

## STACI D. BILBO Curriculum Vitae

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Position: Associate Professor of Psychology & Neuroscience and Neurobiology  
Duke University

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### Education:

- 2003 The Johns Hopkins University, *PhD*, Department of Psychological and Brain Sciences, Dissertation title: "The Neuroendocrine-Immune Axis in Siberian Hamsters: Proximate Mechanisms Underlying Seasonal Changes in Sickness Behavior and Immune Function". Advisor: Dr. Randy J. Nelson
- 2000 The Johns Hopkins University, *MA*, Advisor: Dr. Randy J. Nelson
- 1998 The University of Texas at Austin, *BA with High Honors*, Advisor: Dr. Walt Wilczynski

### *Post-doctoral work:*

- 2003-2007 University of Colorado, *Postdoctoral Fellow*, Center for Neuroscience  
Advisors: Drs. Steven F. Maier and Jerry W. Rudy

### General Research Interests

Neuroendocrine-immune interactions and behavior  
Role of immune molecules in brain development  
Stress-immune interactions  
Neural-glial interactions in addiction  
Emergence of sex differences in glial function  
The role of the placenta as the first "neuroimmune organ"  
Biological embedding of health disparities

### Specific Research Questions

- What is the role of immune molecules in neural development?
- What is the role of cytokines and chemokines in normal cognition, particularly within the hippocampal and mesolimbic reward circuitries?
- How do the immune and endocrine systems interact to precipitate developmental disorders, including "risk vs. resilience" to depression, anxiety, or addiction later in life?
- Why does the perinatal period of life appear to be a "sensitive period" for long-term programming of brain and behavior, and what is the particular role of microglia, the primary immune cells of the brain?

## **RESEARCH SUPPORT**

### Current

Title: *Neural-Glial Interactions and Opioid Abuse: Modulation by Early-Life Experience*

Funding source: NIH (NIDA) R01 DA034185

PI: Staci Bilbo

Grant period: 2013-2018

Title: *Sex Differences in Developing Microglia: Implications for Synaptic Pruning*

Funding source: NIH (NIMH) R01 MH101183

PI: Staci Bilbo

Grant period: 2013-2018

### Completed

Title: *Early Life Origins of Risk and Resilience to Drugs of Abuse: Role of Glial Priming*

Funding source: NIH (NIDA) R01 DA025978

PI: Staci Bilbo

Grant period: 2008-2012

Title: *Early Life Infection, Neuroinflammation, and Memory*

Funding source: NIH (ARRA) R01 MH083698

PI: Staci Bilbo

Grant period: 2009-2012

Title: *Perinatal Stress, Air Pollution, and Adverse Pregnancy Outcome: CNS Contributions*

Funding source: NIH (NIEHS) P30 ES-011961

PI: Staci Bilbo (Co-PI Richard Auten)

Grant period: 2010-2011

Title: *Cumulative Maternal Stressor Effects on Enduring Neural & Developmental Outcomes in Offspring*

Funding source: Duke Institute for Brain Sciences Research Incubator Award

PI: Staci Bilbo (Co-PI Richard Auten)

Grant Period: 2010-2012

Title: *Prevention of Neuroinflammatory Disorders through Biome Normalization*

Funding source: Coalition for Safe Minds

Co-PI: Staci Bilbo (PI William Parker)

Grant Period: 2012-2014

Title: *Perinatal Infection and Memory*

Funding source: NIH (NIMH/NICHD) F32 MH076320 National Research Service Award

PI: Staci Bilbo

Grant Period: 2005-2007

## PUBLICATIONS AND PRESENTATIONS

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### Peer-reviewed publications:

1. Bolton, JL & Bilbo SD. (2014) Developmental programming of brain and behavior by perinatal diet: focus on inflammatory mechanisms. *Dialogues in Clinical Neuroscience*, Invited Review. *In press*.
2. Williamson, LL & Bilbo SD. (2014) Neonatal infection modulates behavioral flexibility and hippocampal activation on a Morris Water Maze task. *Physiology and Behavior*, 129: 152-9.
3. Bolton, JL, Auten RL, & Bilbo, SD. (2014) Prenatal Air Pollution Exposure Induces Sexually Dimorphic Fetal Programming of Metabolic and Neuroinflammatory Outcomes in Adult Offspring. *Brain, Behavior, and Immunity*, 37: 30-44.
4. Lieblein-boff, JC, McKim DB, Shea, DT, Wei, P, Deng, Z, Sawicki, C, Quan, N, Bilbo, SD, Bailey, MT, McTigue, DM, & Godbout, JP. (2013) Neonatal E. coli infection causes neuro-behavioral deficits associated with hypomyelination and neuronal sequestration of iron. *Journal of Neuroscience*, 33(41): 16334-345.
5. Schwarz, JM & Bilbo SD. (2013) FACS analysis of neuronal-glia interactions in the nucleus accumbens following morphine administration. *Psychopharmacology*, 230(4): 525-35.
6. Bolton, JL, Huff, NC, Smith, SH, Potts-Kant, EN, Mason, SN, Foster WM, Auten RL, & Bilbo, SD. (2013) Maternal stress worsens effects of prenatal air pollution on offspring mental health outcomes. *Environmental Health Perspectives*, 121(9): 1075-82.
7. Bilbo, SD. (2013) FRANK A. BEACH AWARD: Programming of neuroendocrine function by early-life experience: A critical role for the immune system. *Hormones and Behavior*, 63(5): 684-91.
8. Williamson, LL & Bilbo SD. (2013) Chemokines and the hippocampus: A new perspective on hippocampal plasticity and vulnerability. *Brain, Behavior, and Immunity*, 30:186-94.
9. Schwarz, JM, & Bilbo SD. (2013) Adolescent morphine exposure affects long-term microglial function and later-life relapse liability in a model of addiction. *Journal of Neuroscience*, 33(3):961-71.
10. Block, ML, Elder, A, Auten RL, Bilbo SD et al. (2012) The outdoor air pollution and brain health workshop. *Neurotoxicology*, 33(5):972-84.
11. Bilbo, SD & Schwarz, JM. (2012) The immune system and developmental programming of brain and behavior. *Frontiers in Neuroendocrinology*, 33(3):267-86.
12. Bolton, JL, Smith SH, Huff NC, Gilmour MI, Foster WM, Auten RL, & Bilbo, SD. (2012) Prenatal air pollution exposure induces neuroinflammation and predisposes offspring to weight gain in adulthood in a sex-specific manner. *The FASEB J*, 26(11):4743-54. \*Recommended by Faculty of 1000\*.
13. Bilbo, SD, Jones, JP, & Parker, W. (2012) Is autism a member of a family of diseases resulting from genetic/culture mismatches? Implications for treatment and prevention. *Autism Research and Treatment*, Invited Review. 2012:910946.
14. Schwarz, JM, & Bilbo SD. (2012) Sex, glia and development: interactions in health and disease. *Hormones and Behavior*, 62(3):243-53.
15. Schwarz, JM, Sholar, P, & Bilbo SD. (2012) Sex differences in microglial colonization of the developing rat brain. *Journal of Neurochemistry*, 120(6): 948-63.
16. Williamson, LL, Chao, A, & Bilbo SD. (2012) Environmental enrichment alters glial antigen expression and neuroimmune function in the adult rat hippocampus. *Brain, Behavior, and Immunity*, 26(3): 500-10.

