

CURRICULUM VITAE

NAME: Jennifer (Jenny) Liford Sones

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EDUCATION:

- 2014 (defended) **Ph.D., Molecular & Integrative Physiology**
minors: Reproductive Physiology & Genomics
Laboratory of Dr. Robin L. Davisson
Department of Biomedical Sciences
Cornell University, College of Veterinary Medicine
Ithaca, NY
- 2008 **D.V. M. (equine track)**
Louisiana State University (LSU), School of Veterinary Medicine (SVM)
Baton Rouge, LA
- 2004 **B.S., Biological Sciences, *Cum Laude***
LSU, College of Basic Sciences
Baton Rouge, LA

PROFESSIONAL EXPERIENCE:

- 2014-present Research Associate, Robin L. Davisson Laboratory, Department of Biomedical Sciences,
College of Veterinary Medicine, Cornell University, Ithaca, NY
- 2014-present Theriogenology resident (alternative track), Theriogenology Section, Cornell University
Hospital for Animals, Ithaca, NY
- 2012- 2013 Relief veterinarian, Theriogenology Section, Cornell University Hospital for Animals,
Ithaca, NY
- 2010- 2014 Post-DVM graduate research fellow, Department of Biomedical Sciences, College of
Veterinary Medicine, Cornell University, Ithaca, NY
- 2010- present US Equestrian Federation Drug Testing Veterinarian, Upstate New York
- 2009-2010 Post-DVM NIH Fellow, Baker Institute of Animal Health, Cornell University, Ithaca, NY
- 2008-2009 Associate veterinarian, Delta Equine Center, Vinton, LA
- 2006 Havemeyer Foundation Summer Fellow, Baker Institute of Animal Health, Cornell
University, Ithaca, NY
- 2005 Merck Merial Summer Scholar, LSU SVM, Baton Rouge, LA
- 2004-2008 US Equestrian Drug Testing Technician, Southeastern States
- 2002-2004 Technical support, LSU SVM Equine Health Studies Program (EHSP) Stallion Service
Auction, LSU SVM, Baton Rouge, LA
- 2003-2006 Foal Team member and Leader, LSU SVM, Baton Rouge, LA

- 2002-2004 Howard Hughes Medical Institute (HHMI) undergraduate researcher, LSU SVM, Baton Rouge, LA
- 2000-2004 Chancellor's Student Aid worker, LSU, College of Basic Sciences & SVM, Baton Rouge, LA

PROFESSIONAL AFFILIATIONS AND ACTIVITIES:

- 2014 American Association for the Advancement of Science, graduate trainee member
- 2013&2014 Co-chair, 13th Annual Biological & Biomedical Sciences Symposium, Cornell University
- 2012&2013 Facilitator, Cornell Leadership Program for Veterinary Students
- 2012 Instructor, Mare and Stallion Wet Lab, Large Animal Symposium, Cornell University
- 2012-present New York Academy of Science, graduate trainee member
- 2012-present American Heart Association, graduate trainee member
- 2011-present American Physiological Society, graduate trainee member
- 2010-2011 Society for the Study of Reproduction, graduate trainee member
- 2009-present New York State Veterinary license (current)
- 2008-present National USDA Accreditation (current)
- 2008-2009 Louisiana State Veterinary license (inactive)
- 2004-2008 Student Chapter of the American Association of Equine Practitioners
- 2004-2008 Student Chapter of the American Veterinary Medical Association

HONORS AND AWARDS:

- 2014 Best of AHA Specialty Conferences Award (2 oral abstracts)
- 2014 Council on Hypertension New Investigator travel award
- 2014 Invited speaker, NIH/NICHD Health Equity Seminar
- 2014 John and Joyce Wootton Fund Award for Graduate Education in Physiology
- 2014 Dr. Caroline Coffey Memorial travel award
- 2014 Data Diuresis Session selected abstract, Experimental Biology Meeting
- 2013 3rd place graduate oral presentation, Cornell Biomedical Sciences 12th Annual Symposium
- 2012 DVM Graduate Research Assistantship at Cornell University
- 2008 LSU SVM Equine Medicine & Surgery Proficiency Award
- 2007 LVMA/AAEP Scholarship Award
- 2006 2nd place poster presentation, Phi Zeta Research Emphasis Day
- 2006 Havemeyer Foundation Fellowship at Cornell University
- 2006 LSU SVM Equine Health Studies Program Scholarship Award
- 2005 Merck Merial Summer Scholar at LSU
- 2005 LSU SVM Equine Health Studies Program Scholarship Award
- 2003 1st place 28th Annual West Coast Biological Sciences Undergrad. Research Conference

CONTRACTS AND GRANTS:

- 2012-2014 American Heart Association, *Postdoctoral Fellowship*. Role of asynchronous embryo-uterine interactions during the peri-implantation period in a mouse model of preeclampsia. \$96,000
- 2009-2012 National Institute of Health, *Institutional Postdoctoral NRSA*, “Graduate Program of Veterinary Scientists/Scholars.” Cornell University
- 2006 Havemeyer Foundation, *Summer veterinary student fellowship*. **J Liford**, A de Mestre, D Miller, D Antczak. Expression of genes involved in implantation and endometrial cup formation. \$5,000.
- 2005 Merck Merial, *Summer veterinary student fellowship*. **J Liford**, SK Lyle, DL Paccamonti, AM Stokes, SR Chirgwin. Expression of Cyclooxygenase-1 and -2 in a Model of Ascending Placentitis in the Mare. \$5,000.
- 2003 HHMI, *Undergraduate researcher*, **J. Liford**, J McClure Blackmer, S Lyle, RM Moore, CA Nickerson, K Honer zu Bentrup. Immunofluorescent Detection of Matrix Metalloproteinases-2 and -9 in Three-Dimensional (3-D) Tissue Assemblies of Microgravity-Cultured Equine Fetal Lamellar Cells: A Preliminary Study. \$1,500.
- 2003 LSU SVM Equine Health Studies Program. JM Blackmer, **J Liford**, W Henk, RM Moore, ED Roberts, LRR Costa, C Nickerson. Equine Fetal Lamellar Cell 3-D Tissue Assemblies: Characterization of Matrix Metalloproteinases. \$5,913.
- 2002 HHMI, *Summer undergraduate researcher*, **J Liford**, J McClure Blackmer, LRR Costa, R Truax, W Henk, O Borkhsenius, D Paulsen. Development of 3-D Tissue Assemblies of Equine Lamellar Cells Under Microgravity Conditions. \$1,500.
- 2002 LSU SVM Equine Health Studies Program. J McClure Blackmer, **J Liford**, BE Eilts, D Paccamonti, W Henk, RE Truax, LRR Costa, RM Moore. Equine Epidermal Lamellae 3-D Tissue Assemblies: A Model for the Pathogenesis of Laminitis. \$5,051.
- 2002 HHMI, *Summer undergraduate researcher*, **J Liford**, JM Blackmer, L Costa, R Truax, W Henk, O Borkhsenius, D Paulsen. Development of 3-D Tissue Assemblies of Equine Fetal Tracheal Cells (EFTR) Under Microgravity Conditions. \$3,000.

