

## **Yanghua He, Ph.D.**

Assistant Professor in Animal Genomics and Epigenomics  
Instructional Faculty (I3 rank); FTE Distribution: 60% I; 40% R; 0% E  
Department of Human Nutrition, Food and Animal Sciences (HNFAS)  
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### **SUMMARY**

The overarching goal driving my research program is to unravel the intricate interplay between genetics and environmental factors in both animals and humans. Through the application of genomic and epigenomic methodologies, I aspire to catalyze advancements that will ultimately enhance our well-being and elevate our quality of life.

My expertise in the realms of Genomics and Epigenomics has been cultivated over decades, solidifying my command over extensive Large Next Generation Sequencing (NGS) datasets, high-density genotypic and phenotypic data, and their application in unraveling the complexities of complex diseases and traits in animals and humans. Furthermore, I've honed my skills in Genome and Epigenome Editing, harnessing CRISPR-based technologies to combat Sickle Cell Disease in children at St. Jude Children's Research Hospital. This represents a formidable tool in the arsenal of the post-genomic era.

Building upon this robust foundation, I am currently spearheading multiple research initiatives at UHM. These projects encompass diverse areas such as evaluating the impact of various diets on human health disparities and scrutinizing the effects of climate fluctuations on livestock animal production. By employing cutting-edge genomic and epigenomic approaches, I'm poised to unearth novel insights that could reshape how we address these critical challenges.

The culmination of my training, experience, and ongoing research endeavors positions me at the forefront of the field. It is with great enthusiasm that I anticipate not only contributing to the advancement of scientific knowledge but also effecting tangible improvements in the lives of both animals and humans alike.

### **RESEARCH INTERESTS**

- ❖ Livestock animal production: applying genomics and epigenomics approaches as well as computational methods to improve livestock animal production;
- ❖ Diseases: utilizing high throughput sequencing datasets to elucidate the mechanisms of diseases in animals and humans and pinpoint the causal genetic variants of the disease using CRISPR-based technologies;
- ❖ Nutrigenomics: studying the mechanisms of how different diets contribute to different phenotypes (eg. obesity) based on omics data.

## **EDUCATION**

- 2012 Doctor of Philosophy:** Animal Genetics and Breeding, China Agricultural University, Beijing, China  
Dissertation: Epigenetic mechanisms of bovine mastitis
- 2009 Master of Science:** Animal Genetics and Breeding, China Agricultural University, Beijing, China  
Thesis: Association analysis of gene single nucleotide polymorphisms (SNPs) with milk production traits in Chinese Holstein
- 2006 Bachelor of Science:** Animal Science, Emphasis: Computational simulation of cashmere growth of Inner Mongolia white cashmere goats. **Minor:** Computer Science, Inner Mongolia Agricultural University, Inner Mongolia, China

## **PROFESSIONAL EXPERIENCE**

- 2021 – Present Participate in Multistate Research Projects:**
- S1086: Enhancing sustainability of beef cattle production in Southern and Central US through genetic improvement
  - NRSP8: National Animal Genome Research Program
- 2019 – Present Assistant Professor (tenure-track) of Animal Genomics:** University of Hawaii at Manoa, College of Tropical Agriculture and Human Resources, Department of Human Nutrition, Food and Animal Sciences
- Currently working on:**
- Project 1: Genetic improvements of Hawaii beef cattle using genomic approaches
  - Project 2: Epigenetic regulation during embryonic development in myostatin transgenic mice
  - Project 3: Epigenetic studies of thermal tolerance in Pacific White Shrimp
- 2019 – Present Graduate Faculty (Concurrent Position):** Animal Science Program, University of Hawaii at Manoa, College of Tropical Agriculture and Human Resources, Department of Human Nutrition, Food and Animal Sciences
- 2019 – Present Graduate Faculty (Concurrent Position):** Nutritional Sciences Program, University of Hawaii at Manoa, College of Tropical Agriculture and Human Resources, Department of Human Nutrition, Food and Animal Sciences
- 2019 – Present Graduate Faculty (Concurrent Position):** Molecular Biosciences and Bioengineering Program (MBBE), University of Hawaii at Manoa, College of Tropical Agriculture and Human Resources, Department of Molecular Biosciences and Bioengineering
- 2017 – 2019 Postdoctoral Research Associate:** St. Jude Children’s Research Hospital, Hematology Department, Memphis, Tennessee, USA
- Project: Epigenome Editing in Children’s blood disorders using CRISPR-based techniques
- 2012 – 2017 Postdoctoral Research Associate:** University of Maryland, Department of Animal and Avian Sciences, College Park, Maryland, USA
- Project 1: Identification of sputum epigenetic biomarkers of lung cancer
  - Project 2: DNA methylation landscape and regulatory elements in chicken germ stem cell differentiation
  - Project 3: Epigenetic analysis in SPF chicken lines resistant or susceptible to Marek’s disease (MD)

- Project 4: Systems Biology studies of grass-fed and grain-fed beef cattle
- 2011 – 2012** **Research Assistant:** Qingdao Agricultural University, College of Animal Science & Technology, Qingdao, China
- Project: Molecular improvements and breeding of Chinese fine wool sheep
- 2007 – 2012** **Graduate Research Assistant** (leading to a Ph.D. degree): China Agricultural University, Beijing, China
- 2006 – 2007** **Sales Representative,** Beijing Blest Biotechnology Development Co., Ltd. Beijing, China

## Honors and awards

- 2023** The UH Manoa Innovation and Impact Showcase (IIS) on Teaching Practice Nominee, UH Manoa System.
- 2023** A Faculty Travel Grant in the amount of \$2,000 from the University of Hawaii at Manoa, supporting the travel for the Plant and Animal Genome 30 Conference in San Diego, California, USA
- 2022** The UH Excellence in Teaching Award Nominee, UH System.
- 2020** A Faculty Travel Grant in the amount of \$1,700 from the University of Hawaii at Manoa, supporting the travel for the Plant and Animal Genome XXVIII Conference in San Diego, California, USA
- 2017** Shaffner Award, **First Place** Presentation of Research in Poultry, 31st Annual Symposium, Department of Animal and Avian Sciences, University of Maryland, USA
- 2015** Travel fellowship with International Plant & Animal Genome Conference XXIII. Animal Epigenetics workshop, San Diego, CA, USA
- 2014** Travel scholarship with 10th International Symposium on Marek’s Disease and Avian Herpesviruses. East Lansing, MI. USA
- 2012** Best Ph.D. dissertation Award with honor of China Agricultural University, China
- 2011** Research Accomplishment Award with honor of China Agricultural University, China
- 2009** Outstanding Research Award with honor in 7th national academic conference of Cattle Science Association of Chinese Animal and Veterinary Society, Nanjing city, China
- 2009** Best Paper Award for Master of Science Degree with honor of China Agricultural University, China

## Leadership experience

- 2018** **Organizing Committee and Leadership Committee:** The Conference “International Conference & Exhibition on Genome Science” in San Diego, USA
- 2018 – 2019** **Secretary:** St. Jude Toastmasters Club, Toastmasters International, St. Jude Club, Memphis, USA  
**Primary duties:** maintain all club records, manage club files, handle club correspondence and take the minutes at each club and executive committee meeting; help the president to make the club get more successes.
- 2012 – 2017** **Laboratory manager:** University of Maryland, College Park, USA  
**Primary duties:** Lab routine management and maintenance; reagents and lab equipment orders; negotiation with companies; lab environment and safety training; new members training; project progress tracking of graduate students and visiting scholars; troubleshooting of project problems; transfer work with outgoing members; installation, management, and maintenance of our computational server and storage server; edit and revise grant proposals for the supervisor.
- 2009 – 2012** **Director:** Graduate Student Council, China Agricultural University, Beijing, China

**Primary duties:** Bridging between the classmates and the Department/the University; helping with psychical and emotional constructions for the classmates; and organizing class activities.

