

**Annie E. Newell-Fugate, D.V.M., M.Sc., Ph.D.**



**CONTACT INFORMATION**

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h-index: 11  
i10-index: 15

**SUMMARY**

I am an Assistant Professor in the Department of Physiology and Pharmacology at Texas A&M University. I served as the course coordinator and an instructor of record for the required undergraduate Biomedical Sciences core course, Biomedical Physiology II, and developed this course into a successful, team-taught endeavor wherein the subject expertise of each lecturer provides superior instruction to the students in the course than any one lecturer alone. I am currently an instructor in the revamped version of this course called Applied Biomedical Physiology and teach the endocrine and metabolism lectures. My research program focuses on the role of sex steroids and energy balance (diet and exercise) in the modulation of adipocyte and ovarian follicular cell metabolism and steroidogenesis. I have pioneered studies primarily with swine biomedical models that examine the sexually dimorphic role of sex steroids, primarily androgens, in white adipose tissue cellular metabolism in control of peripheral insulin sensitivity. Over the past several years, my laboratory has been collaboratively developing mitochondrially-targeted nanoparticles to elucidate the mechanism by which sex steroids directly control function in this organelle. We aspire to ultimately utilize these technologies to treat patients who suffer from metabolic disease and insulin resistance due to androgen-estrogen imbalance (i.e., polycystic ovary syndrome, obesity, transgender individuals, congenital adrenal hyperplasia, menopause). Early in my tenure as an Assistant Professor, I also had a research focus on endocrinology in endangered suid and ungulate species.

**EDUCATION & TRAINING**

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|------|--|
| 2000 | <b>B.S. with Honors in Biology</b> ( <i>Magna cum laude</i> )<br>University of North Carolina at Chapel Hill<br><u>Undergraduate Honors Thesis</u> : Northern Cardinal territorial behavior and resource competition |
| 2004 | <b>D.V.M.</b> ( <i>Summa cum laude</i> )<br>North Carolina State University College of Veterinary Medicine   |

- 2008      **M.Sc. in Wildlife Reproduction and Production Animal Studies**  
University of Pretoria, Faculty of Veterinary Science, South Africa  
Advisor: Henk Bertschinger, B.VSc., Dr.Med.Vet., Ph.D., Dipl. ECAR  
Thesis: The effects of two formulations of deslorelin on the reproduction of male African wild dogs (*Lycaon pictus*)
- 2012      **Ph.D. in Animal Sciences** (*Summa cum laude*)  
University of Illinois at Urbana-Champaign  
Co-Advisors: Rebecca Krisher, Ph.D. and Romana Nowak, Ph.D.  
Dissertation: Validation of the obese Ossabaw miniature pig as a model of the obese polycystic ovary syndrome phenotype with concomitant metabolic syndrome: exploration of polycystic ovary syndrome pathophysiology using *in vivo* and *in vitro* models
- 2012-2014      **NIH K01 post-doctoral fellowship**  
Title: Follicular and endometrial pathology in polycystic ovary syndrome  
Mentors: Romana Nowak, Ph.D., Janice M. Bahr, Ph.D., Robert Rosenfield, M.D.  
University of Illinois at Urbana-Champaign

## **PROFESSIONAL EXPERIENCE AND ACADEMIC APPOINTMENTS**

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|--------------|---|
| 2004, 2006-8 | <b>Associate Veterinarian</b><br>Banfield the Pet Hospital, Raleigh, N.C.   |
| 2008-2010    | <b>Associate Veterinarian; Relief Veterinarian</b><br>Banfield the Pet Hospital, Champaign, I.L.  |
| 2011-2012    | <b>Graduate Research Assistant</b><br>Dept. of Animal Sciences, University of Illinois at Urbana-Champaign  |
| 2014-present | <b>Assistant Professor</b><br>Dept. of Veterinary Physiology and Pharmacology, Texas A&M University   |
|              | 2014-present      Faculty Member<br>Interdisciplinary Faculty of Reproductive Biology,<br>Texas A&M University  |
|              | 2021-present      Faculty Member<br>Interdisciplinary Faculty of Toxicology, Texas A&M<br>University  |
|              | 2022-present      Faculty Member and Lead of the Cardiometabolic<br>Research Cluster<br>Faculty Collaborative for Research in Women's<br>Health and Sex Differences, Texas A&M University |
|              | 2022-present      Faculty Member<br>Cardiovascular Research Institute, Texas A&M<br>University  |

## **VETERINARY MEDICAL LICENSURES & OTHER CERTIFICATIONS**

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|--------------|---------------------------------------|
| 2004-present | USDA accredited veterinarian          |
| 2004-present | Licensed Veterinarian, North Carolina |
| 2008-2015    | Licensed Veterinarian, Illinois       |
| 2015-present | Licensed Veterinarian, Texas          |
| 2020-present | Certified Mediator                    |

## **AWARDS AND HONORS**

1999	Burch Fellowship, University of North Carolina at Chapel Hill
1999	Phi Beta Kappa National Honor Society
2000	University of North Carolina at Chapel Hill Honors Graduate
2000	Fulbright Scholarship (award declined due to inability to obtain local permits in Tanzania)
2002	Martin Litwack Award (awarded to 3 <sup>rd</sup> year veterinary student with the highest G.P.A.), North Carolina State University College of Veterinary Medicine
2002	Association for Women Veterinarians Scholarship
2002	Geraldine R. Dodge Frontiers in Veterinary Medicine Research Award
2003	Phi Zeta Veterinary Honor Society
2004	Salutatorian, Class of 2004, North Carolina State University College of Veterinary Medicine
2004	District 7710 Rotary Ambassadorial Scholar 2004-2005 to South Africa
2006	Postgraduate Bursary (scholarship to support M.Sc. studies), University of Pretoria, South Africa
2008-2011	Jonathan Baldwin Turner Fellowship (merit scholarship to support Ph.D. studies), University of Illinois at Urbana-Champaign
2011, 2013	Larry Ewing Memorial Trainee Travel Award, Society for the Study of Reproduction
2015	3 <sup>rd</sup> place, AVMA/AVMF Young Investigator Award competition; invited attendee at the Burroughs Wellcome 'Becoming Faculty' Workshop
2015	Texas A&M University OAK Fund Award Recipient
2017	<i>Reproduction</i> top downloaded review of 2017 (8030 downloads) for article entitled "The role of sex steroids in white adipose tissue adipocyte function"
2018	Outstanding Young Faculty Research Award, Texas A&M University College of Veterinary Medicine & Biomedical Sciences
2018	Texas A&M University Montague-Center for Teaching Excellence Fellow
2019	Janice Bahr Junior Scientist Travel Award, Society for the Study of Reproduction
2020	Abstract entitled "Dietary coconut oil mitigates features of metabolic syndrome in obese females" one of 35 abstracts selected for the Research Summaries Book and covered at a press conference about <i>Diet and Obesity</i> at ENDO 2020, The Annual Meeting of the Endocrine Society
2020	National Cancer Institute -Transdisciplinary Research on Energetics and Cancer Fellow (one of 25 young faculty members selected from across the country based on their excellence in research in energetics and/or cancer research for mentorship and training in grantsmanship)
2020	ADVANCE NCFDD Summer Success Program Summer Fellowship
2021	Invited Early Career Reviewer, NIH Pathophysiology of Obesity, Metabolic Disease (POMD) Study Section
2021	Nomination to and selected for membership to Sigma Xi, The Scientific Research Honor Society
2022	Richard H. Davis Teaching Award, Texas A&M University College of Veterinary Medicine and Biomedical Sciences
2022	Texas A&M Association of Former Students College-Level Teaching Award (University Level Award, selected for at the College level)
2023	Invited Reviewer, Paul Allen Frontiers Group 2023 Distinguished Investigator Awards – Sex Hormones

## **PROFESSIONAL DEVELOPMENT**

2016, 2020, 2021	NIH Grant Proposal Writing Program (year-long), Texas A&M University
Jan 2019	Faculty Conflict Management and Leadership Workshop (4 hours), College of Veterinary Medicine and Biomedical Sciences, Texas A&M University
Sept 2019	Kognito At-Risk Training for University and College Faculty and Staff (1 hour), Texas A&M University
November 2019	Facilitating Entering Mentoring Training (16 hours), Dean of Faculties of Texas A&M University and The Center for the Improvement of Mentored Experiences in Research
January 2020	Basic Mediation Course (40 hours), College of Veterinary Medicine and Biomedical Sciences-Texas A&M University and The Center for Change and Conflict Resolution
May 2020	Increasing Student Motivation and Engagement Online Using Active Learning (1 hour), Texas A&M University-Center for Teaching Excellence Course
Summer 2020	ADVANCE National Center for Faculty Development and Diversity Faculty Success Fellowship Program
June 2020	National Cancer Institute Transdisciplinary Research in Energetics and Cancer Training Workshop (32 hours), Yale University
September 2020	Supporting Student Mental Health to Increase Academic Success Seminar (1 hour), Center for Teaching Excellence, Texas A&M University
October 2020	New Reviewer Training Program (1 hour), American Journal of Physiology-Regulatory, Integrative and Comparative Physiology
December 2020	Dare to Lead® workshop (3 hours), College of Veterinary Medicine and Biomedical Sciences Office for Diversity and Inclusion, Texas A&M University
December 2020	STRIDE Training (2 hours), Dean of Faculties, Texas A&M University
January 2021	Peerceptive Training (1 hour), Center for Teaching Excellence, Texas A&M University
October 2021	If Your Diversity Doesn't Include Disability, It's Not Diverse Enough Webinar (1 hour), Texas A&M University
November 2021	Is Motherhood Causing a Critical Leak in the STEMM Pipeline (1 hour), Association of Women in Science
Spring 2022	NSF CAREER Proposal Writing Program (semester long), Texas A&M University
May 2022	Deconstructing the NSF CAREER Award Workshop (8 hours; sponsored by NSF & University of California-Irvine)
June 2022	Exploring Diversity, Equity and Inclusion in Science (1 hr), American Physiological Society webinar
May 2023	The Importance of Mentoring: Tips for Mentors and Mentees (1 hr), American Physiological Society webinar
Jan 2024	Mentoring of Graduate Students (1 hr), Texas A&M School of Veterinary Medicine Graduate Programs Office

## **ADDITIONAL COMPLIANCE TRAINING**

2014-present	Infectious Disease and Blood Borne Pathogen Training, Office of Biosafety, Texas A&M University
2014-present	Biological Safety Training, BSL2, Office of Biosafety, Texas A&M University
2014-present	Radiation Safety Training, Environmental Health and Safety, Texas A&M University
2015-present	CITI Training: Working with the IACUC, Working with Swine, Working with Mice, Biomedical Responsible Conduct of Research, Protection of Human Subjects, Anesthesia and Surgery of Rodents
2018	Texas A&M Comparative Medicine Program Rat Handling Training
2018	Texas A&M Comparative Medicine Program Mouse Handling Training
2020	Texas A&M Comparative Medicine Program Small Animal Surgery Course

### **PROFESSIONAL AFFILIATIONS\***

Androgen Excess-PCOS Society  
 American Heart Association  
 American Physiology Society  
 Association for Women in Science  
 Endocrine Society  
 International Society for Wildlife Endocrinology  
 Organization for the Study of Sex Differences  
 Society for the Study of Reproduction