17. Bilbo, SD, Smith, SH, Schwarz, JM. (2011) A lifespan approach to neuroinflammatory and cognitive disorders: A critical role for glia. *Journal of Neuroimmune Pharmacology*, 7(1): 24-41.
18. Schwarz, JM, Hutchinson, MR, & Bilbo SD. (2011) Early-life experience decreases drug-induced reinstatement of morphine CPP in adulthood via microglial-specific epigenetic programming of anti-inflammatory IL-10 expression. *Journal of Neuroscience*, 31(49): 17835-47.
19. Williamson, LL, Sholar, PW, Mistry RS, Smith, SH, and Bilbo, SD. (2011) Microglia and memory: modulation by early-life infection. *Journal of Neuroscience*, 31(43): 15511-21.
20. Bilbo, SD, Wray, G, Perkins, SE, & Parker, W. (2011) Reconstitution of the human biome as the most reasonable solution for epidemics of allergic and autoimmune diseases. *Medical Hypotheses*, 77(4); 494-504.
21. Schwarz, JM, & Bilbo SD. (2011) LPS elicits a much larger and broader inflammatory response than *E. coli* infection within the brains of neonatal rats. *Neuroscience Letters*, 497(2); 110-115.
22. Bilbo, SD. (2010) Early-life infection is a vulnerability factor for aging-related immune changes and cognitive decline. *Neurobiology of Learning & Memory*, 94(1); 57-64.
23. Bland, ST, Beckley JT, Watkins LR, Maier SF, & Bilbo SD. (2010) Neonatal *E. coli* infection alters glial, cytokine, and neuronal gene expression in response to acute amphetamine in adolescent rats. *Neuroscience Letters*, 474(1); 52-57.
24. Bilbo, SD & Tsang, V. (2010) Enduring consequences of maternal obesity for brain inflammation and behavior of offspring. *The FASEB J*, 24(6); 2104-15.
25. Bland, ST, Beckley JT, Young S, Tsang V, Watkins LR, Maier SF, & Bilbo SD. (2010) Enduring consequences of early-life infection on glial and neural cell genesis within cognitive regions of the brain. *Brain, Behavior, & Immunity*, 24, 329-338.
26. Bilbo, SD, Wieseler, J, Barrientos, RM, Watkins, LR, & Maier, SF. (2010) Neonatal bacterial infection alters fever to live and simulated infections in adulthood. *Psychoneuroendocrinology*, 35, 369-381.
27. Bilbo, SD & Schwarz, JM. (2009) Early-life programming of later-life brain and behavior: A critical role for the immune system. *Frontiers in Behavioral Neuroscience*, 3, 14, 1-14.
28. Bilbo, SD, Yirmiya, R, Amat, J, Paul, ED, Watkins, LR, & Maier, SF. (2008) Bacterial infection early in life protects against stressor-induced depressive-like symptoms in adult rats. *Psychoneuroendocrinology*, 33, 261-269.
29. Bilbo, SD, Barrientos, RM, Eads, A, Northcutt, A, Watkins, LR, Rudy, JR, & Maier, SF. (2008) Early-life infection leads to altered BDNF and IL-1 mRNA expression in rat hippocampus following contextual learning in adulthood. *Brain, Behavior, and Immunity*, 22, 451-455.
30. Zala, SM, Chan, B, Bilbo, SD, Potts, WK, Nelson, RJ, & Penn, DJ. (2008) Genetic resistance to infection influences a male's sexual attractiveness and modulation of testosterone. *Brain, Behavior, and Immunity*, 22, 381-387.
31. Bowers, SL, Bilbo, SD, Dhabhar, FS, & Nelson, RJ. (2008) Stressor specific alterations in corticosterone and immune function in mice. *Brain, Behavior, and Immunity*, 22, 105-113.
32. Bilbo, SD, Newsum, NJ, Sprunger, DB, Watkins, LR, Rudy, JW, & Maier, SF. (2007) Differential effects of neonatal handling on early life infection-induced alterations in cognition in adulthood. *Brain, Behavior, and Immunity* 21, 332-342.
33. Bilbo, SD, Rudy, JW, Watkins, LR, & Maier, SF. (2006) A behavioral characterization of neonatal infection-facilitated memory impairment in adult rats. *Behavioural Brain Research*, 169, 39-47.