**2002 – 2006 Secretary:** Undergraduate Student Council, Inner Mongolia Agricultural University, Hohhot city, Inner Mongolia, China

**Primary duties:** Checking the classmates and troubleshooting their problems/issues during the study and organizing class activities.

## **SCHOLARSHIP**

### **Profession Links:**

- Google Scholar Profile: <https://scholar.google.com/citations?user=7Je6gu0AAAAJ&hl=en>
- ResearchGate Profile: <https://www.researchgate.net/profile/Yanghua-He>
- ORCID: <https://orcid.org/0000-0001-6849-6493>

### **Refereed Journal Articles**

*Note:* **Bold** indicates the author's name. Asterisk (\*) stands for the equal-first author or the corresponding author.

1. **Yanghua He**, Robert L. Taylor Jr., Hao Bai, Christopher M. Ashwell, Keji Zhao, Yaokun Li, Guirong Sun, Huanmin Zhang, Jiuzhou Song. Transgenerational epigenetic inheritance and immunity in chickens that vary in Marek's disease resistance. *Poultry Science*. August 2023. <https://doi.org/10.1016/j.psj.2023.103036>.
2. Guan jue Xiang, Xi He, Belinda M. Giardine, Kathryn J. Weaver, Dylan J. Taylor, Rajiv C. McCoy, Camden Jansen, Cheryl A. Keller, Alexander Q. Wixom, April Cockburn, Amber Miller, Qian Qi, **Yanghua He**, Yichao Li, Jens Lichtenberg, Elisabeth F. Heuston, Stacie M. Anderson, Jing Luan, Marit W. Vermunt, Feng Yue, Michael E.G. Sauria, Michael C. Schatz, James Taylor, Berthold Gottgens, Jim R. Hughes, Douglas R. Higgs, Mitchell J. Weiss, Yong Cheng, Gerd A. Blobel, David Bodine, Yu Zhang, Qunhua Li, Shaun Mahony, Ross C. Hardison. Cross-species regulatory landscapes and elements revealed by novel joint systematic integration of human and mouse blood cell epigenomes. PubMed Central PMCID: [PMC10103973](https://doi.org/10.1101/2023.04.02.535219). bioRxiv: MS ID#: BIORXIV/2023/535219. doi: <https://doi.org/10.1101/2023.04.02.535219>. Accepted by *Genome Research*.
3. Mandeep Adhikari, Michael B. Kantar, Ryan J. Longman, Christopher Aguirre, Melelani Oshiro, Kyle Caires, C. N. Lee, **Yanghua He\***. Genome-wide association study for carcass weight in pasture finished beef cattle in Hawaii. *Frontiers in Genetics*. Volume 14. 2023. PubMed Central PMCID: [PMC10203587](https://doi.org/10.3389/fgene.2023.1168150). doi: 10.3389/fgene.2023.1168150
4. Jingyue Ellie Duan, Jicai Jiang, **Yanghua He\***. Editorial: Bridging (Epi-) Genomics and Environmental Changes: The Livestock Research. *Front. Genet.* 2022, 13:961232. PubMed Central PMCID: [PMC9294534](https://doi.org/10.3389/fgene.2022.961232). doi: 10.3389/fgene.2022.961232
5. Mandeep Adhikari, Ryan J Longman, Thomas W Giambelluca, C.N. Lee, **Yanghua He\***. Climate change impacts shifting landscape of the dairy industry in Hawai'i. *Translational Animal Science*, 2022. <https://doi.org/10.1093/tas/txac064>. PubMed Central PMID: [35755135](https://doi.org/10.3389/fgene.2022.961232)
6. Jose Carrillo; Ying Bai; **Yanghua He**; Yaokun Li; Wentao Cai; Derek M. Bickhart; George Liu; Scott M. Barao; Tad Sonstegard; Jiuzhou Song. Growth curve, blood parameters and carcass traits of grass-fed Angus steers. *Animal*. 2021 Oct 29;15(11):100381. PubMed Central PMID: [34757288](https://doi.org/10.1016/j.animal.2021.100381). DOI: 10.1016/j.animal.2021.100381.
7. Cunling Jia, Ying Bai, Jianan Liu, Wentao Cai, Lei Liu, **Yanghua He**, and Jiuzhou Song. Metabolic Regulations by lncRNA, miRNA, and ceRNA Under Grass-Fed and Grain-Fed