\* Professional Activities and Recognitions are under Service (see page 35)

## RESEARCH

### **PEER-REVIEWED PUBLICATIONS** (trainees are underlined, \*corresponding author, ^senior author, annotations in italics specify the innovation and impact of select publications)

1. Swanson, W., Maggs, D., Clarke, H., **Newell, A.**, Bond, J., Bateman, H., Kennedy-Stoskopf, S.\*^ (2006) Assessment of viral presence in semen and reproductive function of frozen-thawed spermatozoa from Pallas' Cats (*Odocoileus manul*) infected with feline herpesvirus. *Journal of Zoo and Wildlife Medicine*. 37(3): 336-346. PMID: 17319133 <https://doi.org/10.1638/05-073.1>
2. **Newell-Fugate, A.**, Kennedy-Stoskopf, S.\*, Levine, J., Brown, J., Swanson, W.^ (2007) Seminal and endocrine characteristics of male Pallas' cats (*Odocoileus manul*) maintained under artificial lighting with simulated natural photoperiods. *Zoo Biology*. 26(3): 187-199. PMID: 19360572 <https://doi.org/10.1002/zoo.20127>
3. **Newell-Fugate, A.\***, Lane, E.^ (2009) Peri-aortic hemangiosarcoma in an African wild dog (*Lycaon pictus*). *Journal of South African Veterinary Association*. 80(2): 108-110. PMID: 19831274 <https://doi.org/10.4102/jsava.v80i2.182>
4. **Newell-Fugate, A.\***, Lane, E.^ (2009) Intra-partum uterine rupture with coincidental uterine adenomyosis in an African wild dog (*Lycaon pictus*). *Journal of Zoo and Wildlife Medicine*. 40(4): 791-5. PMID: 20063828 <https://doi.org/10.1638/2008-0160.1>

5. **Newell-Fugate, A.E.\***, Nöthling, J.O., Bertschinger, H.^ (2012) Seasonal changes in steroid hormone profiles, body weight, semen quality, and the reproductive tract in captive African wild dogs (*Lycaon pictus*) in South Africa. *General and Comparative Endocrinology*. 178(2): 272-281. PMID: 22683282. <https://doi.org/10.1016/j.ygcen.2012.05.008>
6. **Newell-Fugate, A.E.\***, Taibl, J.N., Clark, S.G. Alloosh, M., Sturek, M., Krisher, R.L.^ (2014) The effect of diet induced obesity on metabolic parameters and reproductive function in the female Ossabaw mini-pig. *Comparative Medicine*. 64(1): 1-6. PMID: 24512960
7. **Newell-Fugate, A.E.\***, Taibl, J.N., Alloosh, M., Sturek, M. Bahr, J.M., Nowak, R.A., Krisher, R.L.^ (2015) Effects of obesity and metabolic syndrome on folliculogenesis and steroidogenesis in the female Ossabaw mini-pig. *PlosOne*. 10(6): e0128749. PMID: 26046837  
<https://doi.org/10.1371/journal.pone.0128749>  
*This paper was the first to establish the utility of the Ossabaw mini-pig as a relevant translational model for the study of the effects of high-fat-diet induced obesity on ovarian function, including steroidogenesis. Through this work we demonstrated that androstenedione, the predominant androgen in female swine, increases in obesity due to increased steroidogenic enzyme expression. These findings formed the foundation of our current focus on the roles of other androstenedione-producing tissues in the body – the adrenal cortex and white adipose tissue.*
8. Skenandore, C., Pineda, A., Bahr, J., **Newell-Fugate, A.E.**, Cardoso, P.\*^ (2017) Evaluation of a commercially available radioimmunoassay and enzyme immunoassay for the analysis of progesterone and estradiol and the comparison of two extraction efficiency methods. *Domestic Animal Endocrinology*. PMID: 28454055 <https://doi.org/10.1016/j.domaniend.2017.03.005>
9. **Newell-Fugate, A.E.\*^**, Lenz, K., Skenandore, C., Nowak, R.A., White, B., Braundmeier-Fleming, A.B.\*^ (2017) Effects of coconut oil on glycemia, inflammation, and urogenital microbial parameters in female Ossabaw mini-pigs. *Plos One*. 12(7). e0179542. PMID: 28704429.  
<https://doi.org/10.1371/journal.pone.0179542>  
*This was the first research to demonstrate that dietary coconut oil improved microbiome composition and decreased hyperglycemia and concentrations of inflammatory fatty acids in obese female pigs. This work has provided the foundation for our on-going studies of the ability of coconut oil to improve metabolic syndrome features in obese female pigs fed a high fat diet. Coconut oil is comprised primarily of medium chain saturated fatty acids. As such, this work challenges the paradigm in the nutrition and obesity research fields that saturated fatty acids are deleterious to metabolic health.*
10. Goblet, C., West, G., Campos-Krauer, J.M., **Newell-Fugate, A.E.\*^** (2018) Semen analysis parameters from a captive population of the endangered Chacoan peccary (*Catagonus wagneri*) in Paraguay. *Animal Reproduction Science*. Aug 195: 162-167. PMID:29807826  
<https://doi.org/10.1016/j.anireprosci.2018.05.020>  
*This paper was the first to describe semen parameters from a captive population of the endangered Chacoan peccary. Given the conservation status of this species, increased knowledge about normal reproductive physiology is critical to protection and propagation of the in situ and ex situ populations. Information about semen characteristics for endangered species forms the basis for the development of assisted reproduction protocols specific to the species.*
11. Yan, H., Yang, W., Zhou, F., Li, X., Pan, Q., Shen, Z., Han, G., **Newell-Fugate, A.**, Tian, Y., Majeti, R., Liu, W., Xu, Y., Wu, C., Allred, K., Allred, C., Sun, Y., Guo, S.\*^ (2019) Estrogen improves insulin sensitivity and suppresses gluconeogenesis via the transcription factor Foxo1. *Diabetes*. Feb 68(2): 291-304. PMID: 30487265 <https://doi.org/10.2337/db18-0638>
12. Goblet, C., Moresco, A., Garner, M., Agnew, D., **Newell-Fugate, A.E.\*^** (2019) Retrospective characterization of reproductive tract lesions in relation to age, parity, and contraception in captive

suidae and tayassuidae. *Theriogenology*. March 127: 137-144. PMID: 30690318

<https://doi.org/10.1016/j.theriogenology.2019.01.012>

*This study was the first to characterize and quantify reproductive tract lesions in non-domestic suid species. Given that domestic pigs often don't live long enough to develop neoplasms and non-domestic suid physiology differs from that of domestic pigs, this paper is an important basis for reproductive health and disease in these species. The publication of this paper helped to establish me as the foremost expert in reproductive health and disease in zoo and exotic pig species.*

13. Goblet, C., Lewis, B., Jacobsen, V., Jarboe, M., Silva, D., Penfold, L. **Newell-Fugate, A.E.\*^** (2020) Exposure of managed red river hogs (*Potamochoerus porcus*) to urine from conspecific males stimulates estrous cycling and modulates progestins in females and testosterone metabolites in males as measured by fecal hormone analysis. *General and Comparative Endocrinology*. Jan 285: 113262. PMID: 31454496 <https://doi.org/10.1016/j.ygcen.2019.113262>
14. Braundmeier-Fleming, A. G., Skenandore, C., Gil, L., Jacobsen, V., Cregger, M., Badger, T., Karr, M., Wu, G., Smith, B., **Newell-Fugate, A.E.\*^** (2020) Dietary substitution of soybean oil with coconut oil in the absence of dietary antibiotics supports growth performance and immune function in nursery and grower pigs. *Journal of Animal Science and Biotechnology*. 11(1): 27. PMID: 32190298 <https://doi.org/10.1186/s40104-020-0428-4>
15. Self, T.S., Ginn-Hindman, A.M., Kaulfus, C.N., **Newell-Fugate, A.E.**, Weeks, B., Heaps, C.L.\*^ (2020) Iodine-enhanced micro-computed tomography of atherosclerotic plaque morphology compliments conventional histology. *Atherosclerosis*. 313: 43-49. PMID: 33022583 <https://doi.org/10.1016/j.atherosclerosis.2020.09.012>
16. Self, T.S., Ginn-Hindman, A.M., Kaulfus, C.N., **Newell-Fugate, A.E.**, Weeks, B., Heaps, C.L.\*^ (2021) Iodine-based contrast staining improves micro-computed tomography of atherosclerotic coronary arteries. *MethodsX*. PMID: 34434817 <https://doi.org/10.1016/j.mex.2021.101297>
17. Kothmann, K.H., Jacobsen, V., Laffitte, V., Grizzaffi, M., Bromfield, C., Jarboe, M., Braundmeier-Fleming, A.G., Bahr, J.M., Nowak, R.A., **Newell-Fugate, A.E.\*^** (2021) Virilizing doses of testosterone acutely increase insulin levels and upregulate transcript levels of insulin signaling proteins in liver and adipose tissue of female pigs. *AJP-Endocrinology and Metabolism*. [doi.org/10.1152/ajpendo.00281.2020](https://doi.org/10.1152/ajpendo.00281.2020)  
*We report that acute exposure to virilizing concentrations of testosterone suppresses circulating insulin levels and results in increased abundance of proteins in the insulin-signaling pathway in liver as well as altered phosphorylation of key proteins in control of insulin sensitivity in white adipose tissue of females. Given that transgender men undergoing hormone therapy are at risk for insulin resistance, the mechanisms by which this might occur are important to define. Using a translational pig model, this study indicates that insulin resistance in transgender men may be due to suppression of the insulin-signaling pathway and decreased insulin sensitivity in white adipose tissue. This publication is the only one in this area and engendered a collaboration between my laboratory and that of a clinical researcher (Devin Coon O'Brien) from Johns Hopkins University.*
18. Kothmann, K.H., Jons, A., Graham, L., Swart, A., **Newell-Fugate, A.E.\*^** (2022) Non-invasive assessment of fecal glucocorticoid, progesterone, and androgen metabolites and microbiome in free-ranging southern white rhinoceros (*Ceratotherium simum simum*) in South Africa. *General and Comparative Endocrinology*. <https://doi.org/10.1016/j.ygcen.2022.114099>  
*This study is the first to employ ultra-performance convergence chromatography tandem mass spectrometry to measure fecal steroid metabolites in the feces of the endangered white rhinoceros. The findings from this study challenge the currently accepted suite of dominant progesterone and glucocorticoid metabolites for white rhinoceros. Additionally, this study demonstrates that female white rhinoceros excrete a significant amount of androgen metabolites that can be attributed to the adrenal gland. Findings from this study will*



facilitate future research with a larger sample size to clarify the role of these metabolites in reproductive health of both male and female white rhinoceros.

