

PROFORMA FOR BIO-DATA (to be uploaded)

1. Name and full correspondence address :-

Dr. Jajati Keshari Mohapatra

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3. Institution :- ICAR- National Institute on Foot and Mouth Disease

4. Date of Birth :- 12th June 1976

5. Gender (M/F/T) :- Male

6. Category Gen/SC/ST/OBC :- Gen

7. Whether differently abled (Yes/No) :- No

8. **Academic Qualification (Undergraduate Onwards)**

S.No.	Degree	Year	Subject	University/Institution	OGPA/% of marks
1.	B.V.Sc & A.H.	1998	All subjects of Vety Sci & AH	Orissa University of Agriculture & Technology, Bhubaneswar-751003, Orissa, India	8.51
2.	M.V.Sc	2001	Veterinary Virology	Indian Veterinary Research Institute, Izatnagar, Bareilly-243122, U.P., India	8.951
3.	PhD	2005	Veterinary Virology	Indian Veterinary Research Institute, Izatnagar, Bareilly-243122, U.P., India	8.68

9. **Ph.D thesis**

Title: “Complete genome sequencing of foot-and-mouth disease virus serotype Asia1: evaluation of different regions in RNA interference study and nucleic acid based diagnostic assay”.

Institute/Organization/University: Indian Veterinary Research Institute, Izatnagar, Bareilly-243122, U.P., India

Year of Award: 2005

10. **Work experience (in chronological order).**

S.No	Positions held	Name of the Institute	From	To
1.	Scientist (Trainee)	National Academy of Agricultural Research Management, Hyderabad, Andhra Pradesh, India	27-06-2005	04-11-2005
2.	Scientist	Indian Veterinary Research Institute, Izatnagar, Bareilly-243122, U.P., India	05-11-2005	09-02-2006
3	Pr. Scientist (Vet Microbiology)	National Institute on FMD, Arugul, Bhubaneswar-752050	10-02-2006	Continuing

11. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant.

S.No	Name of Award	Awarding Agency	Year
1	Young Scientist Award	Indian National Science Academy (INSA), New Delhi	2009
2	Professor LSS Kumar Memorial Award	Indian National Science Academy (INSA), New Delhi	2009
3	Jawaharlal Nehru Award for Post Graduate Agricultural Research	Indian Council of Agricultural Research (ICAR), New Delhi	2006
4	Dr. D. R. Uppal Award for best doctoral thesis in Microbiology	Indian Veterinary Research Institute, Izatnagar	2004-05
5	Senior Research Fellowship during PhD	Council for Scientific and Industrial Research (CSIR), New Delhi	2002-05
6	Institute fellowship during MVSc	Indian Veterinary Research Institute, Izatnagar	1999-2001

