

Elizabeth Ann Staiger, MSc, PhD
Department of Animal Science & Vet Technology, Texas A&M University-Kingsville
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Education

Cornell University, Ithaca, New York 2010 – 2015
PhD in Animal Science; Genetics and Neurobiology minors

- Dissertation: “Polymorphic gait in the horse: an interaction of genetics, morphology and behavior”
- Advisor: Dr. Samantha Brooks

Oklahoma State University, Stillwater, Oklahoma 2007 – 2009
Master of Science in Animal Science, Animal Breeding and Molecular Genetics

- Thesis: “Genetic markers for increased milk production in sheep”
- Advisor: Dr. Raluca Mateescu

Oklahoma State University, Stillwater, Oklahoma 2003 - 2007
Bachelor of Science in Animal Science, Pre-veterinary Studies; Honors Degree

- Honors Thesis: “Differential expression of *PTP4α-2* in bovine adipogenesis”
- Honors Thesis Advisor: Dr. Udaya DeSilva

Research Experience

Texas A&M University-Kingsville, Department of Animal Science & Veterinary Technology
Kingsville, TX, USA
Assistant Professor January 2022 – Present

Auburn University, Department of Animal Sciences
Auburn, AL, USA
Visiting Assistant Professor August 2019 – December 2021

- Designing a study using 3D stereo cameras to assess lameness, gait quality, and body conformation in horses for genomic and diagnostic evaluation in collaboration with faculty at Auburn and University of Florida.
- Designing a study to evaluate the genomic impact of failure of passive transfer in foals and calves.
- Developing a study to assess claw and body conformation in cattle for precise phenotyping for EPDs and genomic mapping.
- Analyzing genome-wide association study data to identify markers associated with high fertility and milk production in dairy cows. Data will be compared to a second study evaluating the genomic characterization of high vs low fertility in beef cattle.

Cornell University, Department of Animal Science
Ithaca, NY, USA
Postdoctoral Associate January 2017 – August 2019
February 2015 – August 2015

- Mentor: Dr. Heather J. Huson
- Designed a genomic study to assess physiological and behavioral traits in elite racing Alaskan sled dogs utilizing an activity monitor and questionnaires.
 - Analyzed genome-wide association study data for feed efficiency in Cornell dairy cattle.
 - Designed a fine-mapping experiment to identify causal variants for congenital laryngeal collapse in Alaskan sled dogs.
 - Designed a candidate gene experiment to identify markers associated with ovarian cancer in chickens.

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- Analyzed genome-wide association study data for the genetic characterization of goats breeds from worldwide populations (North America, South America, Africa, India, and Europe).
- Analyzed genome-wide association study data for the population structure of cattle breeds from worldwide populations (North America, South America, Africa, India, and Europe).
- Proficient in use of Mac OS, Windows OS, and Linux OS (Ubuntu).

Uppsala University, Department of Medical Biochemistry & Microbiology
Uppsala, Sweden
Postdoctoral Fellow

September 2015 – November 2016

Mentor: Dr. Leif Andersson

- Analyzed haplotypes linked with the *DMRT3_Ser301Stop* mutation utilizing targeted sequencing and SNP genotyping in worldwide horse populations (North America, South America, Africa, India, and Europe).
- Designed and performed TaqMan assays for size and coat color markers to genotype horses.
- Introductory use of whole genome sequencing analysis software.

Cornell University, Department of Animal Science
Ithaca, NY, USA
Graduate Assistant

August 2010 – December 2014

- Designed genetic, morphological, and behavioral study on privately owned “gaited” breeds of horses from worldwide populations (North America, South America, India, and Europe).
- Statistical analysis of genome-wide association study on sarcoid susceptibility in horses.
- Proficient in DNA extraction from blood and hair tissue samples.
- Developed and performed PCR and RFLP-PCR experiments to genotype horses.
- Designed and analyzed genome-wide association studies on each: polymorphic gait type, morphological variation, and behavioral variation in horses.
- Proficient in use of PLINK, GEMMA, GEMMAX, GenSel, TASSEL, GoldenHelix SVS, ADMIXTURE, JMP, and Microsoft Office software.

Oklahoma State University, Department of Animal Science
Stillwater, OK, USA
Lab Manager

September 2009 - December 2009

- Performed DNA extractions, RNA extractions, PCR, and qRT-PCR.
- Maintained laboratory equipment and supplies, and kept record of laboratory finances and purchases
- Oversaw and aided undergraduates’ research projects

Graduate Assistant

July 2007 – July 2009

- Performed DNA extraction from sheep blood, and RNA extraction and cDNA synthesis from sheep splenius and semitendinosus muscle samples.
- Assisted in the collection of hair and muscle samples from beef cows at feedlots and abattoirs.
- Developed and performed PCR and RFLP-PCR experiments to genotype sheep.
- Developed and performed qRT-PCR experiments.
- Proficient in agarose and polyacrylamide gel electrophoresis.

