

BIRENDRA MISHRA, D.V.M., M.S., PH.D.

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EDUCATION AND TRAINING:

- POSTDOC.** Reproductive Toxicology, University of California, Irvine (2014-2016)
Reproductive Endocrinology, University of Kentucky, KY (2011-2014)
- Ph.D.** Veterinary Physiology, Gifu University, Japan (2007-2011)
- M.S.** Theriogenology, Bangladesh Agricultural University, Bangladesh (2003-2004)
- D.V.M.** Veterinary Medicine, Bangladesh Agricultural University, Bangladesh (1998-2003)

RESEARCH INTERESTS:

- Enhancing the laying persistency of hens for sustainable meat and egg production
- Nutritional programming to mitigate the effects of environmental stressors in poultry
- Enhancing poultry health and production in a commercial set-up using nutraceuticals
- Developing the early fertility marker in cattle

PROFESSIONAL APPOINTMENTS:

- 2016-present Assistant Professor of Animal Physiology, University of Hawaii at Manoa
Graduate Faculty (Concurrent Position): Molecular Biosciences and Bioengineering Program, CTAHR, University of Hawaii at Manoa, USA
Graduate Faculty (Concurrent Position): Nutritional Sciences Program, HNFAS, CTAHR, University of Hawaii at Manoa, USA
- 2015-2016 First Award Fellow, National Space Biomedical Research Institute, NASA
Dept. of Medicine, University of California, Irvine
- 2014-2016 Postdoctoral Fellow, Dept. of Medicine; University of California, Irvine, CA
- 2011-2014 Postdoctoral Fellow, Dept. of OB/GYN, University of Kentucky, KY
- 2011-2011 Research Scientist, Occupational and Environmental Health, Jichi Medical University, Tochigi, Japan
- 2007-2010 Teaching Assistant, Iwate University, Morioka, Japan
Graduate Research Assistant, Gifu University, Japan
- 2005-2006 Assistant Professor and Veterinary Program Coordinator, Himalayan College of Agricultural Sciences and Technology, Nepal
- 2004-2005 Graduate Research Assistant, Bangladesh Agricultural University, Bangladesh

COURSES TAUGHT:

Semester	Course Number	Course title	No. of students	Course Credit*	Total Credit	
Academic Year 2021					Total Credits taught	19.2
Fall 2021	ANSC 462	Reproduction and Artificial Insemination	11	3	3.0	
	ANSC 492	Field Experience (Writing Intensive)	10	4	4.0	
	ANSC 387	Lab Skills in Animal Science	21	2	0.5	
	ANSC 641/ FSHN 681	Seminar in Animal Sciences, and Nutritional Science	27	2	2.0	
	ANSC 699	Directed Reading and Research	3	3	1.8	
Spring 2021	ANSC 451	Domestic Animal Physiology	22	3	3.0	
	ANSC 492	Field Experience (Writing Intensive)	16	4	4.0	
	ANSC 499	Directed Reading and Research	2	3	0.6	
	ANSC 699	Directed Reading and Research	1	3	0.3	
Academic Year 2020					Total Credits taught	14.5
Fall 2020	ANSC 462	Reproduction and Artificial Insemination	18	3	3.0	
	ANSC 641/ FSHN 681	Seminar in Animal Science, and Seminar in Nutritional Science #	10	2	1.0	
	ANSC 699	Directed Reading and Research	2	3	1.2	
	ANSC 700	Directed Thesis Research	1	3	0.6	
Spring 2020	ANSC 451	Domestic Animal Physiology	30	3	3.0	
	ANSC 499	Directed Reading and Research	1	3	0.3	
	ANSC 643	Physiology of Reproduction	3	3	3.0	
	ANSC 699	Directed Reading and Research	3	3	1.8	
	ANSC 700	Directed Thesis Research	1	3	0.6	
Academic Year 2019					Total Credits taught	10.6
Fall 2019	ANSC 462	Reproduction and Artificial Insemination	18	3	3.0	
	ANSC 641/ FSHN 681	Seminar in Animal Sciences, and Nutritional Science #	6	2	1.0	
	ANSC 699	Directed Reading and Research	2	3	1.2	
Spring 2019	ANSC 451	Domestic Animal Physiology	24	3	3	
	ANSC 499	Directed Reading and Research	2	3	0.6	
	ANSC 699	Directed Reading and Research	2	3	1.2	
	MBBE 699	Directed Reading and Research	1	3	0.6	

Academic Year 2018		Total Credits taught			11.0
Fall 2018	ANSC 491	Topics in Animal Sciences "Poultry production system."	6	3	3.0
	ANSC 499	Directed Reading and Research	1	3	0.3
	ANSC 641/ FSHN 681	Seminar in Animal Sciences, and Nutritional Science [#]	7	1	1.0
	ANSC 699	Directed Reading and Research	2	3	1.2
	MBBE 699	Directed Reading and Research	1	3	0.6
	ANSC 700	Directed Thesis Research	1	3	0.3
Spring 2018	ANSC 451	Domestic Animal Physiology	26	3	3.0
	ANSC 699	Directed Reading and Research	2	3	1.2
	MBBE 699	Directed Reading and Research	4	3	2.4
Academic Year 2017		Total Credits taught			4.8
Fall 2017	MBBE 699	Directed Reading and Research	1	3	0.6
	ANSC 699	Directed Reading and Research	1	3	0.6
Spring 2017	ANSC 451	Domestic Animal Physiology	19	3	3
	ANSC 699	Directed Reading and Research	1	3	0.6

*Cumulative credit hours of all students for Directed/Thesis research courses (499/699/700/800). Contribution credit calculated as per the CTAHR policy (400 level 1 Cr= 0.1 Cr, 600 or above level 1 Cr= 0.2 Cr). #Co-taught in Fall 2018, Fall 2019, and Fall 2020 (I contributed about 50% in the course = 1 Credit).

PUBLICATIONS:

Book Chapters (* corresponding author):

1. ***Mishra B.**, Sah N and Wasti S. (2019). Genetic and hormonal regulation of egg formation in the oviduct. Poultry, ISBN 978-1-78923-820-4.
2. ***Mishra B.**, and Jha R. (2019). Oxidative stress in the poultry gut: Potential challenges and intervention. Accepted to Frontiers in Veterinary Science, section Animal Nutrition and Metabolism. Front. Vet. Sci. - Animal Nutrition and Metabolism; 6: 60.
3. *Jha R, Singh AK, Yadav S, Berrococo, JFD and **Mishra B.** (2019). Early nutrition programming (in ovo and post-hatch feeding) as a strategy to modulate gut health of poultry. Front. Vet. Sci. - Animal Nutrition and Metabolism.

Conference Proceedings/Abstract (* Corresponding author):

1. *Jha R, Das R, **Mishra B.**, and Cowieson AJ. (2021). Sources of corn and soybean meal and carbohydrase enzyme supplementation differently affect cecal volatile fatty acid production and microbiota profile in broiler chickens (Poster). PSA Virtual Annual Meeting (July 19-22, 2021).

