.1111/tbed.13058.
- 9. Delmas B, Attoui H, Ghosh S, <u>Malik YS</u>, Mundt E, Vakharia VN (2018). ICTV Virus Taxonomy Profile: *Picobirnaviridae*. *Journal of General Virology* 100(2):133-134. doi: 10.1099/jgv.0.001186.
- 10. Delmas B, Attoui H, Ghosh S, <u>Malik YS</u>, Mundt E, Vakharia VN, Wu JL (2018). ICTV Virus Taxonomy Profile: *Birnaviridae*. *Journal of General Virology* 100(1):5-6. doi: 10.1099/jgv.0.001185.
- 11. Ghosh S, Shiokawa L, Meijisoe A, <u>Malik YS</u>, Kobayashi N (2018) High detection rates of picobirnaviruses in free roaming rats (Rattus species): Molecular characterization of complete gene segment-2. *Infection Genetics and Evolution* 65:131–135. doi.org/10.1016/j.meegid.2018.07.024
- 12. Ghosh S, Martinez S, Oillanes, Navarro R, Soeaung M, <u>Malik YS</u> and Kobayasi N, Fuentealba C (2018). High detection rates of Torque Teno Sus virus in co-infection with important viral pathogens in porcine kidneys on St. Kitts Island, Lesser Antilles. *Transboundary and Emerging Diseases* 65(5):1175-1181. doi: 10.1111/tbed.12960.
- 13. Saurabh S, Sircar S, Kattoor JJ, Ghosh S, Kobayashi N, Banyai K, Vinodkumar OR, De U, Sahoo NR, Dhama K and <u>Malik YS*</u> (2018). Analysis of porcine rotavirus A enterotoxin gene for structure-function relationship. *Journal of Veterinary Science* 19(1): 35-43. doi: 10.4142/jvs.2018.19.1.35.

- 14. Garam GB, Bora DP, Bora M, Ahmed SP, Das SK and <u>Malik YS</u> (2018). Detection and genotypic characterization of rotavirus from diarrhoeic piglets of Arunachal Pradesh, a North Eastern State of India. *International Journal of Microbiology Research* 10(5): 1228-1231.
- 15. **Malik YS***, Sircar S, Dhama K, Singh R, Ghosh S, Bányai K, Vlasova AN, Nadia T and Singh RK (2018). Molecular epidemiology and characterization of picobirnaviruses in small ruminant populations in India. *Infection, Genetics and Evolution*. 63: 39–42. doi.org/10.1016/j.meegid.2018.05.011
- 16. Kumar N, **Malik YS***, Sharma K, Dhama K, Ghosh S, Bányai K, Kobayashi N and Singh RK (2018). Molecular characterization of unusual bovine rotavirus a strains having high genetic relatedness with human rotavirus, evidence for zooanthroponotic transmission. *Zoonoses and Public Health*. 65:431–442. doi: 10.1111/zph.12452
- 17. Kashyap G, Singh R, <u>Malik YS*</u>, Agrawal RK, Singh KP, Kumar P, Sahoo M, Gupta D, Singh R* (2018). Experimental bovine rotavirus-A (RV-A) infection causes intestinal and extra-intestinal pathology in suckling mice. *Microbial Pathogenesis*, 121: 22-26. doi: 10.1016/j.micpath.2018.04.038.
- 18. Deol P, Kattoor JJ, Sircar S, Batra M, Dhama K, <u>Malik YS</u>* (2018). Identification and in silico characterization of a genetically distinct avian rotavirus D capsid gene, VP7. *Pathogens* 7, 37; doi:10.3390/pathogens7020037
- 19. Bhat S, Kattoor JJ, <u>Malik YS</u>*, Sircar S, Deol P, Rawat V, Rakholia R, Ghosh S, Vlasova AN, Nadia T, Dhama K, Kobayashi N (2017). Species C Rotaviruses in Children with Diarrhea in India, 2010–2013: A Potentially Neglected Cause of Acute Gastroenteritis. *Pathogens* 6:23. doi: 10.3390/pathogens7010023
- 20. Navarro R, Nair R, Peda A, Meijisoe A, Ashwinie GS, Gallagher C, <u>Malik YS</u>, Kobayashi N (2017). Molecular characterization of canine parvovirus and canine enteric coronavirus in diarrheic dogs on the island of St Kitts: First report from the Caribbean Region. *Virus Research* 240:154-160. doi: 10.1016/j.virusres.2017.08.008.
- 21. Chethan GE, Garkhal J, Sircar S, <u>Malik YS</u>, Mukherjee R, Gupta VK, Sahoo NR, Agarwal RK, De UK (2017). Immunomodulatory potential of beta glucan in porcine rotavirus enteritis. *Veterinary Immunology and Immunopathology*. 191: 36–43. doi: 10.1016/j.vetimm.2017.07.012
- 22. Chethan GE, <u>Malik YS</u>, Garkhal J, De UK (2017). Changes of haemogram and serum biochemistry in neonatal piglet diarrhoea associated with porcine rotavirus type A. *Tropical Animal Health and Production*. 49:1517–1522. doi: 10.1007/s11250-017-1357-x
- 23. Navarro R, Chan Y, Nair R, Peda A, Aung MS, Ketzis J, Malik YS, Kobayashi N (2017). Molecular characterization of complete genomic segment-2 of picobirnavirus strains detected in a cat and a dog. *Infection, Genetics and Evolution*. 54: 200-204. doi:10.1016/j.meegid.2017.07.006
- 24. Kattoor JJ, Saurabh S, <u>Malik YS</u>*, Dhama K, Ghosh S, Bányai K and Singh RK (2017). Unexpected detection of porcine rotavirus C strains carrying human origin VP6 gene. *Veterinary Quarterly* 37 (1): 252–261. doi: 10.1080/01652176.2017.1346849
- 25. Pruthvishree BS, VinodhKumar OR, Sinha DK, <u>Malik YS</u>, Dubal Zunjar, Desingu PA, Shivakumar M, Krishnaswamy N, Singh BR (2017). Spatial molecular epidemiology of carbapenem resistant and New Delhi Metallo Beta-lactamase (blaNDM)- producing

