

## **Curriculum Vita for Tanya F Gressley**

Department of Animal and Food Sciences

**University of Delaware**

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### **Education:**

June 1999-August 2005: Ph.D., Dairy Science, Department of Dairy Science, University of Wisconsin, Madison, WI; dissertation title: *“Effects of post-ruminal fiber fermentation on digestion and nitrogen balance in lactating dairy cows”*

June 1997-May 1999: M.S., Animal Science, Department of Animal and Avian Sciences, University of Maryland, College Park, MD; thesis title: *“Reducing nitrogen losses from dairy farms through the use of improved animal management strategies and technologies”*

September 1993-May 1997: B.S., Animal Science, Department of Animal and Avian Sciences, University of Maryland, College Park, MD; Magna Cum Laude

### **Professional Experience:**

January 2007-present: Assistant Professor, Ruminant Biology, Department of Animal and Food Sciences, University of Delaware, Newark, DE

September-December 2006: Postdoctoral Research Assistant, Department of Animal Science, University of Florida, Gainesville, FL; Advisor: Dr. Geoffrey E. Dahl

September 2005-September 2006: Postdoctoral Research Assistant, Department of Animal Science, University of Illinois, Urbana, IL; 2005-2006; Advisor: Dr. Geoffrey E. Dahl

June 1999-August 2005: Graduate Research Assistant, Department of Dairy Science, University of Wisconsin, Madison, WI; Advisor: Dr. Louis E. Armentano

June 1997-May 1999: Graduate Research Assistant, Department of Animal and Avian Science, University of Maryland, College Park, MD; Advisor: Dr. Richard A. Kohn

June 1996-May 1997: Undergraduate Researcher, Department of Animal and Avian Science, University of Maryland, College Park, MD; Advisor: Dr. Richard A. Kohn

### **Awards and Honors:**

Outstanding Advisor Award, University of Delaware College of Agriculture and Natural Resources, 2012  
Advisor Appreciation Nominee, University of Delaware College of Agriculture and Natural Resources, 2009  
Delaware Cooperative Extension Certificate of Achievement; Integration of Extension and Research Award given to Dairy Team, 2007  
Gurine Gulsteen (Gjermundson) Research Fellowship, 2003-2004  
Environmental Protection Agency STAR Graduate Fellowship, 1999-2002  
University of Maryland Graduate School Fellowship, 1997-1998  
First Place Poster Presentation, Department of Animal and Avian Science Symposium, University of Maryland, 1997  
Winslow Regents Scholarship, 1993-1997  
Phi Beta Kappa, 1996

### **Professional Society Memberships:**

American Dairy Science Association, 1997-present  
American Society of Animal Science, 2010-present

### **Summary of Research Accomplishments:**

As described in detail below, my research accomplishments from work at the University of Delaware include:

- I am the corresponding author of five manuscripts published in refereed journals
- I have published one invited book chapter
- I have secured \$233,854 in research funding
- I am the corresponding author of one manuscript under review for publication in a referred journal
- Three manuscripts are being prepared for future submission to refereed journals, and I am the corresponding author of two of those manuscripts
- I am the corresponding author on ten papers with abstract presented at professional meetings
- I have given seven invited presentations

### **Publications and Presentations from Work at the University of Delaware:**

#### ***Publications in Refereed Journals:***

Hengst, B. A., L. M. Nemeč, R. R. Rastani, and **T. F. Gressley**. 2012. Effect of conventional and intensified milk replacer feeding programs on performance, vaccination response, and neutrophil mRNA levels of Holstein calves. *J. Dairy Sci.* 95:5182-5193.

*This manuscript is the result of Brittany Hengst's Senior Thesis work; I wrote this and am the corresponding author*

Nemeč, L. M., J. D. Richards, C. A. Atwell, D. E. Diaz, G. I. Zanton, and **T. F. Gressley**. 2012. Immune responses in lactating Holstein cows supplemented with Cu, Mn, and Zn as sulfates or methionine hydroxy analogue chelates. *J. Dairy Sci.* 95:4568-4577.

*This manuscript is the result of part of Laura Nemeč's M.S. work; I wrote this and am the corresponding author*

Mainardi, S. R., B. A. Hengst, S. J. Nebzydoski, L. M. Nemeć, and **T. F. Gressley**. 2011. Effects of abomasal oligofructose on blood and feces of Holstein steers. *J. Anim. Sci.* 89:2510-2517.

*This manuscript is the result of Sarah Mainardi's Senior Thesis work; I wrote this and am the corresponding author*

**Gressley, T. F.**, M. B. Hall, and L. E. Armentano. 2011. Ruminant nutrition symposium: Productivity and health responses to hindgut acidosis in ruminants. *J. Anim. Sci.* 89:1120-1130.

*I was invited to write this review and am the corresponding author*

Nebzydoski, S. J., S. Pozzo, L. M. Nemeć, M. K. Rankin, and **T. F. Gressley**. 2010. The effect of dexamethasone on clock gene mRNA levels in bovine neutrophils and lymphocytes. *Vet. Immunol. Immunopathol.* 138:183-192.

*This manuscript combines results of Sarah Nebzydoski's M.S. work and Sharon Pozzo's Senior Thesis work; I wrote this and am the corresponding author*

#### **Book Chapter:**

Gressley, T. F. 2012. Bioactive agents of milk/dairy products. *In Encyclopedia of Biotechnology in Agriculture and Food*. Taylor and Francis: New York, Published online: 05 Jan 2012; 1-3.