12. Publications

S.No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1	Jajati Keshari Mohapatra , Manoranjan Rout, Saravanan Subramaniam, Priyabrata Giri, Shyam Singh Dahiya, Sagar Sangam Rautaray, Jitendra Kumar Biswal, Nihar Ranjan Sahoo, Rabindra Prasad Singh	A reverse transcription-multiplex PCR strategy devised for concomitant detection and differentiation of foot and mouth disease virus serotypes O, A and Asia 1 in India	J Virol Methods	e-published	2023 Sep 30: 114829	2023
2	Jajati Keshari Mohapatra , Shyam Singh Dahiya, Saravanan Subramaniam, Manoranjan Rout, Jitendra Kumar Biswal, Priyabrata Giri, Vinayak Nayak, Rabindra Prasad Singh	Emergence of a novel genetic lineage 'A/ASIA/G-18/2019' of foot and mouth disease virus serotype A in India: A challenge to reckon with	Virus Res	e-published	2023 Aug; 333: 199140	2023
3	Subramaniam S, Mohapatra JK , Sahoo NR, Sahoo AP, Dahiya SS, Rout M, Biswal JK, Ashok KS, Mallick S, Ranjan R, Jana C, Singh RP.	Foot-and-mouth disease status in India during the second decade of the twenty-first century (2011-2020)	Vet Res Commun	46(4)	1011-1022	2022
4	Sreenivasa Beeragere Parameshwaraiah, Jajati K Mohapatra , Veena Jumanal, Dhanesh Valia Valappil, Saravanan Subramaniam, Bhimnere Hanumanthagouda Manjunatha Patel, Suresh H Basagoudanavar, Madhusudan Hosamani, Brahma dev Pattnaik, Raj Kumar Singh, Aniket Sanyal	Assessment of fitness of foot-and-mouth disease virus A IND 27/2011 as candidate vaccine strain	Transbound Emerg Dis	69(5)	2996-3000	2022
5	Mohapatra JK , Das B, Rout M, Sreenivasa BP, Subramaniam S, Sanyal A, Pattnaik B.	Alternate vaccine strain selection in the wake of emerging foot-and-mouth disease virus serotype A antigenic variants in India.	Vaccine	36(23)	3191-3194	2018
6	Hayer SS, Ranjan R, Biswal JK, Subramaniam S, Mohapatra JK , Sharma GK, Rout M, Dash BB, Das B, Prusty BR, Sharma AK, Stenfeldt C, Perez A, Rodriguez LL, Pattnaik B, VanderWaal K, Arzt J.	Quantitative characteristics of the foot-and-mouth disease carrier state under natural conditions in India.	Transbound Emerg Dis.	65(1)	253-260	2018
7	Hayer SS, VanderWaal K, Ranjan R, Biswal JK, Subramaniam S, Mohapatra JK , Sharma GK, Rout M, Dash BB, Das B, Prusty BR, Sharma AK, Stenfeldt C, Perez A, Delgado AH, Sharma MK, Rodriguez LL, Pattnaik B, Arzt J.	Foot-and-mouth disease virus transmission dynamics and persistence in a herd of vaccinated dairy cattle in India.	Transbound Emerg Dis.	5(2)	e404-e415	2018
8	Brito BP, Mohapatra JK , Subramaniam S, Pattnaik B, Rodriguez LL, Moore BR, Perez AM.	Dynamics of widespread foot-and-mouth disease virus serotypes A, O and Asia-1 in southern Asia: A Bayesian phylogenetic perspective.	Transbound Emerg Dis.	65(3)	696-710	2018
9	Bhatt M, Mohapatra JK , Pandey LK, Mohanty NN, Das B, Prusty BR, Pattnaik B.	Mutational analysis of foot and mouth disease virus nonstructural polyprotein 3AB-coding region to design a negative marker virus.	Virus Res.	243	36-43	2018
10	Sreenivasa BP, Mohapatra JK , Pauszek SJ, Koster M, Dhanya VC, Tamil Selvan RP, Hosamani M, Saravanan P, Basagoudanavar SH, de Los Santos T, Venkataramanan R, Rodriguez LL, Grubman MJ.	Recombinant human adenovirus-5 expressing capsid proteins of Indian vaccine strains of foot-and-mouth disease virus elicits effective antibody response in cattle.	Vet Microbiol	203	196-201	2017

