

# Leah M. Pyter

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## Education

2002-2006 Ph.D. in Neuroscience, Ohio State University  
2000-2001 M.S. in Biology, University of Illinois at Urbana  
1996-1999 B.S. in Biology, University of Illinois at Urbana

## Research Training

2007-present Post-doctoral Fellow to Dr. Brian Prendergast, Departments of Psychology and Neurobiology, University of Chicago  
2007 Post-doctoral Fellow to Dr. Martha McClintock, Institute for Mind and Biology, University of Chicago  
2002-2006 Research Assistant to Dr. Randy Nelson, Departments of Neuroscience and Psychology, Ohio State University  
2001-2002 Research Assistant to Dr. John Harder, Department of Evolution, Ecology and Organismal Biology, Ohio State University  
1999-2001 Laboratory Research Technician and Master's graduate student to Dr. Janice Bahr, Department of Molecular and Integrative Physiology, University of Illinois at Urbana  
1998-1999 Undergraduate Research Assistant to Drs. Susan Fahrback and Elizabeth Capaldi, Departments of Neuroscience and Entomology, Rothamsted Institute, Harpenden, England and University of Illinois at Urbana

## Grants, Honors, and Awards

2008-2011 Postdoctoral Fellowship, American Cancer Society (\$138,000)  
2007 Young Investigator Award, Society for Behavioral Neuroendocrinology (\$1,200)  
2005-2006 Ruth L. Kirschstein National Research Service Award Individual Fellowship, NIH MH 73375 (\$68,036)  
2005 Society for Neuroscience Chapters Student Travel Award (\$750)  
Society for Behavioral Neuroendocrinology Travel Award (\$800)  
2004 Edward J. Ray Travel Award for Scholarship and Service (\$750)  
Neuroscience Graduate Studies Program Poster Award

2003	L. Ewing Memorial Trainee Travel Award, Society for the Study of Reproduction (\$500) Professional Development Grant for Women, Critical Difference for Women (\$500)
1998	All-Academic NCAA Athlete Award

### Peer-Reviewed Publications (\*undergraduate collaborator)

1. **Pyter, L.M.**, \*Adelson, J.D., and Nelson, R.J. (2007) Photoperiod affects brain plasticity, spatial learning, and regulation of stress responses. *Endocrinology*, 148:3402-3409.
2. Benderlioglu, Z, \*Dow, E, and **Pyter, L.M.** (2007) Neonatal exposure to short days and low temperatures blunts stress response and yields low fluctuating asymmetry in Siberian hamsters. *Physiology and Behavior*, 90: 459-465.
3. **Pyter, L.M.**, Trainor, B.C., and Nelson, R.J. (2006) Testosterone and photoperiod interact to affect spatial learning and memory in adult male white-footed mice (*Peromyscus leucopus*). *European Journal of Neuroscience*, 23: 3056-3062.
4. Weil, Z.M., **Pyter, L.M.**, Martin, L.M., Nelson, R.J. (2006) Perinatal photoperiod organizes adult immune responses in Siberian hamsters (*Phodopus sungorus*). *American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology*, 290: R1741-R1749.
5. **Pyter, L.M.** and Nelson, R.J. (2006) Enduring effects of photoperiod on affective behaviors in Siberian hamsters (*Phodopus sungorus*). *Behavioral Neuroscience*, 120: 125-134.
6. Weil, Z.M., Bowers, S.L., **Pyter, L.M.**, and Nelson, R.J. (2006) Social interactions alter proinflammatory cytokine gene expression and behavior following endotoxin administration. *Brain, Behavior, and Immunity*, 20: 72-79.
7. **Pyter, L.M.**, Weil, Z.M., and Nelson, R.J. (2005) Effects of latitude on photoperiod-induced changes in immune response in meadow voles (*Microtus pennsylvanicus*). *Canadian Journal of Zoology*, 83: 1271-1278.
8. Nakai, M., Cook, L., **Pyter, L.M.**, Black, M., Sibona, J., Turner, R.T., Jeffery, E.H., and Bahr, J.M. (2005) Dietary soy protein and isoflavones have no significant effect on bone and a potentially negative effect on the uterus of sexually mature intact Sprague-Dawley female rats. *Menopause*, 12: 291-298.
9. **Pyter, L.M.**, \*Reader, B.F., and Nelson, R.J. (2005) Short photoperiods impair spatial learning and alter hippocampal dendritic morphology in adult male white-footed mice (*Peromyscus leucopus*). *Journal of Neuroscience*, 25: 4521-4526.
10. **Pyter, L.M.**, Neigh, G.N., and Nelson, R.J. (2005) Social environment modulates photoperiodic immune and reproductive responses in adult male white-footed mice (*Peromyscus leucopus*). *American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology*, 288: R891-R896.
11. **Pyter, L.M.**, \*Samuelsson, A.R., and Nelson, R.J. (2005) Photoperiod alters hypothalamic cytokine gene expression and sickness behaviors following immune challenge in female Siberian hamsters (*Phodopus sungorus*). *Neuroscience*, 131: 779-784.
12. **Pyter, L.M.**, Hotchkiss, A.K., and Nelson, R.J. (2005) Photoperiod-induced differential expression of angiogenesis genes in testes of adult *Peromyscus leucopus*. *Reproduction*, 129: 201-209.