*I was invited to write this review and am the corresponding author*

#### **Manuscripts Submitted to Refereed Journals and Awaiting Decision:**

McCarthy, M. M., M. A. Engstrom, E. Azem, and **T. F. Gressley**. The effect of an exogenous amylase on performance and total tract digestibility in lactating dairy cows fed a high by-product diet. Submitted August 2012 to *J. Dairy Sci.*

*This manuscript is the result of Maris McCarthy's M.S. work and I am the corresponding author*

#### **Manuscripts in Preparation for Future Submission to Refereed Journals:**

**Gressley, T. F.**, K. A. Davison, J. Macies, L. M. Nemeć, and M. M. McCarthy. Effect of carbohydrate source, dosing schedule, and abomasal yeast on measures of intestinal fermentation following abomasal carbohydrate infusion.

*This manuscript combines the results of Kerrie Davison's and Jasmine Macies' Senior Theses and I am preparing for submission to the Journal of Animal Science this fall; I am the corresponding author*

Nemeć, L. M., S. J. Nebzydoski, and **T. F. Gressley**. Plasma zinc response to abomasal or ruminal pulse dose of zinc supplements.

*This manuscript describes results of some of Laura Nemeć's M.S. work and has been prepared for submission to the Journal of Animal Science; the funding company is reluctant to publish and we are negotiating the next step; I am the corresponding author*

Wohlt, J. E., **T. F. Gressley**, and J. D. Ferguson. Growth at a heifer raising facility as affected by origin, month born, shipment group and method of weighing.

*We submitted this manuscript to the Journal of Dairy Science but it was rejected; I have completely revised the paper for submission to Professional Animal Scientist and am waiting for final comments from corresponding author Jim Ferguson*

***Papers Presented with Abstract at Professional Meetings:***

- Gressley, T. F.**, M. J. de Veth, N. K. Diana, and E. Mackey. 2012. Evaluating in situ procedures for testing lipid encapsulated products – lysine as an example. *J. Dairy Sci.* 94(Suppl. 2):353.
- McCarthy, M. M., M. A. Engstrom, E. Azem, and **T. F. Gressley**. 2011. The effect of an exogenous amylase on performance and total tract digestibility in lactating dairy cows. *J. Dairy Sci.* 94(E-Suppl.1):207.
- Kurman, C. A., M. McCarthy, L. M. Nemeč, and **T. F. Gressley**. 2011. Serum shock did not synchronize clock gene expression in primary bovine hepatocyte cultures. *J. Dairy Sci.* 94(E-Suppl.1):597.
- Davison, K., R. L. Hougentogler, C. Leonardi, M. M. McCarthy, L. M. Nemeč, and **T. F. Gressley**. 2011. Effect of post-ruminal *Saccharomyces boulardii* on fecal parameters and nutrient digestibility in Holstein steers given abomasal oligofructose. *J. Dairy Sci.* 94(E-Suppl.1):364.
- Nemeč L.M., C. Wu, S. Cordova, K. Davison, and **T. F. Gressley**. 2010. The effect of thymol on intracellular and extracellular reactive oxygen species production by bovine neutrophils. *J. Dairy Sci.* 93(E-Suppl. 1):313.
- Nemeč, L.M., J. D. Richards, C. Atwell, D. E. Diaz, and **T. F. Gressley**. 2010. The effect of form of trace mineral supplements on performance, neutrophil function and vaccination response in lactating Holstein cows. *J. Dairy Sci.* 93(E-Suppl. 1):176.
- Hengst, B. A., L. M. Nemeč, R. R. Rastani, and **T. F. Gressley**. 2010. Measurement of adaptive and innate immune function in calves raised under traditional and accelerated growth regimens. *J. Dairy Sci.* 93(E-Suppl. 1):418.
- Mainardi, S. R., B. A. Hengst, S. J. Nebzydowski, L. M. Nemeč, and **T. F. Gressley**. 2010. Abomasal oligofructose infusion induced hindgut acidosis in Holstein steers. *J. Dairy Sci.* 93(E-Suppl. 1):722.
- Wickens, C., and **T. Gressley**. 2010. Identification and pursuit of instructional grants to support development of undergraduate equine courses. Presented at National Association of Equine Affiliated Academics, Cazenovia, NY, 7/27.
- Pozzo, S. S., M. K. Rankin, and **T. F. Gressley**. 2008. Dexamethasone administration increased bovine lymphocyte clock gene expression *in vitro* and *in vivo*. *J. Dairy Sci.* 91(E-Suppl. 1):3.
- Nebzydowski, S. J., L. M. Nemeč, and **T. F. Gressley**. 2008. The effect of the synthetic glucocorticoid dexamethasone on clock gene expression in bovine neutrophils. *J. Dairy Sci.* 91(E-Suppl. 1):161.

***Invited Presentations:***

- Gressley, T. F.** The role of trace mineral nutrition on immunity and health of dairy cows. 11<sup>th</sup> annual Mid-Atlantic Nutrition Conference. Pre-Conference Symposium. Timonium, MD. March 27, 2013.
- Gressley, T. F.** Hindgut fermentation in dairy cattle: how much is too much? Penn State Dairy and Animal Science Department Seminar. State College, PA. April 20, 2012.
- Gressley, T. F.**, M. B. Hall, and L. E. Armentano. Animal productivity and health responses to hind-gut acidosis. *J. Dairy Sci.* 93 (E-Suppl. 1):875. Denver, CO. July 15, 2010.
- Gressley, T. F.** “Strategies for trace mineral supplementation”. Penn State Annual Dairy Cattle Nutrition Workshop. Grantville, PA. November 12, 2009.

