

JOSEPHINE TROTT

Employment

01/08 – present Assistant Project Scientist

Department of Animal Science, University of California, Davis, CA, USA. Characterization of pig prolactin receptor expression. Developing porcine models of breast cancer. Lab management and supervision of students.

8/05 – 12/07 75% UVM Horse Barn Manager:25% Research Associate

Department of Animal Science, University of Vermont, VT, USA. Evaluating porcine mammary glands as a model for breast cancer.

Manage co-operative student run horse barn

Teaching assistant and lecturer for ASCI 115, ASCI 119, ASCI 121, ASCI 205, ASCI 098B, ASCI 198G/H/I/J, ASCI 098C/D and 198E/F.

1/05 – 8/05 Research Associate

Department of Animal Science, University of Vermont, VT, USA. Further characterizing the pig prolactin receptor and its biological function; evaluating regulation of the Mouse Mammary Tumor Virus LTR promoter by the hormones progesterone and prolactin.

1/02 – 1/05 Postdoctoral associate

Department of Animal Science, University of Vermont, VT, USA. Cloned and characterized multiple alleles of the pig prolactin receptor, examining hormonal regulation of normal pig mammary gland development, studying the interaction between prolactin and progesterone in mammary gland development and breast cancer cells.

10/99 – 12/01 Fogarty International Visiting Fellow

National Cancer Institute, NIH, Bethesda, MD, USA (mentor Barbara Vonderhaar). Identified new forms of the prolactin receptor in normal and cancer human tissues, and examined prolactin receptor isoform expression in mice.

Tertiary Education

4/96 – 5/99 Doctor of Philosophy (Zoology and Molecular Biology)

Department of Zoology, Melbourne University, Australia (supervised by Professor Marilyn Renfree) and Victorian Institute of Animal Science, Attwood, Australia (supervised by Dr. Kevin Nicholas). Thesis Title: Endocrine and Local Regulation of Milk Protein Gene Expression in the Tamar Wallaby, *Macropus eugenii*. Degree conferred September 2nd, 1999.

2/92- 12/95 BScAgr (Hons) (Agricultural Genetics major)

CONVOCATION MEDAL, UNIVERSITY MEDAL, FIRST CLASS HONOURS. Faculty of Agriculture, University of Sydney, Australia. Collaborative research conducted with Division of Entomology, CSIRO, Australia. Research Project: "A mutant esterase in the Australian Sheep Blowfly *Lucilia cuprina* with the ability to degrade organophosphate insecticides."

Service and Teaching

- 2008-present** • Guest lecture for ANS124 (Lactation).
- 2006-2007** • Lecturer and teaching assistant for ASCI 115 (Introduction to Equine Science), ASCI 121 (EQUUS), ASCI 119 (Equine Training Techniques), ASCI 205 (Equine Reproduction and Management), ASCI 098 B (Horse Barn Cooperative), ASCI 198 (Advanced Equine Instructing Techniques), ASCI 098/198 (Basic Equitation -Beginner and Novice).
- 2005-2006** • Lecturer and teaching assistant for ASCI 115 (Introduction to Equine Science), ASCI 121 (EQUUS), ASCI 125 (Equine Instructing Techniques), ASCI 205 (Equine Reproduction and Management) and ASCI 297 E (Horse Barn Cooperative).
- 2006-2007** • Co-trainer and co-director of six-member UVM Equestrian Drill Team, which performed at Everything Equine 2006 and 2007
- 2005-2006** • Master's degree committee member for Joe Morabito.
- 2004** • Substitute committee member for Assistant Professor faculty position search.
- 2000-2005** • Supervising and mentoring undergraduate, graduate and workstudy students in the laboratory.
- 1999-2001** • Graduate student mentor: Mentornet program for women in science and engineering
- 1996-1997** • Teaching assistant for 654-304 Reproduction and Development laboratory class, Department of Zoology, Melbourne University, Australia.

