

## CURRICULUM VITAE

**Jennifer A. Hernandez Gifford**

**Title: Associate Professor**

**Major Field of Interest: Reproductive Physiology**

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### OFFICE ADDRESS

New Mexico State University  
Knox Hall 219  
Department of Animal and Range Sciences  
Las Cruces, NM 88003  
Phone: (575) 646-5090  
Fax: (575) 646-5441

### EDUCATION

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|-----------------------------|--------------|-------------|----------------|
| Washington State University | <i>Ph.D.</i> | <i>2004</i> | Animal Science |
| New Mexico State University | <i>M.S.</i>  | <i>2001</i> | Animal Science |
| New Mexico State University | <i>B.S.</i>  | <i>1999</i> | Animal Science |

### COURSES TAUGHT

Animal Sciences 370 Anatomy and Physiology of Farm Animals  
Animal Sciences 509 Endocrinology of Domestic Animals

### HONORS AND AWARDS

Western Section American Society of Animal Sciences Young Investigator Award (2017)  
NACTA Educator Award (2016)

### RESEARCH

*Research Interest:* Changes in the capacity of follicles to mature properly and/or respond to appropriate preovulatory events could be involved with altered follicular development, failure of the follicle(s) to ovulate at the appropriate time, and abnormal embryonic development. The long-term goal of the research proposed in our lab is to provide fundamental knowledge about the physiological role and mechanism of action of ovarian signaling molecules involved in follicular development in the adult ovary and steroid production. Our lab is evaluating contributions of the WNT/beta-catenin pathway in regulation of ovarian development and estrogen production.

Additionally, infertility and adverse pregnancy outcomes have been associated with infection. Infections resulting in accumulation of lipopolysaccharide derived from Gram-negative bacteria can result in ovarian dysfunction. These types of infections can subsequently cause infertility in women as a result of altered estrogen concentrations, follicular development and compromised oocyte quality. In this regard, we are evaluating the mechanisms by which LPS impacts ovarian steroid production.

### OTHER

Endocrinology Lab – This lab is capable of conducting radioimmunoassays on various steroid and protein hormones.

West Sheep Unit – This facility houses Debouillet ewes for wool and lamb production.

## **MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

American Society of Animal Science  
Society for the Study of Reproduction  
North American Colleges and Teachers of Agriculture  
Gamma Sigma Delta Honor Society of Agriculture  
Sigma Xi

## **REFEREED JOURNAL PAPERS** (Selected)

- Gomez, B. I., B.H. Aloqaily, C. A. Gifford, D. M. Hallford, and **J. A. Hernandez Gifford**. 2017. WNTs role in bovine folliculogenesis and estrogen production. *J. Anim. Sci.* Vol. 96, Issue 7, pg. 2977-2986.
- Gomez, B. I., C. A. Gifford, D. M. Hallford, and **J. A. Hernandez Gifford**. 2015. Protein kinase B is required for follicle-stimulating hormone mediated beta-catenin accumulation and estradiol production in granulosa cells of cattle. *Anim. Reprod. Sci.* 163:97-104.
- **Hernandez Gifford, J.A.** 2015. INVITED REVIEW: The role of WNT signaling in adult ovarian folliculogenesis. *Reproduction* 150:R137-R148.
- Matera, J., B.K. Wilson, **J.A. Hernandez Gifford**, D.L. Step, C.R. Krehbiel, and C.A. Gifford. 2014. Cattle with increased severity of Bovine Respiratory Disease Complex exhibit decreased capacity to protect against histone cytotoxicity. *J. Anim. Sci.* 93:1841-1849.
- Gifford, C.A., K.A. Branham, J.O. Ellison, B.I. Gomez, C.O. Lemley, C.G. Hart, C.R. Krehbiel, B.C. Bernhard, C.L. Maxwell, C.L. Goad, D.M. Hallford, and **J.A. Hernandez Gifford**. 2015. Effect of anabolic implants on adrenal cortisol production in feedlot cattle implanted early or late in the finishing phase. *Physiol. & Behav.* 138:118-123.
- Stapp, A.D., B.I. Gomez, C.A. Gifford, D.M. Hallford and **J.A. Hernandez Gifford**. 2014. Canonical WNT Signaling Inhibits Follicle Stimulating Hormone Mediated Steroidogenesis in Primary Cultures of Rat Granulosa Cells. *PLoS ONE.* 9(1): e86432.
- Stapp, A.D., C.A. Gifford, D.M. Hallford, and **J.A. Hernandez Gifford**. 2014. Evaluation of steroidogenic capacity after follicle stimulating hormone stimulation in bovine granulosa cells of Revalor 200® implanted heifers. *J. Anim. Sci. Biotechnol.* 5:280-285.
- **Hernandez Gifford, J.A.**, and C.A. Gifford. 2013. Role of reproductive biotechnologies in enhancing food security and sustainability. *Animal Frontiers* 3(3):14-19.
- Castañon, B.I., A.D. Stapp, C.A. Gifford, L.J. Spicer, D.M. Hallford, and **J.A. Hernandez Gifford**. 2012. Follicle-stimulating hormone regulation of estradiol production: possible involvement of WNT2 and  $\beta$ -catenin in bovine granulosa cells. *J. Anim. Sci.* 90:3789-3797.
- **Hernandez Gifford, J.A.**, M.E. Hunzicker-Dunn, and J.H. Nilson. 2009. Conditional Deletion of Beta-catenin mediated by *Amhr2cre* in Mice Causes Female Infertility. *Biol. Reprod.* 80(6):1282-92.
- Parakh, T.N., **J.A. Hernandez**, J.C. Grammer, J. Weck, M.E. Hunzicker-Dunn, A.J. Zeleznik, J.H. Nilson. 2006. FSH/cAMP induction of Aromatase gene expression requires  $\beta$ -catenin. *Proc. Natl. Acad. Sci.* 103(33):12435-40.