- Gressley, T. F.** 7<sup>th</sup> annual Mid-Atlantic Nutrition Conference. “Zinc, copper, manganese, and selenium in dairy cattle rations”. Timonium, MD. March 26, 2009.
- Gressley, T. F.** Research Presentation to Novus International. “Effects of zinc, copper, manganese, and selenium on immune function”. St. Louis, MO. June 25, 2008.
- Gressley, T. F.** 2008 Delaware Dairy Day. “Managing the transition cow: recent research and recommendations”. Harrington, DE. January 9, 2008.
- Gressley, T. F.** Rutgers University Animal Sciences Graduate Seminar. “Clock gene expression in bovine leukocytes”. Rutgers, NJ. September 21, 2007.

***Presentations, Other:***

- Gressley, T. F.** Use of PhotoStory for a Capstone Final Project. University of Delaware Summer Faculty Institute. June 3, 2010.

***Conference Proceedings:***

- Gressley, T. F.** 2009. Zinc, copper, manganese, and selenium in dairy cattle rations. Proceedings of the 7<sup>th</sup> annual Mid-Atlantic Nutrition Conference. Timonium, MD. March 25-26, 2009.
- Gressley, T. F.** 2008. Managing the transition cow: recent research and recommendations. Proceedings of 2008 Delmarva Dairy Day. Harrington, DE. January 9, 2008.

***Publications – Other:***

- Gressley, T. F.** 2012. Intensified milk replacer feeding programs. Delaware Dairy Newsletter. Summer 2012: pages 2-3.
- Gressley, T. F.** 2010. Chromium in dairy cattle diets. Delaware Dairy Newsletter. Spring 2010: pages 2-3.
- Gressley, T. F.** 2009. Zinc, copper, manganese, and selenium in dairy cattle rations. Delaware Dairy Newsletter. Summer 2009: pages 4-8.
- Gressley, T. F.** 2008. Update from the 2008 National Mastitis Council meeting. Delaware Dairy Newsletter. Summer 2008: pages 4-5.
- Gressley, T. F.** 2008. Managing the transition cow: recent research and recommendations. Delaware Dairy Newsletter. Spring 2008: pages 1-7.
- Gressley, T. F.** 2007. Managing forage supplies and diets in drought conditions. Delaware Dairy Newsletter. Fall/Winter 2007: page 2.

**Publications from Work Prior to Joining the University of Delaware:**

***Publications in Refereed Journals***

- Brickner, A. E., J. A. A. Pires, **T. F. Gressley**, and R. R. Grummer. 2009. Effects of abomasal lipid infusion on liver triglyceride accumulation and adipose lipolysis during fatty liver induction in dairy cows. *J. Dairy Sci.* 92:4954-4961.  
*While at the University of Delaware I assisted with manuscript preparation; Ric Grummer is the corresponding author*
- Velasco, J. M., E. D. Reid, K. K. Fried, **T. F. Gressley**, R. L. Wallace, and G. E. Dahl. 2008. Short-day photoperiod increases milk yield in cows with a reduced dry period length. *J. Dairy Sci.* 91: 3467-3473.

- While at the University of Delaware I conducted all statistical analyses and assisted with manuscript preparation; Geoff Dahl is the corresponding author*
- Mikolayunas, C. M., D. L. Thomas, G. E. Dahl, **T. F. Gressley**, and Y.M. Berger. 2008. Effect of prepartum photoperiod on milk production and prolactin concentration of dairy ewes. *J. Dairy Sci.* 91:85-90.
- While at the University of Delaware I assisted with manuscript preparation; Dave Thomas is the corresponding author*
- Rastani, R. R., N. Silva Del Rio, **T. F. Gressley**, G. E. Dahl, and R. R. Grummer. 2007. Effects of increasing milking frequency during the last 28 days of gestation on milk production, dry matter intake, and energy balance in dairy cows. *J. Dairy Sci.* 90: 1729-1739.
- Gressley, T. F.**, and L. E. Armentano. 2007. Effects of low rumen degradable protein or abomasal fructan infusion on diet digestibility and urinary nitrogen excretion in lactating dairy cows. *J. Dairy Sci.* 90:1340-1353.
- Gressley, T. F.**, S. M. Reynal, J. J. Olmos Colmenero, G. A. Broderick, and L. E. Armentano. 2006. Development of a tool to insert abomasal infusion lines into dairy cows. *J. Dairy Sci.* 89:3965-3967.
- Gressley, T. F.**, and L. E. Armentano. 2005. Effect of abomasal pectin infusion on digestion and nitrogen balance in lactating dairy cows. *J. Dairy Sci.* 88:4028-4044.
- \***Dunlap, T. F.**, R. A. Kohn, L. W. Douglass, and R. A. Erdman. 2000. Diets deficient in rumen undegraded protein did not depress milk production. *J. Dairy Sci.* 83:1806-1812.
- \***Dunlap, T. F.**, R. A. Kohn, G. E. Dahl, M. Varner, and R. A. Erdman. 2000. The impact of somatotropin, milking frequency, and photoperiod on dairy farm nutrient flows. *J. Dairy Sci.* 83:968-976.
- Kohn, R. A., and \***T. F. Dunlap**. 1998. Calculation of the buffering capacity of bicarbonate in the rumen and in vitro. *J. Anim. Sci.* 1998. 76:1702-1709.
- \*Indicates previous surname