- Escherichia coli in the piglets of organized farms in India. Journal of Applied Microbiology 122:1537-1546. doi: 10.1111/jam.13455.
- 26. <u>Malik YS</u>, Sharma AK, Sharma K, Sircar S, Dhama K (2017). RNA polymerase gene based RT-PCR assay with primers update for genus specific detection of picobirnaviruses. *The Journal of Animal and Plant Sciences*, 27(2): 582-588.
- 27. Desingu PA, Singh SD, Dhama K, Vinodh Kumar OR, <u>Malik YS</u> and Singh R (2017). Clinico-pathological characterization of experimental infection in chickens with subgenotype VIIi Newcastle disease virus isolated from peafowl. *Microbial Pathogenesis* **105:** 8-12. doi: 10.1016/j.micpath.2017.01.057.
- 28. Christa A Gallagher, Ryan Navarro, Katalina Cruz, Meiji Soe Aung, Agnes Ng, Edyta Bajak, Amy Beierschmitt, Matthew Lawrence, Kerry M Dore, Jennifer Ketzis, <u>Malik YS</u>, Nobumichi Kobayashi, Souvik Ghosh (2017). Detection of Picobirnaviruses in Vervet Monkeys (Chlorocebus sabaeus): Molecular Characterization of Complete Genomic Segment-2. *Virus Research*, 230: 13-18. doi.org/10.1016/j.virusres.2016.12.021
- 29. Ryan Navarro, Meiji Soe Aung, Katalina Zuniga-Brenes, Jennifer Ketzis, Christa Ann Gallagher, Amy Beierschmitt, <u>Malik YS</u>, Nobumichi Kobayashi, Souvik Ghosh (2017). Whole genome analysis provides evidence for porcine-to-simian interspecies transmission of rotavirus-A. *Infection, Genetics and Evolution* 49: 21-31. doi.org/10.1016/j.meegid.2016.12.026
- 30. Kylla H, Dutta TK, Roychoudhury P, <u>Malik YS</u>, Mandakini R, Subudhi PK (2017). Prevalence and Molecular Characterization of Porcine Picobirnavirus in piglets of North East Region of India. *Tropical Animal Health and Production* 49(2):417-422. doi: 10.1007/s11250-016-1210-7.
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- 32. Kumar A, Barathidasan R, <u>Palanivelu M</u>, Singh SD, Wani MY, <u>Malik YS</u>, Singh R, Dhama K (2016). A novel recombinant Meq protein based dot-ELISA for rapid and confirmatory diagnosis of Marek's disease induced lymphoma in poultry. *Journal of Virological Methods* 236: 271-280. doi: 10.1016/j.jviromet.2016.08.007
- 33. Desingu PA, Singh SD, Dhama K, Vinodhkumar OR, Barathidasan R, <u>Malik YS</u>, Singh R, Singh RK (2016). Molecular epidemiology, isolation, pathology and pathotyping of Indian peafowl (Pavo cristatus) origin Newcastle disease virus isolates from India. *Avian Pathology* 45 (6): 674-682. doi.org/10.1080/03079457. 2016.1198005
- 34. Desingu PA, Dhama K, <u>Malik YS</u> and Singh RK (2016). Newly Defined Genotypes XVII and XVIII of Newcastle Disease Virus in Poultry from West and Central Africa May be Considered as a Single genotype XVII. *Journal of Clinical Microbiology* 2016 54: 2399; doi:10.1128/JCM.00667-16
- 35. Desingu PA, Dhama K, <u>Malik YS</u> and Singh RK (2016). May Newly Defined Subgenotypes Va and Vb of Newcastle Disease Virus in Poultry Be Considered Two Different Genotypes? *Journal of Clinical Microbiology* 54: 2204. doi:10.1128/JCM.00758-16.
- 36. Kumar N, <u>Malik YS*</u>, Kumar S, Sharma K, Sircar S, Saurabh S, Gulati BR, Singh N, Singh AK, Joshi VG, Banyai K and Dhama K (2016). Peptide-Recombinant VP6 Protein

