

XU WANG, Ph.D.

CURRICULUM VITAE

Xu Wang, Ph.D.

Assistant Professor of Comparative Genomics

Department of Pathobiology, College of Veterinary Medicine
Auburn University

Adjunct Faculty Investigator

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EDUCATION

08/2000–07/2004 **B.Sc.** Biological Sciences (Concentration: Population Genetics and Evolution)
School of Life Sciences, **Fudan University**, Shanghai, China.

08/2005–08/2011 **Ph.D.** Genetics and Genomics (Minor: Biometry & Computational Biology)
Dept. of Molecular Biology & Genetics, **Cornell University**, Ithaca NY, USA.

ACADEMIC EMPLOYMENT

08/2017– **Auburn University**, Auburn, Alabama 36849, USA
Assistant Professor of Comparative Genomics in Animal Health
Department of Pathobiology, College of Veterinary Medicine
Affiliated Assistant Professor, Department of Entomology and Plant Pathology.
Alabama Agricultural Experiment Station, Auburn, Alabama 36849, USA
Assistant Professor
HudsonAlpha Institute for Biotechnology, Huntsville, Alabama 35806, USA
Adjunct Faculty Investigator

11/2011–08/2017 **Cornell University**, Ithaca, New York 14853, USA
Research Associate, Dept. of Molecular Biology & Genetics
Cornell Center for Comparative and Population Genomics

RESEARCH INTERESTS

Functional, evolutionary and comparative genomics and epigenomics

- Comparative genomics in animal health and disease.
- Allelic imbalance and epigenetic regulation of gene expression in X inactivation and imprinting.
- Marker-assisted selection and breeding strategies in livestock and aquaculture.
- Mammalian behavioral genomics in detection dogs and aggressive/tame foxes.
- Mammalian placenta evolution and reproductive biology.
- Evolution of epigenome (5mC, 6mA and histone modifications) and population epigenomics.
- Gut microbiome and animal disease; metagenomic and metaRNA-seq data analysis.
- *cis-* vs *trans-* regulation of gene expression and DNA methylation.
- Genetic and epigenetic bases of sexual dimorphism and sex differences in disease.
- Mechanism and evolution of hybrid dysregulation and hybrid vigor.
- Single-cell sequencing and bioinformatics.

Veterinary Entomology and Insect Evolution

- Functional genomics of CpG methylation and its machinery in jewel wasps.
- Transposable elements and telomeric repeat evolution in insects.
- *cis*- vs *trans*- regulation and evolutionary epigenomics of CpG methylome.
- Dynamics of the epigenome reprogramming during early embryonic development.
- Transcriptome-wide misregulation and adaptation to foreign mitochondria background in insects.
- Parasitoid jewel wasps as a biological control agent for horn flies and filth flies.
- Global asymmetric allelic expression in the hybrids of European and African bees.

PUBLICATIONS

Published or in press in peer-reviewed journals (as of December 2019)