***Papers Presented with Abstract at Professional Meetings:***

- Velasco, J. M., K. K. Fried, **T. F. Gressley**, E. D. Reid, T. C. Hausman, and G. E. Dahl. 2007. Reducing freestall availability without limiting feed access during the dry period does not affect subsequent milk yield. *J. Dairy Sci.* 90(Suppl. 1):231.
- Gressley, T. F.**, K. K. Fried, J. M. Velasco, E. D. Reid, T. C. Hausman, K. M. Moyes, J. L. Salak-Johnson, and G. E. Dahl. 2007. Effects of reduced freestall access during the dry period upon cellular immune function of dairy cows. *J. Dairy Sci.* 90(Suppl. 1):369.
- Gressley, T. F.**, E. E. Connor, and G. E. Dahl. 2006. Liver expression of the clock gene *TIMELESS* is reduced by long day photoperiod in dairy steers. *J. Dairy Sci.* 89(Suppl. 1):289.
- Gressley, T. F.**, and L. E. Armentano. 2006. Reduced rumen degradable protein (RDP) and abomasal inulin reduce diet digestibility and urinary nitrogen in lactating dairy cows. *J. Dairy Sci.* 89(Suppl. 1):403.
- Kulick, A. E., **T. F. Gressley**, J. A. A. Pires, and R. R. Grummer. 2006. Effects of abomasal lipid infusion on liver triglyceride accumulation during fatty liver induction. *J. Dairy Sci.* 89(Suppl. 1):266.

- Velasco, J. M., E. D. Reid, K. E. Karvetski, **T. F. Gressley**, R. L. Wallace, and G. E. Dahl. 2006. Short day photoperiod increases milk yield in cows with a reduced dry period length. *J. Dairy Sci.* 89(Suppl. 1):147.
- Gressley, T. F.**, and L. E. Armentano. 2005. Effect of abomasal pectin infusion on digestion and nitrogen balance in dairy cows. *J. Dairy Sci.* 88(Suppl. 1):90.
- Rastani, R. R., N. Silva del Rio, **T. F. Gressley**, G. E. Dahl, and R. R. Grummer. 2005. Effects of milking frequency prepartum on postpartum milk production, milk composition and dry matter intake in dairy cows. *J. Dairy Sci.* 88(Suppl. 1):286.
- \***Dunlap, T. F.**, and L. E. Armentano. 2003. Effect of abomasal pectin infusion on digestion and nitrogen balance in dairy cows. *J. Dairy Sci.* 86(Suppl. 1):58.
- \***Dunlap, T. F.**, G. Shook, and L. Armentano. 2001. A preliminary evaluation of genetic and dietary factors affecting urinary phosphorus concentration in dairy cows. Fifth Annual Science to Achieve Results (STAR) Grad Fellowship Conference. Silver Spring, MD, July 17-18, 2001.
- \***Dunlap, T. F.**, R. A. Kohn, and R. A. Erdman. 1999. Diets deficient in rumen undegraded protein did not depress milk production. *J. Dairy Sci.* 82(Suppl. 1):95.
- \***Dunlap, T. F.**, R. A. Kohn, G. E. Dahl, and R. A. Erdman. 1998. The impact of somatotropin, milking frequency, and photoperiod on dairy farm nitrogen flows. *J. Dairy Sci.* 81(Suppl. 1):257.
- \***Dunlap, T. F.**, R. A. Kohn, and K. F. Kalscheur. 1997. Effect of animal grouping strategies on nutrient losses from the dairy farm. *J. Dairy Sci.* 80(Suppl. 1):246.
- \*Indicates previous surname

***Publications – Other:***

- Gressley, T. F.**, and G. E. Dahl. 2007. Reduced freestall availability during the dry period did not impact performance. Delaware Dairy Newsletter. Fall/Winter 2007: pages 5-7.
- Gressley, T. F.**, K. E. Karvetski, J. M. Velasco, E. D. Reid, and G. E. Dahl. 2007. Reduced freestall availability during the dry period did not impact performance. 2008 Illinois Dairy Report: pages 62-64.

**Funding (Total \$243,854: \$175,354 in extramural research funding, \$58,500 in UD or CANR funding for research, \$10,000 in UD funding for teaching):**

- Gressley, T. F.** Balchem Animal Nutrition & Health. (\$7,300) 1/1/13-12/31/13, Comparing the availability of methionine from two protected products
- Gressley, T. F.** Balchem Animal Nutrition & Health. (\$20,585) 1/1/12-12/31/12, Comparing the availability of methionine from two protected products
- Gressley, T. F.** Renaissance Nutrition, Inc. (\$4,000) 8/1/11-7/31/12, Measurement of calf starter intake and growth response of dairy calves fed a traditional starter versus a reduced protein amino acid balanced calf starter
- Gressley, T. F.** DSM Nutritional Products. (\$3,696) 6/1/11-5/31/12, Effect of an exogenous amylase (RONOZYME® RumiStar) on in vitro digestibility of feedstuffs
- Gressley, T. F.** Balchem Animal Nutrition & Health. (\$7,200) 11/1/10-10/31/11, In situ disappearance of nitrogen and dry matter from rumen protected lysine products
- Gressley, T.F.** DSM Nutritional Products. (\$45,423) 1/1/10-5/31/12, Effect of an exogenous amylase (RONOZYME® RumiStar) on performance and total tract digestibility in lactating dairy cows