- Based Enzyme Immunoassay for Detection of Group A Rotaviruses in multiple host species. *PLOS One* 11 (7): e0159027. doi:10.1371/journal.pone.0159027
- 37. Wani MY, Dhama K and <u>Malik YS</u> (2016). Impact of virus load on immunocytological and histopathological parameters during clinical chicken anemia virus (CAV) infection in poultry. *Microbial Pathogenesis* 96: 42-51. doi: 10.1016/J.MICPATH.2016.05.003.
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- Edited Souvenir & Compendium for XXI National Conference on "Immunobiology and Management of Viral Diseases in 21st Century" under the aegis of Indian Virological Society (IVS) organized by Indian Veterinary Research Institute, Mukteswar Campus, Nainital, Uttarakhand, from 8-10 November 2012.
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- 12. <u>Malik YS</u>, Singh RK and Yadav MP (2014). Animal Viral Diseases: Progress, Challenges and Way Forward. Chapter in "Recent Trends in Virology Research in the Omics Era" Editors: R Rabindran R, Karthikeyan G, Malathi VG, Manoranjitham SK, Renukadevi P, Latha TKS, Rajendran L, Alice D. Publisher, Tamil Nadu Agricultural University, Coimbatore, TN. ISBN No. 7881923306317.
- 13. <u>Malik YS</u>, Kumar N, Joshi VG, Sharma K, Kumar S, Prasad M and Tiwari AK (2013). Nanotechnology: applications in animal disease diagnosis. In a multi volume set book on Recent Developments in Biotechnology. Publisher Studium Press LLC, USA.
- 14. <u>Malik YS</u> and Prasad G (2013). Nanotechnology: Applications in Animal Sciences. In: Handbook of Animal Husbandry. Published by Indian Council of Agricultural Research (ICAR), New Delhi.
- 15. <u>Malik YS</u>, Pandey AB and Prasad G (2012). Emerging and Transboundary Animal Diseases: Challenges for Animal Health. In: Souvenir published on the occasion of Global Rinderpest Eradication programme held at IVRI Mukteswar on 2nd June 2012.
- 16. <u>Malik YS</u>, Sharma K, Yadav N, Vaid N and Kumar A (2012). Approaches in the Diagnosis of Rotavirus Infection. In: Advances in Diagnosis of Livestock and Poultry Diseases. *Eds* AB Pandey, SB Sudhakar, M Shankar and V. Gnanavel, Published from Division of Virology, IVRI Mukteswar 263138 (Uttarakhand), pp- 38-46.
- 17. Chakravarti S, <u>Malik YS</u>, N Vaid, AA Haq, K Sharma, B Mondal and AB Pandey (2011). Real-Time PCR and its Applications: An overview. In: Recent Trends in Biotechnology. Ed. Prof. R.S. Chauhan, Publisher: Society for Immunology and Immunopathology Institute of Biotechnology, G.B. Pant University of Agriculture and Technology, Patwadangar-263128, Nainital (Uttarakhand), pp- 6-14.
- 18. <u>Malik YS</u>, Chakravarti S and Pandey AB (2010). Toll like receptors (TLRs): the innate immune sensors and their immunotherapeutic prospects. In: Recent Advances in

- Immunobiotechnology. Eds. RS Chauhan and JMS Rana, Institute of Biotechnology, GB Pant University of Agriculture & Technology, Patwadangar 263128, Nainital (Uttarakhand), India, pp 126-130.
- 19. <u>Malik YS</u>, Chakravarti S, Venkatesan G and Bhanuprakash (2010). New Generation Vaccines: An Overview. In: Recent Advances in Immunobiotechnology. Eds. RS Chauhan and JMS Rana, Institute of Biotechnology, GB Pant University of Agriculture & Technology, Patwadangar 263128, Nainital (Uttarakhand), India, pp 52-62.
- 20. Chakravarti S, Shrivastava S, <u>Malik YS</u>, Vaid N, Sharma K, Haq AA and Pandey AB (2010). TLR agonists: Novel prospective for developing smarter vaccines. In: Applied Aspects of Biotechnology, Eds. Shrivastava S, Sonal and Kumar S, Indian Veterinary Research Institute, Izatnagar 243122 (UP), India, pp 229-237.
- 21. Prasad G, Minakshi and <u>Malik YS</u> (2003). Emerging new approaches for development of vaccines. In: *Advances in Microbiology*, Ed. P.C. Trevedi, Scientific Publishers, Jodhpur, pp 251-273.
- 22. Prasad G, Minakshi and Malik YS (2001). Subunit anti-viral vaccines: problems and prospects. *In: Trends in Vaccinology for Animal Diseases*, Eds. SK Garg, VD Sharma, VDP Rao and Rajesh Chandra, Department of Veterinary Microbiology, College of Veterinary Sciences, G.B. Pant University of Agriculture & Technology, Pantnagar, Uttranchal, pp 42-54.