2. *Jha R, Das R, **Mishra B**, and Cowieson AJ. (2021). Sources of corn and soybean meal and carbohydrase enzymes supplementation differently affect growth performance and nutrient digestibility in broiler chickens (Poster). PSA Virtual Annual Meeting (July 19-22, 2021).
3. Leon KN, Lawson G, **Mishra B**, Chang P, Blakely E, *Luderer U. (2021). Dose-dependent induction of epithelial ovarian tumors after mixed heavy ion irradiation. 2022 NASA Human Research Program Investigators' Workshop, Galveston, Texas. (Poster presentation)
4. Wasti S, Lee CN, Jha R, and ***Mishra B**. (2020). Dietary supplementation of alpha-lipoic acid mitigates the negative effects of heat stress in poultry (Oral). PSA Virtual Annual Meeting (July 20-23, 2020).
5. Adhikari B, Lee CN, Khadka VS, Deng Y, Jha R, and ***Mishra B**. (2020). RNA-sequencing-based analysis of bovine endometrium during the maternal recognition of pregnancy. SRS Virtual Annual Meeting (July 8-12, 2020). (*Poster presentation*)
6. Mishra R, Jha R, **Mishra B**, and *Kim YS (2020). Effects of maternal immunization against Myostatin on the post-hatch growth performance of their chicks. PSA Virtual Annual Meeting (July 20-23, 2020). (*Poster presentation*)
7. Singh AK, **Mishra B**, Bedford MR, and *Jha R (2020). Effects of xylanase and xylooligosaccharides supplementation on productive performance and gut health variables of broilers. PSA Virtual Annual Meeting (July 20-23, 2020). (*Poster presentation*)
8. Singh AK, **Mishra B**, and *Jha R. Early post-hatch feeding of resistant starch can influence cell-mediated immunity and gut microbiota diversity in broilers. International Poultry Scientific Forum (Jan 27-28, 2020), Atlanta, GA, USA. (*Poster presentation*)
9. Awodele1 O, **Mishra B**, Chang P, Blakely E, and *Luderer U. (2020). Ovarian effects of space radiation in comparison to gamma radiation. NASA human research Program Investigators' Workshop Integrated Pathways to Mars, Galveston, Texas. (Poster presentation).
10. ***Mishra B**, Sah N, Kuehu DN, Wasti S, Khadka VS, and Jha R. (2019). Transcriptional regulation of albumen biosynthesis and eggshell biomineralization in the oviduct of laying hens. 2019 Poultry Science Annual Meeting, Montreal, Canada. (*Oral presentation*)
11. Wasti S, Sah N, Kuehu DL, Lee CN, Jha R, and ***Mishra, B**. (2019). Dietary supplementation of dried plum: A novel strategy to mitigate heat stress in poultry. 2019 Poultry Science Annual Meeting, Montreal, Canada. (*Poster presentation*) **Best Poster award**
12. Sah N, Kuehu DN, Khadka VS, Jha R, and ***Mishra B**. (2019). New transcriptomic insights into processes associated with the formation of egg-white in the magnum of laying hens. 2019 Poultry Science Annual Meeting, Montreal, Canada. (*Poster presentation*)

13. Singh AK, Tiwari UP, **Mishra B**, and *Jha R. (2019). Comparative effects of in ovo injection of xylotriase, xyloetraose, mannotriase, and mannotetraose on growth performance and gut health of broilers. 2019 Poultry Science Annual Meeting, Montreal, Canada. (*Poster presentation*)
14. Singh AK, **Mishra B**, and *Jha R. (2019). Effects of early feeding of resistant starch during post-hatch yolk dependent period on growth performance and gut health parameters of broilers. 2019 Poultry Science Annual Meeting, Montreal, Canada. *Poster presentation*
15. Caliboso DK, Nanquil JE, Yadav S, Kae, H, Neupane K, **Mishra B**, and *Jha R. (2019). Cecal microbiota profile of Hawaiian feral chickens and pasture-raised broiler chickens. 2019 Poultry Science Annual Meeting, Montreal, Canada. (*Poster presentation*)
16. Kuehu, DL, Sah, N, Lee CN, Jha, R, ***Mishra B**. (2019). Heat stress impacts the health of the laying hen through altering the regulation of heat shock and reactive oxidative stress genes in the liver. 31st Annual CTAHR Student Research Symposium, Honolulu, HI, USA. (*Oral presentation*)
17. Wasti S, Sah N, Kuehu DL, Lee CN, Jha R, and ***Mishra B**. (2019). Dietary supplementation of dried plum: A novel strategy to mitigate heat stress in poultry. 31st Annual CTAHR Student Research Symposium, Honolulu, HI, USA. (*Oral presentation*)
18. Haverly N, Wasti S, Kuehu DL, Sah N, Jha R, and ***Mishra B**. (2019). The effects of environmental heat stress on the spleens of broiler chickens. 31st Annual CTAHR Student Research Symposium, Honolulu, HI, USA. (*Oral presentation*) (**Received CTAHR Best BS Student Oral Presentation Award**).
19. Sah N, Kuehu DN, Khadka VS, Jha R, and ***Mishra B**. (2018). Transcriptomic analysis of the shell gland in layers identifies novel genes in eggshell biomineralization. 2018 Poultry Science Annual Meeting, San Antonio, Texas. **Best Poster Award**
20. Kuehu, DL, Sah, N., Lee CN, Jha, R, and ***Mishra, B**. (2018). Heat stress impacts the oviduct health through altering the magnum and uterus regulation of heat shock and reactive oxidative stress genes of laying hens. American Indian Science and Engineering Society (AISES), Oklahoma City, OK. (*Poster presentation*) **Best Poster Award**
21. ***Mishra B**, Sah N, Kuehu DN, Wasti S, Khadka VS, and Jha R (2018). New mechanistic insights on egg formation in the oviduct of laying hens. 51th Annual meeting of Society for the study of Reproduction, New Orleans. (*Late Break abstract for Poster presentation*)
22. *Kaewmanee S, Boonwittaya N, Thieng-Tham J, Nitthaisong P, **Mishra B**, Yindee M, and Pinyophummin A. (2018). The fluorescence-based morphometry Computer-assisted sperm analysis has the potential to determine progeny sexed spermatozoa in both African (*Loxodonta africana*) and Asian (*Elephas maximus*) elephants. 51st Annual Meeting of Society for the study of Reproduction, New Orleans. (*Poster presentation*)

23. Kuehu DL, Sah, N, Lee CN, Jha, R, and ***Mishra B.** (2018). Effects of heat stress on the oviductal gene expression and egg qualities in the laying hen. The Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS), San Antonio, Texas. (*Poster presentation*)
24. Li L, Singh AK, **Mishra B,** and *Jha R. (2018). Effect of in ovo injection of probiotic, prebiotic and synbiotic on growth performance and gut health parameters of broiler chickens. 2018 Poultry Science Annual Meeting, San Antonio, Texas. (*Poster presentation*)
25. Sah N, Kuehu DN, Khadka VS, Jha R, and ***Mishra B.** (2018). RNA sequencing of the shell gland reveals novel genes related to calcium remodeling during eggshell formation in laying hens. CTAHR/COE Student Research Symposium. (*Oral presentation*)
26. Kuehu DL, Sah, N, Lee CN, Jha, R, and ***Mishra B.** (2018). Effects of heat stress on the oviductal gene expression and egg qualities in the laying hen. CTAHR/COE Student Research Symposium. (*Oral presentation*)
27. Wasti S, Sah N, Kuehu DL, Kim YS, Jha R, and ***Mishra B.** (2018). Expression of follistatin and myostatin in the oviduct of laying hen. CTAHR/COE Student Research Symposium. (*Poster presentation*)
28. Li, L, Singh, AK, **Mishra, B,** and *Jha, R. (2018). Effect of in ovo injection of probiotic, prebiotic and synbiotic on growth performance and gut health of broiler chickens. CTAHR/COE Student Research Symposium. (*Poster presentation*)
29. Yadav S, Singh A, Tiwari UP, **Mishra B,** and *Jha R. (2018). Cassava root chips an alternative to corn in broiler diet: effect on growth performance and gut health parameters. CTAHR/COE Student Research Symposium. (*Poster presentation*)
30. Sah N, Kuehu DN, Khadka VS, Jha R, and ***Mishra B.** (2018). RNA sequencing-based analysis of uterus specific genes regulating eggshell formation in laying hens. 18th EWC International Graduate Student Conference, Honolulu, Hawaii. (*Oral presentation*)
31. ***Mishra B,** Luderer U. (2018) Space Radiation Damages Uterine Cell Architecture in mice. 2018 NASA Human Research Program Investigators' Workshop HRP Research: The gateway to MARS, Galveston, Texas (Poster presentation)
32. ***Mishra B,** and Luderer U. (2017) Components of Space Radiation Damage Uterine Cell Architecture in Mice. 50th Annual meeting of Society for the study of Reproduction. Washington, DC, July 2017. (*Poster presentation*)
33. *Mishra B. The role of progesterone receptor signaling in the ovulatory process. Graduate Seminar of Department of HNFAS (September 06, 2017).