11	Das B, Mohapatra JK , Pande V, Subramaniam S, Sanyal A.	Evolution of foot-and-mouth disease virus serotype A capsid coding (P1) region on a timescale of three decades in an endemic context.	<i>Infect Genet Evol</i>	41	36-46	2016
12	Behura M, Mohapatra JK , Pandey LK, Das B, Bhatt M, Subramaniam S, Pattnaik B.	The carboxy-terminal half of non-structural protein 3A is not essential for foot-and-mouth disease virus replication in cultured cell lines.	<i>Arch Virol</i>	161(5)	1295-305	2016
13	J. K. Mohapatra , L. K. Pandey, D. K. Rai, B. Das, L. L. Rodriguez, M. Rout, S. Subramaniam, A. Sanyal, E. Rieder, B. Pattnaik	Cell culture adaptation mutations in foot-and-mouth disease virus serotype A capsid proteins: implications for receptor interactions	<i>Journal of General Virology</i>	96	553-564	2015
14	S. Mahajan, J. K. Mohapatra , L. K. Pandey, G. K. Sharma, B. Pattnaik	Indirect ELISA using recombinant nonstructural protein 3D to detect foot and mouth disease virus infection associated antibodies	<i>Biologicals</i>	43	47-54	2015
15	Saravanan Subramaniam, Jajati K Mohapatra , Gaurav K Sharma, Jitendra K Biswal, RajeevRanjan, ManoranjanRout, Biswajit Das, Bana B Dash, Aniket Sanyal, Bramhadev Pattnaik	Evolutionary dynamics of foot-and-mouth disease virus O/ME-SA/Ind2001 lineage	Vet Microbiol	178(3-4)		2015
16	Saravanan Subramaniam, Jajati K Mohapatra , Biswajit Das, Gaurav K Sharma, Jitendra K Biswal, Sonalika Mahajan, Jyoti Misri, Bana B Dash, Bramhadev Pattnaik	Capsid coding region diversity of re-emerging lineage C foot-and-mouth disease virus serotype Asia1 from India	<i>Arch Virol</i>	160(7)	1751-59	2015
17	S. Subramaniam, J. K. Mohapatra , B. Das, A. Sanyal, B. Pattnaik	Genetic and antigenic analysis of foot-and-mouth disease virus serotype O responsible for outbreaks in India during 2013	<i>Infection, Genetics and Evolution</i>	30C	59-64	2015
18	J. K. Mohapatra , L. K. Pandey, B. Pattnaik	RNA structure disrupting G ₃₂₀ -T transversion within the short fragment of the 5' untranslated region prevents rescue of infectious foot-and-mouth disease virus	<i>Journal of Virological Methods</i>	196C	100-103	2014
19	A. K. Mohapatra , J. K. Mohapatra , L. K. Pandey, A. Sanyal, B. Pattnaik	Diagnostic potential of recombinant nonstructural protein 3B to detect antibodies induced by foot-and-mouth disease virus infection in bovines	<i>Archives of Virology</i>	159	2359-2369	2014
20	P. Bisht, J. K. Mohapatra , S. Subramaniam, B. Das, V. Pande, J. K. Biswal, G. K. Sharma, M. Rout, R. Ranjan, B. B. Dash, A. Sanyal, B. Pattnaik	Efficient rescue of foot-and-mouth disease virus in cultured cells transfected with RNA extracted from clinical samples	<i>Journal of Virological Methods</i>	196C	65-70	2014
21	L. K. Pandey, J. K. Mohapatra , S. Subramaniam, A. sanyal, V. Pande, B. Pattnaik	Evolution of serotype A foot-and-mouth disease virus capsid under neutralizing antibody pressure <i>in vitro</i>	<i>Virus Research</i>	181C	72-76	2014
22	G. K. Sharma, J. K. Mohapatra , S. Mahajan, R. Matura, S. Subramaniam, B. Pattnaik	Comparative evaluation of non-structural protein-antibody detecting ELISAs for foot-and-mouth disease sero-surveillance under intensive vaccination	<i>Journal of Virological Methods</i>	207	22-28	2014
23	S. Mahajan, J. K. Mohapatra , L. K. Pandey, G. K. Sharma, B. Pattnaik	Truncated recombinant non-structural protein 2C-based indirect ELISA for FMD sero-surveillance	<i>Journal of Virological Methods</i>	193(2)	405-414	2013
24	L. N. Sarangi, J. K. Mohapatra , S. Subramaniam, A. Sanyal, B. Pattnaik	Antigenic site variation in foot-and-mouth disease virus serotype O grown under vaccinal serum antibodies <i>in vitro</i>	<i>Virus Research</i>	176 (1-2)	273-279	2013
25	S. Subramaniam, J. K. Mohapatra , G. K. Sharma, B. Das, B. B. Dash, A. Sanyal, B. Pattnaik	Phylogeny and genetic diversity of foot and mouth disease virus serotype Asia1 in India during 1964-2012.	<i>Veterinary Microbiology</i>	167	280-288	2013
26	J. K. Mohapatra , S. Subramaniam, N. K. Singh, A. Sanyal, B. Pattnaik	Experimental evidence for competitive growth advantage of genotype VII over VI: Implications for foot-and-mouth disease virus serotype A genotype turnover in nature	<i>Research in Veterinary Science</i>	92	317-319	2012
27	J.K.Mohapatra , S. Subramaniam, L. K. Pandey, S. S. Pawar, A. De, B. Das, A. Sanyal, B. Pattnaik	Phylogenetic structure of serotype A foot-and-mouth disease virus: Global diversity and the Indian perspective	<i>Journal of General Virology</i>	92	873-879	2011