PUBLISHED WORKS:

Refereed Journal Articles:

1. **Sones, J.L.**, Lob, H.E., Isroff, C.E., Davisson, R.L. (2014) The role of Decidual Natural Killer cells, Interleukin-15 and Interferon- γ in placental development and preeclampsia. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* Epub ahead of print. PMID:24920727
2. Lacko, L.A., Massimiani, M., **Sones, J.L.**, Hurtado, R., Salvi, S., Ferrazzani, S., Davisson, R.L., Campagnolo, L., Stuhlmann, H. (2014) Novel expression of EGFL7 in placental trophoblast and endothelial cells and its implication in preeclampsia. *Mech. Dev.* Epub ahead of print. PMID:24751645

3. Clark, P.A., Brown, J.L., Li, S., Woods, A.K., Han, L., **Sones, J.L.**, Preston, R.L., Southard, T.L., Davisson, R.L. Roberson, M. (2012) Distal-less 3 haploinsufficiency results in elevated placental oxidative stress and altered fetal growth kinetics in the mouse. *Placenta*, 33:830-838. PMID:PMC3439566
4. de Mestre, A.M., Miller, D., Roberson, M.S., **Liford, J.**, Chizmar, L.C., McLaughlin, K.E., Antczak, D.F. (2009) Glial cells missing homologue 1 is induced in differentiating equine chorionic girdle trophoblast cells. *Biol Reprod*, 80(2):227-34. PMID:PMC2804814

Non- Refereed Journal Articles:

1. **Sones, J.L.** & Davisson, R.L. Preeclampsia TriPoint article, Endocrine Society (in press).

Published Abstracts:

1. **JL Sones**, SD Butler, CE Isroff, J Cha, SK Dey, RL Davisson. *Cox2 Inhibition During Decidualization Improves Fetal Growth Restriction In The BPH/5 Mouse Model Of Preeclampsia*. AHA High Blood Pressure Research 2014, San Francisco, CA 2014 (in press; Best of AHA [top 10%] accepted abstracts)
2. **JL Sones**, HE Lob, CE Isroff, J Song, E Williamson, RL Davisson. *BPH/5 Pre-eclamptic Mice Have Increased Uterine Interleukin (IL)-15 And This Is Associated With Decidual Natural Killer (dNK) Cell Loss At The Maternal-Fetal Interface Early In Pregnancy*. AHA High Blood Pressure Research 2014, San Francisco, CA 2014 (in press; Best of AHA [top 10%] accepted abstracts)
3. AC Valbuena-Diez, **JL Sones**, SD Butler, U Patel, RL Davisson. *Evidence For Increased Autophagy In Fetoplacental Units Of BPH/5, A Mouse Model of Pre-eclampsia (PE)*. AHA High Blood Pressure Research 2014, San Francisco, CA 2014 (in press)
4. **JL Sones**, HE Lob, CE Isroff, J Song, E Williamson, RL Davisson. *Interleukin-15 contributes to decidual natural killer cell loss via interferon- γ during early pregnancy in the pre-eclamptic BPH/5 mouse model*. Proceedings of Experimental Biology (FASEBJ, in press), San Diego, CA 2014
5. **JL Sones**, J Cha, CE Isroff, SK Dey, RL Davisson. *Cox2 Signaling During The Peri-implantation Period Plays An Important Role In Fetoplacental Health In A Mouse Model Of Preeclampsia, BPH/5*. AHA High Blood Pressure Research 2013 (*Hypertension*. 2013; 62:A12), New Orleans, LA 2013
6. **JL Sones**, Y Zhou, AK Woods, CE Isroff, MG Knudsen, RL Davisson. *Ovarian Hormone Signaling Defects are Associated with Asynchronous Peri-implantation Events in a Mouse Model of Preeclampsia, BPH/5*. 60th Annual Society for Gynecologic Investigation (*Reproductive Sciences*. Vol. 20, No.3 [Supplement]), March 2013, Orlando, FL 2013