Other

Ad hoc review for:

Breast Cancer Research and Treatment
Journal of Mammary Gland Biology and Neoplasia
Journal of Dairy Science
Journal of Dairy Research
International Journal of Genetics and Molecular Biology
Australian Journal of Zoology
American Medical Equestrian Association News
Biochimica et Biophysica Acta
Comparative Biochemistry and Physiology
Journal of Endocrinology
Endocrinology

- 2008-2010** • Painted horse muscle anatomy demonstration for Picnic Day at UC Davis.
- 2008-2010** • Clinician and barn manager at Everything Equine, premier NorthEast US Equine exposition
- 2007** • Clinician, barn manager and demonstration rider at Everything Equine, premier NorthEast US Equine exposition
- 2007** • Ambassador for Vermont Morgans during visits to Swiss, Austrian and Dutch Morgan horse stud farms, funded by United States Livestock Genetics Exports
- 2006** • Clinician, barn manager and demonstration rider at Everything Equine, premier NorthEast US Equine exposition
- 2005** • Ambassador for Vermont Morgans during visits to UK, German and Swedish Morgan horse stud farms, funded by United States Livestock Genetics Exports
- 2005** • Published article in Equinology E-Newsletter Vol. 2(4), “To float or not to float, that is the question”
- 2005** • Barn Manager and demonstration rider at Everything Equine, premier NorthEast US Equine exposition
- 2004** • Ambassador for Vermont Morgans during visits to Australian Morgan horse stud farms, funded by United States Livestock Genetics Exports
- 2004** • Clinician at Everything Equine, premier NorthEast US Equine exposition

Grants, Awards and Achievements

- 2008-2011** • Co-principle Investigator on USDA NRI/CGP grant (\$270K direct) - “Endocrine regulation of porcine mammary development and morphogenesis – delineating the role of the porcine prolactin receptor”
- 2003** • Principle Investigator on Vermont Genetics Network grant for use of facilities (\$5,575) - “Identifying transcriptional regulation of gene expression by hormone interactions in human breast cancer cells”
- 2002** • Travel Award to participate in the 11th International Conference of the International Society for Research in Human Milk and Lactation
- 2001** • Young Australian of the Year 2001: national finalist in Science and Technology section.
- 2001** • Young Australian of the Year 2001: NSW Science and Technology section.

- 2000** • Young Australian of the Year 2000: runner-up NSW Science and Technology section.
- 1999** • Fogarty International Visiting Fellowship, NIH Visiting Program.
- 1997** • Drummond Travel Award to attend overseas conferences from the Department of Zoology, Melbourne University.
- 1996** • Winner of University of Sydney Convocation Medal, to top graduate of 1995.
- 1995**
 - University Medallist and First Class Honours for BScAgr
 - Department of Natural Resources and Environment: Nancy Millis Research Award.
 - Wesfarmers-Dalgety National Scholarship in Agriculture.
 - Sydney University: Faculty of Agriculture Dean's List.
 - Sydney University: National Farmers Federation Prize for honors at graduation
 - The Womens College at Sydney University: Janet Elspeth Crawford Prize
 - The Womens College scholarship.
 - Peter Nivison Essay Competition: Winner.
- 1994**
 - Sydney University: Faculty of Agriculture Dean's List.
 - Sydney University: Millicent Lillian Christian Prize for academic achievement.
 - The Womens College scholarship.
 - Sydney Chinese Association Prize in Microbiology.
 - Clifford Dawson Holliday Prize for Third Year Agriculture.
 - Golden Jubilee Scholarship in Agricultural Science.
- 1993**
 - Sydney University: Faculty of Agriculture Dean's List.
 - The Womens College at Sydney University: Rennie Prize for academic achievement.
 - Golden Key National Honor Society member.
 - The Womens College scholarship.
 - Sydney University: Sir Robert Watt Memorial Prize for Crop Sciences.
 - Sydney University: Belmore Scholarship for Second Year.