19. Almutlaq, R., **Newell-Fugate, A.E.**, Evans, L., Fatima, L., Gohar, E. (2022) Aromatase inhibition increases blood pressure and promotes renal tubular injury in female rats. *American Journal of Physiology-Renal*. PMID: 35900340 <https://doi.org/10.1152/ajprenal.00055.2022>  
*I was involved in the generation of the hypothesis and experimental design for this project on the role of intra-renal aromatase function in control of blood pressure and renal tubular function and continue to provide LC-MS/MS analysis of androgen and estrogen hormones in the renal medulla for my collaborator, Dr. Eman Gohar.*
20. Gent, R., Barbier, I.D., **Newell-Fugate, A.E.**, Swart, A.C.\*^ (2023) Ultra Performance Convergence Chromatography tandem mass spectrometry analysis of adrenal and gonadal steroid hormones in southern white rhinoceros (*Ceratotherium simum simum*) faeces and serum. *Journal of Chromatography B*. PMID: 36529070 <https://doi.org/10.1016/j.jchromb.2022.123576>
21. Campos-Krauer\*, J.M., West, G., Holland, J., Goblet, C.C., Isaza, R., **Newell-Fugate, A.E.**^ (2023) Evaluation of a combination of tiletamine/zolazepam, medetomidine, and azaperone with nasal oxygen supplementation for the immobilization of captive Chacoan peccaries (*Catagonus wagneri*) in the Chaco region of Paraguay. *Journal of Wildlife Disease*. <https://doi.org/10.7589/JWD-D-21-00203>
22. Mahabir, V. and **Newell-Fugate, A.E.**\*^ (2024) A method for manufacture of silicone testosterone enanthate implants for large animal models. *MethodsX*. PMID: 38283761  
<https://doi.org/10.1016/j.mex.2024.102549>
23. Reiche, E., Keller, E.P.R., Soares, V., Schuster, C.R., Billaud, M., Rahmayanti, S., Hu, S., Hoover-Watson, H., Mroueh, J., Mroueh, V., Lian, C.G., Tan, Y., Kim, S.Y., Doloff, J.C., **Newell-Fugate, A.E.**, Coon, D. (2024) Androgenic Steroids Induce Pathologic Scarring in a Preclinical Swine Model Via Dysfunctional Extracellular Matrix Deposition. *The FASEB Journal*. PMID: 38530321  
<https://doi.org/10.1096/fj.202302144RRR>
24. Ahmad, I., Gupta, S., Faulkner, P.C., Mullens, D., Thomas, M., Sytha, S., Ivanov, I., Cai, J., Heaps, C., **Newell-Fugate, A.E.**\*^ (2024) Single-nucleus transcriptomics of epicardial adipose tissue from females reveals exercise control of innate and adaptive immune cells. *Cell Communication and Signaling*. 22(1): 243. PMID: 38671495 <https://doi.org/10.1186/s12964-024-01587-w>

#### **MANUSCRIPTS IN SUBMISSION/REVISION/PREPARATION**

25. Ahmad, I., Gupta, S., Cai, J., Heaps, C., **Newell-Fugate, A.E.** \*^ Aerobic exercise training modulates macrophage phenotype and CD8+ T cell populations in epicardial adipose tissue of females. Submitted (2/14/25) to *AJP Cell Physiology*.
26. Ahmad, I., Faulkner, P.C., Browning, L., Hernandez, D., Kothmann, K.H., Acebo, S., Stolarski, E., Laffitte, E., Jacobsen, V., **Newell-Fugate, A.E.**\*^ Effects of androgens on the adipocyte insulin signaling pathway are dependent on intracellular androgen interconversion to estrogenic metabolites. *Molecular Metabolism*. In preparation.
27. Faulkner, P.C., Kothmann, K.H., Kay, M., Romney, S., Acebo, S., Reyna, A., Rutkowski, J., Choudhury, M., **Newell-Fugate, A.E.**\*^ DHT differentially regulates T helper cell-related cytokines



and microRNA in visceral and subcutaneous adipose tissue of female C57Bl/6 house mice (*Mus musculus*). *Molecular Metabolism*. In preparation.

28. Kothmann, K.H., Skenandore, C., Goblet, C., Gil, L., Ali, A., Jacobsen, V., **Newell-Fugate, A.E.**<sup>.\*^</sup> Dietary coconut oil mitigates features of metabolic syndrome in obese female pigs. *Diabetes*. In preparation.
29. Shah, P., Skenandore, C., Faulkner, P.C., Kothmann, K.H., Browning, L., **Newell-Fugate, A.E.**<sup>.\*^</sup> Dietary coconut oil mitigates hyperandrogenemia in obese female pigs via suppression of androgen steroidogenesis in the adrenal cortex. *Endocrinology*. In preparation.

## **REVIEW MANUSCRIPTS**

1. **Newell-Fugate, A.E.**<sup>.\*^</sup> (2017) The role of sex steroids in white adipose tissue adipocyte function. *Reproduction*. Apr; 153(4): R133-R149. doi: 10.1530/REP-16-0417 PMID:28115579 (invited review)  
*This was the first review article that summarized and synthesized the role of androgens and estrogens in control of white adipose tissue adipocyte function, and critically evaluated the conflicting information available in the literature about the effects of sex steroids on adipocytes, particularly nutrient turnover in these cells. It was the most down-loaded review of the year (8030 downloads) in 2017 for the journal Reproduction. Since its publication it has been cited 88 times or 17-18 times per annum.*
2. Ahmad, I., **Newell-Fugate, A.E.**<sup>.\*^</sup> (2022) Androgens and androgen receptor control of mitochondrial function. *AJP-Cell Physiology*. (invited review) [doi.org/10.1152/ajpcell.00205.2022](https://doi.org/10.1152/ajpcell.00205.2022)  
*This invited review is the first comprehensive review of the mechanistic effects of androgens in control of mitochondrial function. Since its publication in September 2022 it has been cited 4 times.*
3. Giles, E.D.\*., Purcell, S., Olson, J., Vrieling, A., Hirko, K., Woodruff, K., Playdon, M., Gilmore, L.A., Moberly, H.K., **Newell-Fugate, A.E.**<sup>.\*^</sup> (2023) Trends in Diet and Cancer Research: A Bibliometric and Visualization Analysis. *Cancers Special Issue: Cancer and Nutrients*. PMID:37568578  
[10.3390/cancers15153761](https://doi.org/10.3390/cancers15153761)
4. Ghosal, R., Edwards, K., Chiarelli, T.L., Fanson, K., Ganswindt, A., Keeley, T., Koester, D.C., Roberts, B., Majelantle, T.L., Wauters, J., **Newell-Fugate, A.E.**<sup>.\*^</sup> (2023) Biomarkers of reproductive health in wildlife and techniques for their assessment. *Theriogenology Wild: Special Issue – Wildlife Endocrinology*. <https://doi.org/10.1016/j.therwi.2023.100052>

## **INVITED PRESENTATIONS**

### Invited Presentations – International

#### **Keynotes/Meeting Symposia/Workshops**

- |                  |  |
|------------------|--|
| July 12, 2018    | “Job offers and salary negotiations”, Women in Reproductive Sciences Breakfast Panel, Annual Meeting of the Society for the Study of Reproduction, New Orleans, Louisiana, USA |
| July 19, 2019    | “PCOS and metabolic dysfunction: is it all about androgens?”, Annual Meeting of the Society for the Study of Reproduction, San Jose, California, USA                           |
| October 19, 2021 | “Battle of the sexes: Androgens and estrogens in control of white adipose tissue metabolism” in Sex Differences in Cardiovascular and Renal                                    |

	Diseases Session at the 2021 APS New Trends in Sex and Gender Medicine Conference (virtual)
June 1, 2023	"Presenting Yourself on Paper: Writing CVs and Cover Letters to Land Your Dream Job!" panel with the International Society of Wildlife Endocrinology Trainee Affairs Committee (virtual)
June 17, 2024	"Using single nuclei transcriptomics to uncover the effect of exercise on myeloid and lymphoid cells in the epicardial adipose tissue of swine", Swine in Biomedical Research Conference, University of Wisconsin, Madison, Wisconsin, USA
July 13, 2025	"Androgen Imbalance: How Testosterone Concentration Influences Metabolism in Liver and Adipose Tissue in PCOS", ENDO 2025, San Francisco, California, USA
<b>Seminars</b>	
October 21, 2019	"Sex steroids and dietary fat in control of metabolism", Stellenbosch University, Department of Biochemistry, Stellenbosch, South Africa

Invited Presentations - National

**Keynotes/Meeting Symposia/Workshops**

May 2, 2018	"Sexual dimorphism in white adipose tissue and adipocyte function", Annual Meeting of the Organization for the Study of Sex Differences, Atlanta, Georgia, USA
May 6, 2019	"The battle of the sexes: androgens and estrogens in control of white adipose tissue metabolism", Symposium Keynote: The role of sex steroids in metabolic health and disease, Organization for the Study of Sex Differences, Washington, DC, USA
June 6, 2019	"Toward a better planet: one trainee at a time", Toward a Better Planet Symposium, North Carolina State University Libraries, Raleigh, NC, USA
June 9, 2021	"Evaluation and Influence of Mate Compatibility in Mammals", Mate Choice Workshop at the AZA Mid-year meeting – Online Webinar
June 15, 2024	"Using single nuclei transcriptomics to uncover the effect of exercise on myeloid and lymphoid cells in the epicardial adipose tissue of swine", Swine in Biomedical Research Conference, Madison, Wisconsin, USA
November 20, 2024	"Hormones and the Endocrine System in Lipidema" Round Table Discussion Facilitator, Lipidema Foundation 2024 Scientific Retreat, Herndon, VA

**Seminars**

May 4, 2018	"The role of sex and nutrition in white adipose tissue function, metabolic homeostasis, and reproduction", Southern Illinois University School of Medicine, Department of Medical Microbiology, Immunology, and Cell Biology, Springfield, Illinois, USA
November 12, 2018	"The role of sex in white adipose tissue function and metabolic homeostasis", University of Mississippi Medical Center, Women's Health Research Center, Jackson, Mississippi, USA
November 14, 2019	"Sex steroids and dietary fat in control of metabolism"; Oregon National Primate Research Center, Portland, Oregon, USA
October 23, 2020	"Sex steroid control of white adipose tissue immunometabolism"; Department of Molecular and Cellular Reproductive Physiology, University of Nebraska – Lincoln, USA

November 4, 2020	"Sex steroid control of white adipose tissue immunometabolism"; Department of Cellular and Molecular Pharmacology and Physiology, School of Medicine, University of Nevada – Reno, USA
September 13, 2021	"Battle of the sexes: Androgens and estrogens in control of white adipose tissue metabolism", School of Animal and Comparative Biomedical Sciences, University of Arizona, USA
January 26, 2022	"Exercise and androgens in control of adipose tissue metabolism" Translational Research in Energetics and Cancer Seminar Webinar Series
June 20, 2022	"Battle of the Sexes: Androgens and estrogens in control of white adipose tissue immunometabolism" Translational Research in Energetics and Cancer Workshop, Connecticut, USA
September 29, 2022	"Battle of the Sexes: Androgens and estrogens in control of white adipose tissue immunometabolism", Vanderbilt Center for Diabetes Translational Research, Nashville, USA