7. **JL Sones**, Y Zhou, AK Woods, RL Davisson. *Decreased expression of Gcm1 and its downstream targets Syncytin A and B is associated with severity of fetoplacental phenotypes in the BPH/5 model of preeclampsia (PE)*. Proceedings of Experimental Biology (FASEBJ), San Diego, CA 2012
8. **JL Sones**, D Miller, AM de Mestre, C Decarlo, RM Harman, DF Antczak. *Investigation of the role of integrin $\alpha 2$ subunit in equine trophoblast attachment*. Proceedings of the Tenth International Symposium on Equine Reproduction, Lexington, KY 2010
9. **J Liford**, SK Lyle, DL Paccamonti, AM Stokes, SR Chirgwin. *Expression of Cyclooxygenase-1 and -2 in a Model of Ascending Placentitis in the Mare*. Proceedings of the Merck Merial Summer Scholars Symposium, University of Georgia, Athens, GA 2005
10. **J Liford**, T Foster, W Waguespack, J Johnson. *Development of Three-Dimensional Tissue Assemblies of Equine Adult Lamellar Cells Under Microgravity Conditions*. Proceedings of the AAEP Equine Laminitis Research Meeting, Louisville, KY 2004
11. **J Liford**, T Foster, J Johnson, W Waguespack. *Characterization of MMP-2 and -9 Expression and Localization in Primary Equine Adult Lamellar Cells*. Proceedings of the AAEP Equine Laminitis Research Meeting, Louisville, KY 2004
12. **J Liford**, J McClure Blackmer, L Costa, R Truax, W Henk, O. Borkhsenius, D Paulsen. *Development of Three-Dimensional Tissue Assemblies of Equine Fetal Tracheal Cells (EFTR) Under Microgravity Conditions*. Proceedings of the American College of Veterinary Internal Medicine Conference, Charlotte, NC 2003

ORAL PRESENTATIONS:

1. High Blood Pressure Research 2014 Scientific Sessions (Pregnancy and Preeclampsia). “*Cox2 Inhibition During Decidualization Improves Fetal Growth Restriction in the BPH/5 Mouse Model Of Preeclampsia.*” San Francisco, CA, September 2014 (**1 of 6 investigators chosen**).
2. High Blood Pressure Research 2014 Scientific Sessions (Top Trainee Oral Abstract). “*BPH/5 Pre-eclamptic Mice Have Increased Uterine Interleukin (IL)-15 And This Is Associated With Decidual Natural Killer (dNK) Cell Loss At The Maternal-Fetal Interface Early In Pregnancy.*” San Francisco, CA, September 2014 (**1 of 4 young investigators chosen**).
3. NIH/NICHD Health Equity Seminar: Towards Understanding the Pathobiology of Preeclampsia and the Underlying Mechanisms of Vitamin D Involvement. “*Defective Immunoregulatory and Peri-Implantation Events at the Maternal-Fetal Interface in BPH/5, a Mouse Model of Preeclampsia.*” National Institutes of Health, Bethesda, MD, September 2014.

4. Reproductive Physiology & Endocrinology seminar series. *"Inhibition of Dysregulated Uterine Cox2 Ameliorates Fetal Growth Restriction in BPH/5 Preeclamptic Mice."* Cornell University, Ithaca, NY, February 2014.
5. Animal Reproduction and Biotechnology Laboratory (ARBL) Physiology seminar series. *"Molecular Implantation Defects and Fetoplacental Health in a Mouse Model of Preeclampsia, BPH/5."* Colorado State University, Fort Collins, CO, October 2013.
6. High Blood Pressure Research 2013 Scientific Sessions (Pregnancy and Preeclampsia). *"Cox2 Signaling During The Peri-implantation Period Plays An Important Role In Fetoplacental Health In A Mouse Model Of Preeclampsia, BPH/5."* New Orleans, LA, September 2013 **(1 of 5 investigators chosen)**.
7. 12th Annual Biological and Biomedical Sciences Symposium. *"Cox2 Signaling During The Peri-implantation Period Plays An Important Role In Fetoplacental Health In A Mouse Model Of Preeclampsia, BPH/5."* Cornell University, August 2013 **(1 of 8 graduate students chosen)**.
8. Saratoga Seminar Series. *"Breeding Success after a Racing Career."* Saratoga Springs, NY, August 2012.
9. New York Academy of Sciences, Fetal Programming and Environmental Exposures: Implications for Prenatal Care and Pre-Term Birth Meeting. *"Asynchronous Peri-Implantation Events Characterize a Mouse Model of Preeclampsia, BPH/5."* New York, NY, June 2012 **(1 of 4 young investigators chosen)**.
10. Reproductive and Developmental Genomics Retreat. *"Asynchronous Peri-Implantation Events Characterize a Mouse Model of Preeclampsia, BPH/5."* Cornell University, June 2012 **(1 of 9 young investigators chosen)**.
11. Baker Institute Fall Seminar Series. *"In vivo or in vitro ... You decide."* P Brosnahan & **JL Sones**, Douglas F. Antczak Laboratory, Cornell University, November 2009.