34. Bilbo, SD, Biedenkapp, JC, Der-Avakian, A, Watkins, LR, Rudy, JW, & Maier, SF. (2005) Neonatal infection-induced memory impairment following lipopolysaccharide in adulthood is prevented via caspase-1 inhibition. *The Journal of Neuroscience*, 25, 8000-8009.
35. Bilbo, SD, Levkoff, LH, Mahoney, JH, Watkins, LR, Rudy, JR, & Maier, SF. (2005) Neonatal infection induces memory impairments following an immune challenge in adulthood. *Behavioral Neuroscience*, 119, 293-301.
36. Prendergast, BJ, Bilbo, SD, Nelson, RJ. (2005) Short day lengths enhance skin immune responses in gonadectomized Siberian hamsters. *Journal of Neuroendocrinology*, 17, 18-21.
37. Neigh, GN, Glasper, EL, Bilbo, SD, Traystman, RJ, & DeVries, AC. (2005) Cardiac arrest/ cardiopulmonary resuscitation augments cell-mediated immune function and transiently suppresses humoral immune function. *J of Cerebral Blood Flow & Metabolism*, 25, 1424-32.
38. Prendergast, BJ, Bilbo, SD & Nelson, RJ. (2004) Photoperiod controls the induction, retention and retrieval of antigen-specific immunological memory. *American Journal of Physiology*, 286, R54-60.
39. Bilbo, SD & Nelson, RJ. (2004) Photoperiod influences the effects of exercise and food restriction on an antigen-specific immune response in Siberian hamsters. *Endocrinology*, 145, 556-564.
40. Prendergast, BJ, Hotchkiss, AH, Bilbo, SD & Nelson, RJ. (2004) Peripubertal immune challenges attenuate reproductive development in male Siberian hamsters. *Biology of Reproduction*, 70, 813-820.
41. Prendergast, BJ, Bilbo, SD, Dhabhar, FS & Nelson, RJ. (2004) Effects of photoperiod history on immune responses to intermediate day lengths in Siberian hamsters (*Phodopus sungorus*). *Journal of Neuroimmunology*, 149, 31-39.
42. Neigh, GN, Bilbo, SD, Hotchkiss, AH, & Nelson, RJ. (2004) Exogenous pyruvate prevents stress-evoked suppression of mitogen-stimulated proliferation. *Brain, Behavior, and Immunity*, 18, 425-433.
43. Bilbo, SD, Hotchkiss, AH, Chiavegatto, S, & Nelson, RJ. (2003) Blunted stress responses in delayed type hypersensitivity in mice lacking the neuronal isoform of nitric oxide synthase. *Journal of Neuroimmunology*, 140, 41-48.
44. Bilbo, SD, Quan, N, Prendergast, BJ, Bowers, SL, & Nelson, RJ. (2003) Photoperiod alters the time course of brain cyclooxygenase-2 expression in Siberian hamsters. *Journal of Neuroendocrinology*, 15, 958-964.
45. Bilbo, SD, Dhabhar, FS, Viswanathan, K, Light, A & Nelson, RJ. (2003) Photoperiod affects the expression of sex and species differences in leukocyte number and leukocyte trafficking of congeneric hamsters. *Psychoneuroendocrinology*, 28, 1027-1043.
46. Bilbo, SD & Nelson, RJ. (2003) Sex differences in photoperiodic and stress-induced enhancement of immune function in Siberian hamsters. *Brain, Behavior, and Immunity*, 17, 462-472.
47. Prendergast, BJ, Hotchkiss, AH, Bilbo, SD, Kinsey, SG & Nelson, RJ. (2003) Photoperiodic adjustments in immune function protect Siberian hamsters from lethal endotoxemia. *Journal of Biological Rhythms*, 18, 51-62.
48. Bilbo, SD, Dhabhar, FS, Viswanathan, K, Saul, A, Yellon, SM & Nelson, RJ. (2002). Short day lengths augment stress-induced leukocyte trafficking and stress-induced enhancement of skin immune function. *Proceedings of the National Academy of Sciences*, 99, 4067-4072.

49. Bilbo, SD, Drazen, DL, Quan, N, He, L & Nelson, RJ. (2002). Short day lengths attenuate the symptoms of infection in Siberian hamsters. *Proceedings of the Royal Society of London B, Biological Sciences*, 269, 447-454.
50. Bilbo, SD & Nelson, RJ. (2002). Melatonin regulates energy balance and attenuates fever in Siberian hamsters. *Endocrinology*, 143, 2527-2533.
51. Bilbo, SD & Nelson, RJ. (2001). Sex steroid hormones enhance immune function in male and female Siberian hamsters. *American Journal of Physiology*, 280, R207-213.
52. Bilbo, SD & Nelson, RJ. (2001). Behavioral phenotyping of transgenic and knockout animals: A cautionary tale. *Lab Animal*, 30, 24-29.
53. Drazen, DL, Bilu, D, Bilbo, SD & Nelson, RJ. (2001). Melatonin enhancement of splenocyte proliferation is attenuated in mice by luzindole, a melatonin receptor antagonist. *American Journal of Physiology*, 280, R1476-1482.
54. Bilbo, SD, Day, LB, & Wilczynski, W. (2000). Anticholinergic effects in frogs in a Morris water maze analog. *Physiology & Behavior*, 69, 351-357.
55. Bilbo, SD, Klein, SL, DeVries, AC, & Nelson, RJ. (1999). Lipopolysaccharide facilitates partner preference behaviors in female prairie voles. *Physiology & Behavior*, 68, 151-156.

#### **Books, Chapters, and Commentaries:**

1. Schwarz, JM and Bilbo, SD. (2011) The Immune System and the Developing Brain. McCarthy's *The Developing Brain Series*. Morgan & Claypool Life Sciences.
2. Bilbo, SD. (2011) How cytokines leave their mark: The role of the placenta in developmental programming of brain and behavior. *Brain, Behavior, & Immunity*, 25(4): 602-3. *Invited Commentary*.
3. Schwarz, JM and Bilbo, SD. (2013) Microglia and Neurodevelopment: Programming of Cognition Throughout the Lifespan. The Wiley-Blackwell *Handbook of Psychoneuroimmunology*.
4. Bilbo, SD and Klein, SL. (2012) Special Issue: The Neuroendocrine-Immune Axis in Health and Disease. *Hormones and Behavior*, 62(3), 187-90. Editorial.

#### **Manuscripts under review, revision, or preparation:**

1. Williamson, LL, McKenney, E, Holzknecht, Z, Belliveau, C, Parker, W, & Bilbo, SD. Opening a can of worms: Helminths prevent long-term immune sensitization and cognitive dysfunction induced by early-life infection. *In preparation*.

#### **Conference Presentations:**

1. Bolton, JL, Johnson, K, Joseph, R, Potts-Kant, EN, Foster, WM, Auten, RL, & Bilbo, SD (2013). Sexually dimorphic fetal programming of body weight regulation and neuroinflammation in adult offspring. Society for Behavioral Neuroendocrinology Abstracts.
2. Williamson, LL, Bilbo, SD (2012). Neonatal infection alters water maze learning and impairs flexibility: Correlation with neuronal activation in the dentate gyrus. Society for Neuroscience Abstracts
3. Schwarz, JM, Smith, SH, Bilbo, SD. (2012) Neuronal-Glial Interactions in the Nucleus Accumbens following Morphine Administration: A Role in Relapse Behavior. Society for Neuroscience Abstracts.