#### Invited Presentations – Local

##### **Keynotes/Meeting Symposia/Workshops**

October 27, 2014	"Androgens cause differential effects on insulin signaling in visceral and subcutaneous adipose tissue of females", Texas A&M Nutrition Obesity Symposium, College Station, Texas, USA
April 27, 2018	"Virgin coconut oil improves metabolism and ovarian function in obese individuals", Texas A&M Nutrition Obesity Symposium, College Station, Texas, USA
December 16, 2018	"The battle of the sexes: androgens and estrogens in control of white adipose tissue lipid metabolism", Texas A&M University Diabetes Symposium on Immunometabolism and Chronic Diseases, College Station, Texas, USA
March 8, 2022	"Battle of the Sexes: Androgens and estrogens in control of white adipose tissue immunometabolism", Women's Research on Women Symposium, Texas A&M University, College Station, TX, USA
September 20, 2024	"Using single nuclei transcriptomics to uncover the effect of exercise on myeloid and lymphoid cells in the epicardial adipose tissue", Texas A&M University Cardiovascular Research Institute, College Station, TX USA

##### **Seminars**

April 22, 2015	"Obesity, hyperinsulinemia, and hyperandrogenemia", Texas A&M Interdisciplinary Faculty of Reproductive Biology Seminar, College Station, Texas, USA
October 15, 2016	"The use of urine pheromones for estrous cycle induction and synchronization in female Red River Hogs", Seminar, Dallas Zoo, Dallas, Texas, USA
October 4, 2017	"The role of sex and nutrition in white adipose tissue function, metabolic homeostasis, and reproduction", Texas A&M Health Science Center, Department of Medical Physiology Seminar, College Station, Texas, USA
November 2, 2018	"Implications of systemic and local steroid hormone milieu in white adipose tissue metabolism", Texas A&M Interdisciplinary Faculty of Reproductive Biology Seminar, College Station, Texas, USA
February 4, 2020	"Tech Talk" in the Department of Biomedical Engineering, Texas A&M University, College Station, Texas, USA

- September 9, 2022 “Adipose tissue intracrinology in control of metabolism”, Interdisciplinary Faculty of Toxicology, Texas A&M University, College Station, Texas, USA
- November 11, 2022 “Androgen control of immunometabolism” Veterinary Physiology and Pharmacology Departmental Seminar, Texas A&M University, College Station, Texas, USA

#### Invited Presentations – Community Organizations

- April 5, 2014 “What’s the big tadoo about zoo animal poo?” Mini-course, Explore ACES Open House, College of Agricultural, Consumer and Environmental Sciences, University of Illinois, Urbana, Illinois, USA
- September 13, 2017 “Swine in biomedical and agricultural research”, Texas A&M University College of Veterinary Medicine and Biomedical Sciences Swine Vets Student Group, College Station, Texas, USA
- October 23, 2018 “Swine as biomedical models for humans”, Texas A&M University College of Veterinary Medicine and Biomedical Sciences Swine Vets Student Group, College Station, Texas, USA
- March 31, 2021 Panelist: “Transitioning from student to post doc to professor”, Texas A&M University College of Veterinary Medicine and Biomedical Sciences Graduate Student Association, College Station, Texas, USA
- February 27, 2022 Panelist: “Non-clinical careers in veterinary medicine”, University of Maryland – College Park, Department of Avian and Animal Sciences, College Park, Maryland, USA (virtual)
- February 16, 2023 “Swine as biomedical models for humans”, Texas A&M University Christian Women Pre-veterinary Student Organization

### **CHAIRMANSHIPS**

#### Invited Chair of Conference Symposia/Sessions – International

- March 26, 2019 Novel Topics in the Management of PCOS Patients, Annual Meeting of the Endocrine Society, New Orleans, LA, USA
- June 13, 2022 Unconventional modulation: Post-transcriptional, metabolite, and co-chaperone influences on steroid receptor function, Annual Meeting of the Endocrine Society, Atlanta, GA, USA
- June 2023 Intracrine Steroid Action: Novel Steroids, Novel Enzymes, and Novel Sites of Synthesis, Annual Meeting of the Endocrine Society, Chicago, IL, USA

#### Invited Chair of Conference Symposia/Sessions – National

- May 6, 2019 The role of sex steroids in metabolic health and disease, Joint Meeting of the Organization for the Study of Sex Differences and the International Society for Gender Medicine, Washington, DC, USA
- April 30, 2022 How to stay encouraged and persevere: an interview with Temple Grandin, Moms with a DVM Encouragement Conference, Beaufort, SC, USA (*One of three interviewers of Temple Grandin*)

#### Invited Chair of Conference Symposia/Sessions – Local

- October 19, 2018 Texas A&M University Interdisciplinary Faculty for Reproductive Biology 54<sup>th</sup> Annual Retreat

## ABSTRACTS/PRESENTATIONS AT SCIENTIFIC MEETINGS

(trainees are underlined; presenter is highlighted with \*)

- January 2011      Poster: **Newell-Fugate, A.E.\***, Taibl, J.N., Clark, S.G., Alloosh, M., Sturek, M., Krisher, R.L., Baseline and superovulation hyperandrogenism and follicular dynamics in the Ossabaw pig suggest an animal model for polycystic ovary syndrome (PCOS), IETS 2011, Orlando, Florida, USA (*Reproduction, Fertility and Development*. 23(1): 256-257)
- July 2011      Poster: **Newell-Fugate, A.E.\***, Taibl, J.N., Alloosh, M., Sturek, M., Nowak, R.A., Krisher, R.L., Follicular dynamics and estrous cycle features of the Ossabaw pig model of polycystic ovary syndrome (PCOS). In: Proceedings of the Annual Meeting of the Society for the Study of Reproduction, Portland, Oregon, USA
- November 2011      Oral: **Newell-Fugate, A.E.\***, Bertschinger, H., Nöthling, J., Seasonal changes in steroid hormone profiles, body weight, semen quality, and accessory sex organs in captive African wild dogs (*Lycaon pictus*) in South Africa, International Society for Wildlife Endocrinology 2011, Toronto, Canada
- March 2012      Oral: **Newell-Fugate, A.E.\***, A proposal to assess baseline reproductive hormone profiles and the effect of pheromones on mating success in non-breeding pairs of Babirusa and Red River Hog, AZA Ungulate TAG Research Symposium at the Mid-year AZA meeting, Palm Springs, California, USA
- July 2013      Poster: **Newell-Fugate, A.E.\***, Taibl, J.N., Alloosh, M.A., Sturek, M., Bahr, J.M., Nowak, R.A., Krisher, R.L., The effect of an excess caloric and high fat diet on follicular dynamics and steroidogenesis in the female Ossabaw mini-pig, Society for the Study of Reproduction 2013, Montreal, Canada
- March 2014      Oral: **Newell-Fugate, A.E.\***, The relationship between husbandry and reproductive success in captive Red River Hogs, AZA Ungulate TAG Research Symposium at the Mid-year AZA meeting, Memphis, Tennessee, USA
- April 2014      Poster: Ahamed, K.A.\* , Holscher, H.D., Kil, D.Y., **Newell-Fugate, A.E.**, Krisher, R.L., Swanson, K.S., Gastrointestinal morphology, tight junction gene expression, and microbiota of the Ossabaw obese pig model, Experimental Biology 2014, San Diego, California, USA
- June 2014      Poster: **Newell-Fugate, A.E.\***, Jarboe, M., Bromfield, C., Clark, S.G., Rosenfield, R.L., Bahr, J.M., Nowak, R.A., Testosterone administration to female pigs causes dose- and time-related changes in serum insulin and differentially up-regulates *INSR* and *IRS1* gene expression in adipose tissue, ENDO 2014, Chicago, Illinois, USA
- March 2015      Poster: **Newell-Fugate, A.E.\***, Jarboe, M., Bromfield, C., Braundmeier, A.G., Clark, S.G., Rosenfield, R.L., Bahr, J.M., Nowak, R.A., Virilizing concentrations of serum testosterone in female pigs may differentially affect insulin signaling in visceral and subcutaneous adipose tissue, ENDO 2015, San Diego, California, USA

- March 2015 Oral: **Newell-Fugate, A.E.\***, Breeding manipulation and fertility preservation in the Red River Hogs, AZA Ungulate TAG Research Symposium at the Mid-year AZA meeting, Columbia, South Carolina, USA
- June 2015 Poster: Lenz, K.\*, **Newell-Fugate, A.E.**, Nowak, R.A., White, B., Braundmeier-Fleming, A., The effects of obesity in female Ossabaw mini-pigs on the microbiome of the urogenital tract, Society for the Study of Reproduction 2015, San Juan, Puerto Rico
- June 2015 Poster: Cruz, A.\*, **Newell-Fugate, A.E.**, Adur, M., Krisher, R.L., Nowak, R.A., The effects of a high fat diet on the morphology of the small intestine in the Ossabaw mini-pig model, Society for the Study of Reproduction 2015, San Juan, Puerto Rico
- October 2015 Oral: Jarboe, M., Adams, C, Bahr, JM, Penfold, L, **Newell-Fugate, A.E.\*** Boar urine pheromone exposure modifies estrous cycle length and regularity in same-sex housed female red river hogs (*Potamochoerus porcus*), International Society for Wildlife Endocrinology 2015, Berlin, Germany
- March 2016 Poster: Silva, D., Howard, L., Malstaff, R., Walser, R. Moresco, A., Agnew, D., **Newell-Fugate, A.E.\***, Reproductive clinical cases and pathology in captive, non-domestic suidae, AZA Ungulate TAG Research Symposium at the Mid-year AZA meeting, Omaha, Nebraska, USA
- April 2016 Poster: Skenandore, C.\*, Lenz, K., Nowak, R.A., White, B., Braundmeier-Fleming, A., **Newell-Fugate, A.E.**, Effects of obesity induced by a diet high in plant-derived saturated fats on reproductive and immune parameters in Ossabaw mini-pigs, Texas Forum on Reproductive Sciences, Houston, Texas, USA
- March 2017 Poster: Hernandez, D.A., Skenandore, C., Browning, L., **Newell-Fugate, A.E.\*** Sexually dimorphic effects of androgens on insulin signaling in cultured rat visceral and subcutaneous adipocytes, Keystone Symposium: Sex and Gender Factors Affecting Metabolic Homeostasis, Diabetes and Obesity. Tahoe City, California, USA
- March 2017 Oral: **Newell-Fugate, A.E.\***, The effects of age, parity, and contraception on reproductive tract lesions on Suidae and Tayassuidae, AZA Ungulate TAG Research Symposium at the 2017 Mid-year AZA meeting, Albuquerque, New Mexico, USA
- April 2017 Poster: Hernandez, D.A.\*, Skenandore, C., Browning, L., **Newell-Fugate, A.E.**, Sexually dimorphic effects of androgens on insulin signaling in cultured rat visceral and subcutaneous adipocytes, ENDO 2017, Orlando, Florida, USA
- April 2017 Poster: Skenandore, C.\*, Hanzel, A., Bromfield, C., Rosenfield, R.L., Bahr, J.M., Nowak, R.A., Krisher, R.L, **Newell-Fugate, A.E.**, A high fat coconut oil containing diet maintains normal glucose homeostasis and normal systemic and adipose tissue androgen concentrations in obese females, ENDO 2017, Orlando, Florida, USA