34. ***Mishra B**, and Luderer U. (2017) Components of Space Radiation Damage Uterine Cell Architecture in Mice. 50th Annual meeting of Society for the Study of Reproduction. Washington, DC, July 2017. (*Poster presentation*)
35. **Mishra B**, Ripperdan R Ortiz L, and *Luderer U. (2016) Iron charged particle, a component of space radiation induces ovarian tumors in mice. 49th Annual meeting of Society for the Study of Reproduction San Diego, USA, July 2016. (*Oral presentation*)
36. Michelle L, Park J, **Mishra B**, Curry TE, and *Jo M. (2016) Core binding factor beta (CBFb) is essential for female fertility in mice. 49th Annual meeting of Society for the Study of Reproduction San Diego, USA, July 2016. (*Poster presentation*)
37. **Mishra B**, Ortiz L, and *Luderer U. (2016) Space radiation causes premature ovarian failure and induces ovarian tumors in mice. NASA human research Program Investigators' Workshop Integrated Pathways to Mars, Galveston, Texas. (*Poster presentation*)
38. **Mishra B**, Ortiz L, and *Luderer U. (2015). Space irradiation causes premature ovarian failure in mice. 48th Annual meeting of Society for the Study of Reproduction Puerto Rico, USA. (*Oral presentation*)
39. **Mishra B**, Ortiz L, and *Luderer U. (2015). Charged iron particle exposure increases apoptosis and depletes ovarian follicles in mice. NASA human research Program Investigators' Workshop Integrated Pathways to Mars, Galveston, Texas. (*Poster presentation*)
40. Jo M, **Mishra B**, and *Park J. (2015). X-Linked Lymphocyte Regulated Gene 5c-like (Xlr5c-like) is a novel target of progesterone action in granulosa cells from periovulatory rats. 97th Annual Meeting and Expo of Endocrine Society's, San Diego, CA. (*Poster presentation*)
41. *Jo M, **Mishra B**, Park J. (2014). Core Binding Factor Beta Is Essential for Female Fertility in Mice. ICE/ENDO, Chicago, Illinois. (*Poster presentation*)
42. Park J, **Mishra B**, Michelle L, and *Jo M. (2014). Core binding factor beta (CBFb) is essential for female fertility in mice. 33rd Symposium in Reproductive Science and Women's Health, University of Kentucky, Lexington, Kentucky, USA. (*Poster presentation*)
43. **Mishra B**, and *Jo M. (2013). Xlr5c: A novel target and mediator of the action of progesterone receptor in rat periovulatory ovaries. 46th Annual meeting of Society for the Study of Reproduction, Montreal, Canada. (*Oral presentation*)
44. **Mishra B**, and *Jo M. (2013). Xlr5c: A novel target and mediator of the action of progesterone receptor in rat periovulatory ovaries. 32nd Symposium in Reproductive Science and Women's Health, University of Kentucky, Lexington, Kentucky, USA. (*Poster presentation*)

45. **Mishra B**, and *Jo M. (2013). Xlr5c: A novel target and mediator of the action of progesterone receptor in rat periovulatory ovaries. Postdoctoral research symposium, University of Kentucky, Lexington, Kentucky.
46. **Mishra B**, and *Jo M. (2012). Expression, regulation and function of X-linked lymphocyte regulated gene-5c (Xlr5c) in the periovulatory rat ovary” in 45th Annual meeting of Society for the Study of Reproduction, State College, Pennsylvania, USA. (*Poster presentation*)
47. **Mishra B**, and *Jo M. (2012). Expression of LH induced X-linked lymphocyte regulated gene-5c (Xlr5c) in the periovulatory rat ovary” in 31st Symposium in Reproductive Science and Women's Health, University of Kentucky, Lexington, Kentucky. (*Poster presentation*)
48. **Mishra B**, Kizaki K, Sato T, Ito A, and *Hashizume K. (2011). The role of extracellular matrix metalloproteinase inducer (EMMPRIN) in the regulation of bovine endometrial cell functions. 104th Japanese Society of Reproduction and Development, Morioka, Japan. (*Oral presentation*)
49. **Mishra B**, Kizaki K, Ushizawa K, Takahashi T, Hosoe M, Sato T, Ito A, and *Hashizume K. (2010). Expression of ADAMTS1 in the cyclic and pregnant bovine endometrium. 103rd Japanese Society of Reproduction and Development, Towada, Japan. (*Oral presentation*)
50. **Mishra B**, Kizaki K, Koshi K, Ushizawa K, Takahashi T, Hosoe M, Sato T, Ito A, and *Hashizume K. (2010). Differential expression of EMMPRIN regulates endometrial remodeling during early pregnancy in cow. 43rd Annual Meeting of Society for the Study of Reproduction, Milwaukee, Wisconsin, USA, 2010.
51. **Mishra B**, Kizaki K, Ushizawa K, Takahashi T, Hosoe M, Sato T, Ito A, and *Hashizume K. (2009). Expression of extracellular matrix metalloproteinase inducer during bovine pregnancy. 102nd Japanese Society of Reproduction and Development, Nara, Japan.
52. **Mishra B**, Kizaki K, Ushizawa K, Takahashi T, Hosoe M, Sato T, Ito A, and *Hashizume K. (2008). Expression of extracellular matrix metalloproteinase inducer (EMMPRIN) and its related extracellular matrix degrading enzymes in the bovine endometrium during the estrous cycle. 146th Japanese Society of Veterinary Medicine, Miyazaki, Japan.

Refereed Journal Publications

In the publication list, the * sign indicates the corresponding author

Published manuscripts

1. Wasti S, Sah N, Singh AK, Lee CN, Jha R, and ***Mishra B**. (2021). Dietary Supplementation of Alpha-lipoic Acid Mitigates the Negative Effects of Heat Stress in Broilers. *PLOS ONE* 16(7): e0254936.