- Regimens in Angus Beef Cattle. *Front. Genet.*, 04 March 2021. PubMed Central PMCID: [PMC7969984](https://pubmed.ncbi.nlm.nih.gov/PMC7969984/). DOI: [10.3389/fgene.2021.579393](https://doi.org/10.3389/fgene.2021.579393)
8. Xi Wang, Xi Li, Sujun Wu, Kerong Shi, **Yanghua He**. DNA methylation and transcriptome comparative analysis for Lvliang Black goats in distinct feeding pattern reveals epigenetic basis for environment adaptation. *Biotechnology & Biotechnological Equipment* 2021 v.35 no.1, pp. 788-795. [Catalog7770408](https://doi.org/10.1080/00207179.2021.1914048)
  9. Qian Qi, Li Cheng, Xing Tang, **Yanghua He**, Yichao Li, Tiffany Yee, Dewan Shrestha, Ruopeng Feng, Peng Xu, Xin Zhou, Shondra M Pruettt-Miller, Ross C. Hardison, Mitchell J. Weiss, Yong Cheng. Dynamic CTCF binding directly mediates interactions among cis-regulatory elements essential for hematopoiesis. *Blood* (IF 22.113). 2021. PubMed Central PMCID: [PMC7955410](https://pubmed.ncbi.nlm.nih.gov/PMC7955410/). doi: [10.1182/blood.2020005780](https://doi.org/10.1182/blood.2020005780)
  10. Jianan Liu, Fang Liu, Wentao Cai, Cunling Jia, Ying Bai, **Yanghua He**, Weiyun Zhu, Robert W. Li, Jiuzhou Song. Diet-induced changes in bacterial communities in the jejunum and their associations with bile acids in Angus beef cattle. *Animal Microbiome* 2020; 2: 33. PubMed Central PMCID: [PMC7807434](https://pubmed.ncbi.nlm.nih.gov/PMC7807434/). doi: [10.1186/s42523-020-00051-7](https://doi.org/10.1186/s42523-020-00051-7)
  11. Hao Bai, **Yanghua He**, Yanli Lin, Qixin Leng, José A Carrillo, Jianan Liu, Feng Jiang, Jilan Chen, Jiuzhou Song. Identification of a novel differentially methylated region adjacent to ATG16L2 in lung cancer cells using methyl-CpG binding domain protein enriched genome sequencing. *Genome*. 2021. PubMed Central PMID: [33113339](https://pubmed.ncbi.nlm.nih.gov/33113339/). DOI: [10.1139/gen-2020-0071](https://doi.org/10.1139/gen-2020-0071)
  12. Hao Bai, **Yanghua He**, Yi Ding, Qin Chu, Ling Lian, Eliyahu M Heifetz, Ning Yang, Hans H Cheng, Huanmin Zhang, Jilan Chen, Jiuzhou Song. Genome-wide characterization of copy number variations in the host genome in genetic resistance to Marek's disease using next generation sequencing. *BMC Genetics*. 2020 Jul 16; 21(1):77. PubMed Central PMCID: [PMC7364486](https://pubmed.ncbi.nlm.nih.gov/PMC7364486/). doi: [10.1186/s12863-020-00884-w](https://doi.org/10.1186/s12863-020-00884-w)
  13. Ying Bai, José A. Carrillo, Yaokun Li, **Yanghua He**, Jiuzhou Song. Diet induced the change of mtDNA copy number and metabolism in Angus cattle. *Journal of Animal Science and Biotechnology*, volume 11, Article number: 84 (2020). PubMed Central PMCID: [PMC7372754](https://pubmed.ncbi.nlm.nih.gov/PMC7372754/). doi: [10.1186/s40104-020-00482-x](https://doi.org/10.1186/s40104-020-00482-x)
  14. Cicera R. Lazzarotto, Nikolay L. Malinin, Yichao Li, Ruochi Zhang, Yang Yang, **Yanghua He**, Xin Lan, Kasey Jividen, Varun Kattal, Natalia G. Kolmakova, Christopher T. Petersen, Qian Qi, Evgheni Strelcov, Samantha Maragh, Giedre Krenciute, Jian Ma, Yong Cheng, Shengdar Q. Tsai. CHANGE-seq reveals genetic and epigenetic effects on CRISPR–Cas9 genome-wide activity. *Nature Biotechnology* (IF 68.164). volume 38, (2020) PubMed Central PMCID: [PMC7652380](https://pubmed.ncbi.nlm.nih.gov/PMC7652380/). doi: [10.1038/s41587-020-0555-7](https://doi.org/10.1038/s41587-020-0555-7)
  15. **Yanghua He**, Bo Han, Yi Ding, Huanmin Zhang, Li Zhang, Chunfang Zhao, Ning Yang, and Jiuzhou Song. *LincGALMD1* regulates viral gene expression in the chicken. *Frontiers in Genetics*, 10:1122. 2019 doi: [10.3389/fgene.2019.01122](https://doi.org/10.3389/fgene.2019.01122). PubMed Central PMCID: [PMC6868033](https://pubmed.ncbi.nlm.nih.gov/PMC6868033/). doi: [10.3389/fgene.2019.01122](https://doi.org/10.3389/fgene.2019.01122)
  16. Hao Bai, **Yanghua He**, Yi Ding, José A. Carrillo, Huanmin Zhang, Ramesh K. Selvaraj, Jilan Chen, Jiuzhou Song. Allele-Specific Expression (ASE) and Differential Expression (DE) of CD4+ T Cells in response to Marek's Disease Virus Infection. *Genes* 2019, 10, 718; PubMed Central PMCID: [PMC6770979](https://pubmed.ncbi.nlm.nih.gov/PMC6770979/). doi: [10.3390/genes10090718](https://doi.org/10.3390/genes10090718)
  17. Yaokun Li, José A. Carrillo, Yi Ding, **Yanghua He**, Chunping Zhao, Jianan Liu, Linsen Zan, Jiuzhou Song. DNA methylation, microRNA expression profiles and their relationships with transcriptome in grass-fed and grain-fed Angus Cattle rumen tissue. *PLoS One*. 2019 Oct 17;14(10): e0214559. PubMed Central PMCID: [PMC6797229](https://pubmed.ncbi.nlm.nih.gov/PMC6797229/). doi: [10.1371/journal.pone.0214559](https://doi.org/10.1371/journal.pone.0214559)
  18. Hao Bai, **Yanghua He**, Yi Ding, Shuang Chang, Huanmin Zhang, Jilan Chen, Jiuzhou Song. Parent-of-origin has no detectable effect on survival days of Marek's disease virus infected White Leghorns. *Poultry Science*. 2019 Oct 1;98(10):4498-4503. PubMed Central PMID: [31076761](https://pubmed.ncbi.nlm.nih.gov/31076761/). doi: [10.3382/ps/pez209](https://doi.org/10.3382/ps/pez209).

19. Lingyang Xu, **Yanghua He\***, Yi Ding, George E. Liu, Huanmin Zhang, Hans H. Cheng, Robert L. Taylor Jr, Jiuzhou Song. Genetic assessment of inbred chicken lines indicates genomic signatures of resistance Marek's disease. *Journal of Animal Science and Biotechnology*. December 2018, 9:65. PubMed Central PMCID: [PMC6136188](#)
20. **Yanghua He**, Qisheng Zuo, John Edwards, Keji Zhao, Jinzhi Lei, Wentao Cai, Qing Nie, Bichun Li, and Jiuzhou Song. DNA Methylation and Regulatory Elements during Chicken Germline Stem Cell Differentiation. *Stem Cell Reports* (IF 7.294). Cell Press. 2018 Jun 5; 10(6): 1793–1806. PubMed Central PMCID: [PMC5989647](#)
21. Bo Han, **Yanghua He\***, Li Zhang, Yi Ding, Ling Lian, Chunfang Zhao, Jiuzhou Song, and Ning Yang. Long intergenic non-coding RNA *GALMD3* in chicken Marek's disease. *Scientific Reports*. 2017 Aug 31;7(1):10294. PubMed Central PMCID: [PMC6868033](#)
22. Lingyang Xu, **Yanghua He\***, Yi Ding, Guirong Sun, Jose Carrillo, Yaokun Li, Mona Ghaly, Li Ma, Huanmin Zhang, George Liu, Jiuzhou Song. Characterization of copy number variation's potential role in Marek's Disease. *International Journal of Molecular Sciences*. 2017, 18(5), 1020; PubMed Central PMCID: [PMC5454933](#)
23. Tahir Usman, Yachun Wang, Chao Liu, **Yanghua He**, Xiao Wang, Yichun Dong, Hongjun Wu, Airong Liu, Ying Yu. Novel SNPs in IL-17F and IL-17A genes associated with somatic cell count in Chinese Holstein and Inner-Mongolia Sanhe cattle. *Journal of Animal Science and Biotechnology*. 2017. 8:5. PubMed Central PMCID: [PMC5237346](#)
24. Dong Li, **Yanghua He**, Jiuzhou Song, Yani Zhang and Bichun Li. Regulation of crucial lncRNAs in differentiation of chicken embryonic stem cells to spermatogonia stem cells. *Animal Genetics*. 2017 Apr;48(2):191-204. PubMed Central PMID: [27862128](#)
25. **Yanghua He**, Minyan Song, Yi Zhang, Xizhi Li, Jiuzhou Song, Yuan Zhang and Ying Yu. Whole-genome regulation analysis of histone H3 lysin 27 trimethylation in subclinical mastitis cows infected by *Staphylococcus aureus*. *BMC Genomics*. 2016 Aug 8; 17:565. PubMed Central PMCID: [PMC4977872](#)
26. Minyan Song, **Yanghua He**, Huangkai Zhou, Yi Zhang, Xizhi Li, Ying Yu. Combined analysis of DNA methylome and transcriptome reveal novel candidate genes relevant with susceptibility to bovine *Staphylococcus aureus* subclinical mastitis. *Scientific Reports 2016 Jul 14; 6:29390*. PubMed Central PMCID: [PMC4944166](#)
27. José A. Carrillo, **Yanghua He**, Yaokun Li, Richard A. Erdman, Tad Sonstegard, Jiuzhou Song. Integrated metabolomic and transcriptome analyses reveal finishing forage affects metabolic pathways related to beef quality and animal welfare. *Scientific Reports* 2016 May 17; 6:25948. PubMed Central PMCID: [PMC4869019](#)
28. **Yanghua He**, Yi Ding, Fei Zhan, Huanmin Zhang, Gangqing Hu, Keji Zhao, Ning Yang, Jiuzhou Song. The conservation and signatures of lincRNAs in Marek's disease of chicken. *Scientific Reports*, 2016 Jan 27;6:19422. PubMed Central PMCID: [PMC4728745](#)
29. Nan Liu, J. N. He, W. M. Yu, Kaidong Liu, Ming Cheng, Jifeng Liu, **Yanghua He**, Jinshan Zhao, X. X. Qu. Transcriptome analysis of skeletal muscle at prenatal stages in Polled Dorset versus Small-tailed Han sheep. *Genet Mol Res*. 2015 Feb 6;14(1):1085-95. PubMed Central PMID: [25730048](#)
30. Yaokun Li, José A. Carrillo, Jianan Liu, George Liu, **Yanghua He**, Yi Ding, Chunping Zhao, Linsen Zan, and Jiuzhou Song. Transcriptomic profiling of spleen in grass-fed and grain-fed Angus cattle. *PLoS One*. 2015 Sep 14;10(9): e0135670. PubMed Central PMCID: [PMC4569079](#)
31. José A. Carrillo, **Yanghua He**, Juan Luo, Kimberly R. Menendez, Nathaniel L. Tablante, Keji Zhao, Joseph N. Paulson, Bichun Li, Jiuzhou Song. Methylome Analysis in Chickens Immunized with Infectious Laryngotracheitis Vaccine, *PLoS One*. 2015 Jun 24;10(6): e0100476. PubMed Central PMCID: [PMC4481310](#)
32. Yaokun Li, José A. Carrillo, Yi Ding, **Yanghua He**, Chunping Zhao, Linsen Zan, and Jiuzhou