Undergraduate Research

August 2006 - May 2007

- Performed supervised pre-adipocyte cell culture, including tissue preparation for culture.
- Performed RNA extraction from liver and thymus samples, and cDNA synthesis.
- Performed PCR, Real Time PCR, sequencing of PCR products, and gel electrophoresis.

Armed Forces Institute of Pathology, Department of Veterinary Medicine
Washington, D.C., USA

Intern

Summer 2006 and 2002

- Researched pathological diseases of equines, marine mammals, and other animals
- Accompanied AFIP veterinary residents on rounds at The National Zoo
- Assisted CPT M. Thompson with Wednesday Slide Conference

Teaching Experience

Texas A&M University-Kingsville, Department of Animal Science and Veterinary Technology
Kingsville, TX, USA

Assistant Professor

January 2022 – Present

- Instructor for the Animal Science course 3335 Animal Breeding and Genetics.
 - Spring 2022 (65 students)
- Instructor for the Animal Science course 4308 Statistics in Agriculture.
 - Spring 2022 (65 students)
- Instructor for the General Agriculture course 3372 Contemporary Issues in Agriculture.
 - Spring 2022 (50 students)

Auburn University, Department of Animal Sciences
Auburn, AL, USA

Visiting Assistant Professor

August 2019 – December 2021

- Instructor for the Animal Science course 3500 Animal Breeding.
 - Fall 2019 (30 students), Spring 2020 (61 students), Fall 2020 (45 students), Spring 2021 (58 students), Fall 2021 (44 students)
- Co-Instructor for the Animal Science course 4050 Horse Production.
 - Spring 2020 (16 students)
- Instructor for the Animal Science course 4970 Undergraduate Teaching Experience in Animal Breeding.
 - Spring 2020 (4 students), Fall 2020 (1 student), Spring 2021 (3 students)
- Instructor for the Animal Science course 4980 Undergraduate Research Experience.
 - Spring 2020 (1 student), Fall 2020 (1 student), Spring 2021 (2 students)
- Co-lecturer for one lecture in the Animal Science graduate course 7010 Stocker Production (2020).
- Guest lecturer for one lecture in ANSC 3800 Careers in Animal Science (Fall 2019), ANSC 1100 Orientation to Animal Sciences (Spring 2020), ANSC 4050 Horse Production (Spring 2021) and AGRI 1000 Introduction to Agriculture (Fall 2020). Guest lecturer for two lectures in ANSC 4000 Modern Livestock Systems (Spring 2021). Guest lecturer for University of Florida ENY2890 Insect Research (Spring 2021).

Cornell University, Department of Animal Science
Ithaca, NY, USA

Post Doctorate Research Assistant

January 2017 – August 2019

February 2015 – July 2015

- Guest lecturer for one lecture in the Animal Science course 2210 Principles of Animal Genetics (2018).
- Co-lecturer for Animal and Health Welfare section in Animal Science course 2050 Sustainable Animal Agriculture (2017).
- Guest lecturer for two lectures and one discussion section in the Animal Science course 2210 Principles of Animal Genetics (2017).
- Guest lecturer for three weeks of a genetics wet lab in the Animal Science course 2210 Principles of Animal Genetics (2015).
- Mentored 1-5 undergraduate students per semester, and three graduate students in molecular genetic techniques and research.

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Graduate Assistant

August 2010 – December 2014

- Co-taught the Animal Science course 2100 Principles of Animal Genetics and Breeding (2014). Responsible for writing and presenting material for eight lectures and several discussion sections, including designing and leading a genetics wet lab. Responsible for co-writing exams and quizzes. Responsible for writing problem sets, and grading exams and assignments.
 - Spring 2014 (96 students).
- Guest lecturer for one lecture of Animal Science course 1120 Sustainable Animal Husbandry (Summer 2014, Summer 2013).
- Guest lecturer for one lecture of Animal Science course 2650 Equine Biology and Management (2014, 2013, 2012, 2011, 2010)
- Grader and lab instruction of Animal Science course 2650 Equine Biology and Management (2013, 2012, 2010).
- Grader and lab instruction of Animal Science course 3600 Beef Cattle (2012).
- Lab instructor for one of four afternoon lab sections of Animal Science course 2120 Animal Nutrition (2011). Responsible for writing lab section quizzes and final exam, and grading.
- Mentored 1-4 undergraduate students per semester, a veterinary student (summer 2013), and a visiting PhD (Fall 2012) in molecular genetic techniques and research.