2. Xu R, Zhu H, Qin N, Xu X, Sun X, Chen V, Zhao J, and ***Mishra B.** (2021). LATS2 regulates the homeostasis of prehierarchical follicle development via the Hippo pathway in hen ovary. *Poultry Science* 100:101454.
3. Singh AK, Iwari UP, **Mishra B,** and *Jha R. (2021). Effects of in ovo delivered xylo- and mannan- oligosaccharides on growth performance, intestinal immunity, cecal short-chain fatty acids, and cecal microbiota of broilers. *Journal of Animal Science and Biotechnology* 12:98 (Accepted).
4. Singh AK, **Mishra B,** Bedford MR, and *Jha R. (2021). Effects of supplemental xylanase and xylooligosaccharides on production performance and gut health variables of broiler chickens. *Journal of Animal Science and Biotechnology* 12:98.
5. Sah N, Kuehu D, Khadka VS, Deng Y, Jha R, Wasti S, and ***Mishra B.** (2021). RNA sequencing-based analysis of the magnum tissues revealed the novel genes and biological pathways involved in the egg-white formation in the laying hen. *BMC Genomics* 22:318.
6. Wasti S, Sah N, Singh AK, Lee CN, Jha R, and ***Mishra B.** (2021). Dietary supplementation of Dried Plum: A novel strategy to mitigate heat stress in broiler chickens. *Journal of Animal Science and Biotechnology* 12:58.
7. Yadav S, Caliboso KD, Nanquil JE, Zhang J, Kae H, Neupane K, and **Mishra B,** and *Jha R. (2021). Cecal microbiome profile of Hawaiian feral chickens and pasture-raised broiler (commercial) chickens determined using 16S rRNA amplicon sequencing. *Poultry Science* 100:101181.
8. Wasti S, Sah N, and ***Mishra B.** (2020). Impact of Heat Stress on Poultry Health and Performances, and Potential Mitigation Strategies. *Animals*, 10, 1266.
9. Wasti S, Sah N, Kuehu DN, Kim YS, Jha R, and ***Mishra B.** (2020). Expression of follistatin is associated with egg formation in the oviduct of laying hens. *Animal Science Journal* 91(1), e13396.
10. **Mishra B,** and *Luderer U. (2019) Reproductive Hazards of Space Travel in Women and Men. *Nature Reviews Endocrinology* 15:713–730. (**Impact Factor: 28.08**)
11. Zhu H, Qin N, Xu X, Sun X, Chen X, Zhao J, *Xu R, ***Mishra B.** (2019). Synergistic inhibition of csal1 and csal3 in granulosa cell proliferation and steroidogenesis of hen ovarian prehierarchical development. *Biology of Reproduction*, 1–15
12. Yadav S, **Mishra B,** and *Jha R (2019). Cassava (*Manihot esculenta*) root chip inclusion in the diets of broiler chickens: effects on growth performance and gut health parameters. *Poultry Science* 98 (9), 4008-4015.
13. MS Ali, B Mishra, AH Swapon, *Yamaguchi M (2019). Successively expressed cuticular protein genes at the prepupal stage in wing discs of Bombyx mori. *The Journal of Basic and Applied Zoology* 80 (1), 1-11.

14. Sah N, Kuehu DN, Khadka VS, Deng Y, Peplowska K, Jha R, and ***Mishra B.** (2018). RNA sequencing-based analysis of the laying hen uterus revealed the novel genes and biological pathways involved in eggshell biomineralization. *Scientific Reports* 8:16853.
15. Sah N, and ***Mishra B.** (2018). Regulation of egg formation in the oviduct of laying hen. *World's Poultry Science Journal*, 74(3), 509-522.
16. **Mishra B,** Ortiz L, and *Luderer U. (2018) Charged iron particles, typical of space radiation, induce ovarian tumors in mice. *Radiation Research* 190(2):142-150.
17. Xu XX, **Mishra B,** Qin N, Sun X, Zhang SM, Yang JZ, and *Xu RF (2018). Differential transcriptome analysis of early postnatal developing longissimus dorsi muscle from two pig breeds characterized in divergent myofiber traits and fatness. *Animal Biotechnology* 22:1-12.
18. *Ali MS, and **Mishra B.** (2018). Ecdysone Receptor Binds the Promoter of the CPR28 Gene and Regulates its Expression. *J Mol Cell Biol Forecast.* 1(1): 1004.
19. *Ali MS, Hossain TM, and Mishra B. (2018). Transcriptional Profiling Shows that BHR4 and E74A Are the Regulators of CPH33 and CPH34 Gene Expression. *Journal of Advances in Molecular Biology*, 2 (1): 1-8.
20. **Mishra B,** Ripperdan R, Ortiz L, and *Luderer U. (2017) Charged oxygen particles, typical of space radiation, induce premature ovarian failure in mice. *Reproduction* 154:123–133.
21. **Mishra B,** Ortiz L, and *Luderer U (2016) Charged iron particles, typical of space radiation, induce ovarian failure in mice. *Human Reproduction* 31(8):1816-26.
22. Michelle L, Park J, **Mishra B,** Curry TE, and *Jo M. (2016) Core binding factor beta (CBFb) is essential for female fertility in mice. *Molecular Endocrinology* 30: 733–747.
23. *Ali MS, **Mishra B,** Polan MS, Ninagi O, Swapon AH. (2016) Regulation Studies of a Cuticle Protein Underlying Genomic Analysis. *International Journal of Molecular Genetics and Gene Therapy.* 1(2): doi <http://dx.doi.org/10.16966/2471-4968.104>.
24. **Mishra B,** Park JY, Wilson K, and *Jo M. (2015) X-linked lymphocyte-regulated gene-5c (Xlr5c): A novel target and mediator of the action of progesterone receptor in rat periovulatory ovaries. *Molecular and Cellular Endocrinology* 412:226-38.
25. *Ali MS, **Mishra B,** Rahman RF, and Swapon AH. (2015) The silkworm *Bombyx mori* cuticular protein 4CPR55 gene is regulated by the transcription factor 5bFTZ-F1. *The Journal of Basic and Applied Zoology* 73:20-27.
26. *Paul AK, and **Mishra B.** (2014) Reproductive Physiology of Buffalo (*Bubalus bubalis*) and exogenous control. *Burapha University International Conference Proceeding*, Burapha University, Thailand, 24-31.
27. **Mishra B,** Koshi K, Kizaki K, Ushizawa K, Takahashi T, Hosoe M, Sato T, Ito A, and *Hashizume K. (2013) Expression and hormonal regulation of *ADAMTS1* in the bovine endometrium during gestation. *Domestic Animal Endocrinology* 45: 43-48.

28. **Mishra B**, Kizaki K., Sato T, Ito A, and *Hashizume K. (2012) The role of extracellular matrix metalloproteinase inducer (EMMPRIN) in the regulation of bovine endometrial cell functions. *Biology of Reproduction* 87: 1-8.
29. **Mishra B**, Kizaki K, Koshi K, Ushizawa K., Takahashi T, Hosoe M, Sato T, Ito A, and *Hashizume K. (2012) Expression of extracellular matrix metalloproteinase inducer (EMMPRIN) and its expected roles in the bovine endometrium during gestation. *Domestic Animal Endocrinology* 42: 63-73.
30. **Mishra B**, Kizaki K, Koshi K, Ushizawa K, Takahashi T, Hosoe M, Sato T, Ito A, and *Hashizume K. (2010) Expression of extracellular matrix metalloproteinase inducer (EMMPRIN) and its related extracellular matrix-degrading enzymes in the endometrium during the estrous cycle and early gestation in cattle. *Reproductive Biology and Endocrinology* 8:60.
31. ***Mishra B**, *Alam MGS., Khandokar M, Mazumder S, Munsu MN. (2010) Qualities of goat semen in Tris-Citrate-Glucose extender containing glutathione. *Bangladesh Veterinarian* 27: 46-55.
32. **Mishra B**, Kizaki K., Ushizawa K, Takahashi T, Hosoe M, Sato T, Ito A, and *Hashizume K. (2008) Role of matrix metalloproteinases in the endometrial remodeling during implantation in the cow. 15th International Congress on Biotechnology in Animal Reproduction 35-43.
33. *Alam MGS, Yeasmin S, Yeasmin FB, **Mishra B**. (2005) The effect of duration of preservation on the quality of chilled bull semen. *The Bangladesh Veterinarian* 22: 16-22.

Submitted or in-preparation for publications

34. Adnan M, Lee CN, and ***Mishra B**. (2021). Adverse effects of phytoestrogens on reproductive paradigms. *Submitted to Veterinary Medicine and Animal Sciences*.
35. Mishra R, **Mishra B**, Kim YS, and *Jha R. (2021). Practices and issues of molting programs for laying hen. *Submitted to British Poultry Science*.
36. Narushin VG, Romanov MN, **Mishra B**, and *Griffin DK (2021). Egg Quality Parameters: Mathematical Evolution of Volume and Surface Area of Avian Eggs. *Submitted to The New York Academy of Sciences*.
37. Tiwari UP, Mandal RK, Neupane K, Mishra B, and ***Jha R** (2021). Starchy and fibrous feedstuffs differ in their in vitro digestibility and fermentation characteristics and differently modulate the gut microbiota of pigs. *Submitted to Journal of Animal Science and Biotechnology*.

