

Dr. Hamid Mustafa

A) Address

Assistant Professor,
Department of Livestock Production,
Faculty of Animal Production and Technology
University of Veterinary and Animal Sciences, Ravi campus, Pattoki
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Contact #: +92334 9931006
Date of Birth: 08-07-1983
Passport Number. BN0875762
Nationality : Pakistan

B) Education

Assistant	2019-till date
Professor	
(BPS-19)	
Lecturer	2008- 2018
(BPS-18)/	
In charge	
Animal	
Genetic Lab	
PhD	Animal Breeding and Genetics Thesis Topic: Genetic History of Pakistani Cattle breeds using High Density SNPs genotyping array
DVM	February, 2006 University of Veterinary and Animal Sciences Lahore
(Deficiency)	Major - Veterinary Medicine, Theriogenology, Surgery and Epidemiology
B. Sc (Hons)	January, 2005 KPK, Agricultural University Peshawar, Major - Animal Husbandry

C) Research Interests

Research interests include analysis of genetic variation in Production, reproduction and disease resistance in livestock and refinement of the bovine / human comparative map. A primary focus is identification of genes (quantitative trait loci or QTL) contributing to variation in production and disease resistance. Use of markers linked with Production and disease resistance QTL in selection programs. Comparative mapping efforts are targeted to genomic regions harboring QTL and regions lacking comparative map data.

D) Reviewer for Peer-Reviewed Journals

1. Animal: The International Journal of Animal Biosciences, Cambridge University Press
2. Tropical Animal Health and Production, Springer Nature Switzerland
3. The Journal of Plant and Animal Sciences, Pakistan Sciences Forum

E) Projects:

- 1) Joint Project (University of Veterinary and Animal Sciences and Buffalo Research Institute, Pattoki): Establishment of Animal Breeding and Molecular Genetics Laboratory at Buffalo Research Institute, Pattoki (Completed).
- 2) Principal Investigator: entitled “*Strengthen the capacity of smallholder dairy farmers for animal genetic resources conservation and sustainable utilization for food security and trade in Pakistan*” Submitted to Islamic Development Bank under the call for innovation via transform fund 2019.
- 3) Principal Investigator: entitled “*Capacity Building of Smallholder Livestock farmers in Southern Punjab*” submitted to Direct Aid Program, Department of Foreign Affairs and Trade, Australian Government.
- 4) Principal Investigator: entitled “*Identification of Genetic Resistance Markers for Bovine Tuberculosis (bTB) in Nili Ravi Buffalo*” submitted to Pakistan Sciences Foundation under funding opportunity call for innovative scientists program.
- 5) Principal Investigator: entitled “*Selection for increased Genetic resistance to bovine tuberculosis (bTB) in dairy animals*” Submitted to Pakistan Agricultural Research Council, Agricultural Linkages Programme (ALP) Batch-9.
- 6) Team member; PARB-258-Project –Applied Animal Breeding “*Enhancement of cost effective mutton production through genetically enhanced prolificacy management*” 2012-2015
- 7) Team member; HEC-Project -Cytogenetic Characterization and Molecular FISH Studies in Candidate Cow Bulls and Replacement Heifers for Genetic Improvement in Punjab (Completed).
- 8) Team member; PSF-Project -Cytogenetic Screening of Buffalo Bulls and Replacement Heifers for Genetic Improvement in Punjab Province (completed).
- 9) Research Associate: ALP-Project *Identification of Molecular markers for fecundity in goat breeds of Pakistan* (Completed).

F) Subjects Teaching

- Population Genetics
- Animal Breeding Plans
- Experimental techniques in Animal Production Research

