

Dr. Nihar Ranjan Sahoo

PhD (Animal Genetics & Breeding)

Senior Scientist

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Current Research area

Differential host response to vaccine and pathogen

Total Research Papers: 60

Top Twenty Research Papers:

1. Yadav V, Sahoo NR*, Kumar P, Gaur GK, Sahoo AP, Ravikumar GVPPS and Singh KP (2020) Identification and copy number profiling of sex chromosome specific gene fragments in crossbred pigs with numerically normal karyotype. *Animal Production Science* DOI: 10.1071/AN19287
2. Rawat C, Sahoo NR*, Wagh SS, Kumar P, Kumar S, Sonwane A, Qureshi S, Kumar A and Panigrahi M (2019) Association of ACK1, TFRC polymorphism with diarrhoeagenic E. coli adhesion patterns and their jejunal expression profile in Indian Ghurrah pigs. *3Biotech* DOI: 10.1007/s13205-019-1956-5
3. Sahoo NR*, Kumar P, Khan MF, Mourya R, Ravikumar GVPPS and Tiwari A K (2019) Sequence diversity of MHC class II DQA1 in Tharparkar cattle: novel alleles and in-silico analysis. *HLA* **93** (6) : 451-461
4. Singh I, Deb R, Kumar S, Singh R, Andonissamy J, Smita S, Sanger GS, Kumar R, Ojha KK, Sahoo NR, Murali S, Chandran R, Radhakrishnan NV, Lal SB, Mishra DC and Rai A (2019) Deciphering Foot-and-Mouth Disease (FMD) virus-host Tropism. *Journal of Biomolecular Structure and Dynamics*. **37** (18): 4779-4789
5. Sinha R, Sahoo NR*, Shrivastava K, Vineeth MR, Kumar P, Qureshi S, Kumar A and Bhushan B (2019) Effect of season, age and sex on *E. coli* adhesion patterns in Indigenous Ghurrah pigs - A comparative analysis of phenotypic classifications. *Biological Rhythm Research* <https://doi.org/10.1080/09291016.2019.1660517>
6. Prakash C, Gaur GK, Pruthviraj DR and Sahoo NR (2019) Distribution analysis of single nucleotide polymorphisms related to feet and legs and their association with lameness in Vrindavani cattle. *Tropical Animal Health and Production*. 10.1007/s11250-019-02076-w
7. Ahmad SF, Gaur GK, Sahoo NR, Bharti P.K. and Naha BC (2019) Genetic parameters of pre-weaning weights in crossbred piglets using multi-trait animal model. *Tropical Animal Health and Production*. DOI: 10.1007/s11250-019-01985-0
8. Saini BL, Gaur GK, Sahoo NR, Naha BC and Baranwal A (2019) Assessment of meat quality defect genes in indigenous pigs of Bareilly region. *Tropical Animal Health and Production*. doi: 10.1007/s11250-018-01795-w
9. Sinha R, Sahoo NR*, Shrivastava K, Kumar P, Qureshi S, Kumar A, Ravikumar GVPPS and Bhushan B (2018) Effect of Mucin 13 gene polymorphism on diarrhoeagenic E.coli adhesion pattern and its expression analysis in native Indian pigs. *Archives Animal Breeding* 61, 321–328
10. Shrivastava K, Kumar P*, Khan MF, Sahoo NR, Prakash O, Kumar A, Panigrahi M, Chauhan A, Bhushan B, Prasad A, Nasir A and Patel BHM (2018). Exploring the molecular basis of resistance/ susceptibility to mixed natural infection of Haemonchus contortus in tropical Indian goat breed. *Veterinary Parasitology* **262** : 6-10
11. Sinha R Sahoo NR*, Kumar P, Qureshi S, Kumar A, Ravikumar GVPPS and Bhushan B (2018) Comparative jejunal expression of MUC 13 in Indian pigs differentially adhesive to diarrhoeagenic *E. coli*. *Journal of Applied Animal Research*. 46 (1): 107-111
12. Saini BL, Gaur GK*, Sahoo NR, Mendiratta SK, Kumar A, Naha BC, Baranwal A, Yadav V and Jaiswal R K (2018) Polymorphism distribution of RYR1, PRKAG3, HFABP, MYF-5 and MC4R genes in crossbred pigs. *Molecular Biology Reports* doi: 10.1007/s11033-018-4263-z