MENTORING AND COMMITTEE MEMBERS:

Category	Number of Students	Number that Graduated
Chair of Master committees	5	3
Member of Master committees	5	3
Chair of PhD committees	1	0
Member of PhD committees	4	4
Visiting scholar's and graduate students research advisor	4	3
Undergraduate advisor	13	4

RESEARCH AWARDS TO MENTEES:

- 2020
- 2020 Poultry Science Association (PSA) Hatchery Student of The Year award to Mentee (Sanjeev Wasti)
- 2019
- PSA Best Poster Presentation Award to Mentee (Sanjeev Wasti)
 - UROP award to mentee (Angeline Lee)
 - 2019 CTAHR's Best Undergraduate Student Presentation to Mentee (Sabrina Nicole)
 - 2019 CTAHR's Food System, Security and System category winner among Undergraduate Student Presentation to Mentee (Sabrina Nicole)
- 2018
- PSA Best Poster Presentation Award to Mentee (Nirvay Sah)
 - PSA Graduate Student Travel award to Mentee (Nirvay Sah)
 - First place in Graduate students Poster competition, The American Indian Science and Engineering Society (AISES 2018) to Mentee (Donna Lee Kuehu)
 - AISES 2018 Graduate student Travel Award to Mentee (Donna Lee Kuehu)

Mentor / Committee Chair (*on progress)

Chair of Graduate students' thesis committee (Total 6)		
Students	Enrollment	Research
Nirvay Sah	MS in Animal Science (1/2017-12/2019)	Transcriptional regulation of egg formation in the oviducts of laying hen
Sanjeev Wasti	MS in Animal Science (1/2018- 5/2020)	Nutritional reprogramming to mitigate heat-stress in poultry
Bindu Adhikari	MS in Animal Science (1/2019- present)	RNA-Sequencing based analysis of bovine endometrium during the maternal recognition of pregnancy
*Mahfuz Rahman Adnan	MS in Animal Science (1/2020- present)	Defects in uterine gene expression leading to infertility in cattle
*Ajay Chaudhary	MS in Animal Science (8/2021- present)	Mitigation of heat stress in poultry using Microalgae

*Sadid Al Amaz	PhD in Nutritional Sciences; Animal Science Track (8/2021-present)	Mitigation of heat stress in poultry using Thermomodulation
Undergraduate students (Total 16)		
Destiny Apilado	Summer student 2018, INBRE program, Leeward Community College	Expression of GnRHR in the oviduct of laying hens
Valeria Alicea-Colon	Summer student 2018, INBRE program, Leeward Community College	Expression of GnRHR in the oviduct of laying hens
Anna Micah Ang	Summer student 2018, INBRE program, Leeward Community College	Effects of heat stress on the liver of laying hen
Marian Houle	Summer student 2018, INBRE program, Leeward Community College	Effects of heat stress on the liver of laying hen
Dionne Seseapasara	BS in Animal Science UH Manoa, 2019	Poultry reproduction and lab techniques
Sabrina Nicole Haverly	BS in Animal Science UH Manoa, 2019	Effects of heat stress on the spleen of broiler chicken
Angeline Lee	BS Biology major/Premed, UH Manoa, 2019	Effects of heat stress on the spleen of broiler chicken
Kayla Scott	Summer student 2019, INBRE program, Leeward Community College	Effects of heat stress on the pituitary gland of broiler chicken
Emily Rhoads	Summer student 2019, INBRE program, Leeward Community College	Effects of heat stress on the pituitary gland of broiler chicken
Kody Remington	Summer student 2019, INBRE program, Leeward Community College	Effects of heat stress on the pituitary gland of broiler chicken
Blaise DeSa	Summer student 2019, INBRE program, Leeward Community College	Effects of heat stress on the pituitary gland of broiler chicken

David Sakihara	Summer student 2019, INBRE program, Leeward Community College	Effects of heat stress on the pituitary gland of broiler chicken
Arn Nagun	Summer student 2019, INBRE program, Leeward Community College	Effects of heat stress on the pituitary gland of broiler chicken
Emani Johnson	BS in Animal Science, UH Manoa, 2020	Poultry diseases
Elena Williams	BS in Animal Science, UH Manoa, 2021	Embryo sexing in Poultry
Haley Lambert Zielomski	BS in Animal Science, UH Manoa, 2021	Effects of volcano on animal health and production
Visiting Scholars (Total 3)		
Victoria Mevel	Visiting Intern from France (08/2018-1/2019)	Alfa-lipoic acid effects on oxidative stress
Parina Pantari	Wells International School, Thailand, 2019	Basic lab techniques
Kendrick Acda	Wells International School, Thailand, 2029	Basic lab techniques

• **Graduate Students' Thesis Committee Member (Total 15)**

Students	Enrollment	Advisor
Amit Singh	PhD in Nutrition (1/2017- 8/2018)	Dr. Rajesh Jha
Alyssa MacDonald	PhD in MBBE (1/2017-5/2019)	Dr. Rajesh Jha
Anthony Mau	PhD in MBBE (1/2017-8/2019)	Dr. JP Bingham
Utsav P. Tiwari	PhD in Nutrition (1/2017- 8/2018)	Dr. Rajesh Jha
Sudhir Yadav	MS in Animal Science (1/2017- 12/2017)	Dr. Rajesh Jha
Xiaoxing Xu	MS in Animal Science (1/2017- 8/2018)	Dr. Yong-Soo Kim
Linge Li	MS in Animal Science (1/2017- 8/2018)	Dr. Rajesh Jha
Amit Singh	MS in Animal Science (1/2017- 8/2018)	Dr. Rajesh Jha
Rajeev Mishra	MS in Animal Science (1/2019- 7/2021)	Dr. Yong-Soo Kim
Sayaka Aoki	PhD in PEPS (1/2020-7/2021) As University Representative	Dr. Mohammad Arif
Ratu Serupepeli Tagivakatini	MS in Animal Science (1/2019- present)	Dr. Jenee Odani
*Gamze Boluk	PhD in PEPS (1/2020-present)	Dr. Mohammad Arif
*Mandeep Adhikari	PhD in MBBE (1/2019- present)	Dr. Yanghua He
*Razib Das	PhD in Nutrition (8/2021- present)	Dr. Rajesh Jha
*Ryan Chang	MS in Animal Science (1/2021- present)	Dr. Andre Seale

PROFESSIONAL INVOLVEMENTS:

Institutional Services at the University of Hawaii

- Vice-chair, CTAHR Faculty Senate, 2021-2022
- Research Liaison, CTAHR Faculty Senate Executive Committee, 2020-2021
- Chair, CTAHR Senate Research Committee, 2019-2020
- Member of Personnel Committee, CTAHR Faculty Senate, 2018-2019
- Member, CTAHR - Student Retention Committee 2017 - present
- HNFAS Curriculum Committee, 2018-present
- HNFAS Research Committee, 2018-present
- HNFAS Faculty Search Committee (Assistant Prof. of Genetic), 2018
- CTAHR Students' Research Symposium Committee, 2017- present
- Judge, CTAHR Students' Research Symposium 2017- present
- CTAHR new Students' orientation 2017 - present
- Agriculture and Environmental Awareness Day (Animal Science program), 2017-present
- Manoa Experience (Animal Science booth), 2017- present
- East-West Center Scholarship review panel, 2018-present
- Marshall Scholarship selection committee, 2018-present

Professional Services

A. Editorial Board Member

- Academic Editor, PLOS ONE Editorial Board (Since 2021-)
<https://journals.plos.org/plosone/static/editorial-board>
- Editorial Board Members, Reproduction and Breeding (Since 2021-)
<http://www.keaipublishing.com/en/journals/reproduction-and-breeding/editorial-board/>

B. Guest Editor of a special issue on “Recent Advancement in Poultry Egg Production and Potential Challenges.” This special issue will be published by Animals, MDPI.

https://www.mdpi.com/journal/animals/special_issues/egg_production

C. Ad-hoc peer-reviewer of scientific journals: I have been actively involved in the scientific societies and contributed to the peer-reviewed manuscript evaluation. Since I joined UHM, I have reviewed several manuscripts from highly reputed journals.