- Song. Ruminant Transcriptomic Analysis of Grass-Fed and Grain-Fed Angus Beef Cattle. *PLoS One*. 2015 Jul 21;10(7): e0134067. PubMed Central PMCID: [PMC4510587](#)
33. Apratim Mitra, Juan Luo, **Yanghua He**, Yulan Gu, Huanmin Zhang, Keji Zhao, Kairong Cui and Jiuzhou Song. Histone modifications induced by MDV infection at early cytolytic and latency phases. *BMC Genomics*. 2015 Apr 18;16(1):311. PubMed Central PMCID: [PMC4404578](#)
  34. **Yanghua He**, Jose A. Carrillo, Juan Luo, Yi Ding, Fei Tian and Jiuzhou Song. Genome-wide mapping of DNase I hypersensitive sites and association analysis with gene expression in MSB1 cells. *Front Genet*. 2014 Oct 13; 5:308. PubMed Central PMCID: [PMC4195362](#)
  35. Nan Liu, Hegang Li, Kaidong Liu, Juanjuan Yu, Ming Cheng, Wei De, Jifeng Liu, Shuyan Shi, **Yanghua He** and Jinshan Zhao. Differential expression of genes and proteins associated with wool follicle cycling. *Mol Biol Rep*. 2014 Aug;41(8):5343-9. PubMed Central PMID: [24847760](#)
  36. Xiaoshuo Wang, Yuan Zhang, **Yanghua He**, Peipei Ma, Lijun Fan, Yachun Wang, Yi Zhang, Dongxiao Sun, Shengli Zhang, Chuduan Wang, Jiuzhou Song and Ying Yu. Aberrant promoter methylation of the CD4 gene in peripheral blood cells of mastitic dairy cows. *Genetics and molecular research*. 2013 Dec 4;12(4):6228-39. PubMed Central PMID: [24338418](#)
  37. **Yanghua He**, Ying Yu, Yuan Zhang, Jiuzhou Song, Apratim Mitra, Yi Zhang, Yachun Wang, Dongxiao Sun, Shengli Zhang. Genome-wide bovine H3K27me3 modifications and the regulatory effects on genes expressions in peripheral blood lymphocytes. *Plos One*. 2012;7(6): e39094. PubMed Central PMCID: [PMC3386284](#)
  38. Jian Gao, Han-qi Zhang, Jian-zhong He, **Yanghua He**, Shu-mei Li, Rong-guang Hou, Qiao-xing Wu, Yang Gao, Bo Han. Characterization of *Prototheca zopfii* Associated with Outbreak of Bovine Clinical Mastitis in Herd of Beijing, China. *Mycopathologia*. 2012 Apr;173(4):275-81. PubMed Central PMID: [22160589](#)
  39. **Yanghua He**, Qin Chu, Peipei Ma, Yachun Wang, Qin Zhang, Dongxiao Sun, Yi Zhang, Ying Yu, Yuan Zhang. Association of bovine *CD4* and *STAT5b* single nucleotide polymorphisms with somatic cell scores and milk production traits in Chinese Holsteins. *Journal of Dairy Research*. 2011 May;78(2):242-9. PubMed Central PMID: [21435309](#)
  40. **Yanghua He**, Ying Yu, Yuan Zhang. Relationships between copy number variations and human disease and its perspective in animal disease-resistant breeding. [Article in Chinese] *HEREDITAS (Beijing)*. 2008 Nov;30(11):1385-91. PubMed Central PMID: [19073544](#)

## Extension Publications

1. Jinzeng Yang, Michael DuPonte, Douglas Vincent, Kyle Caires, **Yanghua He**, Nicole Correa, Lehua Wall, Keala Cowell, Marla Fergstrom. DNA-Based Bull Selection and Artificial Insemination for Grass-Fed Beef Cattle Production. 2020 June. <http://www.ctahr.hawaii.edu/oc/freepubs/pdf/AAS-1.pdf>

## Conference Proceedings

1. Jiuzhou Song, **Yanghua He**<sup>\*</sup>, Yi Ding, Fei Tian, Keji Zhao, Huanmin Zhang, Ying Yu, Ning Yang, Ling Lian, Juan Luo, Apratim Mitra. The Epigenetics and Plasticity of CD4<sup>+</sup> T Cells in Poultry Health. *Journal of Animal Science*, Volume 99, Issue Supplement\_3, November 2021, Page 55, <https://doi.org/10.1093/jas/skab235.098>. ASAS Annual 2021 Meeting.
2. **Yanghua He**, Ning Yang, and Jiuzhou Song. The current and future of epigenetics in poultry health. Proceeding paper. THE XXV WORLD'S POULTRY CONGRESS. Beijing, China. 2016.

3. **Yanghua He** and Jiuzhou Song. The Current and Future of Epigenetics of Marek's Disease in Chickens. The 62nd Annual National Breeders Roundtable. Breeders Roundtable, 2013 Pages 19-25

### Manuscripts Under Review/Development

1. Mandeep Adhikari, Michael B. Kantar, C. N. Lee, Ryan J Longman, Thomas W Giambelluca, **Yanghua He**<sup>\*</sup>. Unveiling Climate-Linked Genetic Markers through Genome-Wide Association for Enhanced Beef Production in Hawaiian Cattle.
2. Mandeep Adhikari, Jacey Mitchell, Michael B. Kantar, C. N. Lee, Ryan J Longman, Thomas W Giambelluca, **Yanghua He**<sup>\*</sup>. Ancestry, Divergence, and Admixture Patterns of Hawaiian Cattle.
3. Mandeep Adhikari, Michael B. Kantar, Vedbar S. Khadka, C. N. Lee, **Yanghua He**<sup>\*</sup>. SNP Microarray Data Analysis and Its Applications in Genomic Studies of Cattle.
4. Huong T. Vu, Jinzeng Yang, **Yanghua He**<sup>\*</sup>. Crosstalk Between DNA, RNA, and Histone Methylation: Implications in Health and Diseases. Submitting to *Frontiers in Genetics*.
5. Huong Vu, Jinzeng Yang, Yongjie Xu, **Yanghua He**<sup>\*</sup>. Evaluation of the Alterations in DNA Methylome Influenced by Myostatin Inhibition in Neonatal Skeletal Muscle Development. Submitting to *Frontiers in Genetics*.
6. **Yanghua He**, Qian Qi, Byoung Ryu, Chunliang Li, Yong Cheng. A novel epigenome editor. Writing the manuscript for *Nature Methods*.