Technical Bulletins/Brochures/Pamphlets

- 1. **Malik YS**, K Sharma, N. Kumar and AB Pandey (2012). Rotavirus Calf Diarrhoea. Published from Division of Virology, Indian Veterinary Research Institute, Mukteswar Campus, Nainital 263138, Uttarakhand.
- 2. **Malik YS**, SB Sudhakar, PN Gandhale and AB Pandey (2012). Rotavirus associated diarrhoea. Published from Division of Virology, Indian Veterinary Research Institute, Mukteswar Campus, Nainital 263138, Uttarakhand.
- 3. **Malik YS**, Singh D, Nishant and Shukla S (2008). Bluetongue. Published under MPRLP programme of Govt. of MP, Bhopal.
- 4. **Malik YS**, Singh D, Nishant and Shukla S (2008). Peste-des-Petits-Ruminants (PPR). Published under MPRLP programme of Govt. of MP, Bhopal
- 5. **Malik YS**, Bedi BR and Alka (2004). Hybridoma Technology: A Powerful Tool. Published from Biotechnology Centre, JN Krishi Vishwa Vidyalaya, Jabalpur, MP.
- 6. **Malik YS**, Bedi BR and Alka (2004). Animal Tissue Culture. Published from Biotechnology Centre, JN Krishi Vishwa Vidyalaya, Jabalpur, MP.

Radio/TV Talks

- 1. Delivered a talk on "Necessity of Vaccination in Animals" at All India Radio Station, Almora, Uttarakhand on 23-07-2012.
- 2. Delivered a talk on "Jado Me Pashoun Me Hone Wale Rog Ve Unse Bachav" at All India Radio Station, Almora, Uttarakhand on 30-11-2009.

Lead papers presented in National/International conferences/ Workshop/ Summer-winter schools/ trainings

- 1. <u>Malik YS</u> (2019). Emergence and Evolution of New Enteric Viruses in Animals. *In:* 1st scientific meeting of the World Society for Virology held at Karolinska Institutet, Stockholm, Sweden, from 25th to 27th August 2019 (Lead lecture).
- 2. <u>Malik YS</u> (2019). Molecular Epidemiology of Enteric Viruses. *In:* XVI Annual Symposium of IAVPHS & National Conference on "Challenges and Opportunities for Tackling Veterinary Public Health Issues at the Human Animal and Environment Interface" held at Department of Veterinary Public Health, Nagpur Veterinary College, Nagpur from 26-27th February 2019 (page M62).
- 3. <u>Malik YS</u> (2019). Virus Associated Diarrhea in Animals: A Knowledge Update. *In:* RKVY Training programme for veterinary officers on "Current Approaches and Perspectives in Diagnosis and Control of Infectious Animal Diseases, held at College of Veterinary Science & animal Husbandry, NDUAT, Kumarganj, Ayodhya (U.P.) during 11-12th February 2019 (Expert Talk on 12/02/2019).
- 4. Gupta VK and <u>Malik YS</u> (2019). Transboundary Animal Diseases Affecting Trade. *In:* 47th Dairy Industry Conference 2019 on "Innovative Approach for Enhancing Dairy Farmer's Income", during February 7-9th, Patna, Bihar, held at Samrat Ashoka International Convention Centre, Patna (pp 96-99).
- 5. <u>Malik YS</u> and Sircar S (2019). Epidemiology of neglected enteric viral infections in pigs in India. *In:* XXXII Annual Conference of Indian Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases (IAVMI)- 2018, held at Bihar Animal Sciences University, Patna from 4th to 6th February, 2019 (Invited lecture; pg. 40).
- 6. <u>Malik YS</u> (2018). Technology Innovations in Diagnosing Enteric Viral Infections. In: XXV Annual Convention of Indian Society for Veterinary Immunology & Biotechnology (ISVIB) and National Conference VIBCON-2018 held at ICAR–National Research Centre on Mithun, Medziphema, Dimapur, Nagaland from 13th to 15th December 2018 (Abstract No. MD-L-01; Pg. 09).
- 7. <u>Malik YS</u>, Barman NN, Prince Milton AA, Sharma AK, Karikalan M and Singh RK (2018). Evolutionary epidemiology of emerging enteric viruses in wildlife animals and their relationship to human strains. In: XXV Annual Convention of Indian Society for Veterinary Immunology & Biotechnology (ISVIB) and National Conference VIBCON-2018 held at ICAR National Research Centre on Mithun, Medziphema, Dimapur, Nagaland from 13th to 15th Dec 2018 (Abstract No. AS-06; Pg. 194)
- 8. <u>Malik YS</u> (2018). Bio-waste Management: Problems and Practices. *In:* ICAR sponsored "Niche-area of Excellence on Development of Alternate Models and National Standards for Quality Control of Veterinary Vaccines and Diagnostics" training on "Sterility Testing of Veterinary Biologicals" held at Division of Biological Standardization, ICAR-IVRI, Izatnagar 243122 (Expert Talk on 27/11/2018).
- 9. <u>Malik YS</u> (2018). Enteric Viral Infections in Wild Animals. *In:* Ministry of Environment and Forest and Climate Change (MoEF & CC) sponsored "Wildlife Health Management and Conservation: Issues and Way Forward" training, held at Centre for Wildlife Conservation, Management and Disease Surveillance, ICAR-IVRI, Izatnagar 243122. (Expert Talk on 23/11/2018).