25. Haney PS, Lazarowski L, Wang X, **Wang X**, Hathcock J, Lofton R, Wilborn R, and Waggoner LP (2020). Effectiveness of PennHIP® and Orthopedic Foundation for Animals hip quality scores for breeding selection to reduce hip dysplasia in a population of purpose-bred detection dogs. **Journal of the American Veterinary Medical Association**, in press.
24. Hamilton M, Ma X, McCrean B, Carrisosa M, Macklin K, Zhang C, **Wang X*** and Hauck R* (2020). Influence of *Eimeria* spp. infection on chicken jejunal microbiota and the efficacy of two alternative products against the infection. **Avian Diseases**, in press.
23. Rosenfeld CS, Hekman JP, Johnson JL, Zhen L, Ortega MT, Joshi T, Mao J, Vladimirova AV, Gulevich RG, Kharlamova AV, Acland GM, **Wang X**, Clark AG, Trut LN, Behura SK, Kukekova AV (2019). Hypothalamic transcriptome of tame and aggressive silver foxes (*Vulpes vulpes*) identifies gene expression differences shared across brain regions. **Genes, Brain and Behavior**, 10.1111/gbb.12614. [\[link\]](#)
22. Wang X, Xiong X, Cao W, Zhang C, Werren JH and **Wang X*** (2019). Genome assembly of the A-group *Wolbachia* in *Nasonia oneida* using linked-reads technology. **Genome Biology and Evolution**, 10: 3008–3013. [\[link\]](#)
21. Chen L, Wang Y, Yao B, Mitra A, **Wang X** and Qin X (2018) TIVAN: Tissue-specific *cis*-eQTL single nucleotide variant annotation and prediction. **Bioinformatics**, 10.1093/bioinformatics/bty872. [\[link\]](#)
20. **Wang X***, Pipes L, Acland GM, Trut LN, Herbeck Y, Kharlamova AV, Gulevich RG, Vladimirova AV, Johnson JL, Kukekova AV*, Clark AG* (2018) Responses to selection for tame/aggressive behaviors in silver foxes (*Vulpes vulpes*). **PNAS**, 115 (41), 10398-10403. [\[link\]](#) (*corresponding authors)
19. Kukekova, AV, Johnson JL, Xiang X, Feng S, Liu S, Rando HM, Kharlamova AV, Herbeck Y, Serdyukova NA, Xiong Z, Beklemischeva V, Koepfli K, Gulevich RG, Vladimirova AV, Hekman JP, Perelman P, Graphodatsky AS, Brien SO, **Wang X**, Clark AG, Acland GM, Trut LN, Zhang G (2018). Red fox genome assembly identifies genomic regions associated with tame and aggressive behaviors. **Nature Ecology & Evolution**, 2:1479-1491. [\[link\]](#)
18. Hillman PR, Christian SGB, Doan R, Cohen ND, Douglas KC, Konganti K, **Wang X**, Samollow PB and Dindot SV (2017). Genomic imprinting does not reduce *UBE3A* in neurons. **Epigenetics & Chromatin**, 10:27. [\[link\]](#)
17. Rago A, Gilbert D, Choi JH, Sackton T, **Wang X**, Kelkar Y, Werren JH, Colbourne JK (2016) OGS2: Genome Re-Annotation of the Jewel Wasp *Nasonia vitripennis*. **BMC Genomics**, 17:678. [\[link\]](#)
16. **Wang X***, Werren JH*, Clark AG* (2016) Allele-specific transcriptome and methylome analysis reveals stable transmission and *cis*-regulation of DNA methylation in *Nasonia*. **PLoS Biology**, 14(7):e1002500. (*co-corresponding authors) [\[link\]](#)
15. Alexander KA, **Wang X**, Shibata M, Clark AG, Garcia-Garcia MJ (2015) Genomic imprinting is regulated by TRIM28 through a novel mechanism that is distinct from the maintenance of germline imprints. **Cell Reports**, 13(6):1194-1205. [\[link\]](#)
14. **Wang X**, Werren JH, Clark AG (2015) Genetic and epigenetic architecture of sex-biased expression in the jewel wasps *Nasonia vitripennis* and *giraulti*. **PNAS**, 112(27): E3545-E3554. [\[link\]](#) Commented in *Biology of Reproduction*. [\[link\]](#)