G) Publications in peer-review journals

1. Rafiuddin, J. A. Bhatti, M.Q. Shahid, M. Saadullah, **H. Mustafa**, M. Ahmad, M. A. Nasar, R. Khan and A. Khan. 2018. Effect of replacing maize fodder with maize silage on feed intake, digestibility and milk yield of early-lactation Nili Ravi buffaloes. Pure and Applied Biology. <http://dx.doi.org/10.19045/bspab.2018.700136>
2. **Hamid Mustafa**, Waqas Ahmad Khan, Huson J. Heather, Zulfiqar Hussain Kuthu, Kim EuiSoo, Adeela Ajmal, Noor Ul Ain and Tad S. Sonstegard. Performance of bovine high density SNPs genotyping array in indigenous Pakistani cattle breeds. Pure Appl. Biol., 7(1): 221-226.
3. **Hamid Mustafa**, Waqas Ahmad Khan, Zulfiqar Hussain Kuthu, Kim Eui-soo, Adeela Ajmal, Khalid Javed, Talat Naseer Pasha, Afzal Ali, Muhammad Tariq Javed and Tad S Sonstegard. Genome-Wide Survey of Selection Signatures in Pakistani Cattle Breeds. Pak Vet J, 38(2): 214-218. <http://dx.doi.org/10.29261/pakvetj/2018.051>.
4. **Hamid Mustafa**, Waqas Ahmad Khan, Zulfiqar Hussain Kuthu, Adeela Ajmal, Khalid Javed, Noor Ul Ain, Ahmad Ali and Muhammad Zeeshan. Analysis of FecG gene in lohi sheep breed using PCR-RFLP technique. Pure and Applied Biology. Vol. 7, Issue 1, pp292-295. <http://dx.doi.org/10.19045/bspab.2018.70035>.
5. Waqas Ahmad Khan, **Hamid Mustafa**, Umara Amir-u-Din, Maimoona Yousaf, Adeela Ajmal, Khalid Mehmood and Muhammad Imran. Identification of species-specific molecular markers in different farm animals by PCR-RFLP analysis. Pure and Applied

- Biology. Vol. 7, Issue 1, pp338-342. <http://dx.doi.org/10.19045/bspab.2018.70041>.
6. Saima Saleem, Waqas Ahmad Khan, Basharat Ali, **Hamid Mustafa**, Tanveer Hussain, Ali Raza Awan, Shakir Hafeez, Arif Malik and Ahmad Mukhtar Khalid. Association of vitamin D with tuberculosis patients of Sargodha, Pakistan. Pure and Applied Biology. Vol. 7, Issue 1, pp236-242.
 7. **Mustafa H**, Khan WA, Sonstegard T, LiY, Ain N, Ajmal A (2018). GenomeWide Identification of Natural Selection Footprints in Bos Indicus Using Principal Component Analysis. Adv. Life Sci. 5(2): 67-72.
 8. Mustafa H, Khan WA, Euisoo K, Kuthu ZH, Ajmal A, Ali A, Javed K, Sonstegard TS: Genetic properties of copy number variations in some Pakistani cattle breeds. Kafkas Univ Vet Fak Derg. DOI: 10.9775/kvfd.2018.19282
 9. **H. Mustafa**, N. Ahmad, H.J. Heather, K. Eui-soo, W. A. Khan, A. Ajmal, K. Javed, T.N. Pasha, A. Ali, J.J. Kim & T. S. Sonstegard. 2017. Genome-Wide Genetic Diversity and Population Structure Analysis of Pakistani Cattle Breeds Using High Density (777k) SNPs Genotyping. South African Journal of Animal Sciences (Under Review; ID#1702)
 10. **H. Mustafa**, N. Ahmad, H.J. Heather, K. Eui-soo, W. A. Khan, A. Ajmal, K. Javed, T.N. Pasha, A. Ali, J.J. Kim & T. S. Sonstegard. 2017. Whole Genome Study of Linkage Disequilibrium in Sahiwal Cattle. South African Journal of Animal Sciences, 48 (2): 356-360.
 11. **Hamid Mustafa**, Huson J. Heather, Kim Eui-soo, Nisar Ahmad, Waqas Ahmad Khan, Adeela Ajmal, Masroor Ellahi Babar, Khalid Javed, Talat Naseer Pasha, Afzal Ali, Jong-Joo Kim, and Tad S. Sonstegard. 2017. Genome-Wide Evaluation of Single Nucleotide Polymorphisms (SNPs) Genotyped By the Bovine High Density (777k) BeadChip in Indigenous Cattle. Pakistan Journal of Agriculture sciences (Under Review; ID# 6741)
 12. **Hamid Mustafa**, Kim Eui-soo, Huson J. Heather, Adeela Ajmal, David Riley, Talat Nasser Pasha, Afzal Ali, Khalid Javed, Tad S. Sonstegard. 2017. Genome wide SNPs analysis of indigenous zebu breeds in Pakistan. Biotechnology in Animal Husbandry 33 (1): 13-25.
 13. Zeeshan Muhammad IQBAL, Muhammad ABDULLAH, Khalid JAVED, Makhdoom Abdul JABBAR, Nisar AHMED, Yasir Allah DITTA, **Hamid MUSTAFA**, Faisal SHAHZAD. Effect of varying levels of concentrate on growth performance and feed economics in Nili-Ravi buffalo heifer calves. Turk J Vet Anim Sci 41: 775-780. doi:10.3906/vet-1702-1.
 14. **Hamid Mustafa**, Waqas Ahmad Khan and Adeela Ajmal. 2014. Cost-effective procedure of agarose gel recycling. Int. J. Anim. Bio. App. 1(2):
 15. **Hamid Mustafa**, Waqas Ahmad Khan, Huson J. Heather, Kim EuiSoo, Afzal Ali, Talat Naseer Pasha, Khalid Javed, Muhammad Zahid Farooq, Nisar Ahmad, Adeela Ajmal and Tad S. Sonstegard. 2014. Comparative analysis of genome wide difference in Red Sindhi and Holstein cattle breeds using dense SNP marker. Int. J. Adv. Res. 2(4): 300-304.
 16. **Hamid Mustafa**, K. Javed, M. Abdullah, N. Ahmad, A. Ajmal. 2013. Clinical cytogenetic investigation of nondescript cow. Agri. Adv. 2 (9): 277-280
 17. Ali, A; M. Abdullah, K. Javed, M. E. Babar, **H. Mustafa**, N. Ahmad and M. Akhtar. 2012. Cytogenetic and genome studies in Pakistani buffalo (*Bubalus bubalis*) - a review. The Journal of Animal and Plant Sciences, 22(3) Supp 225-227
 18. Ali A, Muhammad Abdullah, M.E. Babar, Khalid Javed, **Hamid Mustafa**, Maqsood Akhtar and S.E. Long. 2012. Comparative Study of Spontaneous and FUDR Induced Chromosomal Instability in Pakistani Lohi and British Suffolk Sheep – An Indication of Environmental Mutagenesis. Pakistan J. Zool., vol. 44(2), pp. 347-352.
 19. **Hamid Mustafa**, Muhammad Abdullah and Adeela Ajmal. 2011. New technologies & sustainable livestock production in Pakistan. Animal hygiene and sustainable livestock production. Proceedings of the XVth International Congress of the International Society for Animal Hygiene, Vienna, Austria, 3-7 July 2011, Volume 1 2011 pp. 537-539