28	J. K. Mohapatra , L. K. Pandey, A. Sanyal, B. Pattnaik	Recombinant non-structural 3AB-based serodiagnostic strategy for FMD surveillance in bovines irrespective of vaccination	<i>Journal of Virological Methods</i>	177	184-192	2011
29	J. K. Mohapatra , S. S. Pawar, C. Tosh, S. Subramaniam, R. Palsamy, A. Sanyal, D. Hemadri, B. Pattnaik	Genetic characterization of vaccine and field strains of serotype A Foot-and-mouth disease virus from India	<i>Acta Virologica</i>	55	349-352	2011
30	Mohapatra JK , Pandey LK, Sharma GK, Barik SK, Pawar SS, Palsamy R, Pattnaik B.	Multiplex PCR for rapid detection of serotype A foot-and-mouth disease virus variants with amino acid deletion at position 59 of the capsid protein VP3.	J Virol Methods	171(1)	287-91	2011
31	S. Ranabijuli, J. K. Mohapatra , L. K. Pandey, M. Rout, A. Sanyal, B. B. Dash, L. N. Sarangi, H. K. Panda, B. Pattnaik	Serological evidence of foot-and-mouth disease virus infection in randomly surveyed goat population of Orissa, India	<i>Transboundary and Emerging Diseases</i>	57	448-454	2010
32	Sanyal A, Subramaniam S, Mohapatra JK , Tamilselvan RP, Singh NK, Hemadri D, Pattnaik B.	Phylogenetic analysis of Indian serotype Asia1 foot-and-mouth-disease virus isolates revealed emergence and reemergence of different genetic lineages.	Vet Microbiol	144(1-2)	198-202	2010
33	J.K.Mohapatra , P. Priyadarshini, L. K. Pandey, S. Subramaniam, A. Sanyal, D. Hemadri, B. Pattnaik	Analysis of the leader proteinase (Lpro) region of type A foot-and-mouth disease virus with due emphasis on phylogeny and evolution of the emerging VP359-deletion	<i>Virus Research</i>	141	34-46	2009
34	J. K. Mohapatra , A. Sahu, S. K. Barik, A. Sanyal, B. Pattnaik	Comparative analysis of the large fragment of the 5' untranslated region (LF-5' UTR) of serotype A foot-and-mouth disease virus field isolates from India	Virus Genes	39	81-89	2009
35	J.K.Mohapatra , A. Sahu, L. Pandey, A. Sanyal, D. Hemadri, B. Pattnaik	Genetic characterization of type A foot-and mouth disease virus 3A region in context of the reemergence of VP359-deletion lineage in India	Infection, Genetics and Evolution	9	483-492	2009
36	J. K. Mohapatra , P. Priyadarshini, L. Pandey, S. Subramaniam, D. Hemadri, A. Sanyal, B. Pattnaik	Phylogenetic analysis of 3C protease (3Cpro) coding region of Foot-and-mouth disease virus type A	Acta Virologica	53	175-183	2009
37	J.K.Mohapatra , A. Sanyal, D. Hemadri, C. Tosh, S. Biswas, N. J. Knowles, T. J. Rasool, S. K. Bandyopadhyay, B. Pattnaik	Comparative genomics of serotype Asia 1 foot-and-mouth disease virus isolates from India sampled over the last two decades	<i>Virus Research</i>	136	16-29	2008
38	J. K. Mohapatra , D. Hemadri, T. V. Rao, B. P. Sreenivasa, S. Subramaniam, A. Sanyal, T. R. Periyasamy, N. K. Singh, B. Pattnaik, R. Venkataramanan	2008 Assessment of suitability of two serotype A candidate vaccine strains for inclusion in FMD vaccine in India	Veterinary Microbiology	131	65-72	2008
39	J. K. Mohapatra , S. Saravanan, C. Tosh, D. Hemadri, A. Sanyal, R. P. Tamilselvan, T. J. Rasool	Genotype differentiating RT-PCR and sandwich ELISA: handy tools in epidemiological investigation of foot and mouth disease.	Journal of Virological Methods	143	117-121	2007
40	J. K. Mohapatra , A. Sanyal, D. Hemadri, C. Tosh, G. Palani, T. J. Rasool, S. K. Bandyopadhyay	Development and comparison of genome detection assays for the diagnosis of foot and- mouth disease suspected clinical samples	Journal of Virological Methods	137	14-20	2006
41	J. K. Mohapatra , A. Sanyal, D. Hemadri, C. Tosh, T. J. Rasool, S. K. Bandyopadhyay	A novel genetic lineage differentiating RTPCR as a useful tool in molecular epidemiology of foot-and-mouth disease in India	Archives of Virology	151	803-809	2006
42	J.K.Mohapatra , A. Sanyal, D. Hemadri, C. Tosh, R. Manoj Kumar, S. K. Bandyopadhyay	Evaluation of in vitro inhibitory potential of small interfering RNAs directed against various regions of foot-and-mouth disease virus genome.	Biochemical and Biophysical Research Communication	329	1133-1138	2005
43	J.K.Mohapatra , A. Sanyal, D. Hemadri, C. Tosh, G. P. Sabarinath, R. Manoj Kumar, R. Venkataramanan, S. K. Bandyopadhyay	Sequence variability in the structural protein-encoding region of foot and mouth disease virus serotype Asia1 field isolates	Research in Veterinary Science	77	153-161	2004