- August 2017      Poster: Goblet, C.\*, Silva, D., **Newell-Fugate, A.E.**, Effect of fecal sample moisture content on extraction efficiency and progesterone concentration in Red River Hog (*Potamochoerus porcus*), International Society for Wildlife Endocrinology 2017, Orlando, Florida, USA
- August 2017      Oral: **Newell-Fugate, A.E.\***, Goblet, C., Silva, D., Molter, C., Howard, L., Diagnosis and treatment of persistent corpora lutea in a female Babirusa (*Babirusa babirusa*), International Society for Wildlife Endocrinology 2017, Orlando, Florida, USA
- September 2017      Oral: Goblet, C.\*, Moresco, A., Agnew, D., Garner, M., **Newell-Fugate, A.E.**, Retrospective characterization of reproductive tract lesions in relation to age, parity, and contraception in captive female Suidae and Tayassuidae, Association of Zoo and Wildlife Veterinarians 2017, Dallas, Texas, USA
- January 2018      Oral: Goblet, C.\*, West, G., Campos-Krauer, J.M., **Newell-Fugate, A.E.**, Semen and spermatozoa parameters from a captive population of the endangered Chacoan peccary (*Catagonus wagneri*) in Paraguay, International Embryo Transfer Society 2018, Bangkok, Thailand.  
*Peter Farin Trainee Travel Award Winner*
- March 2018      Poster: Skenandore, C., Browning, L., Goblet, C., **Newell-Fugate, A.E.\***, Obese females fed a high fat diet containing virgin coconut oil have improved glucose homeostasis and ovarian folliculogenesis, ENDO 2018, Chicago, Illinois, USA
- March 2018      Oral: Goblet, C., West, G., Campos-Krauer, J.M., **Newell-Fugate, A.E.\***, Semen and spermatozoa parameters from a captive population of the endangered Chacoan peccary (*Catagonus wagneri*) in Paraguay, AZA Ungulate TAG Research Symposium at the Mid-year AZA meeting, Jacksonville, Florida, USA
- March 2018      Oral: Goblet, C.\* Lewis, B., Silva, D., **Newell-Fugate, A.E.**, The impact of novel pheromones or novel boar introduction on estrous cycle characteristics and fecal progesterone metabolite concentrations in female Red River Hogs (*Potamochoerus porcus*), AZA Ungulate TAG Research Symposium at the Mid-year AZA meeting, Jacksonville, Florida, USA
- July 2018      Poster: Goblet, C.\*, Lewis, B., Jarboe, M., Silva, D., Penfold, L., **Newell-Fugate, A.E.** Introduction of novel female and male urine pheromones alters estrous cycle length and synchronizes estrous cycles in captive female red river hogs (*Potamochoerus porcus*) in North American zoos, Society for the Study of Reproduction 2018, New Orleans, LA, USA
- July 2018      Poster: **Newell-Fugate, A.E.\***, Browning, L., Skenandore, C., Hernandez, D., Goblet, C. Obese females fed a high fat diet containing virgin coconut oil have improved glucose tolerance and ovarian folliculogenesis despite visceral adiposity, Society for the Study of Reproduction 2018, New Orleans, LA, USA
- March 2019      Poster: Laffitte, E.\*, Hernandez, D., Ali, A., Goblet, C., Browning, L., **Newell-Fugate, A.E.** The local androgen-estrogen environment differentially regulates adipose tissue lipid metabolism by depot and by sex, Texas A&M University Student Research Week 2019, College Station, TX, USA

- March 2019 Oral: **Newell-Fugate, A.E.\***, Hernandez, D., Skenandore, C., Goblet, C., Laffitte, E., Browning, L. The local androgen-estrogen environment differentially regulates adipocyte lipid metabolism by fat depot and sex, Androgen Excess-PCOS Society Update Meeting 2019, New Orleans, LA, USA
- March 2019 Directed Poster Presentation: **Newell-Fugate, A.E.\***, Hernandez, D., Skenandore, C., Goblet, C., Laffitte, E., Browning, L. The local androgen-estrogen environment differentially regulates adipocyte lipid metabolism by fat depot and sex, ENDO 2019, New Orleans, LA, USA
- March 2020 Poster: Skenandore, C., Ali, A., Gil, L., Schwartz, R., Goblet, C., Kothmann, K.H., Browning, L., **Newell-Fugate, A.E.\*** Dietary coconut oil mitigates features of metabolic syndrome in obese females, ENDO 2020, San Francisco, CA, USA  
*Abstract one of 35 selected for the Research Summaries Book and one of three presented at a press conference on Diet and Obesity at ENDO 2020*
- July 2020 Poster: Shah, P.\*, Skenandore, C., Goblet, C., Kothmann, K.H., **Newell-Fugate, A.E.** Dietary coconut oil improves glucose tolerance but increases theca androstenedione production in response to chorionic gonadotropin in obese females, Society for the Study of Reproduction 2020 Virtual Meeting
- July 2020 Poster: Kothmann, K.H.\*, Zheng, S., Guo, S., **Newell-Fugate, A.E.** Validation of a DAPI/Anti-lamin A/C immunofluorescent labeling technique for the improved classification of oocyte meiotic maturation stage in porcine oocytes, Society for the Study of Reproduction 2020, Virtual Meeting
- November 2020 Poster: Kothmann, K.H.\*, Ali, A., Gil, L., Johnson, K., Zheng, S., Guo, S., Heaps, C.L., **Newell-Fugate, A.E.** Exercise training differentially effects androgen control of adipocyte fatty acid uptake by sex and adipose tissue depot, APS-Integrative Physiology of Exercise 2020, Virtual Meeting
- November 2020 Poster: Self, T.S.\*, Ginn-Hedman, A.M., Kaulfus, C.N., **Newell-Fugate, A.E.**, Weeks, B.R., Heaps, C.L. Iodine-enhanced micro-CT of atherosclerotic plaques complements routine histology, APS-Integrated Physiology of Exercise 2020, Virtual Meeting
- March 2021 Poster: Kothmann, K.H.\*, Kay, M., Romney, S., Acebo, S., Reyna, A.J., Choudhury, M., Rutkowski, J.M., **Newell-Fugate, A.E.** DHT differentially regulates T helper cell related cytokines and microRNAs in visceral and subcutaneous adipose tissue of female mice, ENDO 2021, Virtual Meeting
- March 2021 Poster: Shah, P.\*, Kothmann, K.H., Skenandore, C., Browning, L., Goblet, C., Chau, L., Grizzaffi, M., **Newell-Fugate, A.E.** Dietary coconut oil mitigates hyperandrogenemia in obese female pigs due to suppression of androgen steroidogenesis in the adrenal cortex and theca externa, ENDO 2021, Virtual Meeting
- March 2021 Poster: Grizzaffi, M.\*, Kothmann, K.H., Chau, L., Heaps, C.L., **Newell-Fugate, A.E.** Exercise modulates androgen control of lipolysis in white adipose tissue of

male and female pigs. Texas A&M University Student Research Week 2021, College Station, TX, USA

- March 2021      Poster: Chau, L.\*, Kothmann, K.H., Heaps, C.L., **Newell-Fugate, A.E.** Exercise and androgens interact to control fatty acid uptake via androgen and estrogen receptors in white adipose tissue of female pigs. Texas A&M University Student Research Week 2021, College Station, TX, USA
- April 2021      Oral: Shah, P.\*, Kothmann, K.H., Skenandore, C., Chau, L., Grizzaffi, M., Browning, L., Goblet, C., **Newell-Fugate, A.E.** Dietary coconut oil mitigates hyperandrogenemia in obese female pigs due to suppression of androgen steroidogenesis in the adrenal cortex and theca externa. Texas A&M Health Science Center Graduate Student Symposium 2021, College Station, TX, USA
- April 2021      Oral: Almutlaq, R.N.\*, **Newell-Fugate, A.E.**, Gohar, E.Y. Aromatase inhibition increases blood pressure in female Sprague Dawley rats, Experimental Biology 2021, Virtual Meeting
- June 2021      Oral: Shah, P.\*, Kothmann, K.H., Skenandore, C., Chau, L., Grizzaffi, M., Browning, L., Goblet, C., **Newell-Fugate, A.E.** Dietary coconut oil mitigates hyperandrogenemia in obese female pigs due to suppression of androgen steroidogenesis in the adrenal cortex and theca externa. Texas Forum on Reproductive Sciences 2021, Virtual Meeting
- December 2021      Poster: Shah, P.\*, Kothmann, K.H., Skenandore, C., Chau, L., Grizzaffi, M., Browning, L., Goblet, C., **Newell-Fugate, A.E.** Dietary coconut oil mitigates hyperandrogenemia in obese female pigs via suppression of androgen steroidogenesis in the adrenal cortex and theca externa. Society for the Study of Reproductive Biology 2021, St. Louis, MO
- May 2022      Oral: Shah, P.\*, Kothmann, K.H., Skenandore, C., Chau, L., Grizzaffi, M., Browning, L., Goblet, C., **Newell-Fugate, A.E.** Dietary coconut oil mitigates hyperandrogenemia in obese female pigs via suppression of androgen steroidogenesis in the adrenal cortex and theca externa. Texas A&M College of Veterinary Medicine Graduate Student Symposium 2022, College Station, TX, USA
- June 2022      Rapid Fire Poster Presentation (Flash Talk): Faulkner, P.\*, Kothmann, K.H., Chau, L., Jacobsen, V., Grizzaffi, M., Thomas, M., Branning, A., **Newell-Fugate, A.E.** The local androgen-estrogen environment differentially regulates insulin pathway components by fat depot and sex. ENDO 2022, Atlanta, GA, USA  
*Outstanding Abstract Award Winner*
- September 2022      Poster: Ahmad, I., Valdiviezo, A., Moyer, H., Nasci, V.L., Rusyn, I., Gohar, E.Y., **Newell-Fugate, A.E.** High-throughput LC-MS/MS steroid quantification of rat renal medulla reveals sexual dimorphism of renal steroidogenesis. Texas A&M Post-doctoral Symposium 2022, College Station, TX, USA  
*People's Choice Award Winner*
- January 2023      Poster: Ahmad, I., Faulkner, P., Grizzaffi, M., Thomas, M., Kothmann, K.H., Wright, T., **Newell-Fugate, A.E.** Androgen control of white adipose tissue

mitochondrial function in females. Keystone Symposium - Adipose Tissue: Energizing Good Fat, Keystone, CO, USA