13. Hotchkiss, A.K., **Pyter, L.M.**, Rivera, M., \*Wen, J., and Nelson, R.J. (2005) Aggressive behavior increases after termination of chronic sildenafil treatment in mice. *Physiology and Behavior*, 83: 683-688.
14. Neigh, G.N., Bowers, S, **Pyter, L.M.**, Gatien, M.L., and Nelson, R.J. (2004) Pyruvate prevents restraint-induced immunosuppression via alterations in glucocorticoid responses, *Endocrinology*, 145: 4309-4319.
15. Padgett, D., Hotchkiss, A.K., **Pyter, L.M.**, Nelson, R.J., Yang, E.V., Yeh, P-E, Litsky, M, Williams, M., and Glaser, R. (2004) Epstein-Barr virus-encoded dUTPase modulates immune function and induces sickness behavior in mice. *Journal of Medical Virology*, 74: 442-448.
16. Hotchkiss, A.K., **Pyter, L.M.**, Neigh, G.N., and Nelson, R.J. (2004) Nycthemeral differences in response to restraint stress in CD-1 and C57BL/6J mice. *Physiology and Behavior*, 80: 441-447.
17. Schulz L.C., Nelson R.A., **Pyter L.M.**, and Bahr, J.M. (2003) Induction of pseudopregnancy in the American black bear (*Ursus americanus*). *Journal of Experimental Zoology Part A*, 298A: 162-166.
18. Mapes, S., Tarantal, A.F., Parker, C.R., Moran, F.M., Bahr, J.M., **Pyter, L.**, and Conley, A.J. (2002) Adrenocortical cytochrome b5 expression during fetal development of the rhesus macaque. *Endocrinology*, 143: 1451-1458.

#### **Manuscripts in Review or in Preparation**

19. **Pyter, L.M.** and Nelson, R.J. Photoperiod affects hippocampal neurogenesis and spatial learning in adult male white-footed mice (*Peromyscus leucopus*). *In preparation*.
20. **Pyter, L.M.**, Galang, J., Prendergast, B.J. Critical daylength of reproductive, but not immune, responses to photoperiod. *In preparation*.

#### **Theses**

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| 2006 | <i>Seasonal plasticity of physiological systems, brain, and behavior.</i> (Ph.D. dissertation, Ohio State University)  |
| 2001 | <i>Interaction of EGF on FSH signaling pathway in chicken granulosa cells of small yellow follicles.</i> (Master's thesis, University of Illinois at Urbana) |

#### **Professional Presentations (\*invited talk)**

##### **2007**

\*Pyter, L.M., Reader, B.F., Weil, Z.M., Trainor, B.C., Nelson, R.J. *Photoperiodic plasticity of adult brain, behavior, and endocrine axes.* Society for Behavioral Neuroendocrinology Conference, Young Investigator Symposium, Pacific Grove, CA

##### **2006**

\*Pyter, L.M. and Nelson, R.J. *Seasonal plasticity of physiological systems, brain, and behavior.* Institute for Mind and Biology Proseminar, University of Chicago, IL.

## 2005

\*Pyter, L.M. and Nelson, R.J. Seasonal plasticity of brain, and behavior. Department of Psychology, Yale University, CT.