Publications

Published (* Equal contribution)

a = collaborative researcher

b = graduate student

c = staff

d = other

Trott, J. F., Schennink, A., and Hovey, R. C. (2010) Cloning and expression of a unique short form of the porcine prolactin receptor. *Journal of Molecular Endocrinology* **46**, 1–13.

***Trott**, Schennink (a) and Hovey (a). Collaborative research project wherein Trott wrote the initial draft with input from Hovey and Schennink. Trott revised and wrote the submission draft.

*Horigan, K. C., ***Trott, J. F.**, Barndollar, A. S., Scudder, J. M., Blauwiel, R., and Hovey, R. C. (2009) Hormone interactions confer specific proliferative and histomorphogenic responses in the porcine mammary gland. *Domestic Animal Endocrinology* **37**, 124-138.

*Horigan (b), ***Trott**, Barndollar (d), Scudder (d), Blauwiel (c) and Hovey (a). Collaborative research project wherein Horigan wrote the initial draft with input from Hovey. Trott and Hovey revised and wrote the submission draft.

Trott, J. F., Horigan, K. C., Gloviczki, J. M., Costa, K. M., Freking, B. A., Farmer, C., Hayashi, K., Spencer, T., Morabito, J. E. and Hovey, R. C. (2009) Tissue-specific regulation of porcine prolactin receptor expression by estrogen, progesterone and prolactin. *Journal of Endocrinology* **202**, 153–166.

Trott, Horigan (b), Gloviczki (b), Costa (d), Freking (a), Farmer (a), Hayashi (a), Spencer (a), Morabito (b) and Hovey (a). Collaborative research project wherein Trott wrote the initial draft with input from Hovey and Gloviczki. Trott and Hovey revised and wrote the submission draft.

Morabito, J. E., **Trott, J. F.**, Korz, D. M., Fairfield, H. E., Buck, S. H. and Hovey, R. C. (2008) A 5'-distal palindrome within the MMTV-LTR recruits a mammary gland-specific complex and is required for a synergistic response to progesterone plus prolactin. *Journal of Molecular Endocrinology* **41(2)**, 75-90.

Morabito (b), **Trott**, Korz (c), Fairfield (d), Buck (c) and Hovey (a). Collaborative research project wherein Morabito wrote the initial draft with input from Trott and Hovey, Trott and Hovey revised and wrote the submission draft.

Trott, J. F., Vonderhaar, B. K., Hovey, R. C. (2008) Historical perspectives of prolactin and growth hormone as mammogens, lactogens and galactagogues-agog for the future! *Journal of Mammary Gland Biology and Neoplasia*. **13(1)**, 3-11.

Trott, Vonderhaar (a) and Hovey (a). Collaborative review wherein Hovey and Trott wrote the initial draft with input from Vonderhaar and Hovey revised and submitted the final draft.

Trott, J. F., Farley, N. R., Taatjes, D. J. and Hovey, R. C. (2007) Cloning and functional characterization of allelic variation in the porcine prolactin receptor. *Domestic Animal Endocrinology* **33(3)**, 313-334.

Trott, Farley (**b**), Taatjes (**a**) and Hovey (a). Collaborative research project wherein Trott wrote the initial draft and submitted the final draft with input from each co-author and Hovey revised each draft.

Trott, J. F., Adams, T. E., Wilson, M. and Nicholas, K. R. (2005) Positive and negative regulatory elements in the late lactation protein-A gene promoter from the tammar wallaby (*Macropus eugenii*). *Biochimica et Biophysica Acta* **1728(1-2)**, 65-76.

Trott, Adams (**a**), Wilson (**a**) and Nicholas (**a**). Collaborative research project wherein Trott wrote the initial draft with input from Adams and Nicholas, Nicholas revised and wrote the submission draft.