Oklahoma State University, Department of Animal Science

Stillwater, OK, USA

Graduate Assistant

July 2007 – May 2009

- Grader and lab instruction of Animal Science course 3433 Animal Breeding (2008, 2007)
- Grader and lab instruction of Animal Science course 3443 Animal Reproduction (2008).
- Mentored 3 undergraduate students in molecular genetic techniques.

Undergraduate Teaching Assistant

January 2007 - May 2007

- Grader and lab instruction of Animal Science course 3433 Animal Breeding.

Grants

Pending/Funded

- | | |
|------------|---|
| 2021-2026 | <i>A Sustainable, Efficient, Profitable Beef Production Future.</i> USDA FAS NNF. Co-Investigator. Awarded \$246,000. |
| 2020-2021 | <i>Identification of Genetic Markers in Cows for Selection of Reproductive Potential.</i> Alabama Cattlemen's Association, Alabama State Beef Checkoff Grant. Principle Investigator. Awarded \$10,000. |
| 2020 | <i>Instructional Technology Enhancement Proposal.</i> Auburn University High-Impact Course Experiences grant. Co-Investigator. Awarded \$5,204. |
| 2020-2022 | <i>Three-Dimensional Equine Gait Analysis using Computer Vision and Deep Learning for Genomic Mapping.</i> Auburn University Intramural Grants Program, Interdisciplinary Team. Principle Investigator. Awarded \$49,800. |
| 2017-2018 | FORMAS Project Grant. Co-Investigator. Awarded \$335,000. |
| 2013, 2014 | Equine Neal A. Jorgenson Travel Grant. Awarded \$1,000. |
| 2013 | Foundation for the Advancement of the Show Tennessee Walking Horse Research Grant. Awarded \$1,000. |
| 2012 | Cornell University Graduate College Research Travel Grant. Awarded \$1,945. |

2011 Cornell University Center for Vertebrate Genomics Seed Grant. Awarded \$7,000.

Submitted

- 2020 *Implications of Genetics and Management of the Pregnant Mare on Foal Immunoglobulin G Levels*. American Quarter Horse Foundation, Young Investigator Award. Co-Principle Investigator.
- 2020 *The Influence of Gene Expression Associated with Changes in 3D Gait Biomechanics of Performance Horses Over Time*. American Quarter Horse Foundation, Young Investigator Award. Co-Principle Investigator.
- 2020 *Deep Learning-based Image Analysis for Automatic Scoring of Claw Shape and Leg Conformation for Genomic Mapping*. Alabama Cattlemen's Association, Alabama State Beef Checkoff Grant. Principle Investigator.
- 2020 *Three-Dimensional Equine Gait Analysis using Computer Vision and Deep Learning for Genomic Mapping*. Morris Animal Foundation. Principle Investigator.
- 2017 *Landscape Genomics: A New Tool to Characterize the Diversity of Climate Adaptation in African Goats for Sustainable Production*. Cornell University Atkinson Postdoctoral Fellowship in Sustainability. Principle Investigator.
- 2017 *Unraveling Genetic Pathways for Locomotion*. National Science Foundation. Co-Investigator.
- 2017 *Technology and Physiology: The Keys to Unlocking the Genetics of Canine Athletic Performance*. Morris Animal Foundation. Co-Principle Investigator.
- 2017 *A Strong Mind: Identifying the Genetic Mechanisms Underlying Working Dog Behavior for Improved Well-being*. AKC Acorn Research Grant. Co-Principle Investigator.
- 2017 *Technology and Physiology: The Keys to Unlocking the Genetics of Canine Athletic Performance*. Waltham Foundation Research Grant. Co-Investigator.
- 2017 *The Genetics Driving Elite Alaskan Sled Dogs to the Winners Podium*. National Science Foundation. Co-Investigator.
- 2015 *Gait Genes: Identification of genes that regulate the pattern of locomotion using the horse as a model organism*. Marie Curie Horizon2020 Individual Fellowship. Principle Investigator.
- 2015 *Horses lead the way to a better understanding of genetic regulation of locomotion pattern and performance traits*. FORMAS Project Grant. Co-Investigator.
- 2014 *GlideRide: Identification of genes that regulate the pattern of locomotion using the horse as a model organism*. Marie Curie Horizon2020 Individual Fellowship. Principle Investigator.
- 2013 *Neurogenetics of a unique gait phenotype and sensorimotor integration*. National Institute of Health R01. Co-Investigator.

