



# Satish Gaikwad

*MVsc, PhD*

## Education

- 2001–2007 **B.V.Sc. & A.H.**, *KNP College of Veterinary Sciences, Shirwal, MS, India, 8.1.*  
First class
- 2007–2009 **M.V.Sc.**, *Indian Veterinary Research Institute, Bareilly, UP, India, 8.51.*  
First class with distinction
- 2009–2012 **Ph.D.**, *Indian Veterinary Research Institute, Bareilly, UP, India, 8.1.*  
First class

## Experience

- 2015–To date **Assistant Professor Biotechnology/Biotechnologist**, *Animal Biotechnology Education and Research Cell, Department of Veterinary Microbiology, Parbhani, Maharashtra.*  
Teaching and Research
- 2013–2015 **Postdoctoral Associate**, *OIE reference laboratory for Newcastle Disease, QIA, Anyang, South Korea.*  
Production and evaluation of recombinant protein in baculovirus expression system to evaluate Newcastle disease marker vaccines: Recombinant protein carrying repeats of B cell epitope of nucleoprotein of NDV was expressed and tested as antigen in ELISA assay which allows **DIVA** differentiation in case of negative marker vaccination.
- 2012–2013 **Research Associate**, *IVRI, Bareilly, UP.*  
Development of genetically engineered vaccines against economically important poultry viral diseases: The objective is to develop a multivalent viral vector vaccine against Newcastle disease and Infectious bursal disease of poultry. The project involved whole genome sequencing of Indian Newcastle disease virus vaccine strains. Generation of full length infectious clone of NDV carrying foreign genes. Rescuing of a virus using **Reverse Genetics technique**.

## PhD thesis

- title ***Evaluation of HSP70 mediated multi epitope DNA vaccine construct against Newcastle Disease Virus***
- supervisor Dr. Madhan Mohan

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description Codon optimized Multi epitope DNA constructs encoding B cell epitopes of NDV and IBD virus of poultry were rationally designed and cloned in mammalian expression vector. Heat shock protein of Mycobacterium tuberculosis was amplified from genomic DNA and cloned at N terminal of multi- epitope. These constructs were evaluated *in vitro* and *in vivo* systems. Humoral responses studied with ELISA, LTT, FACS, and HI. Challenge study was performed to assess protection level in chicken.

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## Master thesis

title ***Studies on TLR expression during in-vitro stimulation of Bovine PMNC with FMD DNA vaccine and whole virus***

supervisor Dr.Dechamma H J

description FMDV DNA vaccine was constructed by subcloning and linking the 1D gene of serotype O, C and Asia of FMD in pCDNA 3.1(+) under CMV promoter. Functionality of vaccine construct was verified by studying the GFP expression as fusion of GFP to construct in BHK-21 cells. Virus infected cells and construct transfected cells were compared for expression of innate immunity related genes. Work showed pronounced variation among two and suggested need of immune studies to design better vaccine against FMD. Study leads to scope of further analysis of signaling pathways and adaptor molecules related with the TLR.

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## Languages

English	<b>Listening, Reading, Writing</b>	<i>Fluent</i>
Hindi	<b>Listening Reading, Writing</b>	<i>Fluent</i>
Language 3	<b>Listening Reading, Writing</b>	<i>Mothertongue</i>

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## Computer skills

Operating system	OSX, Windows	Graphics	Adobe illustrator, Photoshop
Office	MS Office, lworks, <b>LaTeX</b>	Bioinformatics	Bayesian phylogenetics
Statistics	MS excel, <b>R project</b>	Integrated environments	MEGA v6.0, VectorNTI

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## Interests

Music Urdu Ghazals

Sports Table Tennis, Cricket

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## References

### Advisors

- Dr. C Madhan Mohan
- Dr. Sohini Dey
- Dr. Dechamma HJ

### Teachers

- Dr. AS Bannalikalr, and
  - Dr. K Sarawanan
- (more upon request)

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## Publications

**Gaikwad, Satish**, Ji-Ye Kim, Hyun-Jeong Lee, Suk Chan Jung, and Kang-Seuk Choi. Genetic characterization and evolutionary analysis of newcastle disease virus isolated from domestic duck in south korea. *Gene*, 579(1):34–40, 2016.