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13. Chow CY, **Wang X**, Riccardi D, Wolfner MF, Clark AG (2015) The genetic architecture of the genome-wide transcriptional response to ER stress in the mouse. *PLoS Genetics*, 11(2):e1004924. [\[link\]](#)
12. Douglas KC, **Wang X**, Jasti M, Wolff A, VandeBerg JL, Clark AG, Samollow PB (2014) Genome-wide histone state profiling of fibroblasts from the opossum, *Monodelphis domestica*, identifies the first marsupial-specific imprinted gene. *BMC Genomics*, 15:89. [\[link\]](#)
11. **Wang X** and Clark AG (2014). Using next-generation RNA sequencing to identify imprinted genes. *Heredity*, 113(2):156–166. [\[link\]](#)
10. **Wang X**, Douglas KC, VandeBerg JL, Clark AG, Samollow PB (2014). Chromosome-wide profiling of X-chromosome inactivation and epigenetic states in fetal brain and placenta of the opossum, *monodelphis domestica*. *Genome Research*, 24 (1):70-83. [\[link\]](#)
9. **Wang X**, Wheeler D, Avery A, Rago A, Choi JH, Colbourne JK, Clark AG, Werren JH (2013). Function and evolution of DNA methylation of the genome of *Nasonia vitripennis*. *PLoS Genetics*, 9(10): e1003872. [\[link\]](#) [\[cover image\]](#)
8. **Wang X**, Miller DC, Harman R, Antczak DF, Clark AG (2013). Paternally expressed genes predominate in the placenta. *PNAS*, 110(26):10705-10710. [\[link\]](#) Commented in *Biology of Reproduction* [\[link\]](#) and *Science Daily*. [\[link\]](#)
7. **Wang X**, Miller DC, Antczak DF, Clark AG (2012). Random X inactivation in the horse and mule placenta. *Genome Research*, 22 (10):1855-1863. [\[link\]](#)
6. **Wang X**, Soloway PD, Clark AG (2011). A Survey for Novel Imprinted Genes in the Mouse Placenta by mRNA-seq. *Genetics*, 189(1):1-14. [\[link\]](#)
5. Clark AG, **Wang X**, Matise TC (2010). Contrasting methods of quantifying fine structure of human recombination. *Annual Review of Genomics and Human Genetics*, 11:45-64. [\[link\]](#)
4. **Wang X**, Soloway PD, Clark AG (2010). Paternally biased X inactivation in mouse neonatal brain. *Genome Biology*, 11(7):R79. [\[link\]](#)
3. **Wang X**, Sun Q, McGrath SD, Mardis ER, Soloway PD, Clark AG (2008). Transcriptome-wide identification of novel imprinted genes in neonatal mouse brain. *PLoS ONE*, 3(12):e3839. [\[link\]](#)
2. Pollard KS, Serre D, **Wang X**, Tao H, Grundberg E, Hudson TJ, Clark AG, Frazer K (2008). A genome-wide approach to identifying novel-imprinted genes. *Human Genetics*, 122(6),625-634. [\[link\]](#)
1. Brideau NJ, Flores HA, Wang J, Maheshwari S, **Wang X**, Barbash, DA (2006). Two Dobzhansky-Muller genes interact to cause hybrid lethality in *Drosophila*. *Science*, 314(5803):1292-1295. [\[link\]](#)

In prep or under review (as of December 2019)

26. Ruan H, Zhou Y, Shen J, Zhai Y, Xu Y, Pi L, Huang R, Chen K, Li X, Ma W, Wu Z, Deng X, **Wang X***, Zhang C* and Guan M* (2020). Circulating tumor cell characterization of lung cancer brain metastasis in the cerebrospinal fluid through single-cell transcriptome analysis. *Cancer Cell*, submitted. [medRxiv/2020/016683](#) [\[link\]](#)
27. Wang X, Xiong X, Cao W, Zhang C, Werren JH and **Wang X*** (2020). Phylogenomic analysis of 34 *Wolbachia* strains revealed genome evolution and lateral gene transfer. *Genome Biology and Evolution*, in revision. [bioRxiv, 508408](#)
28. Lü B, Wu G, Sun Y, Zhang L, Wu, X, Jiang W, Li P, Wang J, Zhao Y, Yang T, Hu Y, Liu H, Chen M, Pan A, Chen J, Zhou Z, Long X, Cui W, Zhang C, **Wang X**, Tang X (2020). Comparative genomic and transcriptomic analyses of *Morchella conica* SH reveal divergent lifestyle features and genome expansion. *PLoS ONE*, under review.
29. Koehler J, Prasad N, Sandey M, Watanabe R, Levy SA, Wang X and **Wang X** (2020). Differential expression of miRNAs in three canine high-grade glioma cell lines exposed to hypoxic stress. *Frontiers in Veterinary Science*, in revision.
30. **Wang X***, Douglas KC, VandeBerg JL, Samollow PB, Clark AG (2020). Divergent patterns of marsupial-eutherian genomic imprinting in the gray short-tailed opossum, *Monodelphis domestica*. *in prep*.

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31. Goldstein O, Jordan JA, Pearce-Kelling S, **Wang X**, Clark AG, Kukekova AV, Johnson JL, Iwabe S, Aguirre G, Acland GM (2020). Progressive Retinal Atrophy in the Italian Greyhound Is Associated with Tissue- and Allele-Specific Down-Regulation of *Col27a1* and *miR455*. *in prep*.

Book Chapters (as of December 2019)

Wang X and Wang X (2019). Ch4. Dosage compensation and X chromosome inactivation, *Epigenetics*, 1st Ed. (in Chinese), *in press*.