Poultry Science, Biology of Reproduction, PLOS ONE, Journal of Proteome Research, Reproduction, Theriogenology, Reproduction Fertility, and Development, Reproductive Toxicology, Frontiers in Veterinary Sciences, Animal Reproduction Science, Animal Reproduction Journal, Asian-Australasian Journal of Animal Sciences, Tropical Animal Health and Production, Journal of Advance in Veterinary Research, etc.

D. Reviewer of Grant proposal: I served as a reviewer on grant proposals for Egg Farmers of Canada.

E. USDA- Multistate Committee, NE1442: Poultry Production Systems and Well-being: Sustainability for Tomorrow: I have served as a regular USDA multistate committee member in different capacities from 2018 to date. I was also the co-host of this annual meeting in 2019 and organized the 2-days meeting at UH Manoa.

F. Scientific and Professional Society:

2018	Host, Fulbright Scholar outreach lecture at University of Hawaii
2015-2019	Future meeting committee, Society for Study of Reproduction
2015-present	NASA Human Research Symposium
2016-present	Poultry Science Association American Society of Animal Science
2015-2016	Chair, UC Irvine Postdoctoral Scholar Association (UCI-PDA)
2005-present	Nepal Veterinary Council (NVC), Nepal Nepal Veterinary Association (NVA), Nepal
2008-2011	Japanese Society of Animal Reproduction (JSAR), Japan Japanese Society of Veterinary Medicine (JSVM), Japan Society for Study of Reproduction

G. Judge of Science Fair:

- Honolulu District Science fair (2017- present).
- District Science Fair for the Hawaii Association of Independent Schools (2017- present).

RESEARCH GRANTS:

Extramural grants (\$485,762)

2022-2024	Transcriptional regulation of egg formation in the oviduct of broiler breeder hens <i>Agency:</i> USDA/NIFA- Animal Reproduction <i>Amount:</i> \$183,102 <i>Role:</i> Principal Investigator (PI), Co-PI: Rajesh Jha
2019-2022	Improvement of Reproductive efficiency of Hawaiian livestock <i>Agency:</i> Hawaii Department of Agriculture (HDOA# 67813) <i>Amount:</i> \$114,178 <i>Role:</i> PI , Co-PI: Chin N. Lee
2018-2022	Transforming all Veterinarians into Food-Animal Vets through Focused Continuing Education. <i>Agency:</i> USDA/NIFA, 2017-70024-2733 <i>Amount:</i> \$169,304

Role: Co-PI, PI: Jenee Odani

I lead the reproductive health management and poultry production parts of this project. My share is 25%

Internal funds (\$465,342)

- 2021-2022 **Nutritional programming for the mitigation of heat stress in chicken**
Agency: USDA/NIFA Multistate Research Fund
Amount: \$35,513
Role: PI, Co-PI: Rajesh Jha
- 2021-2022 **Sustainable and healthy poultry production in the post-antibiotic era.**
Agency: USDA/NIFA Multistate Research Fund
Amount: \$25,513
Role: Co-PI, PI: Rajesh Jha
- 2021-2022 **Equipment grant**
Agency: USDA/NIFA Multistate grant
Amount: \$13,000
Role: PI, Co-PI: Rajesh Jha
- 2019-2022 **Assessment of Ovarian Tumors in Cattle**
Agency: NIFA/USDA-Animal Health Fund
Amount: \$25,000
Role: PI, Co-PIs: Chin Lee and Jenee Odani
- 2019-2020 **Application of Genetic and Reproduction Technologies to Improve Hawaii
Grass-fed Beef Cattle Production**
Agency: CTAHR UH Manoa Team Science Projects
Amount: \$80,000
Role: Co-PI, PI: Jinzeng Yang
I led the uterine function parts of this project. My share was 15%
- 2019 **Travel grant**
*Agency: UH Research Faculty Travel Award (OVCR). University of Hawaii
Research Council.*
Amount: \$2,000
Role: PI
- 2018-2020 **Nutrition programming of monogastric animals using alternative feedstuffs**
Agency: USDA-Supplemental Research/Extension Fund
Amount: \$60,000
Role: Co-PI, PI: Rajesh Jha

I led the histomorphological evaluation and gene expression parts of the project.
My share was 25%

2018-2020 **Collection, evaluation, extension, and freezing of local beef semen from Mealani Research Station for Artificial insemination for Hawaii Beef Industry**

Agency: USDA-Supplemental Research/Extension Fund

Amount: \$35,000

Role: **Co-PI**, PI: Michael DuPonte

I led the semen evaluation parts of the project. My share was 20%

2018-2020 **Maternal immunization against myostatin to enhance post-hatch broiler growth and muscle mass**

Agency: USDA-Supplemental Research Fund

Amount: \$76,316

Role: **Co-PI**, PI: Yong Soo Kim

I led the gene expression and histomorphology evaluation parts of the project. My share was 20%

2018 **Equipment grant**

Agency: USDA/NIFA Multistate Fund

Amount: \$38,000

Role: **PI**, Co-PI: Yong Soo Kim

2017-2019 **Poultry Production Systems and Well-being: Sustainability for Tomorrow**

Agency: USDA/NIFA Supplemental Research grant

Amount: \$70,000

Role: **PI**, Co-PI: Dr. Rajesh Jha

Training Grants funded before the academic appointment (\$53,840)

2015-2017 **Effects of Charged Particle on the Uterus**

Agency: National Space Biomedical Research Institute (NSBRI), NASA, PF04302 (early career award)

Amount: \$50,840

Role: **PI**, Co-PI: Ulrike Luderer

2009-2010 **Role of EMMPRIN in the bovine endometrial functions**

Agency: United Graduate School of Veterinary Sciences, Gifu University, Japan

Amount: \$5,000

Role: **PI**, Co-PI: Kazuyoshi Hashizume

PRESENTATION AT THE CONFERENCES (* presenting author):