JY Kim, SJ Kye, HJ and **Gaikwad, S** Lee, HS Lee, SC Jung, and KS Choi. Development of a highly immunogenic newcastle disease virus chicken vaccine strain of duck origin. *Poultry science*, 95(4):790–797, 2016.

S Aravind, Nitin Machindra Kamble, **Gaikwad, Satish S**, Sanjeev Kumar Shukla, R Saravanan, Sohini Dey, and C Madhan Mohan. Protective effects of recombinant glycoprotein d based prime boost approach against duck enteritis virus in mice model. *Microbial pathogenesis*, 88:78–86, 2015.

**Gaikwad, Sathish**, Sowmya Kumar, Thimmareddy Prashanth, Golla Rama Reddy, Veluvorthy Sanyasi Suryanarayana, and Hosur Joyappa Dechamma. Transcriptional expression profile of toll like receptor 1-10 mrna in bovine peripheral mononuclear cells in response to foot and mouth disease antigens. *Advances in Microbiology*, 2012.

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Sagar A Khulape, **Gaikwad, Satish S**, Madhan Mohan Chellappa, Bishnu Prasad Mishra, and Sohini Dey. Complete genome sequence of a newcastle disease virus isolated from wild peacock (*pavo cristatus*) in india. *Genome announcements*, 2(3):e00495–14, 2014.

Dey Sohini, **Satish Gaikwad**, and C. Madhan Mohan. *Poultry Diseases: Recent Trends in Diagnosis and Prophylaxis*. Nova Publishers <http://goo.gl/4CEJmR>, 2012.

Shishir Kumar Gupta, Rajib Deb, **Gaikwad, Satish**, R Saravanan, C Madhan Mohan, and Sohini Dey. Recombinant flagellin and its cross-talk with lipopolysaccharide–effect on pooled chicken peripheral blood mononuclear cells. *Research in veterinary science*, 95(3):930–935, 2013.

Madhan Mohan Chellappa, Sohini Dey, **Gaikwad, Satish**, JM Kataria, and VN Vakharia. Complete genome sequence of newcastle disease virus mesogenic vaccine strain r2b from india. *Journal of virology*, 86(24):13814–13815, 2012.

Sohini Dey, Madhan Mohan Chellappa, **Gaikwad, Satish**, Jag Mohan Kataria, and Vikram N Vakharia. Genotype characterization of commonly used newcastle disease virus vaccine strains of india. *PLoS one*, 9(6):e98869, 2014.

S Aravind, NM Kamble, **Gaikwad, SS**, SA Khulape, Sohini Dey, K Dhama, and C Madhan Mohan. Bioinformatics study involving characterization of synonymous

codon usage bias in the duck enteritis virus glycoprotein d (gd) gene. *Asian Journal of Animal & Veterinary Advances*, 9(4), 2014.

Sunil K Pradhan, Nitin M Kamble, Aravind S Pillai, **Gaikwad, Satish S**, Sagar A Khulape, MR Reddy, C Madhan Mohan, Jag Mohan Kataria, and Sohini Dey. Recombinant nucleocapsid protein based single serum dilution elisa for the detection of antibodies to infectious bronchitis virus in poultry. *Journal of virological methods*, 209:1–6, 2014.

Madhan Mohan Khulape, Sagar A and **Gaikwad, Satish S** and Chellappa, Bishnu Prasad Mishra, and Sohini Dey. Genetic characterization and pathogenicity assessment of newcastle disease virus isolated from wild peacock. *Virus genes*, 49(3):449–455, 2014.

Nitin Machindra Kamble, Aravind S and **Gaikwad, Satish S** Pillai, Sanjeev Kumar Shukla, Sagar Aashok Khulape, Sohini Dey, and C Madhan Mohan. Evolutionary and bioinformatics analysis of the spike glycoprotein gene of h120 vaccine strain protectotype of infectious bronchitis virus from india. *Biotechnology and applied biochemistry*, 2014.

S Aravind, Nitin M Kamble, Sanjeev Kumar **Gaikwad, Satish S** and Shukla, Sohini Dey, and C Madhan Mohan. Adaptation and growth kinetics study of an indian isolate of virulent duck enteritis virus in vero cells. *Microbial pathogenesis*, 78:14–19, 2015.