Peer-Review Publications

L. Hellmann, N. Hamilton, **E.A. Staiger**, M. Sole, B.D. Velie. 2021. Owner-perceived behaviour in thoroughbred horses in secondary careers – a pilot study. *Applied Animal Behaviour Science*. doi:10.1016/j.applanim.2021.105480.

M.C. Gaspar, F. Araújo, **E.A. Staiger**, K. Martin, M. Vierra, G. Foster, E. Lundquist, S.A. Brooks, L. Patterson Rosa, C. Lafayette. 2021. Las disciplinas deportivas en los caballos de razas de trabajo están asociadas con el alelo A en locus DMRT3. *Revista Brasileira de Medicina*. doi:

L. Patterson Rosa, **E.A. Staiger**, K. Martin, M. Vierra, G. Foster, E. Lundquist, S.A. Brooks, C. Lafayette. 2021. Stock-type equine disciplines hunter, reining and roping are associated with the A allele at the *DMRT3* locus for gait phenotypes in the horse. *Animal Genetics*. doi: 10.1111/age.13110.

C.J. Posbergh, **E.A. Staiger**, H.J. Huson. 2020. A stop-gain mutation within melanophilin is responsible for the lilac dilution observed in Jacob sheep. *Genes*. 11(6):618. doi: 10.3390/genes11060618.

C.R. Stambuk, **E.A. Staiger**, B.J. Hines, H.J. Huson. 2020. Exploring physiological and genetic variation of digital cushion thickness of Holstein and Jersey cows and bulls. *Journal of Dairy Science*. 103(10):9177-9194. doi: 10.3168/jds.2020-18290.

C.R. Stambuk, **E.A. Staiger**, A.N. Ghadikolaei, B.J. Hines, H.J. Huson. 2020. Phenotypic characterization and genome-wide association studies of digital cushion thickness in Holstein cows. *Journal of Dairy Science*. 103(4):3289-3303. doi:10.3168/jds.2019-17409.

A.N. Ghadikolaei, H.M. Yeganeh, S.R. Miarei-Aashtiani, **E.A. Staiger**, A. Rashidi, H.J. Huson. 2018. Genome-wide association studies identify candidate genes for coat color and mohair traits in the Iranian Markhoz goat. *Frontiers in Genetics*. doi: 10.3389/fgene.2018.00105.

E.A. Staiger, M.S. Almén, M. Promerová, S.A. Brooks, E.G. Cothran, F. Imsland, K. Jäderkvist Fegraeus, G. Lindgren, H.M. Yeganeh, S. Mikko, J.L. Vega-Pla, T. Tozaki, C.J. Rubin, L. Andersson. 2017. The evolutionary history of the *DMRT3* 'Gait keeper' haplotype. *Animal Genetics*. 48(5): 551-559. doi: 10.1111/age.12580.

E.A. Staiger, R.R. Bellone, N.B. Sutter, and S.A. Brooks. 2016. Morphological variation in gaited horse breeds. *Journal of Equine Veterinary Science*. doi:10.1016/j.jevs.2016.04.096.

E.A. Staiger, J.D. Albright, and S.A. Brooks. 2016. Genome wide association mapping of heritable temperament variation in the Tennessee Walking Horse. *Genes Brain and Behavior*. doi: 10.1111/gbb.12290.

E.A. Staiger, M.A. Abri, K.M. Pflug, S.E. Kalla, D.M. Ainsworth, D. Miller, T. Raudsepp, N.B. Sutter, and S.A. Brooks. 2016. Skeletal variation in Tennessee Walking Horses maps to the *LCORL/NCAPG* region. *Physiological Genomics*. doi:10.1152/physiolgenomics.00100.2015.

E.A. Staiger, M.A. Al Abri, C.A.S. Silva, and S.A. Brooks. 2016. Loci impacting polymorphic gait in the Tennessee Walking Horse. *Journal of Animal Science*. 94(4):1377-1386. doi:10.2527/jas.2015-9936.

E.A. Staiger, D. Miller, C. Tseng, J.M. Cassano, L. Nasir, D.J. Garrick, S. Brooks, and D. Antzacak. 2016. Host genetic influence on papillomavirus-induced tumors in the horse. *International Journal of Cancer*. doi: 10.1002/ijc.30120.

L. Jacobs, **A. Staiger**, J. Albright, and S. Brooks. 2016. The MC1R and ASIP coat color loci may impact behavior in the horse. *Journal of Heredity*. 107(3):214-219. doi:10.1093/jhered/esw007.