- 10. **Malik YS** (2018). Animal rotavirus research in India: An update on diagnosis and disease control. *In:* INTERVIROCON–2018 on "Global Viral Epidemics: A Challenging Threat" organized by Indian Virological Society and PGIMER, Chandigarh, India from 12-14 November 2018 (Lead lecture, Page 55).
- 11. **Malik YS** (2018). Progress, Challenges and Strategic approaches in managing infectious viral infections of small ruminants. *In:* Asian Regional Conference on Goats organized by Amity University, Jaipur, India from 22-26 October 2018 (Expert Talk, Page 17).
- 12. **Malik YS**, Saurabh S, Kattoor JJ, Shanmuganathan S, Sircar S, Dhama Kuldeep, Ghosh S, Touil N, and Singh RK (2018). Epidemiology and evolution of Rotavirus C (RVC) in India. In: 13th International Double Stranded RNA Virus Symposium organized by KU Leuven, Houffalize, Belgium from 24-28 September 2018 (No. 2, Page 73).
- 13. **Malik YS** (2018). Emerging and evolving enteric viral threats for man and animal health. *In:* XXXI Annual Convention of Indian Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases (IAVMI) and National symposium on "Innovations in Animal Health Current Challenges and Future Prospective", organized by the Department of Veterinary Microbiology, College of Veterinary Science, Sri Venkateshwara Veterinary University, Tirupati-517502, Andhra Pradesh, from 29th 31st January, 2018. (TS-7, LP-2, 236-237).
- 14. **Malik YS** (2017). History and current trends in bovine rotavirus virus research in India. *In:* XXVI National Conference of Indian Virological Society on "Viruses to Viromes in Health and Disease", organized by the Nitte University, Deralakatte, Mangalore, Karnataka, from 7-9 December, 2017. (AVLL03, page 131).
- 15. **Malik YS** (2017). Immunobiotechnological contributions to our understanding of epidemiology and evolution of animal origin enteric viral pathogens. *In:* XXIV Annual Convention and National Symposium of Indian Society for Veterinary Immunology and Biotechnology on "Recent Trends in Veterinary Immunology and Biotechnology for Doubling Farmers income through Livestock Health and Production" during the technical session -T8 on Bioinformatics and Molecular Epidemiology organized by College of Veterinary Sciences, Maharashtra Animal & Fishery Sciences University (MAFSU), Parbhani, Maharashtra, from 5-7th December 2017 (page 169).
- 16. **Malik YS** and Bhat S (2017). Enteric viral infections of zoonotic significance. *In:* XV Annual Conference of Indian Association of Veterinary Public Health Specialists and National symposium on Intersectoral approaches to combat zoonoses: Strategies and Challenges, held at Dept. of Veterinary Public Health and Epidemiology, College of Veterinary Science, Sri Venkateshwara Veterinary University, Tirupati-517502, Andhra Pradesh, 11-13th Oct, 2017 (Lead Paper). Pp-41-46.
- 17. **Malik YS** (2017). Innovation in diagnostics and vaccines for enteric viral infections. *In:* ICAR Sponsored Winter School on "Recent Approaches in Animal Disease Diagnostics and Vaccinology" from Sept 26th to Oct. 16th, 2017 held at School of Animal Biotechnology GADVASU, Ludhiana 141004.
- 18. **Malik YS** (2017). Enteric Viral Emergencies: One Health, Challenges and Prospects in 21st Century. *In:* International Conference on "VIRUS DISEASES: ONE HEALTH ONE WORLD" held at Kuching, Sarawak, Malaysia from 25-27th July 2017.