13. Saurabh S, Sircar S, Kattoor JJ, Ghosh S, Kobayashi N, Banyai K, Vinod Kumar OR, De U, Sahoo NR*, Dhama K and Malik YPS (2018) Analysis of porcine rotavirus A enterotoxin gene for structure-function relationship. *Journal of Veterinary Science* 19(1), 35-43
14. Pathak SK, Kumar A, Bhuwana G, Sah V, Upmanyu V, Tiwari AK, Sahoo AP, Sahoo AR, Wani SA, Panigrahi M, Sahoo NR* and Ravi Kumar GVPPS (2017) RNA Seq analysis for transcriptome profiling in response to classical swine fever vaccination in indigenous and crossbred pigs. *Functional & Integrative Genomics*. 17(5):607-620
15. Chethan GE, Garkhal J, Sircar S, Malik YPS, Mukherjee R, Sahoo NR*, Agarwal RK and De UK (2017) Immunomodulatory potential of β -glucan as supportive treatment in porcine rotavirus enteritis. *Veterinary Immunology and Immunopathology*. 191: 36-43
16. Mahapatra PS, Singh R, Kumar K, Sahoo NR*, Agarwal P, Mili B, Das K, Sarkar M, Bhanja SK, Das BC, Dhara SK and Bag S (2017) Valproic acid assisted reprogramming of fibroblasts for generation of pluripotent stem cells in buffalo (*Bubalus bubalis*). *International Journal of Developmental Biology*. 61: 81-88
17. Chethan GE, Garkhal J, Sircar S, Malik YPS, Mukherjee R, Gupta VK, Sahoo NR*, Agarwal RK and De UK (2017) Changes of hemogram and serum biochemistry in neonatal piglet diarrhoea associated with porcine rotavirus type A. *Tropical Animal Health and Production*. 49(7):1517-1522
18. Sahoo, N R*, Nesa, N, Naskar, S, Banik S, Pankaj, P K and Sahoo M (2016) Microsatellite and mitochondrial diversity analysis of native pigs of Indo-Burma biodiversity hotspot. *Animal Biotechnology*. **27** (1): 52-59.
19. Kumar, A, Kumar, A Sahoo, NR, Upmanu V, Kumar, B, Bhushan, B and Sharma, D (2015) Association of Humoral Response to Classical Swine Fever Vaccination with SNPs of Swine Leukocyte Antigens. *Journal of Applied Animal Research*. **32**:187-190
20. Sahoo NR*, Kumar P, Bhushan B, Bhattacharya T K., Sharma A, Dayal S, Pankaj PK and Sahoo M. (2010) PCR-SSCP of serum lysozyme gene (Exon-III) in riverine buffalo and its effect on lysozyme activity and somatic cell count. *Asian Australian Journal of Animal Sciences*: **23** (8): 993-999.

Technology Developed:

a. Breed/ Variety development/ evaluation and characterization

- Breed characterization of indigenous *Ghoongroo*, *Niang Megha*, *Tenyi Vo* and *Ghurrah* pigs
- Development of crossbred pigs “*Rani*” and “*Landlly*”

b. Laboratory techniques

- Molecular sex typing in domestic pigs
- Multiplex PCR for detection of various pathotypes of porcine diarrheic *E. coli*
- LAMP assay for detection of *S. suis* in pigs

No. Patents Granted / Filed: Two

Awards :

- Conference Awards (Six numbers)
- Best thesis to student: One
- NAIP International Training on “*Allele Mining in Animal science*” for three months at Texas A&M University, USA (12.04.11- 12.07. 11)
- Selected for DBT Travel grant (2014) for 34th Biannual Conference of ISAG at Qujiang, China (Proposal code-DBT/CTEP/02/ 201400075)
- Selected for DST (SREB) Travel grant (2017) for 36th Biannual Conference of ISAG at University College Dublin (UCD), Ireland (Proposal code- DST/SERB/ITS/1713/2017-18)

Member of the Societies:

- International Society of Animal Genetics (ISAG)
- Swine Production Society of India (SPSI)
- Society for Conservation of Domestic Animal Biodiversity (SOCDAB)