

# CANDICE M. KLINGERMAN

## *Curriculum Vitae*

Lehigh University  
Department of Biological Sciences  
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### **Education**

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Lehigh University <i>Integrative Biology, Neuroscience; Ph.D. program</i>	Bethlehem, PA Current Student
University of Delaware <i>Animal Science, Animal Nutrition; M.S. program</i>	Newark, DE Fall 2007
Delaware Valley College <i>Small Animal Science; B.S. program</i>	Doylestown, PA Spring 2004

### **Teaching Experience**

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Lehigh University <i>Cell and Molecular Biology</i>	Bethlehem, PA 2011
➤ I led a laboratory section and taught students enzyme kinetics, importance of proper pH, and genomic and plasmid DNA isolation.	
Lehigh University <i>Experimental Neuroscience</i>	Bethlehem, PA 2009
➤ I led a laboratory section and taught students neuroanatomy, experimental design, tract tracing, and immunocytochemistry techniques.	
Lehigh University <i>Undergraduate Mentoring</i>	Bethlehem, PA 2007 to present
➤ Kaila Krishnamoorthy	Competition-induced food hoarding (2010 to 2011)
➤ Amir Abdulhay	Cold and exercised-induced suppression of sexual behavior and enhancement of food hoarding (2008 to 2010)
➤ Sanjana Bhatia	Male preference of females with varying energy availability (2008 to 2010)
➤ Anand Patel	Effect of dopamine receptor agonists/antagonists on sexual and ingestive behavior (2007 to 2009)
➤ Noah Benton	Effect of melanocortin receptor agonists/antagonists on sexual and ingestive behavior (2007 to 2008)

Delaware Valley College <i>Introduction to Laboratory Animal Science</i>	Doylestown, PA 2003
➤ I assisted in a laboratory section and taught students animal handling, anatomy, and various surgical techniques.	

## **Employment & Work Experience**

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Lehigh University <i>Research Assistant</i>	Bethlehem, PA 2007 to present
➤ I studied the effects of food restriction on metabolic processes related to energy balance and reproduction in Syrian hamsters and sheep. Sheep experiments were performed by temporarily relocating to work in the laboratory of Dr. Iain Clarke at Monash University in Clayton, Australia.	

University of Delaware <i>Research Assistant</i>	Newark, DE 2005 to 2007
➤ I performed various <i>in vivo</i> and <i>in vitro</i> experiments studying the effects of exogenous, amylolytic enzymes on digestion and performance of dairy cows.	

Children's Hospital of Philadelphia <i>Research Technician, Level II</i>	Philadelphia, PA 2004 to 2005
➤ I assisted in various arterial stenting procedures in the Department of Cardiology in both swine and rodents. Skills included monitoring of anesthesia and heart rate, pre- and post-operative care, euthanasia, and organ recovery. I monitored all IACUC protocols in the department and filed for both their annual and 3-year renewals. I also performed cell culture and immunostaining techniques on various cell and tissue samples.	

Delaware Valley College <i>Student Animal Laboratory Manager</i>	Doylestown, PA 2002 to 2004
➤ Managerial duties, work scheduling, technician training/monitoring, administration of medication, procedural training, breeding, and quality assurance	

Delaware Valley College <i>Animal Laboratory Technician</i>	Doylestown, PA 2001
➤ Animal handling/restraint, animal care	

## **Grants & Awards**

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1. Gordon C. Thorne Fellowship, Lehigh University	2011
2. Graduate student spotlight, Lehigh University	2011
3. Grants-in-aid of research, Sigma Xi	2010
4. Cover photograph for <i>Hormones and Behavior</i> , Vol. 58, Issue 4	2010
5. Gordon C. Thorne Fellowship, Lehigh University	2010
6. Lehigh University travel award	2010