### Book Chapters

1. **Yanghua He**<sup>\*</sup> and Jiuzhou Song. 2016. Book Chapter 15 Bioinformatics analysis of Epigenetics. In: Bioinformatics in Aquaculture (edited by John Liu), Blackwell Publishing, Ames, IA. ISBN10: 1118782356. ISBN13: 9781118782354. Publication date: 03 February 2017. Publication City/Country New York, United States.  
<https://onlinelibrary.wiley.com/doi/pdf/10.1002/9781118782392.ch15>

### Patents

1. **Yanghua He**, Yuan Zhang, Ying Yu. The molecular method of detecting dairy cattle with different milking performance, China Agricultural University, Application No. 201010242552.5. July 2010.

### Refereed Conference Abstracts (\*Presenter, #Corresponding Author)

1. Mandeep Adhikari<sup>\*</sup> and **Yanghua He**<sup>#</sup>. Diet-Induced Effects on Jejunum Gene Expression and Disease Incidence in Beef Cattle. International Plant & Animal Genome Conference 31. San Diego, CA, USA. January 12-17, 2024.
2. **Yanghua He**, Jiuzhou Song<sup>\*</sup>. Transgenerational epigenetic inheritance and immunity in chickens that vary in Marek's disease resistance. Poultry Science Association 2023 Annual Meeting. Philadelphia, PA, July 10-13, 2023
3. Mandeep Adhikari, Ryan J. Longman, T.W. Giambelluca, C. N. Lee, Kyle Caires, **Yanghua He**<sup>#</sup>. The Genetic Architecture of Climate Adaptation of Beef Cattle. International Plant & Animal Genome Conference 30. San Diego, CA, USA. January 13 - 18, 2023
4. Mandeep Adhikari, Ryan J. Longman, T.W. Giambelluca, C. N. Lee, Kyle Caires, **Yanghua He**<sup>#</sup>. Environmental Genome-Wide Association Reveals Climate Adaptation of Beef Cattle in Hawai'i. International Plant & Animal Genome Conference XXIX. San Diego, CA, USA. January 8 - 12, 2022, Virtual.



5. Huong Thanh Vu<sup>\*</sup>, Jinzeng Yang, and **Yanghua He<sup>#</sup>**. DNA Methylation Dynamics in Fetal-Neonatal Skeletal Muscle Influenced by Myostatin Inhibition. ANNUAL BIOMEDICAL SCIENCES SYMPOSIUM. John A. Burns School of Medicine, University of Hawaii Cancer Center. APRIL 15 – 16, 2021
6. Mandeep Adhikari<sup>\*</sup>, C.N. Lee, **Yanghua He<sup>#</sup>**. Diverse Climatic Condition of Beef Cattle Production in Hawaii. 2020 SACNAS Virtual Conference. The National Diversity in Stem. October 19-24, 2020.
7. **Yanghua He<sup>#</sup>**, Huong Thanh Vu, Yongjie Xu, Haixia Xu, Jinzeng Yang. Epigenetic mechanisms of myogenesis in myostatin transgenic mice. International Plant & Animal Genome Conference XXIII. San Diego, CA, USA. January 11 - 15, 2020
8. **Yanghua He<sup>\*</sup>**, Qian Qi, Yong Cheng. Functional Epigenetics in Erythropoiesis. Genome San Diego 2018. San Diego, CA, USA. November 26-28, 2018
9. **Yanghua He<sup>\*</sup>** and Jiuzhou Song. Epigenetic studies in Chicken Marek's Disease. 31st Annual Symposium of Department of Animal and Avian Sciences, University of Maryland, College Park, Maryland, United States. May 25, 2017
10. **Yanghua He<sup>\*</sup>**, Qisheng Zuo, Bichun Li and Jiuzhou Song. Epigenetic regulation in chicken germ stem cell differentiation. Epigenetic workshop. International Plant & Animal Genome Conference XXIII. San Diego, CA, USA. January 14-18, 2017.
11. Hao Bai, **Yanghua He<sup>\*</sup>**, Yi Ding, Huanmin Zhang, Jiuzhou Song. Allele-Specific Expression (ASE) of CD4+ T Cells in response to Marek's Disease Virus Infection. Poultry workshop. International Plant & Animal Genome Conference XXIII. San Diego, CA, USA. January 14-18, 2017.
12. **Yanghua He<sup>\*</sup>** and Jiuzhou Song. Epigenetic regulation in chicken germ stem cell differentiation. 30th Annual Symposium of Department of Animal and Avian Sciences, University of Maryland, College Park, Maryland, United States. June 3, 2016
13. Yi Ding<sup>\*</sup>, **Yanghua He**, Jose Carrillo, Huanming Zhang, Jiuzhou Song. Transcriptomic signatures of Marek's disease in immune organs. Poultry Science Association Annual Meeting. Louisville, Kentucky, United States. July 27-30, 2015
14. Bo Han<sup>\*</sup>, **Yanghua He**, Yi Ding, Li Zhang, Ning Yang, Jiuzhou Song. Identification of LincRNAs and their modeling of knockdown systems associated with chicken Marek's disease. Poultry Science Association Annual Meeting. Louisville, Kentucky, United States. July 27-30, 2015
15. **Yanghua He<sup>\*</sup>**, Huanmin Zhang, Robert L. Taylor, Jr., and Jiuzhou Song. DNA methylation patterns associated with the resistance of Marek's disease. Poultry Science Association Annual Meeting. Louisville, Kentucky, United States. July 27-30, 2015
16. **Yanghua He<sup>\*</sup>**, Bichun Li, Jose Carrillo, Yaokun Li, Jiuzhou Song. The DNA methylation landscape and regulatory elements in chicken germ stem cells differentiation. 29th Annual Symposium of Department of Animal and Avian Sciences, University of Maryland, College Park, Maryland, United States. May 28, 2015
17. **Yanghua He<sup>\*</sup>**, Huanmin Zhang and Jiuzhou Song. Differential transcriptome analysis of CD4+ T cells of chickens induced by Marek's disease virus challenge. International Plant & Animal Genome Conference XXIII. San Diego, CA, USA. January 10-14, 2015
18. Huanmin Zhang<sup>\*</sup>, Qingmei Xie, Shuang Chang, **Yanghua He**, Catherine W. Ernst, Jiuzhou Song. Vaccine Induced Differential Expressions of miRNAs at Cytolytic Stage in Chickens Resistant or Susceptible to Marek's Disease. International Plant & Animal Genome Conference XXIII. San Diego, CA, USA. January 10-14, 2015
19. **Yanghua He<sup>\*</sup>**, Minyan Song, Ying Yu. The regulatory effects of H3K27me3 on bovine mastitis susceptibility and resistance to *Staphylococcus aureus*. 34th International Society for Animal Genetics Conference. Xi'an, China. July 28-August 1, 2014.
20. **Yanghua He<sup>\*</sup>**, Yi Ding, Huanmin Zhang, Hans Cheng, Keji Zhao and Jiuzhou Song. LincRNA identification of Marek's disease in CD4+ T cells. 10th International Symposium