4. Schwarz, JM, Smith, SH, Bilbo, SD. (2012) Neuronal-Glial Interactions in the Nucleus Accumbens following Morphine Administration: A Role in Relapse Behavior. NIDA Preconference Workshop Abstracts.
5. Bolton, JL, Huff, NC, Smith, SH, Mistry, RS, Potts-Kant, EN, Auten, RL, & Bilbo, SD (2012). Maternal stress exacerbates the effects of prenatal air pollution exposure on offspring cytokine expression and behavior in a sex-specific manner. Society for Neuroscience Abstracts.
6. Bolton, JL, Mason, SN, Potts, EN, Gilmour, MI, Foster, WM, Auten, RL, & Bilbo, SD (2012). Sexually dimorphic placental responses to maternal air pollutant exposure: the root of sex differences in behavioral and metabolic outcomes of adult offspring? Organization for the Study of Sex Differences Abstracts.
7. Williamson, LL, Chao, A, Bilbo, SD (2011) Environmental enrichment alters glial antigen expression and neuroimmune function in the adult rat hippocampus. Society for Neuroscience Abstracts
8. Williamson, LL, Bilbo, SD (2011) Enduring consequences of neonatal infection on adult neuronal survival and activation in the dentate gyrus. Psychoneuroimmunology Research Society Abstracts
9. Schwarz, JM, Bilbo, SD. (2011) Adolescent morphine exposure increases the risk of relapse to drug-seeking behavior in adulthood: potential role for long-term changes in glial function. Society for Neuroscience Abstracts.
10. Schwarz, JM, Sholar, PW, Bilbo, SD. (2011) Sex differences in the colonization of microglia throughout brain development: potential implications for neuropsychiatric disorders. Organization for the Study of Sex Differences Abstracts.
11. Bolton, JL, Huff, NC, Smith, SH, Foster, WM, Auten, RL, & Bilbo, SD (2011). Early-Life programming of body weight regulation and neuroinflammation: Is there a connection? Society for Neuroscience Abstracts.
12. Bolton, JL, Huff, NC, Smith, SH, Foster, WM, Auten, RL, & Bilbo, SD (2011). Early-life programming of body weight regulation and neuroinflammation: Is there a connection? Psychoneuroimmunology Research Society Abstracts.
13. Sholar, PW, Schwarz, JM, Bilbo, SD. (2010) A developmental profile of microglial morphology and density within the brains of male and female rats. Society for Neuroscience Abstracts.
14. Schwarz, JM, Hutchinson, MR, Bilbo, SD. (2010) Understanding the Role of Stress in Morphine-Induced Reward and Relapse: A Novel Role for Glial Activation? Society for Neuroscience Abstracts.
15. Mistry, RS, Williamson, LL, Bilbo, SD (2010). Combined influence of neonatal and adult immune challenges on adult neuronal survival and activation in the dentate gyrus. Society for Neuroscience Abstracts.
16. Schwarz, JM, Hutchinson, MR, Bilbo, SD (2010). Understanding the role of stress in morphine-induced reward and relapse: a novel role for glial activation? Society for Neuroscience Abstracts
17. Sholar, PW, Schwarz, JM, Bilbo, SD (2010). A developmental profile of microglial morphology and density within the brains of male and female rats. Society for Neuroscience Abstracts
18. Williamson, LL, Bilbo, SD (2010). Microglia and Memory: Modulation by Early-Life Infection. Society for Neuroscience Abstracts
19. Schwarz, JM, Hutchinson, MR, Bilbo, SD. (2009) Maternal care alters morphine effectiveness and underlying microglial activation in adulthood. Society for Neuroscience Abstracts

20. Bilbo, SD, Tsang, V, Bolton, J, Tjoe, B (2009). Maternal high fat diets alter brain microglial activation, cytokine production, and behavior in offspring. Society for Neuroscience Abstracts
21. Huff, NC, Tsang, V, Labar, KS, Bilbo, SD (2009) Early life stress blocks renewal of fear in adolescent and adult rats and facilitates spatial water maze performance. Society for Neuroscience Abstracts
22. Schwarz, JM, Hutchinson, MR, Bilbo, SD (2009). Maternal care alters morphine effectiveness and underlying microglial activation in adulthood. Society for Neuroscience Abstracts
23. Bilbo, SD (2009). Learning-induced increases in immune and plasticity-related genes: modulation by early-life infection. PsychoNeuroImmunology Research Society Abstracts
24. Bilbo, SD (2009). Early life environment influences on neuroimmune interactions and behavior in adulthood. Society for Integrative and Comparative Biology Abstracts
25. Glenn, MJ, Mellott, TJ, Bilbo, SD, Blusztajn, JK, & Williams, CL (2008). Memory proficiency in old age is uniquely related to neurotrophin levels and immune factors in the hippocampus of male and female rats as a function of prenatal choline availability. Society for Neuroscience Abstracts
26. Bilbo, SD, Bland, ST, Beckley, JT, Tsang, V, Watkins, LR, & Maier, SF (2008). Bacterial infection early in life markedly influences microglial and neural genesis in the hippocampus and cortex of rats. Society for Neuroscience Abstracts
27. Bland, ST, Bilbo, SD, Beckley, JT, Watkins, LR, & Maier, SF (2008). Neonatal *E. coli* infection alters glial and cytokine responses to acute amphetamine in adolescent rats. Society for Neuroscience Abstracts
28. Bilbo, SD, Barrientos, RM, Eads, A, Northcutt, A, Watkins, LR, Rudy, JR, & Maier, SF. (2007) Early-life infection leads to altered BDNF and IL-1 mRNA expression in rat hippocampus following contextual learning in adulthood. Society for Neuroscience Abstracts
29. Bland, ST, Young, S, Beckley, J, Eads, A, Northcutt, A, Watkins, LR, Maier, SF, & Bilbo, SD (2007). Neonatal *E. coli* infection decreases neurogenesis in the rat hippocampus and cortex. Society for Neuroscience Abstracts
30. Bilbo, SD, Yirmiya, R, Paul, E, Watkins, LR, & Maier, SF. (2007) Neonatal infection provides protection against stressor-induced anhedonia in adulthood. Society for Behavioral Neuroendocrinology Abstracts
31. Bilbo, SD, Newsum, NJ, Mahoney, JH, Sprunger, DB, Watkins, LR, Rudy, JW, & Maier, SF. (2006). Maternal care modulation of neonatal-infection facilitated cognitive impairment in adulthood. International Congress of Neuroendocrinology Abstracts
32. Young, S, Bland, ST, Bilbo, SD, Watkins, LR, & Maier, SF. (2006). Effects of neonatal *E. coli* on microglial proliferation in the hippocampus. Society for Neuroscience Abstracts
33. Bilbo, SD, Biedenkapp, JC, Watkins, LR, Rudy, JW, Maier, SF. (2005). Neonatal infection-induced memory impairment following lipopolysaccharide in adulthood is prevented via caspase-1 inhibition. Society for Neuroscience Abstracts
34. Maier, SF, Der-Avakian, A, Watkins, LR, Bilbo, SD. (2005). Cytokine and microglial cell marker gene expression in the hippocampus of neonate pups following peripheral *Escherichia coli* infection. Society for Neuroscience Abstracts
35. Bilbo, SD, Levkoff, LH, Mahoney, JH, Rudy, JW, Watkins, LR, & Maier, SF. (2004). Neonatal infection induces memory impairments and cytokine alterations following an immune challenge in adulthood. PsychoNeuroImmunology Research Society Abstracts
36. Bilbo, SD, Mahoney, JH, Rudy, JW, Watkins, LR, & Maier, SF. (2004). Neonatal infection alters