- Gressley, T.F.** UDRF. (\$38,500) 6/1/09-5/31/11, Characterization of the hepatocyte metabolic clock (includes \$3,500 UDRF Research Experience for Undergraduates awarded 5/3/10)
- Gressley, T. F.** Lallemond Animal Nutrition. (\$12,000) 1/01/09-12/31/09, Effects of Levucell SC on Steer Responses to Post-ruminal Soluble Fiber Dose
- Gressley, T. F.** Novus International, Inc. (\$45,850) 1/01/09-12/31/09, Immunological response in Mintrex supplemented lactating dairy cattle
- Gressley, T. F.** CANR 2008 Research Partnership and Seed Grant Program. (\$10,000) 12/1/08 to 12/31/09, Evaluation of Neutrophil Clock Gene Expression
- Gressley, T. F.** Novus International, Inc. (\$16,200) 7/1/08-6/30/09, Bioavailability of Zinc from Different Sources Infused in the Rumen
- Gressley, T. F.** Novus International, Inc. (\$12,000) 2/14/08-2/13/09, Bioavailability Comparison of Zinc from Different Sources
- Gressley, T. F.** Novus International, Inc. (\$8,400) 9/15/07-9/14/08, Bioavailability of Copper and Zinc from Mintrex
- Gressley, T. F.** L. Griffiths, R. Alphin, R. Joerger, D. Marshall, and D. Severson, UD Capstone Experience. (\$10,000 to ANFS Teaching) 9/1/07-5/31/09, Animal and Food Sciences Capstone Experience
- Gressley, T. F.** CANR 2007 Research Partnership and Seed Grant Program. (\$10,000) 9/1/07 to 12/31/08, Evaluation of Neutrophil Clock Gene Expression in Healthy Steers and in Steers Challenged with Dexamethasone

#### **Proposals Submitted but not Funded**

- Gressley, T. F.,** L. Kung. Arkion. (\$27,600) 11/1/12-10/31/13, Evaluating Protimax survival in rumen fluid and effects on inflammatory measures in healthy and stressed Holstein cows.
- Brannick, E., and **T. F. Gressley.** University of Delaware President's Diversity Initiative (\$50,000) 9/1/12-5/31/15, AGcelerate scholars program and summer institute
- Dyer, R. M., **T. F. Gressley,** C. J. Schmidt, and J. D. Ferguson. Zinpro Corp. (\$190,530) 6/1/12-6/1/13, Micronutrient (4 Plex) supplementation alters the severity of sterile inflammatory disease and collateral tissue destruction in transition cow rumen mucosa, liver, and claw corium
- Gressley, T. F.,** C. Wu, and M. R. Waldron. USDA – AFRI Foundational Program, Animal Health and Production and Animal Products (\$496,390) 1/1/12-12/30/14, Effect Of In Vitro and In Vivo Supplementation Of Antioxidant Compounds On Bovine Neutrophil Function And Health
- Dyer, R. M., **T. F. Gressley,** C. J. Schmidt, R. L. Baldwin, C. Li, and K. M. Krause. USDA – AFRI Foundational Program, Animal Health and Production and Animal Products (\$499,844) 1/1/12-12/30/14, Effects Of Subacute Ruminal Acidosis On Gene Expression Patterns and Functions Of Rumen Mucosa And The Integument
- Gressley, T. F.** Prince Agri Products, Inc. (\$66,114) 1/1/12-12/31/13, Effect of Omnigen with or without Supplemental Vitamin E and Organic Se on Measures of Immune Function in Lactating Cows
- Gressley, T. F.,** and C. Wu. USDA – AFRI Animal Health and Production: Animal Health (\$149,916) 1/1/11-12/31/12, Effect of *in vitro* and *in vivo* Administration of Plant-Derived Compounds on Bovine Neutrophil Function and *Staphylococcus aureus* Kill



- Gressley, T. F.** MSC (\$20,000) 1/1/11-12/31/12, Evaluation of Innate and Adaptive Immune Function in Calves Raised under Traditional and Accelerated Regimens
- Gressley, T. F.**, and L. Kung, Jr. Diamond V Science & Technology Awards Program (\$41,698) 3/1/10-2/28/12 Potential for yeast culture to alleviate detrimental effects of poor ruminal and large intestinal fermentations
- Gressley, T. F.**, and L. Kung, Jr. Arm & Hammer Animal Nutrition (\$48,100) 9/1/10-12/31/11, The Effect of Replacing Blood Meal and Urea with Rumen-protected and Rumen-available Amino Acid Sources
- Gressley, T. F.** and L. Kung, Jr. Kemin Industries, Inc. (\$45,816) 1/1/10-12/31/11, Effect of KemTRACE Chromium Propionate on Production and Immune Response in Early Lactation Cows
- Gressley, T. F.** Lallemand Animal Nutrition (\$22,210) 8/1/09-7/31-10, The Effect of Ruminal and Abomasal Dosing of *S. boulardii* on Diet Digestibility, Fecal Characteristics, and Rumen and Fecal Yeast
- Gressley, T. F.** USDA – NRI Animal Growth and Nutrient Utilization Seed Proposal (\$99,983) 1/1/09-12/31/10, Hormonal Influences On The Bovine Hepatocyte Clock
- Gressley, T. F.** USDA – NRI Animal Growth and Nutrient Utilization Seed Proposal (\$99,937) 6/1/08-5/31/10, Do Hormones Regulate the Bovine Hepatocyte Clock?
- Gressley, T. F.** University of Delaware Research Foundation (\$25,000) 6/1/08-5/31/10, Do glucocorticoids regulate the bovine lymphocyte clock?