20. Sehrish Firyal, Ali Raza Awan, Ghulam Muhammad, Masroor Ellahi Babar, Ahmad Ali, Muhammad Asif, **Hamid Mustafa Pasha**, Asif Ali Khan and Rao Iftikhar. 2009. Investigation on Means of Transmission of *Staphylococcus aureus* in Buffalo and Cow Herds through Coagulase Genotyping. 2009. Pakistan J. Zoology. Suppl.9: 385-388.
21. Babar, M.E., M. Nawaz, A. Naseem, M. Abdullah, M. Imran, R. Jabeen, S. A. Chatha, A. Nawaz, **H. Mustafa** and A. Nadeem. 2008. Prion Protein Genotypes in Pakistani Goats. Asian-Australasian J. Anim. Sci. 21(7):936-940.

H) Abstract published in international and national conferences:

1. **Hamid Mustafa**, Heather J. Huson, Adeela Ajmal, Kim Eui-soo and Tad S. Sonstegard. 2015. Assessment of SNP Variation and Distribution in Pakistani Cattle Breeds using High Density SNP Genotyping. ICASVM 2015: International Conference on Animal Science and Veterinary Medicine, Paris, France, February, 23-24.
2. **Hamid Mustafa**, Adeela Ajmal, Kim EuiSoo and Noor-ul-Ain. 2015. Bioinformatic Study Of Follicle Stimulating Hormone Receptor (FSHR) Gene In Different Buffalo Breeds. ICBCSB 2015: XIII International Conference on Bioinformatics, Computational and Systems Biology. June 4 - 5, 2015 New York, USA.
3. **Mustafa1, H.**, Heather, H., EuiSoo, K. , Matt, M. , Javed, K. , Pasha, T. , Ali, A. , Ajmal, A. , Sonstegard, T. (2014). 'Evaluation of Bovine High Density genotyping in Sahiwal cattle Population in Pakistan'. World Academy of Science, Engineering and Technology, International Science Index, Animal and Veterinary Sciences, 1(12), 17.
4. Tanveer Ahmad, Asif Nadeem, Fiaz Hussain and **Hamid Mustafa**. 2014. Use of Nutrigenomics to understand the genetic basis of malnutrition. Proceedings; National Conference on Nutrigenomics: A new science for better productivity of Livestock. 26 March, 2014. University of Veterinary and Animal Sciences, Lahore-Pakistan.
5. **Hamid Mustafa**, Huson J. Heather, Kim EuiSoo, Adeela Ajmal and Tad S. Sonstegard. 2014. Evaluation of bovine high density genotyping in Kankaraj cattle population in Pakistan. Wayamba_ International_ Conference_2014.
6. **Hamid Mustafa**, Qamer Shahid, Imran Mohsin, Adeela Ajmal. 2014. The role of animal biotechnology and economic implication in Pakistan. Abstract_ILD&PC_2014_Lahore.
7. **Hamid Mustafa**, Kim EuiSoo, Waqas Ahmad Khan and Adeela Ajmal. Statistical Approaches for Genetic Analysis of Farm Animal Diversity. 2014. 12th International Conference on Statistical Sciences: Application of Statistics in Policy Development and Monitoring of Health, Finance, Education, Information Technology and Economics held on March 24-26, 2014 at Dow International Medical College, Dow University of Health Sciences, Karachi, Pakistan, Pp. 53-54.
8. **Hamid Mustafa**. Assessment of Population structure in indigenous cattle breeds of Pakistan using whole genome SNP panel. PAG XXII, the Plant and Animal Genome XXII Conference, January 11-15, 2014, San Diego, CA.
9. **Mustafa, H.**, Heather, H., Eui-soo, K., Matt, M. , Javed, K. , Pasha, T. , Ali1, A. , Ajmal, A. , Sonstegard, T. (2013). 'Population Structure Analysis of Pakistani Indigenous Cattle Population by Using High Density SNP Array'. World Academy of Science, Engineering and Technology, International Science Index, Agricultural and Biosystem Engineering, 1(10), 48.
10. **Hamid Mustafa**. Population Structure analysis of Indigenous Cattle Breeds of Pakistan. ADSA-ASAS-CSAS JAM, July 20–24, 2014, Kansas State University, Kansas City, Missouri, The American Dairy Science Association® (ADSA®), the American Society of Animal Science (ASAS), and the Canadian Society of Animal Science (CSAS).
11. **Hamid Mustafa**, Khalid Javed, Noor-ul-Ain and Adeela Ajmal. The Camel Milk- A Review. International Camel Conference, Dec. 19-21, 2013. The Islamia University of Bahawalpur, Pakistan.