- hippocampal glia and induces memory impairments and cytokine alterations following an immune challenge in adulthood. Society for Neuroscience Abstracts
37. Spataro, LE, Walsh, MG, Levkoff, LH, Wieseler Frank, JL, Frank, MG, Bilbo, SD, Martin, TJ, Maier, SF & Watkins, LR. (2004). Laparotomy sensitizes dorsal spinal cord glia: Enhanced glial response to later challenge. Society for Neuroscience Abstracts
  38. Neigh, GN, Bilbo, SD, Glasper, ER, & DeVries, AC. (2004). Cardiac arrest/cardiopulmonary resuscitation increases the delayed-type-hypersensitivity response and alters hypothalamic-pituitary adrenal axis activity. PsychoNeuroImmunology Research Society Abstracts
  39. Bilbo, SD, Dhabhar, FS, Viswanathan, K, Prendergast, BJ & Nelson, RJ. (2003). Sex differences in photoperiodic and stress-induced enhancement of immune function in Siberian hamsters. PsychoNeuroImmunology Research Society Abstracts
  40. Bilbo, SD & Nelson, RJ. (2003). Photoperiod and exercise affect metabolism and delayed type hypersensitivity in Siberian hamsters. Society for Behavioral Neuroendocrinology Abstracts
  41. Bowers, SL, Bilbo, SD & Nelson, RJ. (2003). A comparison of chronic stressors effects on delayed type hypersensitivity in mice. Society for Behavioral Neuroendocrinology Abstracts
  42. Bilbo, SD, Neigh, GN, Glasper, ER, & DeVries, AC. (2003). Enhanced delayed-type-hypersensitivity responses in cardiac arrest survivors. Society for Neuroscience Abstracts
  43. Prendergast, BJ, Bilbo, SD, & Nelson, RJ. (2003). Day length regulates induction, retention, and retrieval of immunological memory in Siberian hamsters. Society for Neuroscience Abstracts
  44. Bilbo, SD, Dhabhar, FS, Viswanathan, K, Light, A, Yellon, SM & Nelson, RJ. (2002). Short day lengths augment stress-induced leukocyte trafficking and stress-induced enhancement of skin immune function. PsychoNeuroImmunology Research Society Abstracts
  45. Viswanathan, K, Bilbo, SD & Dhabhar, FS. (2002). Acute stress administered before primary immunization or before challenge enhances skin delayed type hypersensitivity responses to keyhole limpet hemocyanin (KLH). PsychoNeuroImmunology Research Society Abstracts
  46. Bilbo, SD & Nelson, RJ. (2002). Melatonin regulates energy balance and attenuates fever in Siberian hamsters. Society for Behavioral Neuroendocrinology Abstracts
  47. Neigh-McCandless, G, Bilbo, SD, Hotchkiss, AH & Nelson, RJ. (2002). Pyruvate supplementation attenuates stress-evoked immunosuppression. Society for Behavioral Neuroendocrinology Abstracts
  48. Hotchkiss, AK, Prendergast, BJ, Bilbo, SD & Nelson, RJ. (2002). Reproductive costs of immune system activation in juvenile Siberian hamsters. Society for Behavioral Neuroendocrinology Abstracts
  49. Bilbo, SD, Dhabhar, FS, Viswanathan, K, Light, A & Nelson, RJ. (2002). Sex and photoperiodic differences in immune function and stress responses in congeneric hamsters. Society for Neuroscience Abstracts
  50. Neigh-McCandless, G, Bilbo, SD, Hotchkiss, AH & Nelson, RJ. (2002). Pyruvate supplementation ameliorates the effects of chronic stress on immune and endocrine systems. Society for Neuroscience Abstracts
  51. Prendergast, BJ, Hotchkiss, AK, Bilbo, SD & Nelson, RJ. (2002). Circadian and photoperiodic control of immune function in juvenile Siberian hamsters. Society for Neuroscience Abstracts
  52. Bilbo, SD, Dhabhar, FS, Yellon, SM & Nelson, RJ. (2001). Photoperiodic and stress-induced changes in blood and splenic leukocyte distributions in Siberian hamsters. Society for Neuroscience Abstracts
  53. Bilbo, SD, & Nelson, RJ. (2000). Photoperiod affects immune function and sickness behavior in

- Siberian hamsters. Society for Research on Biological Rhythms Abstracts
54. Drazen, DL, Bilbo, SD, & Nelson, RJ. (2000). In vitro melatonin enhancement of splenocyte proliferation appears to be mediated directly by melatonin receptor subtype 1B. Society for Behavioral Neuroendocrinology Abstracts
  55. Bilbo, SD, Drazen, DL, & Nelson, RJ. (2000). Sickness behavior and energy balance vary as a function of photoperiod in Siberian hamsters. Society for Neuroscience Abstracts
  56. Bilbo, SD, Drazen, DL, Bilu, D, & Nelson, RJ. (1999). Luzindole attenuates the *in vitro* melatonin enhancement of cell-mediated immunity in C57BL/6J house mice. Society for Neuroscience Abstracts
  57. Bilbo, SD, Klein, SL, DeVries, AC, & Nelson, RJ. (1999). Lipopolysaccharide elicits sexually dimorphic partner preference behaviors in monogamous prairie voles. Society for Behavioral Neuroendocrinology Abstracts
  58. Bilbo, SD, Day, LB, & Wilczynski, W. (1998). An anticholinergic disrupts operant conditioning but not spatial memory in frogs. Society for Neuroethology Abstracts