Goldhar, A., Vonderhaar, B. K., **Trott J. F.** and Hovey, R. C. (2005) Prolactin-induced expression of vascular endothelial growth factor via Egr-1. *Molecular and Cellular Endocrinology* **232(1-2)**, 9-19.

Goldhar (**c**), Vonderhaar (**a**), **Trott** and Hovey (**a**). Collaborative research project wherein Goldhar wrote the initial draft with input from all co-authors, Hovey revised and wrote the submission draft.

Trott, J. F., Hovey, R. C., Koduri, S. and Vonderhaar, B. K. (2004) Multiple new isoforms of the human prolactin receptor gene. *Advances in Experimental Biology and Medicine* **554**, 495-500.

Trott, Hovey (**a**), Koduri (**a**) and Vonderhaar (**a**). Collaborative research project wherein Trott wrote the initial draft with input from each co-author and submitted the final draft.

Hovey, R. C. and **Trott, J. F.** (2004) Morphogenesis of Mammary Gland Development. *Advances in Experimental Biology and Medicine* **554**, 219-228.

Hovey (**a**) and **Trott**. Collaborative review article wherein Hovey wrote the initial draft with input from Trott and Hovey submitted the final draft.

Greene, E. and **Trott, J. F.** (2004) The Self-Guided Horse Facility Analysis: A Proactive Safety Education Tool for Equine Facilities. *Journal of Extension* **42(6)**.

Greene (**a**) and **Trott**. Collaborative extension article wherein Greene and Trott wrote the initial draft and Greene submitted the final draft.

Trott, J. F. (2003). Putting Educational Materials to the Test with a Barn Safety Evaluation. *American Medical Equestrian Association/Safe Riders Foundation* **XV(1)**, 4-5.

Trott. Trott wrote the initial and final draft.

***Trott, J. F.**, *Simpson, K., Moyle, R., Hearn, C., Shaw, G., Nicholas, K. R. and Renfree, M. B. (2003)

Maternal Regulation of Milk Composition, Milk Production and Pouch Young Development During Lactation in the Tammar Wallaby (*Macropus eugenii*). *Biology of Reproduction* **68(3)**, 929-936.

***Trott**, ***Simpson (a)**, **Moyle (b)**, **Hearn (b)**, **Shaw (a)**, **Nicholas (a)** and **Renfree (a)**. Collaborative research project wherein Trott and Simpson wrote the initial draft with input from all co-authors, Trott and Simpson revised and wrote the submission draft and Simpson submitted the final draft.

Trott, J. F., Hovey, R. C., Koduri, S. and Vonderhaar, B. K. (2003) Alternative splicing to exon 11 of human prolactin receptor gene results in multiple isoforms including a secreted prolactin binding protein. *Journal of Molecular Endocrinology* **30**, 31-47.

Trott, Hovey **(a)**, Koduri **(a)** and Vonderhaar **(a)**. Collaborative research project wherein Trott wrote the initial draft with input from each co-author and submitted the final draft.

Trott, J. F., ***Wilson, M.**, ***Hovey, R. C.**, **Shaw, D. C** and **Nicholas, K. R.** (2002) Expression of Novel Lipocalin-Like Milk Protein Gene is Developmentally-Regulated During Lactation in the Tammar Wallaby (*Macropus eugenii*). *Gene* **283**, 287-297.

Trott, ***Wilson (a)**, ***Hovey (a)**, **Shaw (a)** and **Nicholas (a)**. Collaborative research project wherein Trott wrote the initial draft with input from all co-authors, Nicholas revised and wrote the submission draft with input from Trott and Hovey.

Hovey, R.C., **Trott, J.F.**, and Vonderhaar, B.K. (2002) Establishing a framework for the functional mammary gland: from endocrinology to morphology. *Journal of Mammary Gland Biology and Neoplasia* **7(1)**, 17-38.