In the abstract/presentation list, the * sign indicates the presenter

1. *Jha R, Das R, **Mishra B**, and Cowieson AJ. (2021). Sources of corn and soybean meal and carbohydrase enzyme supplementation differently affect cecal volatile fatty acid production and microbiota profile in broiler chickens (Poster). PSA Virtual Annual Meeting (July 19-22, 2021).
2. *Jha R, Das R, **Mishra B**, and Cowieson AJ. (2021). Sources of corn and soybean meal and carbohydrase enzymes supplementation differently affect growth performance and nutrient digestibility in broiler chickens (Poster). PSA Virtual Annual Meeting (July 19-22, 2021).
3. Leon KN, Lawson G, **Mishra B**, Chang P, Blakely E, *Luderer U. Dose-dependent induction of epithelial ovarian tumors after mixed heavy ion irradiation. 2022 NASA Human Research Program Investigators' Workshop, Galveston, Texas. (Poster presentation)
4. ***Mishra B**. Reproductive research in farm animals. Animal Science Club, UH Manoa (November 10, 2020).
5. *Wasti S, Lee CN, Jha R, and **Mishra B**. (2020). Dietary supplementation of alpha-lipoic acid mitigates the negative effects of heat stress in poultry (Oral). PSA Virtual Annual Meeting (July 20-23, 2020).
6. *Wasti S, Lee CN, Jha R, and **Mishra B**. (2020). Dietary supplementation of alpha-lipoic acid mitigates the negative effects of heat stress in poultry. PSA Virtual Annual Meeting (July 20-23, 2020). (*Poster presentation*)
7. *Adhikari B, Lee CN, Khadka VS, Deng Y, Jha R, and **Mishra B**. (2020). RNA-sequencing-based analysis of bovine endometrium during the maternal recognition of pregnancy. SRS Virtual Annual Meeting (July 8-12, 2020). (*Poster presentation*)
8. *Mishra R, Jha R, **Mishra B**, and Kim YS (2020). Effects of maternal immunization against Myostatin on the post-hatch growth performance of their chicks. PSA Virtual Annual Meeting (July 20-23, 2020). (*Poster presentation*)
9. *Singh AK, **Mishra B**, Bedford MR, and Jha R (2020). Effects of xylanase and xylooligosaccharides supplementation on productive performance and gut health variables of broilers. PSA Virtual Annual Meeting (July 20-23, 2020). (*Poster presentation*)
10. Singh AK, **Mishra B**, and *Jha R. Early post-hatch feeding of resistant starch can influence cell-mediated immunity and gut microbiota diversity in broilers. International Poultry Scientific Forum (Jan 27-28, 2020), Atlanta, GA, USA. (*Poster presentation*)
11. *Awodele O, **Mishra B**, Chang P, Blakely E, Luderer U. (2020). Ovarian effects of space radiation in comparison to gamma radiation. NASA human research Program

- Investigators' Workshop Integrated Pathways to Mars, Galveston, Texas. (Poster presentation).
12. *Mishra B. Egg production, quality, and grading. Animal Science Club, UH Manoa (April 23, 2019).
 13. ***Mishra B**, Sah N, Kuehu DN, Wasti S, Khadka VS, and Jha R. (2019). Transcriptional regulation of albumen biosynthesis and eggshell biomineralization in the oviduct of laying hens. 2019 Poultry Science Annual Meeting, Montreal, Canada. (*Oral presentation*)
 14. *Wasti S, Sah N, Kuehu DL, Lee CN, Jha R, **Mishra, B.** (2019). Dietary supplementation of dried plum: A novel strategy to mitigate heat stress in poultry. 2019 Poultry Science Annual Meeting, Montreal, Canada. (*Poster presentation*) **Best Poster award**
 15. *Sah N, Kuehu DN, Khadka VS, Jha R, **Mishra B.** (2019). New transcriptomic insights into processes associated with the formation of egg-white in the magnum of laying hens. 2019 Poultry Science Annual Meeting, Montreal, Canada. (*Poster presentation*)
 16. Singh AK, Tiwari UP, ***Mishra B**, and Jha R. (2019). Comparative effects of in ovo injection of xylotriose, xyloetraose, mannotriose, and mannotetraose on growth performance and gut health of broilers. 2019 Poultry Science Annual Meeting, Montreal, Canada. (*Poster presentation*)
 17. Singh AK, ***Mishra B**, and Jha R. (2019). Effects of early feeding of resistant starch during post-hatch yolk dependent period on growth performance and gut health parameters of broilers. 2019 Poultry Science Annual Meeting, Montreal, Canada. *Poster presentation*
 18. Caliboso DK, Nanquil JE, Yadav S, Kae, H, Neupane K, ***Mishra B**, and Jha R. (2019). Cecal microbiota profile of Hawaiian feral chickens and pasture-raised broiler chickens. 2019 Poultry Science Annual Meeting, Montreal, Canada. (*Poster presentation*)
 19. *Kuehu, DL, Sah, N., Lee CN, Jha, R., **Mishra B.** (2019). Heat stress impacts the health of the laying hen through altering the regulation of heat shock and reactive oxidative stress genes in the liver. 31st Annual CTAHR Student Research Symposium, Honolulu, HI, USA. (*Oral presentation*)
 20. *Wasti S, Sah N, Kuehu DL, Lee CN, Jha R, **Mishra B.** (2019). Dietary supplementation of dried plum: A novel strategy to mitigate heat stress in poultry. 31st Annual CTAHR Student Research Symposium, Honolulu, HI, USA. (*Oral presentation*)
 21. *Haverly N, Wasti S, Kuehu DL, Sah N, Jha R, and **Mishra B.** (2019). The effects of environmental heat stress on the spleens of broiler chickens. 31st Annual CTAHR Student Research Symposium, Honolulu, HI, USA. (*Oral presentation*) (**Received CTAHR Best BS Student Oral Presentation Award**).

22. ***Mishra B.** Space radiation cause premature ovarian failure and ovarian epithelial tumors in mice. Graduate Seminar of Department of HNFAS (January 25, 2019).
23. ***Mishra B.** Poultry Production System: Challenges and Opportunity. INBRE Program, Leeward Community College, University of Hawaii (May 2018)
24. *Sah N, Kuehu DN, Khadka VS, Jha R, **Mishra B.** (2018). Transcriptomic analysis of the shell gland in layers identifies novel genes in eggshell biomineralization. 2018 Poultry Science Annual Meeting, San Antonio, Texas. **Best Poster Award**
25. *Kuehu, DL, Sah, N., Lee CN, Jha, R., **Mishra, B.** (2018). Heat stress impacts the oviduct health through altering the magnum and uterus regulation of heat shock and reactive oxidative stress genes of laying hens. American Indian Science and Engineering Society (AISES), Oklahoma City, OK. (*Poster presentation*) **Best Poster Award**
26. ***Mishra B,** Sah N, Kuehu DN, Wasti S, Khadka VS, and Jha R (2018). New mechanistic insights on egg formation in the oviduct of laying hens. 51th Annual meeting of Society for the study of Reproduction, New Orleans. (*Late Break abstract for Poster presentation*)
27. *Kaewmanee S, Boonwittaya N, Thieng-Tham J., Nitthaisong P, **Mishra B,** Yindee M, and Pinyophummin A. (2018). The fluorescence-based morphometry Computer-assisted sperm analysis has the potential to determine progeny sexed spermatozoa in both African (*Loxodonta africana*) and Asian (*Elephas maximus*) elephants. 51st Annual Meeting of Society for the study of Reproduction, New Orleans. (*Poster presentation*)
28. *Kuehu DL, Sah, N, Lee CN, Jha, R, **Mishra B.** (2018). Effects of heat stress on the oviductal gene expression and egg qualities in the laying hen. The Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS), San Antonio, Texas. (*Poster presentation*)
29. *Li L, Singh AK, **Mishra B,** Jha R. (2018). Effect of in ovo injection of probiotic, prebiotic and synbiotic on growth performance and gut health parameters of broiler chickens. 2018 Poultry Science Annual Meeting, San Antonio, Texas. (*Poster presentation*)
30. *Sah N, Kuehu DN, Khadka VS, Jha R, **Mishra B.** (2018). RNA sequencing of the shell gland reveals novel genes related to calcium remodeling during eggshell formation in laying hens. CTAHR/COE Student Research Symposium. (*Oral presentation*)
31. *Kuehu DL, Sah, N, Lee CN, Jha, R, **Mishra B.** (2018). Effects of heat stress on the oviductal gene expression and egg qualities in the laying hen. CTAHR/COE Student Research Symposium. (*Oral presentation*)
32. *Wasti S, Sah N, Kuehu DL, Kim YS, Jha R, **Mishra B.** (2018). Expression of follistatin and myostatin in the oviduct of laying hen. CTAHR/COE Student Research Symposium. (*Poster presentation*)