- on Marek's Disease and Avian Herpesviruses. East Lansing, MI. United States. July 20-23, 2014.
21. Huanmin Zhang\*, Qingmei Xie, Shuang Chang, **Yanghua He**, Catherine W. Ernst, Mohammad Heidari, Alexis Black-Pykosz, Jiuzhou Song. Differential Expression Profiling of miRNAs between Marek's Disease Resistant and Susceptible Chickens. 10th International Symposium on Marek's Disease and Avian Herpesviruses. East Lansing, MI. United States. July 20-23, 2014.
  22. **Yanghua He\***, Jose Carrillo, Juan Luo and Jiuzhou Song. Genome-wide mapping of DNase I hypersensitive sites and association analysis with gene expression in MSB1 cells. 28th Annual Symposium of Department of Animal and Avian Sciences, University of Maryland, College Park, Maryland, United States. May 29. 2014
  23. Lingyang Xu\*, Juan Luo, **Yanghua He**, George Liu, Huanmin Zhang, Hans H Cheng, Jiuzhou Song. Genome-wide assessment genetic character of inbred lines indicates selection of resistance to Marek's disease. 28th Annual Symposium of Department of Animal and Avian Sciences, University of Maryland, College Park, Maryland, United States. May 29. 2014
  24. **Yanghua He\***, Jiuzhou Song. The Current and Future of Epigenetics of Marek's Disease in Chickens. Proceedings of the 62nd Annual National Breeders Roundtable. St. Louis, Missouri. United States. May 2-3, 2013. Sponsored by: Poultry Breeders of America and U.S. Poultry & Egg Association.
  25. **Yanghua He\***, Ying Yu, and Yuan Zhang. H3K27me3 regulation in lymphocytes and the association with bovine subclinical mastitis. ISAG 33rd Conference, Cairns, Australia. 2012 July
  26. **Yanghua He\***, Ying Yu, Yuan Zhang. Genome-wide Modifications of Bovine H3K27me3 and Their Effects on Genes Expression in Peripheral Blood Lymphocytes. The 7th Annual Conference of Asian Epigenome Alliance Genome Medicine Workshop on Epigenetic(-omic)s in Diseases. April 19-22, 2012. Shanghai China
  27. **Yanghua He\***, Ying Yu, Yuan Zhang, Yi Zhang, Yachun Wang, Dongxiao Sun, Shengli Zhang. To reveal genes related to *S. aureus* mastitis of bovine based on genome-wide expression profile. 16th national academic conference of animal science and technology. May 12-17, 2011. Yangzhou, Jiangsu province. China.
  28. **Yanghua He\***, Qin Chu, Ying Yu and Yuan Zhang. Association of bovine *STAT5b* single nucleotide polymorphisms with somatic cell scores and milk production traits in Chinese Holsteins. 7th national academic conference of cattle science association of China Animal and Veterinary Society. October 15-18, 2009. Nanjing, Jiangsu province, China.
  29. **Yanghua He\***, Qin Chu, Ying Yu and Yuan Zhang. Association of bovine *CD4* single nucleotide polymorphisms with somatic cell scores and milk production traits in Chinese Holsteins. 15th national academic conference of animal science and technology. October 10-13, 2009. Yangling, Shaanxi province, China.

#### Conference Presentations and Posters (\*Presenter, #Corresponding Author)

1. Mandeep Adhikari\* and **Yanghua He#**. Diet-Induced Effects on Jejunum Gene Expression and Disease Incidence in Beef Cattle. International Plant & Animal Genome Conference 31. San Diego, CA, USA. January 12-17, 2024.
2. Jacey Mitchell\* and **Yanghua He#**. Slick Mutation Identification in Hawaii Beef Cattle. 2023 Biomedical Symposium. John A. Burns School of Medicine. University of Hawai'i. April 20-21, 2023
3. Mandeep Adhikari, Ryan J. Longman, T.W. Giambelluca, C. N. Lee, Kyle Caires, **Yanghua He#**. The Genetic Architecture of Climate Adaptation of Beef Cattle. International Plant & Animal Genome Conference 30. San Diego, CA, USA. January 13 - 18, 2023
4. Mandeep Adhikari\*, Ryan J. Longman, Thomas Giambelluca, C.N. Lee, **Yanghua He#**.

- Genetic Ancestry, Divergence, and Admixture of Beef Cattle in Hawai'i. CTAHR 3 Min Elevator Pitch. University of Hawaii at Manoa. April 19, 2022
5. Mandeep Adhikari, Ryan J. Longman, T.W. Giambelluca, C. N. Lee, Kyle Caires, **Yanghua He\***. Environmental Genome-Wide Association Reveals Climate Adaptation of Beef Cattle in Hawai'i. International Plant & Animal Genome Conference XXIX. San Diego, CA, USA. January 8 - 12, 2022, Virtual.
  6. **Yanghua He\***, *et. al.*, Epigenetic studies in Chicken Marek's Disease. 31st Annual Symposium of Department of Animal and Avian Sciences, University of Maryland, College Park, Maryland, United States. May 25, 2017
  7. **Yanghua He\***, *et. al.*, Differential expression profiles of miRNAs induced by vaccination followed by Marek's disease virus challenge at cytolitic stage in chickens resistant or susceptible to Marek's disease. In Proceedings of: International Conference of Plant and Animal Genome. San Diego, California. January 8-13, 2016
  8. **Yanghua He\***, *et. al.*, The conservation and signatures of lincRNAs in Marek's disease of chicken. In Proceedings of: International Conference of Plant and Animal Genome. San Diego, California. January 8-13, 2016
  9. **Yanghua He\***, *et. al.*, Genome-wide assessment of inbred chicken lines indicates genomic segment in Marek's Disease resistance. 35th Conference for the International Society of Animal Genetics. Salt Lake City, UT. 2016
  10. **Yanghua He\***, *et. al.*, Epigenetic regulation in chicken germ stem cell differentiation. 30th Annual Symposium of Department of Animal and Avian Sciences, University of Maryland, College Park, Maryland, United States. June 3, 2016
  11. **Yanghua He\***, *et. al.*, DNA methylation patterns associated with the resistance of Marek's disease. Poultry Science Association Annual Meeting. Louisville, Kentucky, United States. July 27-30, 2015
  12. **Yanghua He\***, *et. al.*, The DNA methylation landscape and regulatory elements in chicken germ stem cells differentiation. 29th Annual Symposium of Department of Animal and Avian Sciences, University of Maryland, College Park, Maryland, United States. May 28, 2015
  13. **Yanghua He\***, *et. al.*, LincRNA identification of Marek's disease in CD4+ T cells. 10th International Symposium on Marek's Disease and Avian Herpesviruses. East Lansing, MI. United States. July 20-23, 2014.
  14. **Yanghua He\***, *et. al.*, Genome-wide mapping of DNase I hypersensitive sites and association analysis with gene expression in MSB1 cells. 28th Annual Symposium of Department of Animal and Avian Sciences, University of Maryland, College Park, Maryland, United States. May 29, 2014
  15. **Yanghua He\***, *et. al.*, The study of genetic mechanisms in bovine mastitis. 16th national academic conference of animal science and technology. May 12-17, 2011. YangZhou, Jiangsu province. China.
  16. **Yanghua He\***, *et. al.*, Differential transcriptome analysis of CD4+ T cells of chickens induced by Marek's disease virus challenge. International Plant & Animal Genome Conference XXIII. San Diego, CA, USA. January 10-14, 2015
  17. **Yanghua He\***, *et. al.*, Genome-wide Modifications of Bovine H3K27me3 and Their Effects on Genes Expression in Peripheral Blood Lymphocytes. The 7th Annual Conference of Asian Epigenome Alliance Genome Medicine Workshop on Epigenetics(-omics) in Diseases. April 19-22, 2012. Shanghai China.
  18. **Yanghua He\***, *et. al.*, The Polymorphisms in Bovine *CD4* and *STAT5b* are Associated with SCS and Milk Production Traits in Chinese Holsteins. 15th national academic conference of animal science and technology. October 10-13, 2009. Yangling, Shaanxi province, China.

## Invited Presentations

- 2023 Yanghua He.** Genetic Diversity and Climate Adaptation of Pasture-fed Beef Cattle. College of Animal Science and Technology. China Agricultural University, Beijing, China. July 21, 2023
- 2023 Yanghua He.** Genetic Diversity and Climate Adaptation of Pasture-finished Beef Cattle in Hawaii. College of Animal Science and Technology. Northwest A&F University. Yangling, Shaanxi, China. July 13, 2023
- 2023 Yanghua He.** Genetic Diversity and Climate Adaptation of Pasture-finished Beef Cattle in Hawaii. Department Seminar, Department of Animal Science, UC Davis. January 23, 2023
- 2023 Yanghua He.** The Genetic Architecture of Climate Adaptation of Beef Cattle. Plant & Animal Genome Conference (PAG 30), San Diego, CA, USA. January 13-18, 2023.
- 2022 Yanghua He.** Critical issues and advanced animal welfare practices in cattle. 2nd World Congress on Animal Science and Veterinary Medicine – ASVM December 09-10, 2022, Virtually.
- 2022 Yanghua He.** Genetic diversity and climate adaptation of pasture-finished beef cattle in Hawai'i. NRSP-8 Meeting, San Diego, CA, USA. April 3, 2022.
- 2018 Yanghua He,** Invited Conference Presentation for the Epigenetics Workshop. The title of the talk: Functional Epigenetics in Erythropoiesis. Genome San Diego 2018. San Diego, CA, USA.