**Advisor of Current Graduate Students:**

Amanda Barnard: M.S. candidate, start date August 2012

**Advisor of Past Graduate Students:**

Maris McCarthy: M.S. candidate, successfully defended May 2011

Thesis title: The effect of an endogenous amylase on performance and total tract digestibility in lactating dairy cows

Laura Nemec: M.S. candidate, successfully defended May 2010

Thesis title: The bioavailability of zinc and copper in Holstein steers

Sarah Nebzydoski: M.S. candidate, successfully defended August 2009

Thesis title: The effect of the glucocorticoid dexamethasone on clock gene expression in bovine neutrophils and lymphocytes

**Student Awards and Honors:**

Christa Kurman, ANFS Faculty Award, Spring 2012

Maris McCarthy, ADSA/ASAS NE Division Graduate Student Paper Competition, 1<sup>st</sup> place, July 2011

Laura Nemec, ADSA/ASAS NE Division Graduate Student Paper Competition, 1<sup>st</sup> place, July 2010

Laura Nemec, W. J. Benton Award Graduate Student Award, Spring 2010

Brittany Hengst, ANFS Faculty Award, Spring 2010

**Committee Member of Current and Past Graduate Students:**

Caitlyn Merrill: M.S. candidate, start date September 2011

Michelle Der Bedrosian: Ph.D. candidate, start date February 2010

- Trista Reeder: Ph.D. candidate, successfully defended August 2012  
Thesis title: Bovine hoof horn ulcerative disease: Collateral tissue damage, inflammation, and inflammasome body activity
- Mateus Santos: Ph.D. candidate, successfully defended November 2011  
Thesis title: Identification and characterization of yeasts from high moisture corn and corn silages and their potential impact on in vitro rumen fermentation
- Michelle Der Bedrosian: M.S. candidate, successfully defended February 2010  
Thesis title: The effect of sodium bicarbonate or live yeast culture (*Saccharomyces cerevisiae*) on the metabolism and production of lactating dairy cows
- Erin McDonell: M.S. candidate, successfully defended December 2007  
Thesis title: An Evaluation of Methods Used to Cover Bunker Silos to Maintain the Nutritive Value of Silage
- Candice Klingerman: M.S. candidate, successfully defended October 2007  
Thesis title: The Effects of Adding Exogenous Amylase Enzymes to the Diets of Lactating Dairy Cows

**Undergraduate Senior Thesis, Advisor:**

- Christa Kurman: Senior Thesis 2012  
Thesis title: Serum Shock did not Synchronize Clock Gene Expression in Primary Bovine Hepatocyte Culture
- Jasmine Macies: Senior Thesis 2012  
Thesis title: Induction of Post Ruminant Acidosis via Abomasal Infusion of Fermentable Carbohydrates
- Brittany Hengst: Honors Senior Thesis 2010  
Thesis title: Measurement of Adaptive and Innate Immune Function in Calves Raised Under Traditional and Accelerated Growth Regimens
- Kerrie Davison: Senior Thesis 2010  
Thesis title: The Potential for Abomasally Infused *S. bouardii* to Alleviate Large Intestinal Acidosis
- Sarah Mainardi: Senior Thesis 2009  
Thesis title: Can Abomasal Oligofructose Infusions be used as a Model to Study Post-ruminal Acidosis?
- Sharon Pozzo: Honors Senior Thesis 2008  
Thesis title: Impact of Dexamethasone Administration, *In Vitro* and *In Vivo*, on Clock Gene Expression in Bovine Lymphocytes

**Undergraduate Senior Thesis, Second Reader:**

- Amanda Welch: Senior Thesis 2011, Advisor Dr. Bob Dyer  
Thesis title: Expression of Keratinocyte Cell Cycle and Terminal Differentiation Markers in Normal and Ulcerated Regions of the Bovine Claw Epidermis
- Kaylin Young: Senior Thesis 2011, Advisor Dr. Limin Kung  
Thesis title: The Effect of Exogenous Protease Enzymes and Length of Storage on the Fermentation and Nutritive Value of Corn Silage
- Lisa Brody: Senior Thesis 2010, Advisor Dr. Bob Dyer  
Thesis title: Expression of Involucrin,  $\beta 1$  Integrin and PCNA in keratinocytes derived from coronette region of the bovine claw

Lindsey Reich: Honors Senior Thesis 2008, Advisor Dr. Limin Kung  
Thesis title: The Effect of *Lactobacillus buchneri* on the Silage Fermentation, Aerobic Stability and Nutritive Value of Brown Midrib Corn Silage