44	A.Sanyal, J.K.Mohapatra , R.ManojKumar, S.Biswas,D.Hemadri, C.Tosh, G.P.Sabarinath, S.K.Gupta, M.Mittal, P.Giridharan, S.K.Bandyopadhyay	Complete nucleotide sequence analysis of a vaccine strain (IND491/97) and a field isolate of foot and mouth disease virus serotype Asia1 with an insertion in VP1 genomic region	Acta Virologica	48	65-72	2004
45	J. K. Mohapatra , A.Sanyal,D.Hemadri, C.Tosh,G.P.Sabarinath, R.Venkataramanan	Sequence and phylogenetic analysis of the L and VP1 genes of foot and mouth disease virus serotype Asia1	Virus Research	87	107-118	2002

13. Detail of patents. N/A

S.No	Patent Title	Name of Applicant(s)	Patent No.	Award Date	Agency/Country	Status

14. Books/Reports/Chapters/General articles etc.

S. No	Title	Author's Name	Publisher	Year of Publication
1	Genome sequencing: Practice to prophecy (Review article).	J. K. Mohapatra , M. Rout, S. Kumar	Journal of Immunology and Immunopathology	2016
2	Small ruminants the silent players of foot and mouth disease (Popular article)	M. Rout, J. K. Mohapatra	Indian Farming	2016
3	Diagnostic assays developed for the control of foot-and-mouth disease in India (Mini reviews).	G. K. Sharma, S. Mahajan, R. Matura, S. Subramaniam, R. Ranjan, J. Biswal, M. Rout, J. K. Mohapatra , B. B. Dash, A. Sanyal, B. Pattnaik	World Journal of Virology	2015
4	Vaccination: A future perspective (Review article)	S. S. Pany, N. N. Mohanty, L. N. Sarangi, J. K. Mohapatra , S. B. Shivachandra	Advances in Animal and Veterinary Sciences	2015
5	Schmallenberg virus infection: recent emerging threat to ruminants	M. Rout, J. K. Mohapatra	Livestock Line	2014
6	Foot-and-mouth disease-epidemiology and control	J. K. Mohapatra , M. Rout, R. Ranjan, B. Pattnaik	Indian Farming, ICAR	2014
7	Development and evaluation of adenovirus vectored FMD vaccine using Indian vaccine strains of FMDV	B. P. Sreenivasa, J. K. Mohapatra , S. J. Pauszek, M. Koster, M. Hosamani, P. saravanan, B. Pattnaik, T. deLos Santos, R. Venkataramanan, M. J. Grubman, L. L. Rodriguez	GFRA Newsletter	2014
8	An overview of nano medicine in veterinary science	N. N. Mohanty, T. K. Palai, B. R. Prusty, J. K. Mohapatra	Veterinary Research International	2014
9	"Foot and Mouth Disease" in book entitled "Trends in Diagnosis of Animal Viral Diseases"	M. Rout, J.K. Mohapatra , S. Saravanan, K. Muniswamy, B.B. Dash, A. Sanyal, R. Ranjan, G.K. Sharma, J.K. Biswal, B. Pattnaik	AGRI-BIOVET PRESS, Daryaganj, New Delhi-110002	2013
10	"Emergence and re-emergence of different genotypes/lineages of foot-and-mouth disease virus in India" in book entitled "TOPICS IN FOOT-AND-MOUTH DISEASE"	S. Subramaniam, J. K. Mohapatra , A. Sanyal, J. Misri, K.M.L. Pathak, B. Pattnaik. edited by K.M.L. Pathak, B. Pattnaik, M. Rout, V. Bhasin, K. Sumption, G. Prasad and J. Misri.	ICAR, New Delhi-	2013
11	Status of Foot-and-mouth Disease in India	S. Subramaniam, B. Pattnaik, A. Sanyal, J. K. Mohapatra , S. S. Pawar, G. K. Sharma, B. Das, B. B. Dash	Transboundary and Emerging Diseases	2013
12	"Recent Advances in Diagnosis of Foot and Mouth Disease" in book entitled "Advances in Diagnosis of Livestock and Poultry Diseases"	R. Ranjan, S. Saravanan, G. K. Sharma, J. K. Mohapatra , J. K. Biswal, M. Rout, B. B. Dash, A. Sanyal, B. Pattnaik	Dr M. C. Sharma, Director, IVRI, Izatnagar	2012