### Media Appearances

- 2020 Yanghua He et. al., UNIVERSITY of HAWAI'I NEWS,** Outstanding article on *Nature Biotechnology* as a co-author “Genome editing for children’s diseases could boost agricultural production” with the link: <https://www.hawaii.edu/news/2020/06/26/change-seq-target-gene-editing/>
- 2018 Jiuzhou Song, Yanghua He, et. al., MARYLAND FARM & HARVEST TV.** "The study of genetic variations in Angus populations shows their diversity in performance". Interviewed regarding genetic studies in Angus beef cattle. The link: <https://video.mpt.tv/video/episode-605-tuerqo/> and the segment begins at 18:10 and ends at 19:10. December 11, 2018
- 2018 Yanghua He et. al., CISION PRWeb News,** "UMD Researcher Discovers Mechanisms and Epigenetic Markers with Implications for Diseases Ranging from Cancers to Infertility" with the link: <http://www.prweb.com/releases/2018/05/prweb15452301.htm>

### Funded Grants

- Co-PI: Yanghua He. An integrated transcriptomic and epigenetic atlas of chicken embryonic stem cells. PI: Jiuzhou Song (University of Maryland). USDA NIFA AFRI Competitive Grant. PROJ NO:MD-ANSC-08253. \$650,000. 07/01/2023-06/30/2027.
- Collaborator: Yanghua He. NSF MRI: Acquisition of a Hawaii Statewide Mesonet. PI: Thomas Giambelluca (University of Hawaii at Manoa). 09/01/2021-08/31/2024. Award Abstract # 2117975. \$1,434,481.00. I serve as a collaborator to apply the data generated from this project in my research areas.
- PI: UH CTAHR Supplement Funding, FY2022-2023: “Genetic Sweeping in all Mealani Cattle” - \$47,140 allocated for hiring a Research Assistant (11 months) and acquiring research supplies.
- PI: UH CTAHR HNFAS Supplement Funding, FY2022, “Beef genotyping project”, \$10,750.44 allocated for acquiring research supplies.

- Co-PI: UH CTAHR Livestock Extension Group Funds, FY2021, "Hawaiian beef extension activities", \$1,000.
- PI: UH CTAHR HNFAS Supplement Funding, FY2021, "Beef genetics project", \$8,000.
- PI: UH CTAHR Supplement Funding, FY2021-2022, "Genetic Improvements of Hawaii Beef Cattle Using Cutting-edge Genomic Approaches", \$25,224 allocated for hiring a Research Assistant (11 months).
- Co-PI: UH CTAHR Team Science Projects, FY 2020, "Application of Genetic and Reproduction Technologies to Improve Hawaii Grass-fed Beef Cattle Production", \$8,000.
- PI: NanoString Research Grant, 1 year (2020), "MicroRNA expression patterns in skeletal muscle in the late embryonic development induced by myostatin overexpression", \$3,000.
- PI: Hatch Project, 2019, 4 years (2019-2023), "Genetic Improvements of Hawaii Beef Cattle Using Cutting-edge Genomic Approaches", Start-up funds \$150,000.

**Pending Grants**

**Title: Climate-Driven Genomic Insights For Enhancing Beef Cattle Meat Quality: A Genome-To-Phenome Approach**

Role: PI

Agency: USDA NIFA Seed Grant, the Animal Breeding and Functional Annotation of Genomes program (A1201)

Submission Date: August 10, 2023 (The third resubmission)

Funding year(s): 01/01/2024-12/31/2025

Amount: \$300,000

**Title: Tripartites: Harnessing hologenomics, host epigenetics, and metabolomics to improve the accuracy of genomic selection beef cattle**

Role: co-PI

Agency: USDA NIFA Standard Grant, the Animal Breeding and Functional Annotation of Genomes program (A1201)

A collaborative project with Ireland and Northern Ireland under the U.S.-Ireland Research and Development Partnership

Submission Date: August 7, 2023

Funding year(s): 01/01/2024-12/31/2027

Amount: \$650,000

**Title: Uncovering Genetic Markers of Thermal Tolerance in Pacific white shrimp**

Role: PI

Agency: Center for Tropical and Subtropical Aquaculture (CTSA)

Collaborate with the Oceanic Institute of Hawai'i Pacific University (OI)

Submission Date: October 20, 2023

Funding year(s): 01/01/2024-12/31/2025

Amount: \$100,000

**TEACHING**

**Courses Taught**

*University of Hawai'i at Manoa*

Course Number	Course Title	Credits	Avg. Enrolled No.	Term Offered
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ANSC 200	Humans, Animals & Agriculture	3 credits	55	Every Fall semester
ANSC 201	Principal & Practice of Animal Science II	3 credits	55	Every Spring semester
ANSC 387	Lab Skills in Animal Science	2 credits	18	Every Fall semester
ANSC 445	Genetics and Animal Breeding	3 credits	32	Every Spring semester
ANSC/FSHN/MBBE 650	DNA and Genetic Analysis	3 credits	19	Every Fall semester
FSHN 681	Departmental Graduate Student Seminar	1 credit	25	Every Spring semester
ANSC/FSHN/MBBE499	Directed Research	TBD	NA	All semesters
ANSC/FSHN/MBBE699	Directed Research	TBD	NA	All semesters

### Teaching training and development

- Actively engaged in 13 workshops facilitated by UH CTE (Center for Teaching Excellence).
- Actively participated in the UH H5P Programs and Pathways offered by the UH Online Innovation Center (UHOIC) to acquire innovative teaching skills in the past year.
- Underwent Classroom Observation by UH CTE staff in Spring 2022, yielding a valuable professional evaluation of my teaching ability.

### Badges earned

Certificate in Effective Instruction concentrated on:

- Promoting Active Learning Online;
- Inspiring Inquiry and Lifelong Learning in Your Online Course;
- Creating an Inclusive and Supportive Online Learning Environment;
- Designing Learner-Centered and Equitable Courses.

### Association of College and University Educators (ACUE)

[The year 2022 credential was issued]

Credential URL: <https://api.badgr.io/public/assertions/EnZVF7i4Q-GhUba4wDBtOg>

This certificate proudly showcases my dedicated accomplishment of successfully completing a rigorous 25-module course spanning an entire year. Throughout this intensive journey, I've immersed myself in the realm of effective teaching practices, diligently applying evidence-based instructional approaches. This esteemed credential bears the joint endorsement of the American Council on Education, a testament to my unwavering dedication to achieving educational excellence and fostering student success.