FELLOWSHIPS, HONORS & AWARDS

01/2020 National Science Foundation (NSF) EPSCoR Research Fellows (RII Track-4).
07/2019 Guest Professor, Tongji University, Shanghai, China.
10/2018 Guest Professor, Shanghai Academy of Agricultural Sciences (SAAS).
07/2018 SMBE (Society for Molecular Biology & Evolution) Registration Reimbursement Award.
04/2017 SMBE (Society for Molecular Biology & Evolution) Registration Reimbursement Award.
07/2016 Cornell Center for Vertebrate Genomics Travel Award.
05/2016 Genetics Society of America (GSA) The Allied Genetics Conference Travel Award.
04/2016 SMBE Registration Reimbursement Award.
07/2015 SMBE Young Investigator Travel Award.
03/2015 Keystone Symposia Future of Science Fund Scholarship in Epigenetics.
06/2014 Cornell Center for Vertebrate Genomics Travel Award.
01/2009 Cornell University Graduate School Conference Travel Award.
11/2007 Genomics Scholars' Award, Center for Vertebrate Genomics.
05/2005 Cornell University Presidential Life Science Fellowship.
05/2004 Hewlett-Packard Scholarship of Chinese Academy of Sciences (CAS).
2001-2003 First-degree People's Fellowship (three times).
09/2000 Fudan University Freshman Scholarship, the Highest Prize.
07/2000 Gold Medal (1st place), the XI. International Biology Olympiad, Antalya, Turkey.

PROFESSIONAL MEMBERSHIPS

Genetics Society of America (GSA)	2008 – Present
American Society of Human Genetics (ASHG)	2008 – Present
American Association for the Advancement of Science (AAAS)	2013 – Present
Sigma Xi: The Scientific Research Honor Society	2014 – Present
Society for Molecular Biology & Evolution (SMBE)	2014 – Present
Entomology Society of America (ESA)	2016 – Present
American Society for Microbiology (ASM)	2019 – Present

TEACHING EXPERIENCE

10/2019 **Guest lecturer** (course coordinator Reuben Moguel)
HONR1087 HONORS LYCEUM – Auburn Research
Fall 2019 **Co-Instructor** (course coordinator Dr. Curt Bird)
VBMS7970 Cancer Biology & Genetics, three lectures
Summer 2019 **Co-Instructor**
6th Auburn University Bioinformatics Boot camp (AUBB)
01/2019 **Guest lecturer** (course coordinator Reuben Moguel)
HONR1087 HONORS LYCEUM – Auburn Research

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- Fall 2018 **Co-Instructor** (course coordinator Dr. Vicky van Santen)
VBMS7710 Advanced Eukaryotic Molecular Biology, two lectures
- Summer 2018 **Co-Instructor**
5th Auburn University Bioinformatics Boot camp (AUBB)
- 06/2018 **Guest lecturer**, Introduction to Epigenetic inheritance
HudsonAlpha Summer Short Course: Next Generation Genetics (for high school students).
- 05/2018 **Guest lecturer**, Introduction to Epigenetics
Research Experience for Undergraduates in Computational Biology (NSF funded)
- 07/2009 **Workshop Instructor**
Baker Institute for Animal Health: Epigenetics in Companion Animals.
- Fall 2008, 2009, 2010 **Teaching assistant**, Human Genomics (BioGD4870), **Cornell University**
Graded problem sets, midterm and final exams, led office hours and gave guest lectures.
- 09/2003 – 01/2004 **Teaching assistant**, Biochemistry/Cell Biology Lab course, **Fudan University**
Prepared reagents and materials and led lab sessions.