## ACTIVITIES WITHIN THE DISCIPLINE

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### Honors and Awards:

- 2011 - Frank Beach Young Investigator Award, Society for Behavioral Neuroendocrinology
- 2010 - Robert Ader New Investigator Award, PsychoNeuroImmunology Research Society
- 2010 - Duke Institute for Brain Sciences Research Incubator Award
- 2005 - PsychoNeuroImmunology Research Society Travel Award
- 2004 - PsychoNeuroImmunology Research Society Travel Award
- 2003 - NIMH National Research Service Award, Postdoctoral Fellow 2005-2008
- 2003 - Women in Neuroscience Travel Award
- 2002 - American Psychological Assoc. Science Directorate Dissertation Research Award
- 2002 - Society for Neuroscience, Melatonin Club Reception Poster Award
- 2002 - Society for Behavioral Neuroendocrinology Annual Meeting Student Travel Award
- 2002 - PsychoNeuroImmunology Research Society Travel Award
- 2001 - Society for Behavioral Neuroendocrinology Annual Meeting Student Travel Award
- 1999 - Society for Neuroscience, Melatonin Club Reception Best Poster Award
- 1998 - Society for Behavioral Neuroendocrinology Annual Meeting Poster Award
- 1998 - Graduation with Honors and Special Honors in Psychology, The University of Texas
- 1998 – UT Austin Undergraduate Research Fair Best Poster Award
- 1997-98 - The University of Texas Undergraduate Research Fellowship
- 1994-95 - The University of Texas at Austin Undergraduate Special Merit Scholarship

### Invited Talks and Colloquia:

#### 2015

- July (To be given) European Meeting on Glial Cells in Health and Disease, Symposium on “*Epigenetics of Glial Cells in Health and Disease*”, Title: “Early-life experience modulates long-term neural function and behavior: a role for epigenetic programming”, Bilbao, Spain.

- May (To be given) Nikolas Symposium on Langerhans Cell Histiocytosis, Invited Talk, Athens, Greece.
- Feb (To be given) 8<sup>th</sup> International meeting on Steroids and Nervous System, Symposium on “*Neuroactive Steroids and Glial Cells*”, Title: “Sex differences in microglial colonization of the developing brain: implications for neurodevelopmental disorders”, Torino, Italy.

2014

- Nov (To be given) Auburn University Department of Biology Colloquium
- Oct (To be given) University of Pittsburgh Department of Neuroscience Colloquium
- Oct (To be given) Northeastern University Department of Neuroscience Colloquium
- Sept (To be given) NIAAA Workshop on “Neuroimmune Mechanisms Contributing to Addiction Neurobiology”, Bethesda, MD.
- June Autism Canada, Workshop on “Examining a Multi-Systems Approach to Autism and the Environment: Challenges and Opportunities for Research”, Invited Talk, Toronto, CA.
- June Neurobehavioral Teratology Society Meeting, EPA Symposium on “*Unmasking Silent Neurotoxicity following Developmental Exposure to Environmental Toxicants*”, Title: “Neuroimmune interactions in early development and the biological embedding of health disparities”, Seattle, WA.
- May PsychoNeuroimmunology Research Society Annual Meeting, Symposium on “*Glial-Immune Mechanisms in Neurodevelopment and Neurodevelopmental Diseases*”, Title: “Biome reconstitution with “old friends” prevents long-term glial-immune sensitization and behavioral abnormalities induced by early-life infection”, Philadelphia, PA.
- May NIMH "Pushing Translational Boundaries: Advances in Developmental Neuroimmunology and Mental Health" Workshop Presentation, Rockville, MD.
- Apr University of Calgary Department of Physiology & Pharmacology Colloquium
- Mar American Society for Neurochemistry Annual Meeting, Symposium on “*Sculpting the Developing CNS: The Role of Microglia*”. Title: “Microglia, development, and cognition throughout the lifespan: The importance of sex.” Long Beach, CA.
- Feb Tufts University Department of Biology Colloquium, Boston, MA
- Feb *Glial Mechanisms in Injury and Disease* Workshop Presentation, Title: “Glial Mechanisms in Addiction”. Duke University, Durham NC.
- Jan Society for Integrative and Comparative Biology Annual Meeting, Symposium on “*Adaptation or Developmental Constraint? Uniting Evolutionary Theory and Empirical Studies of Phenotypic Plasticity*”. Title: “Programming innate immunity: Implications for brain and behavioral development”. Austin, TX.

2013

- Dec Center for Addiction and Behavioral Change, Duke University, Invited lecture.
- Dec Bowles Center for Alcohol Studies at the University of North Carolina, Invited Lecture.
- Nov University of New Mexico Department of Neuroscience Colloquium
- Nov Molecular and Cellular Cognition Society, Title “Microglial colonization of developing brain: Implications for long-term neural function”. San Diego, CA
- Oct Duke University Department of Immunology Retreat, Invited talk.
- Oct Duke University Department of Neurobiology Retreat, Invited talk.
- Oct Duke University Ocular Immunity and Inflammation Group Invited Seminar.

- July European Meeting on Glial Cells in Health and Disease, Symposium Chair on “*Glial Cells in Memory, Neural Plasticity and Neurogenesis*”, Title: “Early-Life Infection, Microglia, and Cognition Throughout the Lifespan”, Berlin, Germany
- May UNC Chapel Hill Department of Psychiatry Grand Rounds
- Apr University of Nebraska Medical Center Department of Neuroscience Colloquium
- Mar West Virginia University, Department of Neurobiology & Anatomy Colloquium
- Jan UC Riverside Center for Glial-Neuronal Interactions Annual Symposium Speaker on “*Glial-Neuronal Interactions in Health and Disease*”, Title: Neural-Glial Interactions within the Reward Circuitry”.