Hovey **(a)**, **Trott**, and Vonderhaar **(a)**. Collaborative review wherein Hovey and Trott wrote the initial draft with input from Vonderhaar and Hovey revised and submitted the final draft.

Nicholas, K. R., Fisher, J., Muths, E., **Trott, J. F.**, Janssens, P. A. **Reich, C.** and Shaw, D. C. (2001) Secretion of whey acidic protein and cystatin is down regulated at mid-lactation in the red kangaroo (*Macropus rufus*). *Comparative Biochemistry and Physiology A Molecular & Integrative Physiology* **129(4)**, 851-858.

Nicholas **(a)**, Fisher **(c)**, Muths **(a)**, **Trott**, Janssens **(a)**, Reich **(b)** and Shaw **(a)**. Collaborative research project wherein Nicholas wrote the initial draft with input from all co-authors, Nicholas revised and wrote the submission draft.

Hovey, R. C., **Trott, J. F.**, Ginsburg, E., Goldhar, A., Sasaki, M., Fountain, S. J., Sundararajan, K. and Vonderhaar, B. K. (2001) Transcriptional and cell-specific regulation of prolactin receptor mRNA and co-association with progesterone receptor function during mammary gland branching morphogenesis. *Developmental Dynamics* **222**, 192-205.

Hovey (**a**), **Trott**, Ginsburg (**c**), Sasaki (**d**), Fountain (**d**), Sundararajan (**d**) and Vonderhaar (**a**). Collaborative research project wherein Hovey wrote the initial draft with input from all co-authors and Hovey revised and submitted the final draft.

Nicholas, K. R., Simpson, K., Wilson, M., **Trott, J. F.** and Shaw, D. C. (1997) The tammar wallaby: a model to study putative autocrine-induced changes in milk composition. *Journal of Mammary Gland Biology and Neoplasia* **2(3)**, 299-310.

Nicholas (**a**), Simpson (**b**), Wilson (**a**), **Trott, and** Shaw (**a**). Collaborative research project wherein Nicholas and Simpson wrote the initial draft with input from all co-authors, Nicholas and Simpson revised the submission draft and Nicholas submitted the final draft.

Campbell, P. M., **Trott, J. F.**, Claudianos, C., Smyth, K. -A., Russell, R. J. and Oakeshott, J. G. (1997) Biochemistry of esterases associated with organophosphate resistance in *Lucilia cuprina* with comparisons to putative orthologues in other Diptera. *Biochemical Genetics* **35**, 17-40.

Campbell (**a**), **Trott**, Claudianos (**b**), Smyth (**a**), Russell (**a**) and Oakeshott (**a**). Collaborative research project wherein Campbell wrote the initial draft with input from all co-authors, Campbell revised and submitted the final draft.

In Preparation

Trott, J. F., Renfree, M. B. and Nicholas, K. R. Endocrine Regulation of the Late Lactation Protein-A and -B Genes During the Lactation in the Tammar Wallaby (*Macropus eugenii*). *In preparation* for Biochemical and Biophysical Research Communications.

Abstracts

Gloviczki, J.M., Kraft, J., Lock, A.L., **Trott, J.F.** and Hovey, R.C. (2009). Effects of conjugated linoleic acid isomers on mammary gland development in BALB/cJ mice. . *Journal of Dairy Science* (**92**), E-Suppl. 1

Trott, J.F., Barndollar, A.S., Scudder, J.M., Horigan, K.C. and Hovey, R.C. (2005). An alternative, authentic model of normal breast development and breast cancer. Poster presented at the Department of Defense Era of Hope Breast Cancer Research Program, Philadelphia.