- 19. <u>Malik YS</u> (2017). Animal Influenza: Current Progress and Modern Approaches in the Disease Diagnosis. *In:* Vet-Medico Continuing Medical Education on Influenza Preparedness & Control, organized by Amity University Rajasthan, Jaipur & SMS Medical College, Jaipur, from April 6-07, 2017 (Expert lecture).
- 20. Malik YS (2017). Epidemiology and Evolution of Enteric Viral Pathogens of Animal Origin and Their Relationship to Human Strains: Our experience from North Eastern India. *In:* National Seminar on "Diarrhoeal Disease Burden and Management: Special Reference to North Eastern India and Continuing Medical Education on "Infantile Diarrhoea, Its Prevention and Management" approved by Assam Council of Medical Registration, organized by the Department of Molecular Biology and Biotechnology, Tezpur University, Napaam, Tezpur, Assam, from 10-11 March 2017 (lead paper 04, pages 12-13).
- 21. Malik YS (2017). Current Trends in Diagnosis of Enteric Viral Infections. *In:* XXX Annual Convention of Indian Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases (IAVMI) and National symposium on "Challenges in Animal Health for Higher Productivity and Income to Farmers, organized by the Nagpur Veterinary College, Maharashtra Animal Science & Fishery Sciences University, Nagpur 440006, from 10-12 February 2017 (lead paper 02, Technical session IV, page 63).
- 22. <u>Malik YS</u> (2016). Enteric viral infections: Challenges & prospects in 21st century. *In:* Indian Virological Society (IVS) International Conference (VIROCON-2016) on "Global Perspectives in Virus Disease Management" organized by the Division of Plant Pathology, ICAR-Indian Institute of Horticultural Research, Bengaluru, Karnataka, from 8-10 December 2016 (lead paper abstract no. LPVV02, page 165).
- 23. <u>Malik YS</u> (2016). Innovations in diagnosis of enteric viral infections. In: Global Symposium on "Animal Health: Newer Technologies and Their Applications" and XXIX Annual Convention of Indian Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases (IAVMI), organized jointly by Department of Microbiology, College of Veterinary Science, Agricultural University, Khanapara and ICAR-National Research Centre on Pig, Rani, Guwahati, Assam (Lead paper-2, pages 7-9).
- 24. Raj Kumar Singh, Kuldeep Dhama and <u>Malik YS</u> (2015). Immunomics and its potential applications. *In:* XXII Annual Convention and National Symposium of Indian Society for Veterinary Immunology and Biotechnology on "Immunomics and Proteogenomics in Livestock Health & Productivity" organized by the National Research Centre on quines, Hisar, Haryana, from 17-19 December, 2015 (Plenary Article PS-2, page 4).
- 25. <u>Malik YS</u> (2015). Porcine enteric rotavirus infections: Etiology and genotypic distribution with impact assessment. *In:* XXII Annual Convention and National Symposium of Indian Society for Veterinary Immunology and Biotechnology on "Immunomics and Proteogenomics in Livestock Health & Productivity" organized by the National Research Centre on quines, Hisar, Haryana, from 17-19 December, 2015 (Mid Carrier Award Article CP-4, page 104).
- 26. Minakshi P, Ranjan K, Shafiq M, Bhateja A, Ravinder K, Pawan K, <u>Malik YS</u>, Dahiya S, Y.K.M Reddy, Reddy Y.N and Prasad G. (2015). Bluetongue in India: A journey

- from virus to vaccine. *In:* XXII Annual Convention and National Symposium of Indian Society for Veterinary Immunology and Biotechnology on "Immunomics and Proteogenomics in Livestock Health & Productivity" organized by the National Research Centre on quines, Hisar, Haryana, from 17-19 December, 2015 (Article No ID-3, page 24).
- 27. Malik YS (2015). Evolving rotavirus species diversity among Indian bovine rotavirus strains. *In:* Indian Virological Society (IVS) XXIV National Conference (VIROCON-2015) on "Transboundary Viral Diseases Under One Health: Perspectives & Challenges" organized by the Department of Microbiology, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong Meghalaya, from 8-10 October 2015 (lead paper abstract no. LV-01, page 85).
- 28. <u>Malik YS</u> (2015). Presented invited lecture on "Surveillance, vaccine and control of animal diseases, a serious research concern for growing livestock sector" during Panel Discussion on Views of Young Scientists on "Research Challenges in the Changing Climate Scenario". Silver Jubilee Celebration of National Agricultural Science Academy (NAAS). Held on 3-5th June 2015 at NASC, DPS Marg, New Delhi 110012, India. Pp. 17.
- 29. <u>Malik YS</u>, Dhama K, Tiwari AK and Singh RK (2014). Novel Viral Agents of Gastroenteritis in Animals. Delivered during XXIII National Conference of Indian Virological Society on Recent Trends in Virology Research in the Omics Era" held at TNAU, Coimbatore, TN from 18-20 December 2014. LV-39, pg.204-205.
- 30. Minakshi P, Shafiq M, Ranjan K, Brar B, Balodi S, Singh A, <u>Malik YS</u>, Dalal R and Prasad G (2014). Biotechnological Approaches in Viral Diseases of Wild and Domestic Ruminants. *In:* XXIII National Conference of Indian Virological Society on "Recent Trends in Virology Research in the Omics Era" held at TNAU, Coimbatore, Tamil Nadu during 18-20 December, 2014. LV-10, Pg. 235.
- 31. <u>Malik YS</u>, Sircar S, Kumar N, Kattoor JJ, Dhama K and Singh RK (2014). Picobirnavirus, an emerging enteric virus of animals and their relationship with humans. *In:* XXVIII Annual Convention of Indian Association of Veterinary Microbiologists, Immunologists and Speciliasts in Infectious Diseases (IAVMI) and International Conference on "Challenges and Opportunities in animal Health at the face of globalization and climate change" held at Department of Veterinary Microbiology and Immunology, DUVASU, Mathura, UP during 30th October to 1st November, 2014. S4: L2, pg. 29-30.
- 32. Minakshi P, Malik YS, Brar B, Deora A, Kumar P, Joshi GV, Poonam, Sundersan K, Baldodi S, Sigh A and Prasad G (2014). Trends of rotavirus infection in animals and their zoonotic importance. *In:* XXVIII Annual Convention of Indian Association of Veterinary Microbiologists, Immunologists and Speciliasts in Infectious Diseases (IAVMI) and International Conference on "Challenges and Opportunities in animal Health at the face of globalization and climate change" held at Department of Veterinary Microbiology and Immunology, DUVASU, Mathura, UP during 30th October to 1st November, 2014. S4: L3, pg. 30-33.
- 33. <u>Malik YPS</u> (2012). Toll-Like Receptors: An Evolving Paradigm against Viruses. Delivered during 12th National convention of Indian Association for Advancement of Veterinary Research (IAAVR) held at College of Veterinary Sciences, MPPCVV, Mhow, Indore, M.P. on 20th April 2012.