\*Pyter, L.M., and Nelson, R.J. Seasonal plasticity of brain, and behavior. Department of Neurobiology and Physiology, Northwestern University, IL.

Pyter, L.M., Butcher, G.Q., Congdon, E.E., Detloff, M.R., Hoschouer, E.L., Venugopal, S., Bresnahan, J.C., Beattie, M.S. Mapping neuroscience at The Ohio State University: Graphic representations of program and individual scientific breadth and depth in association with the Carnegie Initiative on the Doctorate (CID). Society for Neuroscience Conference, Washington, D.C..

Pyter, L.M., Nelson, R.J. Effects of photoperiod on hippocampal neurogenesis and apoptosis in adult mice. Society for Neuroscience Conference, Washington, D.C., 2005.

Nelson, R.J., Pyter, L.M. Enduring effects of photoperiod on affective behaviors. Society for Neuroscience Conference, Washington, D.C.

Pyter, L.M. and Nelson, R.J. Effects of photoperiod on hippocampal neurogenesis in adult *Peromyscus leucopus*. Society for Behavioral Neuroendocrinology Conference, Austin, TX.

Martin II, L.B, Pyter, L.M., Nelson, R.J., Ukena, K., Tsutsui, K., Bentley, G.E. Effects of GNIH on immune activity in Siberian hamsters. Society for Behavioral Neuroendocrinology Conference, Austin, TX.

Weil, Z.M., Bowers, S.L., Pyter, L.M., Nelson, R.J. Social interactions alter cytokine gene expression and behavior following endotoxin administration. Society for Behavioral Neuroendocrinology Conference, Austin, TX.

Pyter, L.M., Butcher, G.Q., Congdon, E.E., Detloff, M.R., Hoschouer, E.L., Venugopal, S., Bresnahan, J. C., and Beattie, M.S. Mapping neuroscience at The Ohio State University: Graphic representations of program and individual scientific breadth and depth in association with the Carnegie Initiative on the Doctorate (CID). Carnegie Initiative on the Doctorate: The Big Ten Conference, Urbana, IL.

Pyter, L.M., Reader, B.F., and Nelson, R.J. Day length induces brain and behavioral plasticity in adult white-footed mice (*Peromyscus leucopus*). 19<sup>th</sup> Annual Edward F. Hayes Graduate Research Forum, Columbus, OH.

Pyter, L.M., Reader, B.F., Nelson, R.J. Day length induces brain and behavioral plasticity in adult white-footed mice (*Peromyscus leucopus*). 4<sup>th</sup> Annual OSUMC Graduate and Postgraduate Research Day, Columbus, OH.

## 2004

Pyter, L.M. and Nelson, R.J. Photoperiod induces brain and behavioral plasticity in adult *Peromyscus leucopus*. Society for Neuroscience Conference, San Diego, CA.

Pyter, L.M. and Nelson, R.J. Photoperiod-evoked neuroplasticity: Short days reduce spatial learning and memory performance in adult male *Peromyscus leucopus*. Society for Neuroscience Central Ohio Chapter Annual Meeting, Columbus, OH.

Reader, B.F., Pyter, L.M., Rengel, R.C., and Nelson, R.J. Effects of photoperiod on *Per1* and *ICER* gene expression in peripheral immune tissues. Denman Undergraduate Research Forum, Columbus, OH.

Pyter, L.M., Samuelsson, A.R., and Nelson, R.J. Photoperiod affects expression of cytokine genes in hypothalami of male and female *Phodopus sungorus*. Neuroscience Graduate Studies Program Recruitment Poster Session, Columbus, OH.

### 2003

Pyter, L.M., Hotchkiss, A.K., and Nelson, R.J. Photoperiod affects brain mass and expression of genes regulating angiogenesis in brains of adult *Peromyscus leucopus*. Society for Neuroscience Conference, New Orleans, LA.

Neigh, G.N., Pyter, L.M., Meyers, J.L., Gatien, M.L., Bowers, S., and Nelson, R.J. Pyruvate diminishes the duration of the glucocorticoid response to restraint. International Society of PsychoNeuroEndocrinology Conference, New York, NY.

Pyter, L.M., Hotchkiss, A.K., and Nelson, R.J. Differential expression of genes regulating angiogenesis in the testes of *Peromyscus leucopus* during photoperiod-induced gonadal regression and recrudescence. Society for the Study of Reproduction Conference, Cincinnati, OH.