13	Biosecurity measures for control and prevention of foot and mouth disease	J. K. Biswal, G. K. Sharma, J. K. Mohapatra , B. B. Dash	Indian Farming, ICAR	2012
14	Necessity of 'DIVA' strategy in foot and mouth disease surveillance	G. K. Sharma, J. K. Mohapatra , S. Mahajan, S. Subramaniam	Indian Farming, ICAR	2012
15	Foot and mouth disease: global status and Indian perspective	J. K. Biswal, A. Sanyal, L. L. Rodriguez, S. Subramaniam, J. Arzt, G. K. Sharma, J. M. Hammond, S. Parida, J. K. Mohapatra , B. Mathapati, B. B. Dash, R. Ranjan, M. Rout, R. Venkataramanan, J. Misri, L. Krishna, G. Prasad, K. M. L. Pathak, B. Pattnaik	Indian Journal of Animal Sciences	2012
16	Foot-and-mouth disease: global status and future road map for control and prevention in India	B. Pattnaik, S. Subramaniam, A. Sanyal, J. K. Mohapatra , B. B. Dash, R. Ranjan, M. Rout	Agricultural Research	2012
17	Foot and Mouth Disease (FMD): India and the World	S. S. Pawar, R. P. Tamilselvan, S. Saravanan, A. Sanyal, J. K. Mohapatra , B. Pattnaik	Science India	2010
18	User Protocol on "Recombinant 3AB3 Nonstructural Protein (NSP) Based Indirect ELISA for Differentiation of FMD Virus Infected from Vaccinated Animals (DIVA)"	J. K. Mohapatra , L. K. Pandey and B. Pattnaik	Project Directorate on FMD, Mukteswar, India	2009
19	"Recombinant 3AB3 NSP ELISA for FMD DIVA Strategy" chapter in 'Current concepts in immunoassays for diagnosis of animal diseases'	J. K. Mohapatra , N. K. Kakker	College of Veterinary Sciences, CCS Haryana Agricultural University, Hisar, Haryana	2009
20	"Recombinant 3AB3 NSP-ELISA: A handy technique for differentiation of Foot and Mouth Disease virus infected from vaccinated animals (DIVA)" chapter in 'Serological and PCR based diagnosis of economically important infectious diseases of domestic animals'	J. K. Mohapatra	CADRAD, IVRI, Izatnagar	2009
21	Inroads into Foot and Mouth Disease control	J. K. Mohapatra , B. Pattnaik	Indian Farming, ICAR	2007