Oral/poster papers presented in National/International conferences

- Abass G, Dubal ZB, Kale BM, Raorane A, Dudhe N, Malla B, Desai D, and <u>Malik YS</u> (2019). Genotypic determination of porcine rotaviruses from western India. *In:* XVI Annual Symposium of IAVPHS & National Conference on "Challenges and Opportunities for Tackling Veterinary Public Health Issues at the Human Animal and Environment Interface" held at Department of Veterinary Public Health, Nagpur Veterinary College, Nagpur from 26-27th February 2019 (page M132)
- 2. Dudhe N, Dubal ZB, Pantawane PB, <u>Malik YS</u>, Mohan C, Malik SVS, and Bhilegaonkar KN (2019). Kinetics of predominant circulating rotavirus A stains in northern India. *In:* XVI Annual Symposium of IAVPHS & National Conference on "Challenges and Opportunities for Tackling Veterinary Public Health Issues at the Human Animal and Environment Interface" held at Department of Veterinary Public Health, Nagpur Veterinary College, Nagpur from 26-27th February 2019 (page M139)
- 3. Dudhe N, Dubal ZB, Pantawane PB, <u>Malik YS</u>, Karthik K, Kale BM, Malik SVS, and Bhilegaonkar KN (2019). Whole genome analysis reveals complex dynmamics of rotavirus A G3P8 with exotic strains. *In:* XVI Annual Symposium of IAVPHS & National Conference on "Challenges and Opportunities for Tackling Veterinary Public Health Issues at the Human Animal and Environment Interface" held at Department of Veterinary Public Health, Nagpur Veterinary College, Nagpur from 26-27th February 2019 (page M207)
- 4. Sircar S, <u>Malik YS</u>, Bhat S, Agarwal R. K, Abhisek, Sankar M and Muthuchelvan D (2018). Molecular epidemiology and genetic analysis of coronaviruses from large and small ruminants. *In:* INTERVIROCON 2018 on "Global Viral Epidemics: A Challenging Threat" Organized by Indian Virological Society and PGIMER, Chandigarh, India from 12-14 November 2018 (Abstract No. APP02, Page 71).
- 5. Bhat S, Sircar S, Barman N.N, Deka P.J, Ghosh S, Dhama K, Singh R.K and <u>Malik YS</u>, (2018). Kobuvirus (Aichivirus C) detection in critically endangered Indian pygmy hog (*Porcula Salvania*): Molecular epidemiology and genetic characterization. In: INTERVIROCON 2018 on "Global Viral Epidemics: A Challenging Threat" Organized by Indian Virological Society and PGIMER, Chandigarh, India from 12-14 November 2018 (Abstract No. APP11, Page 71).
- 6. <u>Malik YS</u>, Sircar S, Bhat S, Dar P.S, Bhardwaj U, Gautam A, Tahlan AK, Dhama K and Singh R.K (2018). Astrovirus detection in laboratory animals shows multiphyletic origin with marked genetic diversity. In: INTERVIROCON 2018 on "Global Viral Epidemics: A Challenging Threat" Organized by Indian Virological Society and PGIMER, Chandigarh, India from 12-14 November 2018 (Abstract No. APP06, Page 71).
- 7. Deol P, Kattoor J.J, Sircar S, Saurabh S, Dhama K, Batra M, Singh RK and <u>Malik YS</u>, (2018). Molecular detection and genetic analysis of structural and non-structural genes of species D rotavirus from chicken in India. In: INTERVIROCON 2018 on "Global Viral Epidemics: A Challenging Threat" Organized by Indian Virological Society and PGIMER, Chandigarh, India from 12-14 November 2018 (Abstract No. APP12, Page 71).
- 8. Sircar S, Shanmuganathan S, Kattoor JJ, Kumar P, Singh R, Dhama K, Singh RK and **Malik YS** (2018). Molecular epidemiology of rotavirus A in caprine population, India. *In:* Asian