**Undergraduate Research Advising:**

Regan Nebenhaus: Science and Engineering Scholar, Spring 2012-present  
Alyson Weiss: Undergraduate researcher, Winter 2012-present  
Emily Mackey: Science and Engineering Scholar and Senior Thesis, June 2011-present  
Noelle Diana: Science and Engineering Scholar, June 2011-Spring 2012  
Christa Kurman: Science and Engineering Scholar and Senior Thesis, June 2010-Spring 2012  
Jasmine Macies: Science and Engineering Scholar and Senior Thesis, June 2010-Spring 2012  
Ava Nowak: Undergraduate researcher, January-May 2010  
Julia Robinson: Undergraduate researcher, Spring 2010  
Rachael Hougentogler: Undergraduate researcher, Spring 2009-Spring 2011  
Nina Pusateri: Undergraduate researcher, Fall 2007-Spring 2011  
Sarah Cordova: Science and Engineering Scholar, June 2009-May 2010, co-advisor with Dr. Changqing Wu  
Kerrie Davidson: Science and Engineering Scholar and Senior Thesis, June 2009-May 2010  
Amanda Catti: Undergraduate researcher, Spring 2009  
Danielle Rossi: Undergraduate researcher, Fall 2008-Spring 2010  
Brittany Hengst: Science and Engineering Scholar and Senior Thesis, June 2008-May 2010  
Sarah Mainardi: Science and Engineering Scholar and Senior Thesis, June 2008-May 2009  
Sharon Pozzo: McNair Scholar and Senior Thesis, June 2007-May 2008

**Courses Taught:**

ANFS-251, Animal Nutrition

Fall 2010 taught honors discussion, 1 hour per week, 13 students

ANFS 367, Contemporary Issues in Animal Agriculture

Study Abroad Winter 2011 in New Zealand; 27 students

ANFS-404, 4 credits, Dairy Production Lecture and Lab, Capstone and Discovery Learning Experience Course

Spring 2008; 27 students

Spring 2009; 37 students (5 honors)

Spring 2011; 51 students (6 honors) in 2 sections

ANFS-442/642, 3 credits, Lactational Physiology

Fall 2009; 17 undergraduate students and 4 graduate students

Fall 2011; 25 undergraduate students and 2 graduate students

ANFS-468, Undergraduate Research, Discovery Learning Experience Course

Fall 2012 (2 students)

Spring 2012 (1 student)

Fall 2011 (2 students)

Spring 2011 (3 students)

Fall 2010 (1 student)  
Spring 2010 (2 students)  
Winter 2010 (1 student)  
Fall 2009 (2 students)  
Spring 2009 (2 students)  
Spring 2008 (1 student, taken as BISC 466)

ANFS-865, 1 credit, ANFS Graduate Seminar  
Fall 2007, Spring 2008, Fall 2008, Spring 2009

**Guest Lectures:**

ANFS 101H, Intro. Animal Science Honors Section, October 5, 2009  
Developed and taught a lab on rumen microbiology  
ANFS 102, Food For Thought, May 8, 2009; March 1, 2010; February 27, 2012; February 27, 2013  
Developed and taught The Battle over Bovine Somatotropin  
ANFS 111, Animal Science Laboratory, Fall 2007, Fall 2008, Fall 2009  
Developed and taught dairy lab (same lab 4 times per year)  
ANFS 111, Animal Science Laboratory, Fall 2010, Fall 2011, Fall 2012  
Co-developed and co-taught nutrition lab with Dr. Kali Kniel (same lab 4 times per year)  
ANFS 165, Freshman Year Experience, November 15, 2010  
Took part in faculty panel  
ANSC 251, Animal Nutrition, October 16, 2007  
Taught on fat digestion  
ANFS 251, Animal Nutrition, November 9 and 11, 2010  
Developed and taught lectures on vitamins  
ANFS 367/350, Animal Behavior, November 12 and 14, 2007; November 13 and 16, 2009; April 24 and 26, 2012  
Developed and taught circadian rhythms  
ANFS 445, Animal Physiology, December 10, 2008  
Developed and taught circadian rhythms  
ANSC 454, Ruminant Nutrition, December 4, 2007  
Taught on transition cows, milk fever, DCAD and ketosis  
UNIV 602, Faculty Roles, June 18, 2008  
Discussed my transition from a graduate student to a faculty member

**Advisement:**

Advise 28 ANFS undergraduate students  
Delaworld/New Student Orientation advising (2008, 2009, 2010, 2011, 2012, 2013)

**Professional Development:**

Attending (not presenting) at meetings  
Elanco Science Symposium, Chicago IL, 10/1-10/1/12  
American Dairy Science Association, Montreal Canada, 7/12-7/16/09  
Discover Conference on Lipid Metabolism, Nashville IN, 5/19-5/21/08  
Mid-Atlantic Nutrition Conference, Timonium MD, 3/26-3/27/08

National Mastitis Council, New Orleans LA, 1/21-1/23/08  
Producer Workshop for the Delaware Dairy Industry, Dover DE, 12/12/07  
Experimental Biology, Washington DC, 4/28/07-5/2/07  
Lilly-East Teaching Conference, Newark DE, 4/12/07-4/14/07  
Mid-Atlantic Nutrition Conference, Timonium MD, 3/28/07-3/29/07