2012

- Dec North Carolina State University, Department of Biology Colloquium
- Nov University of Virginia, Department of Neuroscience Colloquium
- Nov Vanderbilt University, Department of Neuroscience Colloquium
- Oct NIDA Mini-Convention, Symposium on “*Central Nervous System Immune Signaling and Addiction*”, Title: “Early-Life Experience Modulates Glial Function and the Risk of Relapse in a Model of Drug Addiction”.
- Oct Society for Neuroscience, Symposium Chair on “*Brain-Body Communication: Function and Dysfunction and the Critical Role of the Immune System*”; Title: “Early Immune Activation and Adult Cognitive Dysfunction”.
- Oct Society for Neuroscience, Mini-Symposium on “*Brain Immunology: Peripheral Triggers of CNS Disease*”. Title: “Development, Brain, and Behavior: Interactions of Diet and the Neuroimmune Link”
- Sept New Jersey Medical School, School of Medicine and Dentistry Colloquium
- Sept Emory University Department of Physiology Colloquium
- June Society for Behavioral Neuroendocrinology Annual Meeting, Invited Address, Presidential Symposium, Madison, WI
- June International Behavioral Neuroscience Society Annual Meeting, Symposium on “*Neuroinflammatory Mechanisms in Autism*”, Kona, HI
- May University of Pennsylvania Department of Pharmacology Colloquium
- May Society of Biological Psychiatry Annual Meeting, Symposium on “*Sex, Stress, and Environmental Modulation of Neurodevelopment and Adult Behavioral Susceptibilities*”, Title: “Sex differences in early-life programming of neuroinflammation and behavioral abnormalities by high fat diet.” Philadelphia, PA.
- May Wake Forest University 7<sup>th</sup> Annual Women’s Health Research Day, “*Does Mom Matter? Mechanisms of Maternal Contributions to Offspring Health*”. Title: “Maternal stress and maternal care: programming neuroendocrine-immune interactions in offspring”.
- Mar Rutgers University, Department of Psychology Colloquium
- Mar NIEHS Seminar Series
- Feb Johns Hopkins University, Dept. of Molecular Microbiology & Immunology Colloquium

2011

- Dec University of Southern California, Air Pollution and Brain Health Research Group Invited Seminar. Title: “Maternal stress, air pollution, and long-term offspring outcomes: role of CNS-immune crosstalk.”
- Oct Carolina Institute on Developmental Disabilities Invited talk, Title: “Programming

- innate immunity: implications for brain and behavior throughout the lifespan.”
- Sept Developmental Origins of Health & Disease 7<sup>th</sup> World Congress, Symposium on “*Inflammation, Insulin Resistance, & Programming*”, Title: Programming the innate immune system”. Portland, OR.
- Sept NICHD/Wayne State Workshop on Fetal Origins of Autism, Detroit, MI
- June American Aging Association Annual Meeting, Title: “Implications of Early-life Experience for Cognitive Function throughout the Lifespan”. Raleigh, NC
- May University of Texas at Austin Department of Toxicology Colloquium
- Mar Duke University Integrated Toxicology Spring Symposium, “*The Social Context of Environmental Exposures in Children*”, Title: Maternal stress may mediate the impact of environmental pollutants on brain and behavioral outcomes”.
- Mar University of North Carolina Center for Developmental Science Spring Consortium on Human Development, Seminar series “*Getting the Social ‘Under the Skin:’ Developmental Perspectives on Embodiment*”, Title: “Early-life programming of later-life brain and behavior: a critical role for the immune system.”
- Feb University of Illinois, Department of Nutritional Sciences Colloquium

2010

- Dec American College of Neuropsychopharmacology, Symposium on “*Sex, Stress, and Environmental Modulation of Neurodevelopment and Adult Behavioral Susceptibilities*”, Title: “Enduring consequences of maternal obesity for brain inflammation and behavior of male and female offspring”. Miami, FL
- Oct University of Rochester Schmitt Symposium on “*Neuroinflammation and Cognitive Dysfunction in Aging and Chronic Disease*”, Title “Enduring consequences of early-life infection for neuroinflammation and cognition throughout the lifespan”, Rochester, NY
- Sept Texas A&M University, Department of Neuroscience Colloquium
- June PsychoNeuroimmunology Research Society Annual Meeting, *Robert Ader New Investigator Award Lecture*. Dublin, Ireland.
- Feb Ohio State University, Department of Molecular Virology, Immunology, & Medical Genetics Colloquium
- Jan UNC Chapel Hill, Department of Psychology Colloquium

2009

- Nov Society for Neuroscience Annual Meeting, Symposium on “*Behavioral Neuroimmunology: Linking the Immune System to Emotionality and Cognition*”, Title: “Neural development and adult cognition: a critical role for the immune system”. Chicago, IL
- July Early Life Programming and Neurodevelopmental Disorders Meeting, Title: “Early-life programming of later-life brain and behavior: A critical role for innate immunity”. Philadelphia, PA
- June PsychoNeuroimmunology Research Society Annual Meeting, Symposium on “*PNI, Plasticity, and Mechanisms of Cytokine-Induced Sickness*”, Title: “Learning-induced increases in immune and plasticity-related genes: modulation by cytokines and early-life infection”. Breckenridge, CO
- Mar Duke University, Center for Cognitive Neuroscience Seminar Series

Jan The Society for Comparative and Integrative Biology Annual Meeting, Symposium on “*Psychoneuroimmunology Meets Integrative Biology*”, Title: “Early life environment influences on neuroimmune interactions and behavior in adulthood”. Boston, MA

2008

July American Psychological Association Annual Meeting, Symposium on “*Developmental Plasticity and the Origins of Risk and Resilience*”, Title: “Neonatal infection alters brain development and cognition in adulthood”. Boston, MA

June PsychoNeuroImmunology Research Society Annual Meeting, Symposium on “*Cytokines and Behavior: Bidirectional Relationships*”, Title: “Rats infected early in life with bacteria exhibit exaggerated fever and lack of endotoxin tolerance in adulthood”. Madison, WI

2001-2007

2007 – Duke University, Department of Psychology & Neuroscience Colloquium. “Neonatal environment effects on neuro-immune interactions and behavior”.

2006 - University of Delaware, Department of Psychology Colloquium. “Neonatal environment effects on neuro-immune interactions and behavior”.

2006 - University of Pennsylvania, Department of Psychology Colloquium. “Neonatal environment effects on neural-endocrine-immune interactions and behavior”.