PODIUM PRESENTATIONS

- 01/2020 Department of Animal Sciences, College of Agriculture, Auburn University, Auburn, AL.
- 10/2019 12th Global Food Systems Submit, Auburn, AL.
- 10/2019 College of Fisheries, Ocean University of China, Tsingtao, China
- 07/2019 Institute of Hydrobiology, Zhenjiang Academy of Agricultural Sciences, Hangzhou, China
- 07/2019 International Symposium on Insect Physiology, Biochemistry and Molecular Biology (IPBMB) joint with International Conference of Insect Genomics (ICIG), Chongqing, China
- 06/2019 Joint Service Military Working Dog Committee (JSMWDC) meeting, Auburn, AL.
- 02/2019 Texas A&M Genetics and Genomics (G2) Seminar Series, College Station, TX.
- 11/2018 Departmental Health Outcomes Research and Policy, Harrison School of Pharmacy, Auburn University, Auburn, AL.
- 10/2018 School of Life Sciences Seminar, Nankai University, Tianjin, China.
- 09/2018 Auburn University CVM Laboratory Animal Medicine Club, Auburn, AL.
- 08/2018 Auburn University Research Initiative in Cancer Symposium, Auburn, AL.
- 07/2018 The *Society for Molecular Biology & Evolution* Meeting (SMBE2018), Yokohama, Japan.
- 07/2018 Biotechnology Research Institute Seminar, Shanghai Academy of Agricultural Sciences.
- 07/2018 College of Fisheries and Life Science Seminar, Shanghai Ocean University. Shanghai, China.
- 06/2018 Auburn University CVM Summer Research Seminar, Auburn, AL.
- 05/2018 University of Alabama at Birmingham (UAB) Informatics Institute Colloquia. Birmingham, AL.
- 03/2018 Auburn University Dept of Anatomy, Physiology & Pharmacology Seminar Series, Auburn, AL.
- 02/2018 University of Texas Rio Grande Valley, Department of Human Genetics and South Texas Diabetes and Obesity Institute, Brownsville, TX.
- 01/2018 Animal Epigenetics Workshop, Plant and Animal Genome XXVI Conference, San Diego, CA/
- 12/2017 Marine Fishery Institute of Zhejiang Province Seminar Series, Zhoushan, China.
- 11/2017 Saint Louis University Bioinformatics & Computational Biology Colloquium Series, St. Louis, MO.

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- 10/2017 *Keystone Symposia*, Maternal-Fetal Crosstalk: Harmony vs. Conflict, Washington DC.
- 09/2017 Auburn University Department of Entomology & Plant Pathobiology Seminar Series, Auburn, AL.
- 08/2017 The International *Nasonia* 2017 meeting, Groningen, the Netherlands.
- 07/2017 The *Society for Molecular Biology & Evolution Meeting* (SMBE2017), Austin, TX.
- 05/2017 Cornell University Molecular Biology & Genetics Postdoc Seminar Series, Ithaca, NY.
- 04/2017 Tongji University School of Biological Sciences & Technology Seminar Series, Shanghai, China.
- 04/2017 Institutes of Biomedical Sciences at Fudan University Seminar Series, Shanghai, China.
- 04/2017 Chinese Academy of Sciences Institute of Plant Physiology & Ecology Seminar Series, Shanghai.
- 04/2017 Institute of Insect sciences at Zhejiang University Seminar Series, Suzhou, China.
- 04/2017 Chinese Academy of Sciences Institute of Zoology (CAS-KIZ) Seminar Series, Kunming, China
- 02/2017 Vanderbilt Genetics Institute Seminar Series, Nashville, TN.
- 11/2016 Cornell University Molecular Biology & Genetics Postdoc Seminar Series, Ithaca, NY.
- 11/2016 Auburn University CVM Department of Pathobiology Seminar Series, Auburn, AL.
- 11/2016 Hudson Alpha Institute for Biotechnology Seminar Series, Huntsville, AL.
- 11/2016 Pennsylvania State University Department of Biology Seminar Series, College Park, PA.
- 09/2016 2016 XXV *International Congress of Entomology* (ICE2016), Orlando, FL.
- 09/2016 University of Rochester Ecology and Evolutionary Biology Seminar Series, Rochester, NY.
- 07/2016 The *Society for Molecular Biology & Evolution Meeting* (SMBE2016), Gold Coast, Australia.
- 04/2016 *Janelia Conference*: Genetic and Neurobiological Basis for the Evolution of Behavior, Washington DC.
- 10/2015 *Cold Spring Harbor Asia* 2015 Conferences: Mitochondria, Suzhou, China.
- 07/2015 The *Society for Molecular Biology & Evolution Meeting* (SMBE2015), Vienna, Austria.
- 05/2015 *Evo-Day Conference on Evolution and Behavior*, Ithaca, NY.
- 03/2015 Cornell University Molecular Biology & Genetics Postdoc Seminar Series, Ithaca, NY.
- 01/2015 University of Texas at Dallas Department of Biological Sciences Seminar, Dallas, TX.
- 01/2015 Indiana University at Bloomington Department of Biology Seminar, Bloomington, IN.
- 07/2014 Principals in Population Genetics: a Symposium in Honor of Dr. Andrew Clark, Ithaca, NY.
- 06/2014 The *Society for Molecular Biology & Evolution Meeting* (SMBE2014), Puerto Rico.
- 10/2013 Cornell University Molecular Biology & Genetics Postdoc Seminar Series, Ithaca, NY.
- 10/2013 Cornell University Reproductive Physiology/Endocrinology Seminar Series, Ithaca, NY.
- 05/2013 *Illumina Upstate New York User Group Meeting* (Illumina UGM), Ithaca, NY.
- 04/2013 Baker Institute for Animal Health Tuesday Seminar Series, Ithaca, NY.
- 10/2011 University of Rochester Department of Biology Seminar Series, Rochester, NY.
- 04/2011 Baker Institute for Animal Health CERG Special Seminar Series, Ithaca, NY.
- 10/2009 Cornell University Center for Vertebrate Genomics Seminar Series, Ithaca, NY.
- 07/2009 Baker Institute Workshop: Epigenetics in Companion Animals, Ithaca, NY.