SELECT POSTER PRESENTATIONS: (* denotes presenting author)

1. **JL Sones***, Y Zhou, AK Woods, CE Isroff, MG Knudsen, RL Davisson. Ovarian Hormone Signaling Defects are Associated with Asynchronous Peri-implantation Events in a Mouse Model of Preeclampsia, BPH/5. 60th Annual Society for Gynecologic Investigation, Orlando, FL 2013
2. **JL Sones***, Y Zhou, AK Woods, RL Davisson. Decreased expression of Gcm1 and its downstream targets Syncytin A and B is associated with severity of fetoplacental phenotypes in the BPH/5 model of preeclampsia (PE). 8th Annual Center for Vertebrate Genomics Symposium, Ithaca, NY 2012
3. **JL Sones***, Y Zhou, AK Woods, E Williamson, E Green, C Isroff, RL Davisson. Asynchronous peri-implantation events characterize a mouse model of preeclampsia, BPH/5. Reproductive and Developmental Genomics Retreat, Ithaca, NY 2012

4. **JL Sones***, Y Zhou, AK Woods, E Williamson, E Green, C Isroff, RL Davisson. Asynchronous peri-implantation events characterize a mouse model of preeclampsia, BPH/5. Fetal Programming and Environmental Exposures, New York, NY 2012
5. **JL Sones***, Y Zhou, AK Woods, RL Davisson. Decreased expression of Gcm1 and its downstream targets Syncytin A and B is associated with severity of fetoplacental phenotypes in the BPH/5 model of preeclampsia (PE). Experimental Biology, San Diego, CA 2012
6. **JL Sones***, D Miller, AM de Mestre, C Decarlo, RM Harman, DF Antczak. Investigation of the role of integrin $\alpha 2$ subunit in equine trophoblast attachment and invasion. 43rd Annual Meeting of the Society for the Study of Reproduction, Milwaukee, WI 2010
7. **JL Sones***, D Miller, AM de Mestre, C Decarlo, RM Harman, DF Antczak. Investigation of the role of integrin $\alpha 2$ subunit in equine trophoblast attachment. 10th International Symposium on Equine Reproduction, Lexington, KY 2010
8. **J Liford***, AM de Mestre, D Miller, DF Antczak. Expression of genes involved in implantation and endometrial cup formation. Phi Zeta Research Emphasis Day, LSU SVM, Baton Rouge, LA 2006
9. **J Liford***, SK Lyle, DL Paccamonti, AM Stokes, SR Chirgwin. Expression of Cyclooxygenase-1 and -2 in a Model of Ascending Placentitis in the Mare. Phi Zeta Research Emphasis Day, LSU SVM, Baton Rouge, LA 2005
10. **J Liford***, SK Lyle, DL Paccamonti, AM Stokes, SR Chirgwin. Expression of Cyclooxygenase-1 and -2 in a Model of Ascending Placentitis in the Mare. Merck Merial Summer Scholars Symposium, University of Georgia, Athens, GA 2005
11. **J Liford***, T Foster, W Waguespack, J Johnson. Detection of MMP-2 and -9 in Three-Dimensional Tissue Assemblies of Equine Adult Lamellar Cells. US Pony Club Meeting, New Orleans, LA 2005
12. **J Liford***, T Foster, W Waguespack, J Johnson. Detection of MMP-2 and -9 in Three-Dimensional Tissue Assemblies of Equine Adult Lamellar Cells. Phi Zeta Research Emphasis Day, LSU SVM, Baton Rouge, LA 2004
13. **J Liford***, T Foster, J Johnson, W. Waguespack. Characterization of MMP-2 and -9 Expression and Localization in Primary Equine Adult Lamellar Cells. AAEP Equine Laminitis Research Meeting and Panel, Louisville, KY 2004