## Peer-reviewed Publications

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1. **Klingerman, C.M.**, A. Patel, V.L. Hedges, R.L. Meisel, and J.E. Schneider. (2011) “Food restriction dissociates sexual motivation, sexual performance, and the rewarding consequences of copulation in female Syrian hamsters.” *Behav Brain Res.*
2. **Klingerman, C.M.**, Krishnamoorthy, K., Patel, K., Struby, C. Spiro, A.B., and Schneider, J.E. (2010) “Energetic challenges unmask the role of ovarian hormones in orchestrating ingestive and sex behaviors.” *Horm. Behav.* 58:563-574.
3. Kung, Jr., L., E. Stough, E. McDonell, R.J. Schmidt, M. Hofherr, L., Reich, and **C. Klingerman.** (2010) “The effect of wide swathing on wilting times and nutritive value of alfalfa haylage.” *J. Dairy Sci.* 93:1770-1773.
4. **Klingerman, C.M.**, W. Hu, E.E. McDonell, M.C. DerBedrosian, and L. Kung, Jr. (2009) “An evaluation of exogenous enzymes with amyolytic activity for dairy cows.” *J. Dairy Sci.* 92:1050-1059.
5. Hu, W., R.J. Schmidt, E.E. McDonell, **C.M. Klingerman**, and L. Kung, Jr. (2009) “The effect of *Lactobacillus buchneri* 40788 or *Lactobacillus planterum* MTD-1 on the fermentation and aerobic stability of corn silages ensiled at two dry matter contents.” *J. Dairy Sci.* 92:3907-3914.

## In Review

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1. **Klingerman, C.M.\***, W.P. Williams\*, L.J. Kriegsfeld, and J.E. Schneider. (in review) “Cellular activation in gonadotropin-inhibiting hormone-immunoreactive cells is associated with sexual motivation and food hoarding, but not sexual performance and food intake in female Syrian hamsters.” *Frontiers in Systems and Translational Endocrinol.* \*Co-first authors on this manuscript.
2. Schneider, J.E., **C.M. Klingerman**, A.A. Abdulhay. (in review) “Sense and nonsense in metabolic control of reproduction.” *Frontiers in Systems and Translational Endocrinol.*

## Other Publications

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1. **Klingerman, C.M.**, and R.W. Taylor. (2007) “Grass tetany – a look at its causes, symptoms, and management.” *Mid-Atlantic Regional Agronomist Quarterly Newsletter.* 18-21.
2. Kung, Jr., L., E. Stough, E. McDonell, R. Schmidt, **C. Klingerman**, M. Hofherr, and L. Reich. (2007) “A quick note at wide swathing alfalfa for making silage.” *Pennstate Extension Central Region Dairy Newsletter.* 5-6.

## **Presentations at National & International Meetings**

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1. **Klingerman, C.M.**, Patel, A., Hedges, V.L., Meisel, R.L., and Schneider, J.E. “Energetic deficits dissociate motivation from performance and reward.” (talk) *Society for the Study of Ingestive Behavior*. Clearwater, FL. 2011.
2. Williams, W.P., **C.M. Klingerman**, J. Simberlund, N. Brahme, L.J. Kriegsfeld, and J.E. Schneider. “Energetic and reproductive status impact RFamide-related peptide-3 immunoreactivity in female Syrian hamsters.” (poster) *Society for Neuroscience*. San Diego, CA. 2010.
3. **Klingerman, C.M.**, Patel, A., Hedges, V.L., Meisel, R.L., and Schneider, J.E. “Food restriction alters appetitive and ingestive behaviors but not consummatory behaviors nor neural activation in the ventromedial nucleus of the hypothalamus and nucleus accumbens.” (poster) *Society for Behavioral Neuroendocrinology*. Toronto, Canada. 2010.
4. Schneider, J.E., **C.M. Klingerman**, K. Krishnamoorthy, K. Patel, C. Struby, and A.B. Spiro. “Energetic challenges unmask the role of ovarian hormones in orchestrating the appetitive ingestive and sex behaviors, food hoarding, and paracopulatory behaviors.” (poster) *Society for Behavioral Neuroendocrinology*. Toronto, Canada. 2010.
5. Patel, A., **C.M. Klingerman**, R. Meisel, J.E. Schneider. “Dopamine and the desire for food and sex.” (poster) *Society for Behavioral Neuroendocrinology*. East Lansing, MI. 2009.
6. **Klingerman, C.M.**, W. Hu, E.E. McDonell, M.C. DerBedrosian, and L. Kung, Jr. “An evaluation of exogenous enzymes with amylytic activity for dairy cows.” (poster) *American Dairy Science Association and American Society of Animal Science joint annual meeting*. Indianapolis, IN. 2008.
7. **Klingerman, C.M.**, J. Simberland, R. Shankar, C. Casper, and J. Schneider. “Detailed analysis of effects of energy on ingestive and sex behaviors.” (poster) *Society for Behavioral Neuroendocrinology*. Groningen, The Netherlands. 2008.
8. **Klingerman, C.M.**, R.J. Schmidt, W. Hu, E.E. McDonell, and L. Kung, Jr. “The effect of microbial inoculants on the fermentation and aerobic stability of orchard grass silage.” (talk) *American Dairy Science Association and American Society of Animal Science joint annual meeting*. San Antonio, TX. 2007.
9. **Klingerman, C.M.**, R.J. Schmidt, W. Hu, E.E. McDonell, and L. Kung, Jr. “The effect of microbial inoculants on the fermentation and aerobic stability of orchard grass silage.” (poster) *American Dairy Science Association and American Society of Animal Science joint annual meeting*. San Antonio, TX. 2007.
10. Kung, L. Jr., E.C. Stough, E.E. McDonell, R.J. Schmidt, M.W. Hoffher, L.J. Reich, and **C.M. Klingerman**. “The effect of wide swathing on wilting times and nutritive value of alfalfa haylage.” (poster) *American Dairy Science Association and American Society of Animal Science joint annual meeting*. San Antonio, TX. 2007.