33. *Li, L, Singh, AK, **Mishra, B**, Jha, R. (2018). Effect of in ovo injection of probiotic, prebiotic and synbiotic on growth performance and gut health of broiler chickens. CTAHR/COE Student Research Symposium. (*Poster presentation*)
34. *Yadav S, Singh A, Tiwari UP, **Mishra B**, Jha R. (2018). Cassava root chips an alternative to corn in broiler diet: effect on growth performance and gut health parameters. CTAHR/COE Student Research Symposium. (*Poster presentation*)
35. *Sah N, Kuehu DN, Khadka VS, Jha R, **Mishra B**. (2018). RNA sequencing-based analysis of uterus specific genes regulating eggshell formation in laying hens. 18th EWC International Graduate Student Conference, Honolulu, Hawaii. (*Oral presentation*)
36. ***Mishra B**, Luderer U. (2018) Space Radiation Damages Uterine Cell Architecture in mice. 2018 NASA Human Research Program Investigators' Workshop HRP Research: The gateway to MARS, Galveston, Texas (Poster presentation)
37. ***Mishra B**, Luderer U. (2017) Components of Space Radiation Damage Uterine Cell Architecture in Mice. 50th Annual meeting of Society for the study of Reproduction. Washington, DC, July 2017. (*Poster presentation*)
38. ***Mishra B**, and Luderer U. (2018) Space Radiation Damages Uterine Cell Architecture in mice. 2018 NASA Human Research Program Investigators' Workshop HRP Research: The gateway to MARS, Galveston, Texas. (*Poster presentation*)
39. *Mishra B. The role of progesterone receptor signaling in the ovulatory process. Graduate Seminar of Department of HNFAS (September 06, 2017).
40. ***Mishra B**, and Luderer U. (2017) Components of Space Radiation Damage Uterine Cell Architecture in Mice. 50th Annual meeting of Society for the Study of Reproduction. Washington, DC, July 2017. (*Poster presentation*)
41. ***Mishra B**, Ripperdan R Ortiz L, and Luderer U. (2016) Iron charged particle, a component of space radiation induces ovarian tumors in mice. 49th Annual meeting of Society for the Study of Reproduction San Diego, USA, July 2016. (*Oral presentation*)
42. *Michelle L, Park J, **Mishra B**, Curry TE, and Jo M. (2016) Core binding factor beta (CBFb) is essential for female fertility in mice. 49th Annual meeting of Society for the Study of Reproduction San Diego, USA, July 2016. (*Poster presentation*)
43. ***Mishra B**, Ortiz L, and Luderer U. (2016) Space radiation causes premature ovarian failure and induces ovarian tumors in mice. NASA human research Program Investigators' Workshop Integrated Pathways to Mars, Galveston, Texas. (*Poster presentation*)
44. ***Mishra B**, Ortiz L, and Luderer U. (2015). Space irradiation causes premature ovarian failure in mice. 48th Annual meeting of Society for the Study of Reproduction Puerto Rico, USA. (*Oral presentation*)

45. ***Mishra B**, Ortiz L, and Luderer U. (2015). Charged iron particle exposure increases apoptosis and depletes ovarian follicles in mice. NASA human research Program Investigators' Workshop Integrated Pathways to Mars, Galveston, Texas. (*Poster presentation*)
46. *Jo M, **Mishra B**, and Park J. (2015). X-Linked Lymphocyte Regulated Gene 5c-like (Xlr5c-like) is a novel target of progesterone action in granulosa cells from periovulatory rats. 97th Annual Meeting and Expo of Endocrine Society's, San Diego, CA. (*Poster presentation*)
47. *Jo M, **Mishra B**, Park J. (2014). Core Binding Factor Beta Is Essential for Female Fertility in Mice. ICE/ENDO, Chicago, Illinois. (*Poster presentation*)
48. *Park J, **Mishra B**, Michelle L, and Jo M. (2014). Core binding factor beta (CBFb) is essential for female fertility in mice. 33rd Symposium in Reproductive Science and Women's Health, University of Kentucky, Lexington, Kentucky, USA. (*Poster presentation*)
49. ***Mishra B**, and Jo M. (2013). Xlr5c: A novel target and mediator of the action of progesterone receptor in rat periovulatory ovaries. 46th Annual meeting of Society for the Study of Reproduction, Montreal, Canada. (*Oral presentation*)
50. ***Mishra B**, and Jo M. (2013). Xlr5c: A novel target and mediator of the action of progesterone receptor in rat periovulatory ovaries. 32nd Symposium in Reproductive Science and Women's Health, University of Kentucky, Lexington, Kentucky, USA. (*Poster presentation*)
51. ***Mishra B**, and Jo M. (2013). Xlr5c: A novel target and mediator of the action of progesterone receptor in rat periovulatory ovaries. Postdoctoral research symposium, University of Kentucky, Lexington, Kentucky.
52. ***Mishra B**, and Jo M. (2012). Expression, regulation and function of X-linked lymphocyte regulated gene-5c (Xlr5c) in the periovulatory rat ovary" in 45th Annual meeting of Society for the Study of Reproduction, State College, Pennsylvania, USA. (*Poster presentation*)
53. ***Mishra B**, and Jo M. (2012). Expression of LH induced X-linked lymphocyte regulated gene-5c (Xlr5c) in the periovulatory rat ovary" in 31st Symposium in Reproductive Science and Women's Health, University of Kentucky, Lexington, Kentucky. (*Poster presentation*)
54. ***Mishra B**, Kizaki K, Sato T, Ito A, and Hashizume K. (2011). The role of extracellular matrix metalloproteinase inducer (EMMPRIN) in the regulation of bovine endometrial cell functions. 104th Japanese Society of Reproduction and Development, Morioka, Japan. (*Oral presentation*)
55. ***Mishra B**, Kizaki K, Ushizawa K, Takahashi T, Hosoe M, Sato T, Ito A, and Hashizume

- K. (2010). Expression of ADAMTS1 in the cyclic and pregnant bovine endometrium. 103rd Japanese Society of Reproduction and Development, Towada, Japan. (*Oral presentation*)
56. ***Mishra B**, Kizaki K, Koshi K, Ushizawa K, Takahashi T, Hosoe M, Sato T, Ito A, and Hashizume K. (2010). Differential expression of EMMPRIN regulates endometrial remodeling during early pregnancy in cow. 43rd Annual Meeting of Society for the Study of Reproduction, Milwaukee, Wisconsin, USA, 2010.
57. ***Mishra B**, Kizaki K, Ushizawa K, Takahashi T, Hosoe M, Sato T, Ito A, and Hashizume K. (2009). Expression of extracellular matrix metalloproteinase inducer during bovine pregnancy. 102nd Japanese Society of Reproduction and Development, Nara, Japan.
58. ***Mishra B**, Kizaki K, Ushizawa K, Takahashi T, Hosoe M, Sato T, Ito A, and Hashizume K. (2008). Expression of extracellular matrix metalloproteinase inducer (EMMPRIN) and its related extracellular matrix degrading enzymes in the bovine endometrium during the estrous cycle. 146th Japanese Society of Veterinary Medicine, Miyazaki, Japan.

SELECTED TRAINING:

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| 2017 | Hawai`i National Great Teachers Seminar, Hawaii |
| 2016 | Summer Apprenticeship Program, NSBRI, Houston, TX |
| 2015 | Teaching Excellence Program, University of California Irvine, CA |
| 2014 | NASA Radiation Biology User Training, Brookhaven National Laboratory, NY |
| 2009 | Training on Food Risk Assessment, National Institute of Health Science, Japan |
| 2006 | Veterinary Clinical Practices and Management, Central Veterinary Hospital, Nepal |
| 2004 | Administrative Office Management and Communication, GTI, BAU, Bangladesh |