L. Patterson, **A. Staiger**, and S. Brooks. 2015. *DMRT3* does not control gait ability, but is associated with gait type in Mangalarga Marchador horses. *Animal Genetics*. 46 (2): 213-215. doi: 10.1111/age.12273.

J. W. Buchanan, **E. A. Staiger**, M.L. Thonney, and R. G. Mateescu. 2011. Evaluation of PFKM, TFDP2, and HIP2 gene expression and muscle growth in sheep. *Journal of Animal Science Advances*. 1(2): 85-88.

E. A. Staiger, M. L. Thonney, J. W. Buchanan, E. R. Rogers, P. A. Oltenacu, and R. G. Mateescu. 2010. Effect of Prolactin, β -Lactoglobulin and κ -Casein on Milk Yield in East Friesian Sheep. *Journal of Dairy Science*. 93 (4):1736-42.

Manuscripts under review

NA

Manuscripts in progress

C. Carmichael, C.J. Posbergh, **E.A. Staiger**, H.J. Huson. Haplotype analysis of PRNP variation across US sheep breeds.

E.A. Staiger, T.R. Olsen, C.J. Posbergh, and H.J. Huson. Genomic analysis of congenital laryngeal collapse (CLP) in the Alaskan Sled dog.

E.A. Staiger, A.P. de Toledo, V.R. Paschoal, C.A. Schelim, W.Y.C. Teixeira, L. Patterson-Rosa. Real time gait analysis on four-beat gaited breeds using an automated locomotion analysis.

A.N. Ghadikolaei, **E.A. Staiger**, S.R. Miarei-Aashtiani, H. Mehrabani-Yeganeh, A. Rashidi, H.J. Huson. Comparison of genome-wide association analysis types for growth and body size traits in the Iranian Markhoz goat.

E.A. Staiger, E.A. Brown, and S.A. Brooks. Ancestry modelling of gait type in Tennessee Walking Horses.

E.A. Staiger, A. Landaeta-Hernández, T.S. Sonstegard, and H.J. Huson. Ancestry modeling of the Venezuelan Criollo Limonero and subsequent development of the JR-type composite breed.

J.C. Nystrom, M.B. Hannon, C.J. Posbergh, **E.A. Staiger**, M.J. Woodward-Greene, J. Soelkner, B.D. Rosen, C.P. VanTassell, T.S. Sonstegard, H.J. Huson. The genetic diversity of body size in African goats.

Popular Press and Extension Publications

H.R. Smith, A.G. Parnell, S. Locke, L.V. Rutledge, J.L. Nix, S.A. Gorman, **E.A. Staiger**, P.W. Dyce, J.T. Sawyer, C.R. Mulvaney, and D.R. Mulvaney. Identification of Technology for Enhancing Virtual Classroom Instruction of Hands-On Experiences in Animal Sciences. *NACTA Journal Teaching Tips*. July 2020.

Ann Staiger. "Genetics behind Gait." *The Icelandic Horse*. 2013 Issue 3: 42.

Ann Staiger and Laura Patterson. "Genetics behind Gait." *Mangalarga Marchador*. 2012 Vol. 23, Issue 74: 174-176.

Ann Staiger. "Genetics behind gait? Cornell University searches for the answer." *NWHA National News*. 2011.

Ann Staiger. "Genetics behind the gait? Cornell University searches for the Answer." *The Rocky Mountain Horse*. Winter 2011-2012. 34-35.

Ann Staiger. "Genetics behind gait? Cornell University Searches for the Answer." *The Walking Horse Journal*. 2011 Vol. 11, Issue 2: 9, 14.

Scientific Presentations and Abstracts

* designates presenter

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M.P. Smythe*, S. Dewberry, V. Gupta, N. Niknejad, **E.A. Staiger**, Y. Bao, K. Allen and S.A. Brooks. Quantifying locomotor phenotypes in the horse with artificial intelligence. Oral and poster presentation at the Plant and Animal Genome XXIX Virtual Symposium, January 8-12, 2022.

V. Gupta*, A. West, Y. Bao, S.A. Brooks, **E.A. Staiger**. A video processing pipeline for equine biomechanical parameters extraction and gait analysis. Presentation at the ASABE Annual International Virtual Meeting, July 12-16, 2021.

M.P. Smythe*, V. Gupta, **E.A. Staiger**, Y. Bao, and S.A. Brooks. Using artificial intelligence to analyze horse gait parameters for genomics research in musculoskeletal traits. *Journal of Equine Veterinary Science* doi:10.1016/j.jves.2021.103502. Oral presentation at the Equine Science Society Virtual Symposium, June 1-4, 2021.