12. **Mustafa H.**, Javed K., Abdullah M., Ahmad N., & Ajmal A. lack of polymorphism in pituitary-specific transcription factor 1 (pit-1) gene in Azakhali buffalo. 2nd International Workshop on

Dairy Science Park. November 18-20, 2013, Khyber Pakhtunkhwa Agricultural University, Peshawar-25120, Pakistan.

13. Heather J. Huson, Tad S. Sonstegard, Johann Soelkner, **Hamid Mustafa**, Oyekan Nash, Christopher Mukasa, Daniel G. Bradley, Curtis P. Van Tassell, Population Structure of 60 Worldwide Cattle Breeds Using High Density (700K) SNP Genotyping. Genome Mapping, Tagging & Characterization: Cattle. PAG January 11 - 16, 2013, San Diego, CA
14. **Hamid Mustafa**, Khalid Javed, Imran Mohsin, Nisar Ahmad and Adeela Ajmal. Application of biotechnology and status of livestock improvement in Pakistan. International Livestock Dairy & Poultry Congress. 2013 p16
15. **Hamid Mustafa**. Polymorphism of the lactoferrin gene in Achai cattle using a polymerase chain reaction-restriction fragment length polymorphism technique. World Animal Production Conference, china 2013.
16. **Hamid Mustafa**, Huson Heather, Khalid Javed, Talat Naseer Pasha, Muhammad Abdullah, Imran Mohsin, Kim EuiSoo, Afzal Ali, Adeela Ajmal and Tad Sonstegard. Whole genome analysis for SNP variation in indigenous cattle population in Pakistan. ADSA-ASAS-CSAS JAM, July 8-12, 2013, Indianapolis, Indiana.
17. Asif Idrees, Z. I. Chaudhary, M. Younus, A.A. Nasir and **Hamid Mustafa**. Hematological and serum biochemical alteration in cattle and buffalo suffering from natural infection of black quarter. PJZ-2013
18. **Hamid Mustafa**, H, Heather J. Huson, Matthew McClure, EuiSoo Kim, Ahmad Ali and Tad S. Sonstegard. Genome wide structure of cattle from high density SNP array on some worldwide breeds^{at} USDA ARS, Bovine Functional Genomics Laboratory, Beltsville, MD, USA
19. Ahmad ALI¹, Khalid JAVED, Asad ALI, **Hamid MUSTAFA**. 2012. Correlation between Phenotypic and Genetic Sex Typing in Three Avian Pet Species. International animal sciences congress of Turkish and relatives communities. P-19.
20. Ahmad Ali and **Hamid Mustafa**. Cytogenetic Investigations in buffalo populations of Punjab, Pakistan. Proceedings of 20th International Colloquium on Animal Cytogenetics and Gene Mapping, 25 – 28 April, Cordoba, Spain pp.
21. Ahmad Ali and **Hamid Mustafa**. Cytogenetic Investigations in buffalo populations of Punjab, Pakistan. Proceedings of 20th International Colloquium on Animal Cytogenetics and Gene Mapping, 25 – 28 April, Cordoba, Spain pp
22. Ahmad Ali and **Hamid Mustafa**. Clinical and evolutionary significance of translocation breakpoints by fudr inducible chromosomal fragile sites in sheep (ovis aries). Proceedings of 32nd Pakistan Congress Zoology, March 6 – 8 March 2012, Government College University Lahore Pakistan pp 79.
23. Ahmad Ali, Hamid Mustafa, Hamad Hassan. 2011. Cytogenetic Investigations in Cattle and Buffalo Populations in Punjab, Pakistan. 18th international chromosome conference, 29 aug-2 sept, Manchester, UK.
24. Ali, A, **Hamid Mustafa**, M.E. Babar. Clinical Cytogenetic and Gene studies of Buffalo in Pakistan. Poster presentation & Proceedings of Animal Genetics for Animal Health (AGAH), Paris May 29 – 2 June, 2010 pp.
25. **Hamid Mustafa**, Muhammad Abdullah and Ahmad Ali. Impact of genetics in animal disease diagnosis. National conference on Pakistan Agriculture: Challenges and Opportunities, Rawalakot AJK Pakistan, 29-31 July, 2010.
26. Ali Raza Awan, Masroor Ellahi Babar, Ahmad Ali, Sehrish Firyal, Muhammad Asif, **Hamid Mustafa Pasha** and Imran Shabbir. 2009. Conservation of Biodiversity in Pakistan. International Conference on “Advance in Agriculture Prospects and Potentials of Natural Recourses in Food Security” 11-13 August 2009. University of Azad Jammu & Kashmir, Faculty of Agriculture Rawalakot.