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GRANTS

Current

NSF-OIA-1928770 National Science Foundation <i>R11 Track-4: Transcriptome profile and X chromosome dosage compensation in the zonary placenta</i>	Wang (PI)	01/01/20-12/31/21 Role: PI \$245,298
USDA-NIFA-AAES Alabama Agricultural Experiment Station Award for Interdisciplinary Research <i>Factors Associated with Disparities in Childhood Obesity</i>	Thangiah/Wang/Fuller-Rowell (co-PIs)	10/01/19-09/30/21 Role: co-PI \$149,873
USDA-NIFA-AAES Alabama Agricultural Experiment Station equipment grant program <i>LapChip GX Nucleic Acid Analyzer</i>	Wang (PI)	10/01/19-09/30/20 Role: PI \$24,802
USDA-NIFA-AAES Alabama Agricultural Experiment Station AgR-SEED Award <i>Assessment of flies as sentinels and vectors in transmission of antimicrobial resistance</i>	C. Wang (PI)	10/01/19-09/30/21 Role: co-I \$50,000
USDA-NIFA-AAES Alabama Agricultural Experiment Station Award for Interdisciplinary Research <i>Effect of Gene Editing of Morbidity Genes on Survival and Immune Gene Expression in Catfish</i>	Dunhum/Wang/Terhune (co-PIs)	10/01/19-09/30/21 Role: co-PI \$150,000
DHS S&T, JHU/APL Department of Homeland Security, Science and Technology Directorate subcontracted through The Johns Hopkins University Applied Physics Laboratory <i>Performance Canine Breeding / Production R&D to Support Domestic Explosive Detection Canine (EDC) Resourcing</i>	Waggoner (PI)	08/01/19-02/28/22 Role: co-I \$654,320
AKC-TF American Kennel Club & Theriogenology Foundation <i>Companion Animal Theriogenology Residency Training Grant</i>	Wilborn (PI)	07/01/19-06/30/22 Role: co-I \$100,000
USDA-NIFA-AAES Alabama Agricultural Experiment Station Production Agriculture Research (PAR) Award <i>Comparison of Traditional Selection with DNA Biotechnologies to Enhance Disease Resistance in Catfish</i>	Dunham/Wang (co-PIs)	05/01/19-04/30/21 Role: co-PI \$50,000
AURIC Auburn University Research Initiative in Cancer (ARUIC) Research Grant <i>Single-cell transcriptome, allelic imbalance and immunorepertoire in canine cancer</i>	Wang (PI)	04/01/19-03/31/20 Role: PI \$10,000
AUIGP Auburn University Intramural Interdisciplinary Team Research Grant <i>Evaluating the efficacy of marker-assisted selection (MAS) using trait QTLs in channel catfish and channel-blue catfish hybrids</i>	Dunham (PI)	03/07/19-04/30/21 Role: co-I \$50,000