A. West*, V. Gupta, M. Smythe, **E.A. Staiger**, Y. Bao, S.A. Brooks. Locomotion pattern analysis using digital video labeling by machine learning. Oral presentation at the Equine Science Society Virtual Symposium, June 1-4, 2021.

C.J. Posbergh*, **E.A. Staiger**, and H.J. Huson. Chasing colors: Identifying the genetic variants responsible to coat color variation in sheep. Poster and oral presentation at Plant and Animal Genome XXVIII Conference, San Diego, CA. January 10-15, 2020.

Ann Staiger*. Health and performance genetics across species. Invited speaker at the Auburn University Department of Animal Sciences Seminar series, Auburn, AL. September 6, 2019.

E.A. Staiger* and S.A. Brooks. Ancestry modelling of gait type in Tennessee Walking Horses. Poster presented at the 12th Dorothy Russel Havemeyer Foundation International Equine Genome Mapping Workshop, Pavia, Italy. September 12-15, 2018.

L. Borlle*, **E.A. Staiger**, H.J. Huson, L. Andersson, P. Johnson. The role of CDKN2A snps in ovarian cancer in the laying hen. Poster presented at the Society for the Study of Reproduction Annual Meeting, New Orleans, LA. July 10-13, 2018.

E.A. Staiger*, A.J. Landaeta-Hernandez, N. Amati, E. Crespo, T.S. Sonstegard, H.J. Huson. 2018. Ancestry modelling of the Venezuelan JR-type composite breed. *Proceedings of the World Congress on Genetics Applied to Livestock Production* 11: 623.

J.C. Nystrom*, M.B. Hannon, **E.A. Staiger**, M.J. Woodward-Greene, J. Soelkner, B.D. Rosen, C.P. VanTassell, T.S. Sonstegard, H.J. Huson. The genetic diversity of body size in African goats. Poster presentation at Plant and Animal Genome XXVI Conference, San Diego, CA. January 13-17, 2018.

L. Patterson Rosa*, M.A. Abri, **E.A. Staiger**, S.A. Brooks. Investigation of computationally predicted structural polymorphisms in gaited horses. Poster presentation at Plant and Animal Genome XXV Conference, San Diego, CA. January 14-18, 2017.

Ann Staiger*. Polymorphic Gait in the Horse: Unlocking the Genetics. Invited speaker for the Swedish University of Agricultural Science Locomotion and Lameness in Animals course, Uppsala, Sweden. May 23- June 02, 2016.

Ann Staiger*. Polymorphic Gait in the Horse: Unlocking the Genetics. Speaker at the Uppsala University Genomics Seminar, Uppsala, Sweden. February 5, 2016.

B.D. Rosen*, H.J. Huson, **E.A. Staiger**, T.S. Sonstegard, J.T. Silverstein, B.L. Sayre, M.J. Woodward-Greene, S.G. Schroeder, G. Spangler, E.E. Connor, T. Gondwe, M.F. Rothschild, H.A. Mulindwa, K.T. Gebre, K. Mdladla, T. Mirkena, F.C. Muchadeyi, J. Soelkner, C.P. VanTassell. African goat improvement network: Community-based breeding programs for sustainable genetic improvement. Oral and poster presentation at Plant and Animal Genome XXIV Conference, San Diego, CA. January 9-13, 2016.

E.A. Staiger*, M.A. Abri, K.M. Pflug, S.E. Kalla, D.M. Ainsworth, D. Miller, T. Raudsepp, N.B. Sutter, and S.A. Brooks. Skeletal variation in Tennessee Walking Horses maps to the *LCORL/NCAPG* region. Oral

and poster presentation at Plant and Animal Genome XXIV Conference, San Diego, CA. January 9-13, 2016.

L.N. Jacobs*, **E.A. Staiger**, J.D. Albright, S.A. Brooks. 2015. "A sorrel is hot...": A genetic investigation of the horseman's myth. *Journal of Equine Veterinary Science* 35 (5): 383 (Abstr.).

H.J. Lynaugh*, E. Hefner, D. Miller, M. Al-Jabri, J. Gless, R. Singh, M. Bateson, **E.A. Staiger**, S.A. Brooks, E. Buckles, D. Antczak. Targeted SNP testing of horses bearing sarcoid tumors. Poster presentation at Plant and Animal Genome XXIII Conference, San Diego, CA. January 10-14, 2015.

E.A. Staiger*, J.D. Albright, S.A. Brooks. Genome-wide association of temperament variation in Tennessee Walking Horses. Oral and poster presentation at Plant and Animal Genome XXIII Conference, San Diego, CA. January 10-14, 2015.