14. Research Interest:

- FMD virus evolution and molecular epidemiology
- FMD virus diagnosis and seroepidemiology
- Reverse genetics

15. Research Projects:

Externally funded projects:

1. DAHD funded International collaborative project with the WRL on FMD, UK entitled “*FMD Vaccine quality testing and enhancing India’s animal vaccine testing capabilities*”,
Period: Dec, 2021- Dec, 2023 , Funding: DAHD, GoI
Amount: 258 lakhs
2. **Serosurveillance in Bovines under LHDCP/NADCP during 2021-24**
Period: April 2021 to March 2024, Funding: DAHD, GoI
3. **Understanding FMD Viral ecology and landscape epidemiology towards control and eradication**
Period: 1st Apr 2014 to 31st Mar 2016 & extended further up to March 2017, Code: OXX02631
Funding: U.S. Civilian Research & Development Foundation and U.S. Department of Agriculture
Amount: 350,000 USD

Institute projects:

1. **Antigenic and Genetic characterization of Indian FMD virus serotype A during 2022-27**
Duration: 1st Aug 2022- 31st Mar 2027, Code: ANSC/DFMD/S/I/L/2022/001/00163
2. **Screening and comparisons of genetic targets for devising reverse transcription multiplex PCR (RT-mPCR) assay to detect FMD virus serotypes O, A and Asia 1**
Duration: 1st Apr 2022- 31st Mar 2023, Code: ANSC/DFMD/S/I/L/2021/002/00145
3. **Development of combination reverse transcription-PCR (RT-PCR) strategy to enhance sensitivity and confidence of FMD virus serotype diagnosis**
Duration: 1st Aug 2022- 31st Mar 2024, Code: ANSC/DFMD/S/I/L/2022/002/00161

16. Innovative technologies/concepts/products/database developed:

1. **Novel RT-mPCR assay** for FMD virus serotypes O, A and Asia 1 differentiation
2. **Multitarget RT-mPCR strategy** for pan-serotype detection of FMD virus
3. **r3AB3 DIVA Kit** for Foot and Mouth Disease serosurveillance- Presently in use country-wide by network centres and FMD vaccine manufacturers. This Kit was released by Hon. Union Agriculture minister on 16-07-2010 (ICAR Foundation Day) at NASC, New Delhi
4. **PCR-(oligoprobing)-ELISA & RNA dot hybridization** for FMD virus genome detection- In use in Central FMD Laboratory, Mukteswar
5. **Genotype/lineage differentiating RT-PCR** for type Asia 1 and A for rapid molecular epidemiology- In use in Central FMD Laboratory, Mukteswar
6. **Serotype A FMD virus vaccine strain, IND 40/2000:** Included in the FMD vaccine formulation by all the manufacturers in the country
7. **Indian FMD virus genomic sequence data base:** A huge genomic sequence data base of **more than 300 kbp** for FMD virus field strains of Indian origin was generated, which has added momentum to the ongoing molecular epidemiology and phylogenetic investigations.
8. **Infectious cDNA clone for Asia 1 IND 491/1997 FMD virus strain** was constructed, which serves as a genetic backbone to modify the virus through reverse genetic approach.
9. **A companion indirect ELISA utilizing recombinant truncated 3AB protein** corresponding to the viable deletion in the 3AB protein was developed for negative marker vaccine strategy.
10. **Recombinant nonstructural protein 3B based indirect ELISA** was developed for FMD serosurveillance in bovines.
11. **Recombinant 2C and 3D NSP ELISA** for FMD serosurveillance
12. **Alternative candidate vaccine strains for serotype A virus (A IND 27/2011)** having better antigenic coverage against the recent field viruses compared to the vaccine strain A IND 40/2000 in use.
13. **Novel recombinant human adenovirus-5 expressing capsid proteins of Indian vaccine strains of FMD virus** were constructed and tried in cattle for efficacy.

17. Any other Information (maximum 500 words)

- i. Scientist In-Charge, ICFMD, Bhubaneswar
- ii. Bio-safety officer
- iii. Chairman, Institute Animal Ethics Committee
- iv. Member Secretary, Institute Bio-safety Committee