I) ORGANIZED NATIONAL CONFERENCES

2007 National Conference on Prion Diseases in Sheep and its Zoonotic Significance December, 21-

- 22, Department of Livestock Production, University of Veterinary and Animal Sciences, Lahore Pakistan.
- 2008 National Conference on Transgenesis and Molecular Cloning, March 2nd, Department of Molecular Biotechnology, University of Veterinary and Animal Sciences, Lahore, Pakistan
- 2009 International Conference on Latest Advances in Livestock Genomics June, 25-26, Department of Livestock Production, University of Veterinary and Animal Sciences, Lahore, Pakistan
- 2009 Organized First DNA day April, 25th in the Department of Molecular Biology and Biotechnology, University of Veterinary and Animal Sciences, Lahore, Pakistan.
- 2014 Organized National Conference on Nutrigenomics: A new science for better productivity of livestock, 26 March, 2014. Department of Livestock Production. University of Veterinary and Animal Sciences, Lahore-Pakistan.

J) CO-EDITOR

- 2014 Co-Editor, Proceedings of National Conference on Nutrigenomics: A new science for better productivity of livestock, 26 March, 2014. Department of Livestock Production. University of Veterinary and Animal Sciences, Lahore-Pakistan.
- 2011 Co-Editor, Proceedings of National Seminar and Workshop on Institutional Capacity Building for Genetic Improvement and Fertility Enhancement in Livestock, 10 – 11 November, 2012, Department of Livestock Production, University of Veterinary & Animal Sciences, Ravi Campus Pattoki.
- 2010 Co-Editor, international conference on “dairy farming- a future prospective enterprise”, Department of Livestock Production. University of Veterinary & Animal Sciences, Lahore-Pakistan.
- 2010 Co-Editor Proceedings of National Conference on Molecular Cytogenetics – An effective selection tool in Livestock, Equines and Pets, 10 – 11 November, 2010, Department of Livestock Production, University of Veterinary & Animal Sciences, Ravi Campus Pattoki.
- 2009 Co-Editor, International Conference on Latest Advances in Livestock Genomics June, 25-26, 2014. Department of Livestock Production, University of Veterinary and Animal Sciences, Lahore, Pakistan.

K) Popular Article

An unexplored genetic gold of Pakistan. 31 August 2013. Beyond The Lahore Times.

L) TRAINING/WORKSHOPS

- 2010 “PCR training” how to handle troubleshoots of different PCR techniques. Jordan University of Science and Technology, Jordan.
- 2012 “Genetic history of Pakistani Cattle Breeds using High Density SNP array” IRSIP, HEC-USDA.