**Workshops**

NE-1048, Mastitis Resistance to Enhance Dairy Food Safety, Chicago, IL, 11/6-11/8/12  
NE-1028, Mastitis Resistance to Enhance Dairy Food Safety, Chicago, IL, 11/1-11/3/11  
University of Delaware Summer Faculty Institute, 6/3/10  
Institute for Transforming Undergraduate Education Workshop, “Problem Based Learning: From Ideas to Solutions through Communication”, Newark, DE, 6/11-6/13/08  
Junior Faculty Network, Newark DE, March-May, 2008  
Funding Opportunities Workshop, Newark DE, June 19-20, 2007  
Capstone Development Workshop, Newark DE, June 5-6, 2007

**Leadership Committees – National:**

ADSA Graduate Student Production Oral Competition Committee, Chair, 2012  
ADSA Graduate Student Production Oral Competition Committee, Member, 2010-2011  
ADSA Graduate Student Production Poster Competition Committee, Member, 2010-2011  
ADSA Alltech, Inc. Graduate Student Paper Publication Award Selection Committee, Member, 2011  
Journal of Animal Science Editorial Board, June 2010-present (appointment ends May 2014)  
Journal of Dairy Science Editorial Board, Member, April 2008-March 2010

**Other Service – National:**

JAM Session Chair, Animal Health: Swine and Other Species, New Orleans, LA, 7/13/11  
JAM Session Chair, Animal Health: Immunity, Probiotics and Health Status, Denver, CO, 7/12/10

**Leadership Committees – Regional:**

Mid-Atlantic Nutrition Conference, Dairy Session Chair, 2009-2010  
Northeast American Dairy Science Association, Student Presentation Judge, 2008-2009  
Mid-Atlantic Nutrition Conference, Dairy Planning Committee Member, 2007-2008; 2012-2013

**Other Service – Regional:**

Gave dairy tour to students from Rutgers University Livestock Production and Management class, 10/21/09

**Leadership Committees – University:**

UD Faculty Senate Committee on Committees and Nominations, Member, 2010-Present

**Other Service – University:**

Lunch table host for new faculty orientation, 10/8/08

**Leadership Committees – College:**

MANRRS Club, Faculty Advisor, 2009-Present  
CANR Research Advisory Committee, Member, 2013-Present  
College of CANR Livestock Planning Committee, Member, 2007-Present  
Dairy Team visiting Delaware Dairies, Member, 2007-2010

**Other Service – College:**

Presentation of dairy facilities and research to UD Office of Research, 8/4/11  
Panelist and CANR table representative at Momentum (formerly Fattah) Conference of Higher Education, Philadelphia, PA, 2/7/09, 2/27/10, 2/19/11  
CANR graduate student recruitment representative at Fattah Conference of Higher Education, Philadelphia, PA, 2/7/09, 2/28/10, 2/20/11  
ANFS 404 Poster Presentations at Ag Day, 4/26/08, 4/25/09, 4/30/11  
Poster Presentation at Ag Day with Dr. Kali Kniel, 4/24/10  
Developed and taught hands-on lab activity for students visiting from the animal science program in Lake Forest High School, 10/27/09  
Gave dairy tour to students from St. Andrews school, 10/6/09  
Met with Middletown High School Teachers for Academic Planning, 1/25/08  
Ag Ambassador Training Mock Session, 11/27/07

**Leadership Committees – Department:**

Veterinary Pathologist Search Committee, Member, 2011  
Departmental Graduate Advisory Committee, Member, 2007-2011  
Equine Search Committee, Member, 2008-2009  
Departmental Promotion and Tenure Committee, Member, 2007-2008  
Departmental Capstone Planning Committee, Chair, 2007-2008

**Other Service – Department:**

Participated on Food Day panel, 10/24/11  
Developed and taught nutrition topics lecture to Animal Science Club NESA participants, 12/6/11  
Co-produce department newsletter, 2010, 2011, 2012  
Co-organizer of ANFS Senior Picnic, 5/16/08, 5/14/09, 5/7/10, 5/13/11, 5/11/12  
Assist with recruitment of speakers and program for annual Delmarva Dairy Day  
Advised Animal Science Club at NESA 2009 at University of Connecticut, 2/27-3/1/09  
Co-organizer of first annual ANFS Freshman Picnic, 9/3/08  
Guest speaker for UD Animal Science Club, 4/11/07

**Recruitment Activities:**

Blue and Gold Saturday (10/6/07, 11/15/08, 10/24/09, 11/13/10, 10/13/12)  
Decision Days (4/21/07, 4/12/08, 4/18/09, 4/10/10, 4/21/12)  
Destination Delaware (4/11/08)  
Discovery Days (6/7/07, 6/21/07, 7/12/08, 7/19/08, 7/25/09, 7/24/10, 7/21/12)  
Individual meetings with prospective students  
2007: 6/22, 10/19  
2008: 2/15, 3/21, 3/25, 4/21, 5/2, 9/16, 10/2

2009: 2/16, 3/11, 4/8, 4/10, 10/1

2010: 4/7, 4/9, 4/21, 4/29, 4/30, 5/26, 7/29, 9/3, 10/13, 10/27, 11/11

2011: 3/25, 4/19, 9/16, 10/21, 11/16

2012: 3/19, 3/23, 4/10, 4/12, 4/13, 5/1, 11/16, 11/30

2013:

Met with Distinguished Scholar candidates (3/14/08)

Your Day at Delaware (4/11/08, 4/18/08)