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AUIGP Auburn University Intramural Interdisciplinary Team Research Grant <i>Chicken gut microbiota dynamics after infection with parasitic coccidia: Influence of dose and species composition</i>	Hauck (PI)	03/07/19-04/30/21 Role: co-I \$49,096
AUIGP Auburn University Intramural Interdisciplinary Team Research Grant <i>Metagenomic analyses of gut microbiome in canine performance and health</i>	Wang (PI)	03/07/19-04/30/21 Role: PI \$50,000
USDA-NIFA USDA National Institute of Food and Agriculture Hatch project <i>Comparative and functional genomics, epigenomics and metagenomics in food animal health</i>	Wang (PD)	10/18/18-09/30/23 Role: PI
USDA-NIFA-AAES Alabama Agricultural Experiment Station (AAES) Award for Interdisciplinary Research <i>Insights into the adaptation of avian influenza viruses in mammals</i>	Kyriakis/Wang (co-PIs)	10/01/18-09/30/20 Role: co-PI \$100,000
<u>Pending</u>		
Winn Feline Foundation Winn Feline Foundation Research Grant <i>Gut microbiota response to weight-loss therapy in obese cats using metagenomic and metatranscriptomic sequencing</i>	Wang/Graff (co-PIs)	06/01/20-05/31/21 Role: PI \$25,000
Lloyd Charitable Trust Lloyd Charitable Trust <i>Lloyd Charitable Trust Melanoma grant proposal</i>	Smith (PI)	03/01/20-02/28/24 Role: co-I \$623,941
NIH National Institutes of Health <i>Bio-behavioral factors as a mediator of disparities in childhood obesity</i>	Thangiah (PI)	09/01/20-08/31/24 Role: co-I \$2,994,410
NIH-NCI National Institutes of Health <i>Engineered Colon Cancer Tissue to Examine the Impact of the Obese Microenvironment</i>	Lipke (PI)	09/01/20-08/31/24 Role: co-I \$2,994,410
USDA-NIFA-AFRI USDA National Institute of Food and Agriculture - Agriculture and Food Research Initiative <i>Changes in the intestinal microbiota after infection with Eimeria spp</i>	Hauck/Wang/Macklin (co-PDs)	01/01/20-12/31/23 Role: co-PD \$499,498
USDA-NIFA-CARE USDA National Institute of Food and Agriculture <i>Nutrigenomics approach to dampen the negative effects of endophyte-infected tall fescue on beef cow-calf pair performance</i>	Moisa/Wang/Mullenix (co-PDs)	01/01/20-12/31/22 Role: co-PD \$300,000
<u>Completed</u>		
AUIGP Auburn University Intramural Good-to-Great Grant <i>Transgenerational Epigenetic Inheritance in Parasitoid Insects</i>	Wang (PI)	03/21/18-04/30/20 Role: PI \$79,301

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AUIGP	Wang (PI)	03/21/18-04/30/20
Auburn University Intramural Interdisciplinary Team Research Grant		Role: PI
<i>X Chromosome Inactivation in Feline Somatic Tissues with Klinefelter syndrome</i>		\$9,000
AURIC	Smith (PI)	10/01/17-09/30/19
Auburn University Research Initiative in Cancer (ARUIC) Major Research Grant		Role: co-I
<i>Transcriptomic Analysis of Canine Tumors for Precision Medicine Applications</i>		\$200,000
ELANCO	Graff (PI)	04/01/18-03/31/19
Elanco contracted research to improve feline health		Role: co-I
<i>Transcriptomic Analysis of Feline Adipose Tissue during the Development of Obesity</i>		\$50,000

PROFESSIONAL ACTIVITIES

Journal Review,

Genome Research (2019), *Molecular Biology & Evolution* (2015, 2017, 2019), *PLoS Genetics* (2018), *PLoS ONE* (2018), *Scientific Reports* (2017, 2019), *PNAS* (2016), *BMC Genomics* (2015, 2017, 2018), *Genetics* (2016, 2019), *GENE* (2017), *Frontiers in Genetics* (2018, 2019), *Research in Veterinary Science* (2018), *Fish Physiology and Biochemistry* (2019), *Zoological Research* (2019)

Journal Editing,

Guest Editor at *PLoS Genetics* (2018)
Guest Editor at *PLoS Genetics* (2019)

Book Review,

Handbook of Epigenetics (2nd ed., book chapter, 2016).
Epigenetic Principles of Evolution (book proposal, 2016).
Epigenetic Mechanisms of the Cambrian Explosion (book proposal, 2016).

Grant Review,

Panelist, USDA National Institute of Food and Agriculture Animal Health & Disease Panel B (2018)