- Trott, J.F.**, Farley, N.R., and Hovey, R.C. (2004). Cloning, expression and functional analysis of the porcine prolactin receptor. *Journal of Dairy Science* (87) Suppl. 1, p 194.
- Scudder, J.M., Barndollar, A.S., **Trott, J.F.**, and Hovey, R.C. (2004). Unique effects of ovarian steroids on parenchymal morphology in the mammary glands of swine. *Journal of Dairy Science* (87) Suppl. 1, p 197.
- Hovey, R.C. and **Trott, J.F.** (2004). Hormonal regulation of mammary growth, morphogenesis and breast cancer. *Journal of Dairy Science* (87) Suppl. 1, p 239.
- Barndollar, A.S., Scudder, J.M., **Trott, J.F.**, and Hovey, R.C. (2004). Differential effects of ovarian hormones on epithelial proliferation in the porcine mammary gland. *Journal of Dairy Science* (87) Suppl. 1, p 131.
- Trott, J. F.**, Hovey, R. C., Koduri, S. and Vonderhaar, B. K. (2002) Alternative splicing to exon 11 of human prolactin receptor gene results in multiple isoforms including a secreted prolactin binding protein. Poster presented at the 11th International Conference of the International Society for Research in Human Milk and Lactation.
- Trott, J. F.**, Hovey, R. C., Koduri, S., Ginsburg, E. and Vonderhaar, B. K. (2002). Poster presented at the Mammary Gland Biology Gordon Research Conference.
- Trott, J. F.**, Hovey, R. C., Koduri, S., Ginsburg, E. and Vonderhaar, B. K. (2002) Expression of two novel prolactin receptor isoforms in human breast and colon cancer. Proceedings of the American Association of Cancer Research, San Francisco, U.S.A.
- Trott, J. F.**, *Wilson, M., *Hovey, R. C. and Nicholas, K. R. (2001) Developmentally-Regulated Expression of a Novel Late Lactation Protein-B Gene in the Mammary Gland of the Tammar Wallaby, *Macropus eugenii*. 22nd Annual Conference on the Organisation and Expression of the Genome, Lorne, Victoria, p 2-16.
- Trott, J. F.**, *Wilson, M., *Hovey, R. C., Shaw, D. and Nicholas, K. R. (2000) Developmentally-regulated expression of two late lactation protein genes in the tammar wallaby, *Macropus eugenii*. National Cancer Institute 1st Annual Post-Doctoral Fellows Retreat.
- Nicholas, K., Whitley, J., Cane, K., Wells, M., Digby, M., **Trott, J.** and Simpson, K. (2001) Molecular

mechanisms regulating lactation in marsupials and pinnipeds; Opportunities for the dairy industry. *Cloning and Stem Cells* 3(3), p 176.

Trott, J. F., Adams, T. and Nicholas, K. R. (2000) Poster presented at the Mammary Gland Biology Gordon Research Conference.

Trott, J. F., Wilson, M., Shaw, D. C. and Nicholas, K.R. (1997) Molecular characterization and expression of two late lactation protein genes from the tammar wallaby (*Macropus eugenii*). *Proceedings of the Australian Society of Biochemistry and Molecular Biology* 29:B1, p. 91.

Trott, J. F., Wilson, M., Shaw, D. C. and Nicholas, K. R. (1997) Poster presented at the Mammary Gland Biology Gordon Research Conference.

Trott, J. F., Wilson, M., Shaw, D. C. and Nicholas, K.R. (1997) Molecular characterization and expression of two late lactation protein genes in the tammar wallaby, *Macropus eugenii*. *Proceedings of Breast Cancer and Development meeting*.

Hovey, R. C., **Trott, J. F.**, Ginsburg, E., Goldhar, A., Sasaki, M., Fountain, S. J., Sundararajan, K. and Vonderhaar, B. K. (2001) Poster presented at the Mammary Gland Biology Gordon Research Conference.

Sasaki, M., Hovey, R. C., **Trott, J. F.**, Ginsburg, E., Goldhar, A. S., Sundararajan, K., Fountain, S. and Vonderhaar, B. K. (2001) Co-operative effects of prolactin and progesterone during mouse mammary gland branching morphogenesis. Presented at the Meetings of The Endocrine Society.