

## Jessica L. Petersen, Ph.D.

### Education

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|--------------------------------|----------|-------|------|
| University of California Davis | Genetics | Ph.D. | 2009 |
| Western Illinois University    | Biology  | M.S.  | 2003 |
| Nebraska Wesleyan University   | Biology  | B.S.  | 2000 |

### Professional Experience

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| Jan 2014 – present  | Assistant Professor – University of Nebraska Lincoln, Dept of Animal Science<br>Animal Functional Genomics                                       |
| July 2016 – present | Courtesy Assistant Professor – University of Nebraska Lincoln, School of<br>Biological Sciences  |
| May – Dec 2013      | Research Associate – University of Minnesota College of Veterinary Medicine<br>Equine Genetics and Genomics                                      |
| 2011 – 2013         | Post-doctoral Research Fellow (NIH T32 Training Grant) – University of<br>Minnesota College of Veterinary Medicine, Equine Genetics and Genomics |
| 2009 – 2013         | Associate of the AES, University of California Davis, Dept of Animal Science   |
| 2009 – 2011         | Post-doctoral Associate – University of Minnesota College of Veterinary Med  |

### Peer-Reviewed Publications

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- Bellone RR, Liu J, **Petersen JL**, Mack M, Singer-Berk M, Drögemüller C, Malvick J, Wallner B, Brem G, Penedo MCT, Lassaline M. 2017. A missense mutation in damage specific DNA binding protein 2 is a genetic risk factor for limbal squamous cell carcinoma in horses. *International Journal of Cancer*. 141:342-353.
- Tuggle CK, Giuffra E, White SN, Clarke L, Zhou H, Ross PJ, Acloque H, Reecy JM, Archibald A, Bellone RR, Biochard M, Chamberlain A, Cheng H, Crooijmans RPMA, Delany ME, Finno CJ, Groenen MAM, Hayes B, Lunney JK, **Petersen JL**, Plastow GS, Schmidt CJ, Soung J, Watson M. 2016. GO-FAANG meeting: a gathering on functional annotation of animal genomes. *Animal Genetics*. 47:528-533.
- Trenhaile MD, **Petersen JL**, Kachman SD, Johnson RK, Ciobanu DC. Long-term selection for litter size in swine results in shifts in allelic frequency in regions involved in reproductive processes. 2016. *Animal Genetics*. 47:534-542.
- Workman A, Heaton MP, Harhay GP, Smith T, Grotelueschen DM, Sjeklocha D, Brodersen B, **Petersen JL**, Chitko-McKown CG. 2016. Resolving Bovine viral diarrhea virus subtypes from persistently infected U.S. beef calves with complete genome sequence. *Journal of Veterinary Diagnostic Investigation*. 28:519-528.
- Petersen JL**, Mickelson JR, Valberg SJ, McCue ME. 2015. Genome-wide SNP data shows little differentiation between the Appaloosa and other American stock horse breeds. *Animal Genetics*. 46:585-586.
- Morota G, Peñagaricano F, **Petersen JL**, Ciobanu DC, Tsuyuzaki K, Nikaido I. 2015. An application of MeSH enrichment analysis in livestock. *Animal Genetics*. 46:381-387.
- Petersen JL**, Valberg SJ, Mickelson JR, McCue ME. 2014. Haplotype diversity in the equine myostatin gene with focus on variants associated with race distance propensity and muscle fiber type proportions. *Animal Genetics*. 45:827-835.