E.A. Staiger*, M.A. Abri, S.E. Kalla, N.B. Sutter, and S.A. Brooks. Genome wide association of skeletal size variation in Tennessee Walking Horses. Poster presentation at Plant and Animal Genome XXII Conference, San Diego, CA. January 11-15, 2014.

E.A. Staiger* and S.A. Brooks. Genome-wide association study of gait type in Tennessee Walking Horses. Poster presentation at the 10th Dorothy Russel Havemeyer Foundation International Equine Genome Mapping Workshop, Furnas, S. Miguel, Azores, Portugal. July 10-13, 2013.

E.A. Staiger*, D. Miller, C. Tseng, J. Cassano, L. Nasir, D.J. Garrick, S. Brooks, D. Antczak. Fine-mapping of loci contributing to sarcoid development in horses. Oral and poster presentation at Plant and Animal Genome XXI Conference, San Diego, CA. January 11-16, 2013.

E.J.A. Kowalski*, **E.A. Staiger**, S. Brooks, R. Bellone. A genome-wide association study identifies locus for eye color variation in Puerto Rican Paso Fino horses. Poster presentation at Plant and Animal Genome XX Conference, San Diego, CA. January 14-18, 2012.

E. A. Staiger*, D. Miller, C. Tseng, J. Cassano, L. Nasir, D. J. Garrick, S. Brooks, D. Antczak. Genome wide association of sarcoid tumors in horses. Poster presentation at Plant and Animal Genome XX Conference, San Diego, CA. January 14-18, 2012.

E. A. Staiger*, R. R. Bellone, N. B. Sutter, and S. A. Brooks. 2011. Genome-wide association of polymorphic gait in the horse. *Journal of Animal Science*. 89 (E-Suppl. 1): 321 (Abstr.).

E. A. Staiger*, R. R. Bellone, N. B. Sutter, and S. A. Brooks. Genome-wide association of polymorphic gait in the horse. Poster presentation at the American Society of Animal Science Joint Annual Meeting, New Orleans, LA. July 10-14, 2011.

E. A. Staiger*, N. B. Sutter, R. R. Bellone, and S. A. Brooks. Morphometric Traits in Gaited Breeds of Horse: Potential Future Targets for Mapping. Oral presentation for the Genetics Graduate student competition at the Equine Science Symposium, Murfreesboro, TN. May 31-June 2, 2011.

E. A. Staiger*, M. L. Thonney, B. W. Buchanan, and R. G. Mateescu. 2009. The effect of a single nucleotide polymorphism in beta-lactoglobulin gene and prolactin gene on milk production in East Friesian sheep. *Journal of Animal Science* 87 (E-Suppl. 2): 402 (Abstr.).

E. A. Staiger*. The effect of Rsa1 polymorphism in beta-lactoglobulin gene on milk production in East Friesian sheep. Oral presentation at the 14th Annual Whiteman Award Competition. Stillwater, OK. February 17, 2009.

E.A. Staiger*, M.L. Thonney, and R.G. Mateescu. The effect of Rsa1 polymorphism in beta-lactoglobulin gene on milk production in East Friesian sheep. Poster presentation at Plant and Animal Genome XVII Conference, San Diego, CA. January 10-14, 2009.

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E. A. Staiger*. The effect of Rsa1 polymorphism in beta-lactoglobulin gene on milk production in East Friesian sheep. Oral presentation at the 5th Annual Graduate Research in the Biological Sciences Symposium, Stillwater, OK. September 18-19, 2008.

Extension

Ann Staiger. Polymorphic Gait in the Horse: Unlocking the Genetics. Invited speaker at the Alabama Farmers Federation Equine Commodity Organization Meeting, Montgomery, AL. February 5, 2020.

E.A. Staiger and L. Patterson-Rosa. Four-beat gaits in the horse: Unlocking the genetics. Invited speaker at the First UF International Collaborative Mini-Symposium, Gainesville, FL. May 14-16, 2019.

K. Davis, E. Long, M. McCarthy, C. Stice, **A. Staiger**, M. Valentine. "Holey Cow Workshop". Speaker at the Expanding Your Horizons Conference, Ithaca, NY. April 12, 2014.

Ann Staiger. Gait in the Horse: Unlocking the Genetics. Invited speaker at Campolina Cavalo Nationals Competition, Belo Horizonte, MG, Brazil. September 1-8, 2013.

K. Davis, M. McCarthy, C. Stice, **A. Staiger**. "Animal Adventures Holey Cow Workshop". Speaker at the 4-H Career Explorations Conference, Ithaca, NY. June 25-26, 2013.