- Regional Conference on Goats organized by Amity University, Jaipur, India from 22-26 October 2018 (Abstract No. GH18, Page 225).
- 9. Ghosh S, **Malik YS**, Kobayashi N (2018). Molecular characterization of complete gene segment-2 of picobirnaviruses from different animal host species: Evidence of high genetic diversity, and identification of conserved features in putative RdRps. In: 13th International Double Stranded RNA Virus Symposium organized by KU Leuven, Houffalize, Belgium from 24-28 September 2018 (Abstract No. 2, Page 57).
- Malik YS*, Saurabh S, Kattoor JJ, Shanmuganathan S, Sircar S, Dhama Kuldeep, Ghosh S, Touil N, and Singh RK (2018). Epidemiology and evolution of Rotavirus C (RVC) in India. *In:* 13th International Double Stranded RNA Virus Symposium organized by KU Leuven, Houffalize, Belgium from 24-28 September 2018 (Abstract No. 2, Page 73).
- 11. **Malik YS***, Kattoor JJ, Kumar N, Verma AK, Dhama K and Singh RK (2018). Disease burden and genotypic profiles of rotavirus-A (RVA) in bovine population of India, a twenty years (1999–2018) situation. In: 13th Rotavirus International Conference held at Minsk, Belarus from 29-31st August 2018 (No. 67, page 81).
- 12. Sircar S, AK Verma, JK Kala, AB Joshi, HC Chauhan, BS Chandel, SK Mohapatra and Malik YS (2017). Genome segment 2 encoded RNA polymerase gene based characterization of camelid origin picobirnaviruses, India. In: XXVI National Conference of Indian Virological Society on "Viruses to Viromes in Health and Disease", organized by the Nitte University, Deralakatte, Mangalore, Karnataka, from 7-9 December, 2017. (AVPP21, page 174).
- 13. Sircar S, Kattoor JJ, Saurabh S, Dhama K, Singh RK and <u>Malik YS</u> (2016). Molecular epidemiology of picobirnavirus, predominance of genogroup I in pig population of North Eastern states, India. In: Indian Virological Society (IVS) International Conference (VIROCON-2016) on "Global Perspectives in Virus Disease Management" organized by the Division of Plant Pathology, ICAR-Indian Institute of Horticultural Research, Bengaluru, Karnataka, from 8-10 December 2016 (abstract no. PVPV31, page 214).
- 14. Singh R, Singh U, Singh AP, Yadav SK, Sircar S and Malik YS (2016). Detection and characterization of caprine and ovine Picobirnavirus, India. In: Indian Virological Society (IVS) International Conference (VIROCON-2016) on "Global Perspectives in Virus Disease Management" organized by the Division of Plant Pathology, ICAR-Indian Institute of Horticultural Research, Bengaluru, Karnataka, from 8-10 December 2016 (abstract no. OPVV10, page 187).
- 15. Gayatri Kashyap, **YS Malik**, P. Kumar, M. Sahoo, Rahul Singh, S. Sirkar and Rajendra Singh (2016). Gut pathology of enteric calves and experimental rotavirus group A infection in suckling mice. In: Annual Conference of Indian Association Veterinary Pathologists held at Chhattisgarh Kamdhenu Vishwavidhyalaya, Anjora, Durg (CG) from 9-11 November 2016.
- 16. <u>Malik YS</u>, Sharma K, Kumar N, Prasad M and Singh RK (2015). Whole genome analysis of bovine rotavirus strain carrying novel genomic constellation with evidence of multispecies reassortment. *In:* XXII Annual Convention and National Symposium of Indian Society for Veterinary Immunology and Biotechnology on "Immunomics and Proteogenomics in Livestock Health & Productivity" organized by the National Research Centre on Equines, Hisar, Haryana, from 17-19 December, 2015 (Article No MC-4, page 57).

- 17. <u>Malik YS</u>, Kumari P, Sircar S, Saurabh S, Kattoor JJ, Shanmuganathan S and Aggarwal RK (2015). Frequency distribution of picobirnavirus in diarrheic and non-diarrheic bovine calves. *In:* XXII Annual Convention and National Symposium of Indian Society for Veterinary Immunology and Biotechnology on "Immunomics and Proteogenomics in Livestock Health & Productivity" organized by the National Research Centre on equines, Hisar, Haryana, from 17-19 December, 2015 (Poster Article No DE-11, page 83).
- 18. Kumari P, Sircar S, Saurabh S, Kattoor JJ, Shanmuganathan S, Aggarwal RK and <u>Malik YPS</u> (2015). Epidemiology of group A rotavirus in bovine population of northern states of India discloses its high prevalence. *In:* XXII Annual Convention and National Symposium of Indian Society for Veterinary Immunology and Biotechnology on "Immunomics and Proteogenomics in Livestock Health & Productivity" organized by the National Research Centre on quines, Hisar, Haryana, from 17-19 December, 2015 (Poster Article No PG-35, page 161).
- 19. Saurabh S, Sharma K, Sircar S, Kattoor JJ, Kumari P and Malik YPS (2015). Evolutionary analysis of an Indian human group B rotavirus strain which reveals multiphyletic origin of capsid genes with huge diversity. *In:* Indian Virological Society (IVS) XXIV National Conference (VIROCON-2015) on "Transboundary Viral Diseases Under One Health: Perspectives & Challenges" organized by the Department of Microbiology, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong Meghalaya, from 8-10 October 2015 (abstract no. OV-15, page 163).
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