### Invited Lectures

**2022** Invited talk at the New Faculty Orientation, Fall 2022 August 17-18, University of Hawaii at Manoa, HI, USA



- 2021 Yanghua He**, Invited lecture and discussion on “Nutrigenomics” for course ANSC 642: Advanced Animal Nutrition. Instructor: Dr. Rajesh Jha, University of Hawaii at Manoa, HI, USA
- 2019 Yanghua He**, Invited lecture and discussion on “Careers in Animal Genetics” for course ANSC 200 class (Humans, Animals and Agriculture). Instructor: Danita Dahl, University of Hawaii at Manoa, HI, USA
- 2019 Yanghua He**, Invited lecture and discussion on “Epigenetics and Obesity” for course FSHN 488 class (Obesity: Science and Issues). Instructor: Carolyn Donohoe-Mather, MAS, RDN, IBCLC, University of Hawaii at Manoa, HI, USA
- 2019 Yanghua He**, Invited lecture and discussion on “Nutritional Epigenetics” for course ANSC/FSHN 601 class (Introduction to Food Systems). Instructor: Danita Dahl, University of Hawaii at Manoa, HI, USA
- 2019 Yanghua He**, Invited lecture and discussion on “Epigenetic Therapeutics: A New Weapon in Metabolic Diseases” for course ANSC641/FSHN681 class (HNFAS graduate seminar). Instructor: Birendra Mishra, Ph.D., University of Hawaii at Manoa, HI, USA
- 2019 Yanghua He**, Invited lecture and discussion on “Epigenetics and Nutritional Diseases” for course FSHN 685 class (Nutrition and Disease: Cellular and Molecular Aspects). Instructor: C. Alan Titchenal, PhD, CNS, University of Hawaii at Manoa, HI, USA
- 2017 Yanghua He**, as a teaching assistant to teach part 2 of Module 1: Chromatin, Epigenetics, and noncoding RNA; Graduate school, St. Jude Children's Research Hospital
- 2016 Yanghua He**, Invited lecture on *Epigenetic Data Analysis* for graduate students in the class of *BIOM688 Statistic Genomics*. Instructor: Prof. Jiuzhou Song, University of Maryland, College Park, MD, USA
- 2015 Yanghua He**, Teaching assistant for an undergraduate course, one chapter of *ANSC435 Experimental embryology* with Prof. Carol L. Keefer, University of Maryland, USA
- 2009 Yanghua He**, Teaching assistant for the undergraduate course, *Animal Genetics and breeding* with Prof. Yuan Zhang, China Agricultural University, China
- 2008 Yanghua He**, Teaching assistant for undergraduate course, *Biostatistics* with Prof. Yachun Wang, China Agricultural University, China

### Advanced Courses attended

- 2017** ‘*Mixed Model Methods for Genomic Selection*’ lectured by Prof. Yang Da from the University of Minnesota. Organized by the University of Maryland, USA.
- 2015** ‘*Bayesian GLMs for genetic association studies and a series of lectures*’ lectured by Prof. Nengjun Yi from the University of Alabama at Birmingham. Organized by the University of Maryland, USA.
- 2011** ‘*Implement of Genomic selection and Genomic data analysis*’ lectured by Prof. Henner Simianer from Georg-August-University Goettingen. Organized by China Agricultural University, Beijing, China.

### Student Advisement

<i>Student Advisement on Research as the Advisor</i>			
<i>Student</i>	<i>Year</i>	<i>Level, Program</i>	<i>Status</i>
Angela Camino	2023-present	Undergraduate, MBBE	In progress

Casey Ku	2023-present	Undergraduate, Molecular Cell Biology	In progress
Jacey Mitchell	2022-present	Undergraduate, Molecular Cell Biology	In progress
Samantha Bayer-Grimes	2022 Fall	Undergraduate for the internship, ANSC	Done
Natalie Deans	2022-present	Master student, ANSC	In progress
Brock Wetzlich	2022 Spring	PhD student, MBBE	Done
Mandeep Adhikari	2020-present	PhD student, MBBE	In progress
Huong Thanh Vu	2019-2022	Master student, MBBE	Done
Christopher Aguirre	2022 Spring	Undergraduate for the internship, MBBE	Done
Irene Liang	2019-2020	Undergraduate for the internship, ANSC	Done
<b><i>Student Advisement on Research as a Committee Member</i></b>			
Jana Phipps	2022-present	PhD student, Nutritional Sciences	In progress
Cody Clifton	2022-present	PhD student, Nutritional Sciences	In progress
Taylor Peterson	2022-present	Master student, ANSC	In progress
Brock Wetzlich	2022-present	PhD student, MBBE	In progress
Emily Conklin	2020-present	PhD student, Marine Biology	In progress
Donna Lee (Sweetie) Kuehu	2019-2022	PhD student, MBBE	Done

## **PROFESSIONAL SERVICE**

### **Service to the Profession**

**2020 – present** Guest Editor for a Special Issue "Climate Change and Animal Genetics and Breeding" for the Journal *Animals* (ISSN 2076-2615)

**2020 – present** Guest Editor for a Research Topic "Bridging (Epi-) Genomics and Environmental Changes: the Livestock Research" on the Journal *Frontiers in Genetics*

**2020 – present** Editorial Board for *Journal of Genome Research and Genetic Therapies*

**2019 – present** Editorial Board for *Annals of Carcinogenesis*

**2019 – present** Editorial Board for *Neurophysiology and Rehabilitation journal*

**2018 – present** Editorial Board for *Current Genomics* (IF 2.342)  
**2017 – present** Editorial Board for *The Scientific Pages of Bioinformatics*  
**2017 – present** Editorial Board for *Journal of Bacteriology and Vaccine Research*  
**2017 – present** Editorial Board for *Virology & Retrovirology Journal*  
**2016 – present** Editorial Board for *SM Journal of Family Medicine*  
**2016 – present** Editorial Board for *Austin Immunology*  
**2016 – present** Editorial/reviewer Board for *Scientific Pages of Immunology*  
**2016 – present** Editorial Board for *Insights in Genetics and Genomics*  
**2016 – present** Editorial Board for *The Scientific Pages of Health Care*  
**2016 – present** Editorial/Reviewer Board for *Scientific Pages of Agricultural Technologies*  
**2020 – present** Reviewer for *Functional & Integrative Genomics* (IF 3.19)  
**2019 – present** Reviewer for *Frontier in Genetics* (IF 3.789)  
**2019 – present** Reviewer for *Microbial Pathogenesis* (IF 2.581)  
**2019 – present** Reviewer for *Veterinary Research* (IF 1.792)  
**2018 – present** Reviewer for *Poultry Science* (IF 2.216)  
**2017 – present** Reviewer for *Oncotarget* (IF 5.008)  
**2017 – present** Reviewer for *Scientific Reports* (IF 4.259)  
**2017 – present** Reviewer for *Gene* (IF 2.319)  
**2017 – present** Reviewer for *BMC Genetics* (IF 2.266)  
**2017 – present** Reviewer for *Research in Veterinary Science* (IF 1.46)  
**2016 – present** Reviewer for *Electronic Journal of Biotechnology* (IF 2.894)  
**2016 – present** Reviewer for *PeerJ* (IF 2.183)  
**2018 – present** Member of The Epigenetics Society  
**2017 – present** Member of AAAS/Science Program  
**2019 – present** Member of AMERICAN GRASSFED ASSOCIATION  
**2021 – present** Member of American Society of Animal Science (ASAS)  
**2022 – present** Member of Hawaii Cattlemen’s Council, Inc.  
**2020, Summer Grant Reviewer** for The Agence Nationale De La Recherche (ANR) 2020 generic call of the National Research Agency, France  
**2021, Summer Grant Reviewer** for The Agence Nationale De La Recherche (ANR) 2021 generic call of the National Research Agency, France

**Service to the University**

***University of Hawai’i at Manoa***

<i>Year</i>	<i>Role</i>	<i>Agency</i>
07/2020 – present	FACULTY SENATOR	College of Tropical Agriculture and Human Resources, UH Manoa
08/2019 - present	Research Committee panel	Department of Human Nutrition, Food and Animal Sciences

**Outreach Activities**

- Support the Annual Biomedical Sciences & Health Disparities Symposium hosted by UH Medical School as a judge
- Support the CTE Honors Showcase Day from Waipahu High School as a judge
- Help students from Iolani high school to address some academic questions