Ann Staiger. Learning to open and close your "gaits". Invited speaker at the 4H Animal Crackers program, Ithaca, NY. May 4, 2013.

K. Davis, M. McCarthy, C. Stice, **A. Staiger**. "Holey Cow Workshop". Speaker at the Expanding Your Horizons Conference, Ithaca, NY. April 20, 2013.

Ann Staiger. Gait in the Horse: Unlocking the Genetics. Invited speaker at the 33rd National Mangalarga Marchador Competition, Belo Horizonte, MG, Brazil. July 20-29, 2012.

Ann Staiger. Genetic Studies of Gait: Why do horses pace? Invited speaker at the NY Regional Horseman's Day, Goshen, NY. March 16, 2012.

Graduate Students

Jessica Caro, MS in Animal Sciences, Auburn University, 2020-present (Major Advisor)

Nariman Niknejad, MS in Biosystems Engineering, 2021-present (Committee Member)

Vinika Gupta, MS in Computer Sciences, Auburn University, 2020-2021 (Committee Member)

Professional Development

Attended AAES Grant Writing Workshop, October 14, 2020.

Participant in Auburn University Animal Sciences High Impact Practices Academy, January 2020 – January 2021.

Attended Auburn University workshop *Documenting Teaching Effectiveness for Promotion and Tenure*, November 5, 2019.

Attended Cornell University Pathways to Success Symposium, February 26, 2019.

Attended Cornell University GET SET workshop *Teaching Your Students How to Critically Read Primary Literature*, February 13, 2019.

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Attended Cornell University Responsible Conduct of Research workshop *Center for Open Science Training*, November 28 - 29, 2018.

Attended Cornell University GET SET workshop *Integrating Technology into Your Classes*, October 29, 2018.

Attended Cornell University BRC Bioinformatics workshop series *RNA-Seq Data Analysis*, October 24 - November 7, 2018.

Attended Cornell University GET SET U-wide Teaching Conference, October 20, 2018.

Attended Cornell University OSP workshop *How to Write a Successful NSF Career Proposal*, May 18, 2018.

Attended Cornell University Faculty Development and Diversity workshop *How to Write a Successful NIH Grant*, April 16, 2018.

Attended Cornell University CITRL workshop series *Building Mentoring Skills for an Academic Career*, January 30 - March 27, 2018.

Professional Memberships and Service

American Society of Animal Science, 2007 - present

Equine Science Society, 2010 - present

International Society for Animal Genetics, 2011 – present

North American Colleges and Teachers of Agriculture, 2020 - present

Tennessee Walking Horse Breeders and Exhibitors Association, member 2000 - present

National Walking Horse Association, member 2001 – present

Alabama Cattlemen's Association, 2020 – 2021

Ad-hoc reviewer for scientific journals, 2012 - present

Journal of Heredity; Animal Genetics; Journal of Dairy Science; Journal of Animal Science; Journal of Equine Veterinary Science; Canadian Journal of Animal Science; Journal of Animal Breeding and Genetics; PLOS ONE; Equine Veterinary Journal, Animals

Guest editor, Animals (ISSN 2076-2615), 2022 special issue "Phenotypic and Genotypic Characterization of Farm Animals"

Departmental Service

2020-2021 Curriculum Committee, Auburn University

2020-2021 Webpage/Social Media Committee, Auburn University

2020 Equipment Committee, Auburn University

2020-2021 Advisor for Collegiate Horseman's Association, Auburn University

2020-2021 Advisor for Block & Bride Club, Auburn University

2020 Equine Lecturer position search committee member, Auburn University

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- 2020 Instructional Technology Equipment committee member, Auburn University
- 2021 Graduate Program Committee, Auburn University
- 2021 Social Committee, Auburn University

University Service

- 2020-2021 College of Agriculture Instructional Advisory Committee, Auburn University

National Service

- 2019-2021 Auburn representative on the NSPR8 project, "National Animal Genome Research Program"
- 2019-2021 Auburn representative on the S1086 multistate project, "Enhancing sustainability of beef cattle production in Southern and Central US through genetic improvement".

Honors and Awards

Everingham Award, Cornell University, 2014 (Teaching award)

Equine Science Society Graduate Student Genetics competition 2011, 1st place

Animal Science Graduate Student Association, Treasurer, OSU & Cornell

President's Honor Roll, OSU

Alpha Zeta, OSU (Professional Agriculture Fraternity)

Phi Eta Sigma, OSU (National Honor Society, College Freshmen)

Iota Kappa, OSU (National Honor Society, College Sophomore)

National Society of Collegiate Scholars

OSU Residence Hall Government, Treasurer and Philanthropy Committee Chair