- May 2023 Virtual Presentation: Mahabir, N. Development of a porcine model of transgender men is a novel assessment of testosterone impact on insulin resistance and metabolic state. Sigma Xi Scientific Research Honor Society Student Research Showcase  
*First place award, Graduate Student Category*
- June 2023 Ahmad, I., Faulkner, P., Gupta, S., Mullens, D., Thomas, M., Sytha, S., Ivanov, I., Cai, J., Heaps, C., **Newell-Fugate, A.E.** Single nuclei transcriptomics of epicardial adipose tissue from exercised female pigs reveals differential effects of endurance exercise on resident innate and adaptive immune cells. ENDO 2023, Chicago, IL, USA
- June 2023 Mahabir, N., Ahmad, I., Wright, T., Ten Have, G., Deutz, N., Newell-Fugate, A.E. Development of a novel, preclinical swine model of transgender men for the assessment of testosterone impact on insulin sensitivity and whole-body metabolism. ENDO 2023, Chicago, IL, USA
- July 2023 Mahabir, N., Ahmad, I., Wright, T., Ten Have, G., Deutz, N., **Newell-Fugate, A.E.** Novel, preclinical porcine model of transgender men for the study of cardiometabolic health and ovarian physiology. Annual Meeting of the Society for the Study of Reproduction, Ottawa, CA
- Nov. 2023 Mahabir, N., Ahmad, I., Wright, T., **Newell-Fugate, A.E.** Novel, preclinical porcine model of transgender men for the study of cardiometabolic health and ovarian physiology. IFORE, Sigma Xi, Long Beach, CA
- Feb. 2024 Mahabir, N., Ahmad, I., Moyer, H., Rusyn, I., Rijnkles, M., Porter, W., Wright, T., **Newell-Fugate, A.E.** Virilizing testosterone suppresses insulin secretion, glucose tolerance, and skeletal muscle mitochondrial oxidative phosphorylation in a porcine transgender male model. Texas A&M University School of Veterinary Medicine and Biomedical Sciences Trainee Research Symposium, College Station, TX
- Feb. 2024 Ahmad, I., Gupta, S., Thomas, M., Sytha, S.P., Cai, J.J., Heaps, C.L., **Newell-Fugate, A.E.** Aerobic exercise decreases the number and transcript expression of M1 macrophages and CD8+ T cells in epicardial adipose tissue of female pigs. Texas A&M University School of Veterinary Medicine and Biomedical Sciences Trainee Research Symposium, College Station, TX
- July 2024 Mahabir, N., Ahmad, I., Pinon, A., **Newell-Fugate, A.E.** Virilizing Testosterone Decreases Pre-antral Follicle Size and Oocyte Mitochondrial Volume in a Transgender Male Swine Model. Annual Meeting of the Society for the Study of Reproduction, Dublin, Ireland

## Public Relations Articles

- 2017 **Winter WE Network News**, Newsletter for the Women in Endocrinology subcommittee of the Endocrine Society. "WE Member Spotlight" of Annie Newell-Fugate.
- 2018 **Winter ISWE News**, Newsletter for the International Society for Wildlife Endocrinology. "Meet Your ISWE Board Members" and "Photos from the Field"
- 2020 **Research Summaries Book, ENDO 2020**, Press release and press conference on abstract entitled: "Dietary coconut oil mitigates features of metabolic syndrome in obese females", ENDO 2020, The Annual Meeting of the Endocrine Society
- 2023 **Texas A&M School of Veterinary Medicine, SVM Today Winter 2023**, Spotlight article on Exercise and cardiovascular adipose tissue function, a research study funded by a Pilot Grant funded by the Clinical and Translational Science Award between UT-Southwestern and Texas A&M University

## CONTRACT WORK

Texas A&M Comparative Endocrine Laboratory work for other universities (\$15,000)

## GRANTS & CONTRACTS AWARDED

### Grants and Contracts Summary

Types and Role	Total \$ to all PIs
<b>External</b>	
PI	\$934,766
Co-PI	\$0
Subtotal	<b>\$934,766</b>
<b>Internal</b>	
PI	\$355,500
Co-PI/Collaborator	\$945,000
Subtotal	<b>\$1,300,500</b>
<b>Other</b>	
Gifts and Gifts-in-Kind	\$0
Royalties to Program	\$0
Contract Work	\$15,000
Subtotal	<b>\$15,000</b>
<b>Total</b>	<b>\$2,250,266</b>

## Grants and Contracts

### A. Current Research Support

**NIH R56DK141722-01 (\$75,000-PENDING)**

TBA-01/19/2026

Title: Androgen regulation of adipose metabolism in control of peripheral insulin sensitivity

Principle Investigator: **Annie E. Newell-Fugate**

Co-Investigators: Nicolaas Deutz, Adam Case

**NIH R21AG083544-01A1 (\$419,056)**

07/01/2024-06/30/2026

Title: Mitochondria-targeted therapy to improve metabolic health post-menopause

Principle Investigator: **Annie E. Newell-Fugate**

Co-Investigators: Akhilesh Gaharwar, Ziyaur Rahman

**Texas A&M University President's Excellence Fund (TDC: \$1,200,00; attributed to co-PI: \$315,000)**

Texas A&M University, X Grant Round 4

**September 2021 – August 2025**

Title: MitoX: Targeting Mitochondria to Improve Human Health

Principle Investigator: Weston Porter

Project Lead (Aim 2: Bioenergetics): **Annie E. Newell-Fugate**

Project Members: Monique Rjinkels, Melinda Sheffield-Moore

**B. Pending Research Support**

**1R03HD117215-01A1**

07/01/2025-06/30/2027

Title: Reversibility of testosterone-induced ovarian pathology after testosterone withdrawal in a transgender porcine model

Principle Investigator: **Annie E. Newell-Fugate**

**1R01HL181812-01**

07/01/2025-06/30/2029

Title: The sexually dimorphic role of testosterone in control of coronary artery disease

Principle Investigator: **Annie E. Newell-Fugate**

Co-Investigators: Cris Heaps, Sonya Gordon

**C. Completed Research Support**

**Texas A&M University President's Excellence Fund (TDC: \$32,000; attributed to PI: \$12,000)**

Texas A&M University, Texas Triads for Transformation Grant Round 4

**January 2021- December 2022**

Title: Targeting Insulin Resistance Via Adipocyte Steroid Interconversion In Control Of Immunometabolism

Principle Investigator: **Annie E. Newell-Fugate**

Co-Investigators: Yuxiang Sun, Shaodong Guo

**NIH 1ULTR003163-01A1 (TDC: \$25,000)**

Subaward. GMO: 220103 PO: 0000002553 between UT Southwestern Medical Center and



Texas A&M AgriLife  
**January - April 2022**

Pilot project title: Impact of exercise on the coronary perivascular adipose tissue microenvironment  
Principle Investigator: Robert Toto (UT Southwestern)  
Pilot Project PIs: **Annie E. Newell-Fugate** and Cristine Heaps

**Texas A&M University/Texas A&M University-Prairie View** (TDC: \$30,000; attributable to PI: \$10,000)

Panther Research & Innovation for Scholarly Excellence (PRISE)  
**2021 - 2022**

Title: Nanoengineered materials to modulate mitochondrial function  
Principle Investigator: **Annie E. Newell-Fugate**  
Co-Investigators: Akhilesh Gaharwar, Xiangfang Li

**Texas A&M University President's Excellence Fund** (TDC: \$32,000; attributable to PI: \$10,000)  
Texas A&M University, Texas Triads for Transformation Grant Round 2

**January 2019 - December 2020**

Title: The sexually dimorphic control of local androgens on white adipose tissue lipid metabolism  
Principle Investigator: **Annie E. Newell-Fugate**  
Co-Investigators: Mahua Choudhury, Steve Smith

**USDA Formula Animal Health Fund (NIFA) TEX09651** (TDC: \$59,079)  
**February 2016-September 2018**

Title: Effects of coconut oil feed additive on growth performance, immune function, and metabolism in post-weanling piglets  
Principal Investigator: **Annie E. Newell-Fugate**  
Co-Investigators: Guoyao Wu, Stephen B. Smith (Animal Sciences, TAMU)

**American Association of Zoo Veterinarians** (TDC: \$9,400)

Wild Animal Health Fund Award

**March 2016-March 2018**

Title: Retrospective characterization of reproductive tract lesions in relation to parity, age, and contraception in captive suid and tayassuid  
Principle Investigator: **Annie E. Newell-Fugate**  
Co-Investigators: Dalen Agnew (Michigan State University), Anneke Moresco (Denver Zoo)

**NIH Office of Research Infrastructure Programs K01OD011177** (ID/D C: \$422,231; TDC: \$388,452)

**September 2011-January 2017**

Title: Follicular and endometrial pathology in polycystic ovary syndrome  
Principal Investigator: **Annie E. Newell-Fugate**

**South African Veterinary Foundation** (TDC: \$25,000)

**August 2005-August 2006**

Title: The effects of two formulations of deslorelin on the reproduction of male African wild dogs (*Lycaon pictus*)  
Principal Investigator: H. Bertschinger (University of Pretoria)  
Co-Investigator: **Annie E. Newell-Fugate**

## TEACHING

### COURSES TAUGHT

#### **Biomedical Physiology I – VTPP 423**

Fall and Spring 2014-2018

**Instructor of Record – Annie Newell-Fugate**

4 Credit Hours (6 contact hours per week)

The purpose of this course is to familiarize biomedical undergraduate students to the physiological significance of cells, organs and organ systems in the maintenance of homeostasis in the mammalian organism. This course covers cell signaling, central nervous system, peripheral nervous system, autonomic nervous system, special senses, muscle, cardiac and vessel, respiratory and renal physiology. This course emphasizes the skill sets of critical thinking, problem solving and self-learning to prepare students for careers in medicine and science.

#### **Biomedical Physiology I – VTPP 623**

Fall and Spring 2017-2021

**Instructor of Record – James Herman and Charles Long**

4 Credit Hours

This is a stacked graduate course taught in conjunction with VTPP 423 – Physiology I. This course requires the same materials but requires the completion of variable problem sets, essay exams and participation in a weekly recitation. I provide the recitation for this course for the renal physiology portion.

#### **Biomedical Physiology II – VTPP 427**

Fall and Spring 2018-2022

**Instructor of Record (2018-2022, reproductive physiology) – Annie Newell-Fugate**

**Course Coordinator (2018-2022) – Annie Newell-Fugate**

3 Credit Hours (3 contact hours per week)

This required BIMS undergraduate curriculum course is a continuation of Physiology I – VTPP 423 with a focus on the development of clinical reasoning skills, recognition of common clinical pathology values, and understanding of the implications of abnormal clinical pathology values. The course covers acid-base and fluid balance, gastrointestinal, bone, reproductive, and endocrine physiology.

#### **Applied Biomedical Physiology – VTPP 427**

Fall and Spring 2023-present

**Instructor of Record (2023-present, energy balance and thermoregulation and female reproductive physiology) – Annie Newell-Fugate**

3 Credit Hours (3 contact hours per week)

This is a BIMS upper-level elective course with a focus on the development of clinical reasoning skills, recognition of common clinical pathology values, and understanding of the implications of abnormal clinical pathology values. The course covers acid-base and fluid balance, energy balance and thermoregulation, as well as cardiovascular, bone, reproductive, and endocrine physiology.

**Biomedical Physiology II – VTPP 627**

Fall and Spring 2018-2021

**Instructor of Record and Course Coordinator - Annie Newell-Fugate**

3 Credit Hours (3 contact hours per week)

This is a stacked graduate course taught in conjunction with VTPP 427 – Physiology II. This course requires the same materials but requires the completion of additional manuscript critique assignments.