Pyter, L.M., Hotchkiss, A.K., and Nelson, R.J. Photoperiod affects expression of genes regulating angiogenesis in brains of adult *Peromyscus leucopus*. Society for Behavioral Neuroendocrinology Conference, Cincinnati, OH.

Hotchkiss, A.K., Pyter, L.M., Neigh, G.N., and Nelson, R.J. Time of day influences response to restraint and food deprivation in CD-1 and C57/BIJ mice. Society for Behavioral Neuroendocrinology Conference, Cincinnati, OH.

Pyter, L.M., Hotchkiss, A.K., and Nelson, R.J. Photoperiod affects expression of genes regulating angiogenesis in brains and testes of adult *Peromyscus leucopus*. Graduate and Postgraduate Research Day, Ohio State University, Columbus, OH.

### 2002 and earlier

He, Y., Mattern, J., Pyter, L.M., Fadem, B., and Harder, J. Plasma LH concentrations in male and female opossums (*Monodelphis domestica*) following gonadectomy and exogenous GnRH. Society for Behavioral Neuroendocrinology Conference, Amherst, MA, 2002.

Cooke, L., Pyter, L., Nakai, M., Jeffery, E., and Bahr, J. Differential effects of dietary soy and isoflavones on the reproductive tract of the intact female rat. Society for the Study of Reproduction Conference, Ottawa, CA, 2001.

Rivera, A., Jeffery, E., Pyter, L., and Bahr, J. Isoflavone induction of anomalies in the rat vagina and uterus. Functional Foods Retreat, Urbana, IL, 2000.

### Teaching & Mentoring Experience

2007-present	Undergraduate Research Mentor (2 students)
2007	Teaching Assistant, Psychoneuroimmunology, University of Chicago
2002-2006	Undergraduate Research Mentor (8 students)
2002	Teaching Assistant, Animal Cellular and Developmental Biology, Ohio State University
2001	Teaching Assistant, Introduction to Biology, Ohio State University
1999-2000	Teaching Assistant, Laboratory Methods in Reproductive Physiology, University of Illinois at Urbana
	Undergraduate Research Mentor (1 student)

## Service and Outreach

- 2007 Poster judge at Society for Behavioral Neuroendocrinology Conference
- 2004-2006 Elected Neuroscience Graduate Studies Program Student Representative, Ohio State University
- 2004-2006 New Wave Representative, Ohio State University
- 2005 Ohio State University Neuroscience Graduate Student Representative at Carnegie Initiative on the Doctorate Cross-Disciplinary Convening
- Brain Awareness Week exhibit volunteer, COSI Science Institute, Columbus, OH
- Neuroscience Education: Urban and Rural Outreach (NEURO) educator at Columbus Public Schools, Columbus, OH
- 2004 Neuroscience Graduate Studies Program Recruitment Weekend Committee Member, Poster Session Chairperson, Ohio State University
- Brain Awareness Week exhibit volunteer, COSI Science Institute, Columbus, OH
- Women in Neuroscience booth volunteer, Society for Neuroscience Conference, San Diego, CA

## Representative Press Coverage

ABC News: Study examines sunlight, Seasonal blahs

<http://abcnews.go.com/Technology/wireStory?id=791716>

Science Daily: Seasonal depression, Anxiety affects hamsters.

<http://www.sciencedaily.com/releases/2005/11/051125111256.htm>

Newswise: Brain learning memory melatonin seasonal affective disorder.

<http://www.newswise.com/articles/view/511774/>

News-Medical.net, World: Brains of one species of mouse actually shrink during the winter.

<http://www.news-medical.net/?id=10045>

Science Daily: Mice brains shrink during winter, impairing some learning and memory.

<http://www.sciencedaily.com/releases/2005/05/050513225145.htm>

## Ad Hoc Reviewer

*Anatomical Record, Comparative Biochemistry and Physiology, EPA external reviewer, Endocrinology, FASEB Journal, General and Comparative Endocrinology, Journal of Comparative Physiology, Journal of Mammalogy, Journal of Neuroendocrinology, Journal of Neuroscience, Pharmacology, Physiology and Behavior*

## Professional Memberships

Society for Behavioral Neuroendocrinology and Society for Neuroscience