11. McDonell, E.E., **C.M. Klingerman**, R.J. Schmidt, W. Hu, and L. Kung, Jr. “An evaluation of two methods to cover bunker silos to maintain the nutritive value of silage.” (talk) *American Dairy Science Association and American Society of Animal Science joint annual meeting*. San Antonio, TX. 2007.
12. Schmidt, R.J., J.A. Mills, W. Hu, **C.M. Klingerman**, E.E. McDonell, and L. Kung, Jr. “Changes in fermentation end products and use of real-time quantitative PCR to monitor the dynamics of *Lactobacillus buchneri* in alfalfa silage.” (poster) *American Dairy Science Association and American Society of Animal Science joint annual meeting*. San Antonio, TX. 2007.
13. Schmidt, R.J., W. Hu, **C.M. Klingerman**, E.E. McDonell, and L. Kung, Jr. “The effect of *Lactobacillus buchneri* 40788 with or without *Pediococcus pentasaceus* on the fermentation and aerobic stability of corn silage made at different locations.” (talk) *American Dairy Science Association and American Society of Animal Science joint annual meeting*. San Antonio, TX. 2007.
14. Yellen, B.B., M. Chorney, I. Fishbein, N. Dai, **C.M. Klingerman**, I. Alferiev, O. Nyanguile, R. Wilensky, G. Friedman, and R.J. Levy. “Site specific gene delivery using magnetic forces to localize adenoviral vector-magnetic nanoparticle complexes to stented arterial segments.” (poster) *American Heart Association Scientific Sessions*. Dallas, TX. 2005.
15. Yellen, B.B., M. Chorney, I. Fishbein, D.N. Williams, **C.M. Klingerman**, I.S. Alveriev, O. Nyanguile, G. Friedman, and R.J. Levy. “Nanoparticle mediated gene delivery to magnetized implants.” (poster) *American Society for Gene Therapy*. St. Louis, MO. 2005.

### Invited Lecturer

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1. Energy Balance and Reproduction Lecture; Bioscience in the 21 <sup>st</sup> Century (Instructor Vassie Ware)	2011
2. Lehigh University Graduate Student Open House/ Symposium	2010

### Professional Affiliations

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1. The Society for Neuroscience (SFN)	2011 to present
2. The Society for the Study of Ingestive Behavior (SSIB)	2011 to present
3. Collaborative Institutional Training Initiative (CITI)	2011 to present
4. The Society for Behavioral Neuroendocrinology (SBN)	2009 to present
5. American Association for the Advancement of Science (AAAS)	2008 to present
6. Lehigh Valley Chapter of the Society for Neuroscience (LVSN)	2009 to 2010
7. American Dairy Science Association (ADSA)	2005 to 2007

### Other Achievements

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1. Craig Hill achievement award, Delaware Valley College	2004
2. Delta Tau Alpha honors society, Delaware Valley College	2003 to 2004
3. Dean’s list, Delaware Valley College	2001 to 2004
4. Faculty scholarship, Delaware Valley College	2000 to 2004

## **Community Service**

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| 1. Vice President of the Biological Sciences Organization of Graduate Students (BOGS; Lehigh University) | 2010 to 2011       |
| 2. Brain Awareness Day volunteer at the Bethlehem Free Library   | 2010               |
| 3. Graduate advisor to the Lehigh University Neuroscience Club   | 2009 to 2010       |
| 4. Lehigh canal clean-up volunteer   | 2008 to present    |
| 5. Pennsylvania Junior Academy of Science (PJAS) judge   | 2008, 2010 to 2011 |
| 6. Education chairperson for BOGS  | 2008 to 2009       |