**GUEST LECTURES/OTHER INVOLVEMENT IN INSTRUCTION**

**Systemic Veterinary Physiology II - VTPP 606**

Reproductive pathology lecture (1 contact hour, Spring 2015)

**Research and Discovery in Veterinary Medicine – VTPP 948**

Perspectives on research and discovery lecture (1 contact hour, Fall 2018)

**Reproduction in Farm Animals – ANSC 333 (Honors section)**

Served as a faculty interviewee for the students to practice drafting a biosketch (2018, 2019)

**Scientific Ethics – VMID 686**

Ethics of permissions and copyright lecture (2 contact hours per semester: Spring 2019-2024)

**ZEW Techniques – VSCS 948**

Turtle shell repair lecture and lab (2 contact hours, Fall 2019)

**Veterinary Medicine in 2030 – VMID 948**

Research Perspective in 2030 (1 contact hour, Fall 2019)

**Education in a Veterinary Medical and Biomedical Environment VIBS 650**

Establishing a Graduate Faculty Mentor (2 contact hours, Fall 2020, Spring 2021, Fall 2021)

**Veterinary Physiology – VTPP 912**

Vaginal Cytology and Small Animal Reproductive Biology Lab (4 contact hours, Spring 2021)

**OTHER TEACHING SYMPOSIA/LECTURES**

January 4, 2018	CVM Teaching Showcase, “The relationship between participation in animal-based experiential learning courses and future career trajectory in undergraduate students”
January 3, 2019	CVM Teaching Showcase, Participant on an invited panel on undergraduate teaching funding opportunities and teaching

### **LABORATORY TEACHING**

#### **Tier One Program Collaborative Initiatives in Maternal, Perinatal and Infant Health Research Program**

**Program Leader:** Dr. Jayanth Ramadoss

This undergraduate focused program will allow undergraduate students to have the unique opportunity to cultivate one-on-one relationships with experts in their respective fields and receive mentorship from faculty and established graduate students. They will receive individual attention while working in a small, interactive group of 2 to 3 assigned to a faculty research advisor per year. As the faculty member I guide individual undergraduate students on a given research experience. Students are taught cutting-edge technical skills and play an active role in generating publishable results and earn co-authorship on scientific abstracts/publications. Furthermore, through this experience, students become proficient in basic literature research, technical writing, data analyses, and presentation skills. Dr. Jayanth Ramadoss (VTPP) initiated this program in 2016.

<b>STUDENT NAME</b>	<b>YEAR</b>	<b>PROJECT TITLE</b>	<b>CURRENT LOCATION</b>
April Martinez	Spring/Summer 2017	Androgen regulation of insulin signaling	Graduated Spring 2018
Luke Browning	Fall 2017-Fall 2018	Androgen regulation of insulin signaling	PhD program, University of Texas-Austin
Lesly Gil	Fall 2018-present	Expression of IL17 in piglet ileum in response to dietary fat	MD Anderson Cancer Center – technician
Anisah Ali	Spring 2018	Androgen regulation of insulin signaling	Graduated Spring 2020

#### **Veterinary Medical Scientist Research Training Program (VMSRTP)**

**Program Leaders:** Drs. Dana Gaddy, Tracy Vemulapalli, Charles Long

This program introduces veterinary students to research and promotes relationships between research scientists and veterinarians. During the summer semester, first and second year veterinary students with an interest in research are paired with faculty mentors. Students complete a defined project, analyze the data and present their findings in a house seminar and a national meeting. Since 2016, I have mentored two students.

<b>STUDENT NAME</b>	<b>YEAR</b>	<b>PROJECT TITLE</b>	<b>CURRENT LOCATION</b>
Amanda Hanzel	2016	Effect of a Western-style or a high fat coconut oil diet on metabolism and adipose tissue steroidogenesis	Mixed practice veterinarian
James Sanchez	2017	Effect of dietary virgin coconut oil on GALT immune cell production of IL-17 in weanling piglets	Mixed practice veterinarian, Laredo, TX

## GRADUATE STUDENTS TRAINED

### Thesis Graduate Students

STUDENT NAME	YEAR ENROLLED	DEGREE	DEPARTMENT	MY ROLE
Shengdi Hu	2012	PhD	ANSC	Member
Cassandra Skenandore	2015	PhD	VTPP	Chair (2015-2017 only)
Zheng Shen	2016	PhD	NFSC	Member
Camille Goblet	2017	MS	VTPP	Chair
Wenliang He	2017	MS	ANSC	Member
Viviana Garza	2019	PhD	ANSC	Member
Sharanee Sytha	2019	MS	VTPP	Member
Madison Williamson	2020	MS	GENE	Member
Ramsey Jenschke	2020	PhD	GENE	Member
Jessica Sustaita	2020	PhD	ANSC	Member
Nirvana Mahabir	2022	MS	VTPP	Chair
Leslie King	2022	MS	ANSC	Member

### BIMS Non-Thesis Masters Students

STUDENT NAME	YEAR ENROLLED	MY ROLE
Daniel Hernandez	2014	Chair
Julia Wiatrek	2015	Chair
Nikolas Garcia	2016	Member
Alana Valdez	2016	Chair
Johnathan Leach	2017	Member
Cassandra Paz	2018	Chair
Jason Park	2019	Member
Payal Shah	2019	Chair
Samantha Hernandez	2020	Chair
LaTaisha Jeffrey	2021	Chair

## GRADUATE STUDENTS - GRADUATED

STUDENT NAME	DEGREE	YEAR	MY ROLE	DEPT	CURRENT LOCATION
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Daniel Hernandez*	MS NT	2017	Chair	BIMS	Business Systems and Analytics Associate, JP Morgan & Chase, Seattle, WA
Shengdi Hu	PhD	2017	Member	ANSC	Employee, Chinese government
Nikolas Garcia	MS NT	2018	Member	BIMS	Veterinarian
Camille Goblet	MS	2018	Chair	VTPP	5 <sup>th</sup> year PhD student, George Mason University (Smithsonian Institute Fellowship) - <i>deceased 12/16/2021</i>
Alana Valdez	MS NT	2018	Chair	BIMS	Unknown
Wenliang ('Will') He	MS	2019	Member	ANSC	Unknown
Cassandra Paz	MS NT	2019	Chair	BIMS	TAMU CVM Small Animal ICU technician
Jason Park	MS NT	2021	Member	BIMS	Unknown
Jonathan Leach	MS NT	2021	Member	BIMS	Unknown
Samantha Hernandez	MS NT	2021	Chair	BIMS	Medical scribe
LaTaisha Jeffrey	MS NT	2022	Chair	BIMS	Medical scribe
Maddison Williamson	MS	2022	Member	GENE	Clinical trial coordinator
Payal Shah	MS NT	2023	Chair	BIMS	Laboratory technician, industry
Nirvana Mahabir	MS	2024	Chair	BIMS	PhD Student, TAMU GI Lab Group

\* Received the CVMBS Outstanding Master's Student Award (2017)

#### STUDENTS WITHDRAWN

STUDENT NAME	DEGREE	MY ROLE	DEPT	CURRENT LOCATION
Dameriss Silva	PhD	Chair	VTPP	Unknown
Julia Wiatrek	MS NT	Chair	BIMS	Veterinarian

#### VISITING SCHOLARS

STUDENT NAME	COUNTRY OF ORIGIN	YEAR	PROJECT TITLE	CURRENT LOCATION
Sherdina Romney	Netherlands	2018-2019	Pilot study of a novel in vivo method for the assessment of	MD, Netherlands



			lipolysis by adipose tissue compartment in rats	
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#### OTHER TRAINEES

TRAINEE NAME	ROLE IN LAB	YEAR	CURRENT LOCATION
Rani Schwartz	Summer Intern	Summer 2019	Law preceptor
Kadden Kothmann	Technician I	2019-2021	4 <sup>th</sup> year TAMU Veterinary Student
Patricia Faulkner	Post-doctoral associate	2021-2022	LC-MS/MS Analyst, Suburban Labs (Geneva, Illinois)
Irshad Ahamd	Post-doctoral associate	2022-2024	Post-doctoral associate, Internal Medicine, MD Anderson Cancer Center (PI: Farhad Danesh)

#### UNDERGRADUATE STUDENTS TRAINED

STUDENT NAME	YEAR	MAJOR	PROJECT TITLE	CURRENT LOCATION
Logan Luskey	2015	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Veterinarian
Briana Bryson*	2015-2016	ANSC	Androgen effects on insulin signaling in 3T3-L1 cells	Unknown
Carol Ann Wackerlin	2015-2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Agricultural Economics Laywer (Illinois)
Heather Speck	2015-2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Veterinarian
Mariana Mund (Calloway)	2015-2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Laboratory Manager, Bullnanza, Sweetwater, TX
Arturo Espinoza	2015-2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	US Army
Shelby Gordon	2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown

Brooke Davis	2016	ANSC	Effect of pheromones on fecal progestogen and testosterone metabolites in Red River Hogs	Veterinarian
Delani Graham	2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Rachel England	2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Mason Irving	2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Valerie Jones	2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Kyra McLeod	2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Miranda Bozzo	2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Riley Burrows	2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Shannara Welch	2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Laboratory technician, TAMU
Carley Gates	2016	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Veterinarian
Elena Peruzzi	2016	ANSC	Coconut oil effects on growth and metabolism in piglets	Unknown
Susie Ochoa	2016-2017	ANSC	Coconut oil effects on growth and metabolism in piglets	Veterinarian
Sean Jankowski	2016-2017	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Veterinarian
Olivia Huffhines	2016-2017	BIMS	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Veterinary technician, Laredo, TX
Jacquelyn Askew	2017	BMEN	Androgen effects on insulin signaling	Unknown

Jacquelyn Babin	2017	ANSC	Expression of IL17 in piglet ileum in response to dietary fat	Veterinarian
Karling Hemstreet	2017	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Travis Twinning	2017	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Veterinarian
Morgan Matt	2017	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Chase Cortimilia	2017	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Mariafernand Ducoing	2017	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Michelle Reiner	2017	BIMS	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Morgan Jackson	2017-2018	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	TAMU HSC lab technician
Abigail Malthaner	2017-2018	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	3 <sup>rd</sup> year veterinary student, TAMU SVMBS
Tabitha Baibos	2017-2018	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	4 <sup>th</sup> year veterinary student, TAMU SVMBS
Arturo Garza	2017-2018	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	4 <sup>th</sup> year veterinary student, Kansas State
Kelby Nixon	2017-2018	BIMS	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Medical student, New York Institute of Technology College of Osteopathic Medicine at Arkansas State University, Jonesboro, AK
Samantha Laurenson	2017-2018	BIMS	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	4 <sup>th</sup> year veterinary student, TAMU SVMBS

Emily Baker	2017-2018	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Joel Rodriguez	2017-2018	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	4 <sup>th</sup> year veterinary student, TAMU SVMBS
Alma Reyes	2017-2018	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Austin Simmons	2017-2018	ANSC	Coconut oil effects on metabolism and ovarian function in obese Ossabaw pigs	Unknown
Lesly Gil	2017-2019	BIMS	Expression of IL17 in piglet ileum in response to dietary fat	Lab technician, MD Anderson, Houston, TX
Bryce Lewis	2017-2018	ANSC	Effect of pheromones on fecal progesterone and testosterone metabolites in Red River Hogs	Veterinary technician, The A-team, College Station, TX
Emily Laffitte	2018-2020	BIMS	Dietary coconut oil effects on steroidogenesis in ovary and adrenal gland of obese pigs	Medical student, Long School of Medicine, San Antonio, TX
Victoria Jacobsen	2018-2019	BIMS	Androgen-insulin signaling relationships in lean Yorkshire pigs	Medical student, UT Health Rio Grand Valley
Anisah Ali	2019-2020	BIMS	Androgen-insulin signaling relationships in adipose tissue	Unknown
Sarah Acebo	2019-2020	BIMS	Role of dietary coconut oil in control of androgen steroidogenesis in obese females	Medical Scribe, Houston
Matthew Grizzaffi	2020-present	BIMS	Androgens in control of glycerol release in white adipose tissue (pig model)	Medical student, UTMB-Galveston
Laura Chau	2020-2021	BIMS	Androgens in control of fatty acid uptake in white adipose tissue (pig model)	Veterinary technician
Tammy Tran	2021	BIMS	Androgens in control of fatty acid uptake in white adipose tissue (pig model)	Veterinary technician