- Petersen JL**, Mickelson JR, Cleary KD, McCue ME. 2014. The American Quarter Horse: Population structure and relationship to the Thoroughbred. *Journal of Heredity*. 105:148-162.
- McCoy AM, Schaefer R, **Petersen JL**, Morrell PL, Slamka MA, Mickelson JR, Valberg SJ, McCue ME. 2014. Evidence of positive selection for a Glycogen Synthase (*GYS1*) mutation in domestic horse populations. *Journal of Heredity*. 105:163-172.
- Petersen JL**, Mickelson JR, Cothran EG, 34 others, McCue ME. 2013. Genetic diversity in the modern horse illustrated from genome-wide SNP data. *PLoS One* 8(1): e54997. doi:10.1371/journal.pone.0054997.
- Petersen JL**, Mickelson JR, Rendahl AK, Valberg SJ, 36 others, McCue ME. 2013. Genome-wide analysis reveals selection for important traits in domestic horse breeds. *PLoS Genetics* 9(1): e1003211. doi:10.1371/journal.pgen.1003211.
- Andersson LS, Larhammar M, Memic F, Wootz H, Schwochow D, Rubin CJ, Patra K, Arnason T, Wellbring L, Hjälms G, Imsland F, **Petersen JL**, 9 others, Andersson L. 2012. Mutations in *DMRT3* affect locomotion in horses and spinal circuit function in mice. *Nature* 488:642-646.
- Petersen JL**, Baerwald MR, Ibarra AM, May B. 2012. A first-generation linkage map of the Pacific lion-paw scallop (*Nodipecten subnodosus*): Initial evidence of QTL for size traits and markers linked to orange shell color. *Aquaculture* 350-353:200-209.
- McCue ME, Bannasch DL, **Petersen JL**, 17 others, Wade CM, Mickelson JR. 2012. A high density SNP array for the domestic horse and extant Perissodactyla: utility for association mapping, genetic diversity, and phylogeny studies. *PLoS Genetics*. 8(1): e1002451. doi:10.1371/journal.pgen.1002451.
- Baerwald MR, **Petersen JL**, Hedrick RP, Schisler GJ, May BP. 2011. A major effect quantitative trait locus for whirling disease resistance identified in rainbow trout (*Oncorhynchus mykiss*). *Heredity*. 106:920-926.
- Petersen JL**, Ibarra AM, May BP. 2010. Nuclear and mtDNA lineage diversity in wild and cultured Pacific lion-paw scallop, *Nodipecten subnodosus* (Baja California Peninsula, Mexico). *Marine Biology*. 157:2751-2767.
- Lamer JT, Dolan CR, **Petersen JL**, Chick JH, Epifanio JM. 2010. Introgressive hybridization between bighead carp and silver carp in the Mississippi and Illinois Rivers. *North American Journal of Fisheries Management*. 30:1452-1461.
- Petersen JL**, Ibarra AM, May BP. 2009. Thirty-seven additional microsatellite loci in the Pacific lion-paw scallop, *Nodipecten subnodosus*, and cross-amplification in other Pectinids. *Con Gen Res*. 1:101-105.
- Fisch KM, **Petersen JL**, Baerwald MR, Pedroia JK, May B. 2009. Characterization of 24 microsatellite loci in delta smelt, *Hypomesus transpacificus*, and their cross-species amplification in two other smelt species of the Osmeridae family. *Molecular Ecology Resources*. 9:405-408.
- Petersen JL**, Ibarra AM, Ramirez JL, May BP. 2008. An induced mass spawn of the hermaphroditic lion-paw scallop: Genetic assignment of maternal and paternal parentage. *Journal of Heredity*. 99:337-348.
- Ibarra AM, **Petersen JL**, Famula TR, May BP. 2006. Characterization of 35 microsatellite loci in the Pacific lion-paw scallop (*Nodipecten subnodosus*) and their cross-species amplification in four other scallops of the Pectinidae family. *Molecular Ecology Notes*: 6:153-156.
- Petersen JL**, Bischof R, Krapu GL, Szalanski AL. 2003. Genetic variation in the Midcontinental population of sandhill crane, *Grus canadensis*. *Biochemical Genetics*. 41:1-12.

Szalanski AL, Steinauer G, Bischof R, **Petersen J**. 2001. Origin and conservation genetics of the threatened ute ladies'-tresses, *Spiranthes diluvialis* (Orchidaceae). *American Journal of Botany* 88:177-180.

### **Limited Distribution Publications/Materials**

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**Petersen JL**. 2016. Equine Genetics lessons for an on-line Introduction to Horse Management course with Michigan State University through the Michigan Alliance for Animal Agriculture grant (MAAA).

**Petersen JL**, May B. 2012. Genetic Management Plan: Shasta crayfish. Submitted to the Shasta Crayfish Technical Review Committee and California Department of Fish and Game. 29p.

**Petersen JL**, May B. 2012. Addendum to 2011 Report: Mitochondrial DNA analysis of Shasta crayfish (*Pacifastacus fortis*), including experimentation to identify non- or minimally-invasive means of sampling DNA. Submitted to the California Department of Fish and Game. 20p.

**Petersen JL**, May B. 2011. Mitochondrial DNA analysis of Shasta crayfish (*Pacifastacus fortis*). Submitted to the California Department of Fish and Game. 26p.

**Petersen JL**, May B. 2008. Population and conservation genetics of Shasta crayfish (*Pacifastacus fortis*). Submitted to the California Department of Fish and Game. 43p.

### **Teaching**

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**ASCI 930** – Population Genetics; fall semester  
co-taught with Dr. Matt Spangler

**ASCI 330** – Animal Breeding and Genetics; fall semester  
co-taught with Dr. Ron Lewis