14. **J Liford***, T Foster, J Johnson, W Waguespack. Characterization of MMP-2 and -9 Expression and Localization in Primary Equine Adult Lamellar Cells. 29th Annual West Coast Biological Sciences Undergraduate Research Conference, Point Loma Nazarene University, San Diego, CA 2004
15. **J Liford***, J McClure Blackmer, S Lyle, RM Moore, CA Nickerson, K Honer zu Bentrup. Immunofluorescent Detection of Matrix Metalloproteinases-2 and -9 in Three-Dimensional Tissue Assemblies of Microgravity-Cultured Equine Fetal Lamellar Cells: A Preliminary Study. Phi Zeta Research Emphasis Day, LSU SVM, Baton Rouge, LA 2003
16. **J Liford***, J McClure Blackmer, L Costa, R Truax, W Henk, O Borkhsenius, D Paulsen. Development of Three-Dimensional Tissue Assemblies of Equine Fetal Tracheal Cells (EFTR) Under Microgravity Conditions. 28th Annual West Coast Biological Sciences Undergraduate Research Conference, Colorado College, Colorado Springs, CO 2003
17. **J Liford***, J McClure Blackmer, L Costa, R Truax, W Henk, O Borkhsenius, D Paulsen. Development of Three-Dimensional Tissue Assemblies of Equine Fetal Tracheal Cells (EFTR) Under Microgravity Conditions. Phi Zeta Research Emphasis Day, LSU SVM, Baton Rouge, LA 2002
18. **J Liford***, J McClure Blackmer, L Costa, R Truax, W Henk, O Borkhsenius, D Paulsen. Development of Three-Dimensional Tissue Assemblies of Equine Fetal Tracheal Cells (EFTR) Under Microgravity Conditions. HHMI Summer Undergraduate Research Forum, LSU, Baton Rouge, LA 2002

TEACHING/MENTORING

Courses:

Year	Semester	Course Title	Role
2013	Fall	Animal Health & Disease	Clinical Rotation Leader
2013	Spring	Equine Reproduction	Clinical Rotation Leader/Lecturer

Courses consisted of 4 weeks of hands-on clinical training in reproductive physiology of the mare and stallion and lecturing about early pregnancy physiology to Cornell University veterinary students.

Mentoring/Advising:

Stephanie Shapiro, 2014 Cornell Leadership Program for Veterinary Students, 15th Annual Merit-NIH Veterinary Scholars Symposium. *Inhibition of Uterine Cox2 during Decidualization Normalizes VEGF₁₆₄ Expression and Improves Fetal Growth in a Mouse Model of Preeclampsia* (Best molecular biology presentation award)

Catherine Isroff, 2013 Fall Forum, Cornell Undergraduate Research Board. *Dysregulated estrous cycles and uterine inflammation before pregnancy is associated with BPH/5 mice, a spontaneous model of preeclampsia.*

Catherine Isroff, 2012 Fall Forum, Cornell Undergraduate Research Board. *Dysregulated decidualization characterizes the window of implantation in a mouse model of preeclampsia, BPH/5.*

Kerrie Winstanley, 2010 Havemeyer Foundation Summer Veterinary Fellow, BVSc Honors thesis (RVC). *Molecular screening of genes involved in equine trophoblast invasion.*