Micah Thomas	2021-2022	BIMS	Androgens in control of fatty acid uptake in white adipose tissue (pig model)	Medical student, TAMU HSC
Addison Branning	2021-2022	Zoology	Androgens in control of glycerol release in white adipose tissue (pig model)	Veterinary student, TAMU SVMBS
Emily Stolorski	2022-2023	BIMS	Androgen steroid interconversion in white adipose tissue controls nutrient turnover	Medical Scribe
Debra Nguyen	2022-2023	BIMS	Role of dietary coconut oil in control of ovarian follicular function in obese females	4 <sup>th</sup> year BIMS student
Maddie Nguyen	2023-2024	BIMS	Transgender porcine model – steroid concentrations and steroidogenesis	Dental student
Angela Pinon	2023-2024	BIO	Transgender porcine model-effect on ovarian follicles	4 <sup>th</sup> year BIO student
Abigail Garrett	2023-2024	BIMS/NT MS – Medical Phys.	Role of dietary coconut oil in control of WAT insulin signaling and mitochondrial function	2 <sup>nd</sup> year NT MS student, TAMU HSC
Blake Jeanis	2024-present	BIO	Mitochondrial steroid receptors and mitochondrial function	2 <sup>nd</sup> year BIO student
Kaitlyn Sy	2024-present	BIMS	Mitochondrial steroid receptors and mitochondrial function	3 <sup>rd</sup> year BIMS student
Sarah Hurt	2024-present	BIMS	Mitochondrial steroid receptors and mitochondrial function	2 <sup>nd</sup> year BIMS student

\*Denotes LAUNCH Undergraduate Honors Thesis Student

## SERVICE

### Service – International

#### **Reviewer/Judge**

2018, 2022	Society for the Study of Reproduction Abstract Reviewer
2018, 2019, 2021, 2022, 2024	The Endocrine Society Abstract Reviewer
2019, 2021	International Society for Wildlife Endocrinology Abstract Reviewer
2021	International Society for Wildlife Endocrinology Student Award Reviewer
2022	American Physiological Society Award Committee -Virenda B. Mahesh Award of Excellence in Endocrinology

2022, 2023	& Metabolism The Endocrine Society Mentoring and Poster Reception -Mentor and Judge (2022) -Judge (2023)
2023	The Endocrine Society Early Career Member Specific Aims Page Mentor

### **Committee/Board Service**

#### **Society for the Study of Reproduction**

- Trainee Affairs Committee Co-Chair and representative to the Board of Directors (2013-2015)
- Annual Meeting Advisory Committee Member (2014-2015)
- Founding member and steering committee member of the sub-committee, Women in Reproductive Sciences (2015-2019)
- SSR Public Affairs Committee Member (2019-present)
- SSR Public Outreach Event Steering Committee (2019-2020)
- SSR Website Subcommittee Chair (2022)

#### **International Wildlife Endocrinology Society**

- ISWE Communications Subcommittee (2012)
- ISWE Antibody Development Subcommittee (2013-2014)
- ISWE Communications Subcommittee (2017)
- ISWE Treasurer (2018-2023)
- ISWE Board Advisor to the Trainee Affairs Committee (2021-2022)

#### **Organization for the Study of Sex Differences**

- Annual Meeting Program Committee Member (2019-2020)
- Awards Committee (2024)

### **Mentorship Activities**

2019	Trainee-Mentor Luncheon Mentor, International Society for Wildlife Endocrinology Bi-annual Meeting
2019	Trainee-Mentor Luncheon Mentor, Topic: "Dealing with toxic environments and harassment in the early career", Organization for the Study of Sex Differences Annual Meeting

### Service – National

#### **Reviewer/Judge**

2018	AVMA/AVMF Young Investigator Award Packet Reviewer
2019, 2021, 2022	Texas Forum for Reproductive Sciences Abstract Reviewer
2021	Invited Early Career Reviewer, NIH Integrated Physiology of Obesity and Metabolic Disease Study Section

2021	<i>Ad hoc</i> reviewer, NIH Special Emphasis Panel Study Section for the Centers to Advance Research in Endometriosis (CARE) P01 grant mechanism
2023	Invited Reviewer, Paul Allen Frontiers Group 2023 Distinguished Investigator Awards – Sex Hormones
2025	<i>Ad hoc</i> reviewer, NIH Cellular and Molecular Endocrinology Study Section

### **Committee/Board Service**

#### Association of Zoos & Aquariums

- Reproductive Advisor to the Wild Pig, Peccary and Hippo Taxon Advisory Group (2015-2021)
- Ungulate TAG Reproductive Advisory Group Member (2021-present)

### **Mentorship Activities**

2021-2022	Transdisciplinary Research on Energetics and Cancer (TREC) Training Program Peer Mentor
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### **Consultant Activities (Zoo Reproductive Endocrinology)**

2015-2018	Houston Zoo
2016-2018	San Antonio Zoo
2017-present	Cheyenne Mountain Zoo
2018-present	San Diego Zoo
2019-present	TAMU-Kingsville Wildlife Biology Department
2020-present	TAMU-Commerce

### **Other Service Activities**

2020, 2021	Texas Forum for Reproductive Sciences Annual Meeting Steering Committee and Program Co-Chair
2021	Veterinary Hope Foundation (VHF), member of pilot veterinary professional support group
2022-present	Member of the Grant Review Committee for <i>The Camille Goblet Foundation</i> , which provides scholarships to fund research projects of women graduate students in wildlife conservation fields

### Service – University

#### **Reviewer/Judge**

2015, 2017-2020, 2022	Presentation Judge for the College-level competition at the TAMU CVMBS Trainee Research Symposium
2024	Abstract Judge for the College-level competition at the TAMU SVMBS Trainee Research Symposium
2016, 2019, 2020	Interviewer, MMI interview process for the TAMU CVMBS veterinary student application process
2017-2022	Presentation Judge for the VTPP Department-level competition at the TAMU CVMBS Trainee Research Symposium
2024	Poster Judge for the Texas A&M University Cardiovascular Research Institute Trainee Competition

### **Committee Membership**

2015-2017	TAMU CVMBS Informational Technology Services Advisory Committee
2015-2017	VTPP Representative to the Assistant Professor Learning Communities Steering Committee
2017-present	Texas A&M Interdisciplinary Faculty of Reproductive Biology Seminar Committee
2019-2023	TAMU CVM BIMS Undergraduate Scholarship Committee -Committee Chair (2020-2023)
2020-2021	Texas A&M CVM VERO 2+2 Physiology Faculty Search Committee
2021-present	Texas A&M CVMBS Underserved Communities Working Group
2021-2023	VTPP Departmental Diversity, Equity, and Inclusion Committee
2022-2024	College of Veterinary Medicine and Biomedical Sciences Research Advisory Council
2022-present	College of Veterinary Medicine and Biomedical Sciences Research Space Allocation Committee
2022-2023	College of Veterinary Medicine and Biomedical Sciences Committee for Inclusivity, Equity, Diversity and Accountability

### **Other University Service**

2014, 2018, 2020	Texas A&M Interdisciplinary Faculty of Reproductive Biology Fall Newsletter contributor
2017	Nomination of a colleague (Dr. Katrin Hinrichs) for the 2017 VTPP Mentor Award
2018-present	Texas A&M University VTPP Department Women's Power Hour Group
Spring 2020	Facilitated the "Entering Mentoring Series: Session II for Biomedical Researchers and Clinicians" with Dr. Dana Gaddy, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University (8 facilitation hours)
2020-2021	Texas A&M University Center for Teaching Excellence, Mentoring Think Tank Committee
Spring 2021	Facilitated the "Entering Mentoring Series: Aligning Expectations" module for Texas A&M University (2 facilitation hours)

### Service – Journal Review/Editorial

#### **Editorial Service -Ad hoc Reviewer**

Animal Biotechnology (*Impact Factor 0.750*)  
Animal Reproduction Science (*Impact Factor 1.605*)  
Biology of Reproduction (*Impact Factor 3.432*)  
Circulation (*Impact Factor 23.603*)  
Comprehensive Physiology (*Impact Factor 6.949*)  
Domestic Animal Endocrinology (*Impact Factor 1.644*)  
Endocrinology (*Impact Factor 4.286*)  
Frontiers in Endocrinology (*Impact Factor 3.657*)  
Human Reproduction (*Impact Factor 5.02*)



Journal of Assisted Reproduction and Genetics (*Impact Factor* 1.247)  
Journal of Endocrinology (*Impact Factor* 4.706)  
Journal of the American Society of Hypertension (*Impact Factor* 3.263)  
Journal of Zoo and Wildlife Medicine (*Impact Factor* 0.59)  
Journal of Wildlife Disease (*Impact Factor* 1.62)  
Molecular and Cellular Endocrinology (*Impact Factor* 3.859)  
Molecular Metabolism (*Impact Factor* 6.130)  
Molecular Reproduction and Development (*Impact Factor* 2.316)  
Nutrients (*Impact Factor* 4.196)  
Physiological Reviews (*Impact Factor* 25.588)  
Plos One (*Impact Factor* 2.806)  
Reproduction, Fertility and Development (*Impact Factor* 2.656)

### **Editorial Service-Standing Appointments**

Biology of Reproduction (3.432) – member, Board of Reviewing Editors (2021-2025)  
Frontiers in Medicine (5.091) – member, Review Editorial Board, Translational Medicine (2023-present)

### Professional Affiliations

2000-2015	American Veterinary Medical Association
2003-2020	American Association of Zoo Veterinarians
2004-2016	Wildlife Disease Association
2004-2014	Society for Theriogenology
2008-2018	International Embryo Transfer Society
2008-present	Society for the Study of Reproduction
2010-present	International Society for Wildlife Endocrinology
2011-present	The Endocrine Society
2013-2014	Society for Comparative Endocrinology
2013-2018	The Obesity Society
2016-present	American Heart Association
2016-2020	American Diabetes Association
2017-present	American Physiological Society
2018-present	Organization for the Study of Sex Differences
2018-present	Androgen Excess-PCOS Society
2021-2023	Mothers in Science
2021-present	Association for Women in Science

### Service - Community Outreach

2000-2003	Turtle Rescue Team
2001-2002	Operation Catnip
2010-2012	Central Illinois Animal Welfare Coalition
2001-2003	Pot Bellied Pig Pals
2010	INTERLINK International Student Mentor Program
2011-2013	Companion Animal Club Advisor
2011-2014	Illini Wildlife and Conservation Club Advisor

2014	Future Farmers of America, Illinois, Veterinary Science State Exam
2015	Future Farmers of America, Texas, Veterinary Science State Exam
2017	March For Science TAMU
2019	Greens Prairie Trail Elementary, 1 <sup>st</sup> grade graduation party, STEM booth volunteer
2020-present	4H volunteer, Brazos Robotics Club <ul style="list-style-type: none"><li>-Coach, Junior Robotics Team</li><li>-Director, Web Content</li></ul>