2005 - PsychoNeuroImmunology Research Society Annual Meeting. Title: “Neonatal infection-induced memory impairment in adulthood is prevented via caspase-1 inhibition”.

2004 - University of Texas, Section of Integrative Biology Colloquium. “Environmental constraints on physiological and behavioral immune defense”.

2001 - Society for Behavioral Neuroendocrinology Annual Meeting. Title: “Short day lengths attenuate the symptoms of infection in Siberian hamsters”.

**Public Lectures:**

2014 Duke Forward Campaign Participant, “Health and Your Brain”, Chicago, IL - 2013, Philadelphia, PA - 2014

2013 North Carolina Public Radio, WUNC, Interview on the “State of Things”. Durham, NC

2012 Museum of Life and Science Periodic Tables Public Lecture, “The Mind-Body Connection: The Secret Life of Your Immune System”. Durham, NC

2011 Brain Awareness Week Public Lecture, “The Mind-Body Connection: The Secret Life of Your Immune System”. Durham, NC

2010 Brain Awareness Week Public Symposium at the University of Tennessee Health Science Center and the Urban Child Institute, Keynote Address, Title “Brain & Body: How the Immune System Makes a Smarter Brain”.

**PROFESSIONAL SERVICE**

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**Organizational Duties:**

PsychoNeuroImmunology Research Society Annual Meeting	Symposium Chair 2014
European Meeting on Glial Cells Annual Meeting	Symposium Chair 2013
PsychoNeuroImmunology Research Society Annual Meeting	Symposium Chair 2013

Society for Neuroscience Annual Meeting  
PsychoNeuroImmunology Research Society Annual Meeting

Symposium Chair 2012  
Symposium Chair 2011

Duke Institute for Brain Sciences (2014)      Co-organizer for *Transcending the Boundaries* Workshop, "Glial Mechanisms in Health and Disease"

Duke Institute for Brain Sciences (2013)      Co-convenor of the *Neuroimmunology and Glia* Research Group

Society for Neuroscience Annual Meeting      Organizer of the 1<sup>st</sup>-3<sup>rd</sup> Annual "Neuroimmunology Social", 2012-14

Duke Institute for Brain Sciences (2010)      Co-organizer for *Transcending the Boundaries* Workshop, "Building a Brain: Order and Disorder"

**Departmental and University Service:**

2007-2009      Institutional Animal Care and Use Committee  
2007-2010      Departmental Colloquium Series Organizing Committee  
2008-2010      Cognitive Neuroscience Admitting Program  
2009-2010      Departmental Advisory Committee (elected position)  
2012-2014      Departmental Advisory Committee (elected position)  
2011-2012      Systems and Integrative Neuroscience Brownbag Series Coordinator

**Grant Review Panels:**

2010    Autism Speaks Foundation (*Ad hoc*)  
2012    Developmental Brain Disorders (DBD) NIH Study Section (*Ad hoc*)  
          Canadian Institutes for Health Research (*Ad hoc*)  
2013    Neural Oxidative Metabolism, Mitochondria and Cell Death NIH SEP (*Ad hoc*)  
          NSF Division of Integrative Organismal Systems: Modulation review panel (*Ad hoc*)  
          Developmental Brain Disorders (DBD) NIH Study Section (*Ad hoc*)  
          Neuroendocrinology, Neuroimmunology, Rhythms and Sleep (NNRS) (*Ad hoc*)  
2014    BRAINS Special Emphasis Panel Study Section member (*Ad hoc*)

**Editorial Board Member:**

*Brain, Behavior, and Immunity*

**Journal Editor:**

*Brain, Behavior, and Immunity* - Invited Mini-Review Editor

**Guest Editor, *Hormones and Behavior***

*Special Issue on "The Neuroendocrine-Immune Axis in Health and Disease"*, 2012

**Professional Memberships:**

1998-present - The Society for Neuroscience

1998-present - The Society for Behavioral Neuroendocrinology  
 2000-present - The PsychoNeuroImmunology Research Society (*Board of Directors 2011-14*)  
 2013-present – Society for Integrative and Comparative Biology

**Ad hoc Journal Reviewer:**

The Lancet	Psychopharmacology
The Journal of Neuroscience	Neuropsychopharmacology
Neurobiology of Learning and Memory	Journal of Immunology
Proceedings of the National Academy of Sciences	Molecular Psychiatry
Neurobiology of Aging	American Journal of Physiology
Physiology & Behavior	Developmental Brain Research
Behavioral Neuroscience	The Journal of Urology
Journal of Psychiatry and Neuroscience	European Journal of Neuroscience
Molecular Reproduction and Development	Hormones and Behavior
Psychoneuroendocrinology	Hippocampus
Journal of Neuroimmunology	Experimental Neurology
PLoS ONE	Brain Research
Behavioral Ecology and Sociobiology	Biological Psychiatry
Neuroscience and Biobehavioral Reviews	

**TEACHING AND MENTORING**

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**Courses Taught**

2014, Fall	Duke University	Behavioral Neuroimmunology
2014, Spring	Duke University	Fundamentals of Neuroscience
2013, Fall	Duke University	Foundations of Behavioral Neuroscience
2013, Spring	Duke University	Graduate Seminar: Principles of Neuroimmunology
2012, Fall	Duke University	Behavioral Neuroimmunology
2012, Spring	Duke University	Fundamentals of Neuroscience
2011, Fall	Duke University	Behavioral Neuroimmunology
2010, Spring	Duke University	Fundamentals of Neuroscience
2008, Fall	Duke University	Fundamentals of Neuroscience
2008, Spring	Duke University	Seminar: Psychoneuroimmunology

**Other Teaching**

2012, 2013, Fall	Neuroscience Bootcamp Guest lectures, Duke University
2011, Fall	Graduate Seminar in Foundations of Behavioral Neuroscience ( <i>2 lectures</i> )
2009, Fall	Graduate Seminar in Foundations of Behavioral Neuroscience ( <i>2 lectures</i> )
2007, Fall	Graduate Seminar in Foundations of Behavioral Neuroscience ( <i>2 lectures</i> )

Postdoctoral Fellow Advising

Phillip Rivera	Start date Dec. 2014
Richa Hanamsagar	2013 - present
Jaclyn Schwarz	2008 – 2012, <i>Currently Assistant Professor at Univ. of Delaware</i>
Susan Smith	2010 – 2012, <i>Currently Research Associate at GlaxoSmithKline</i>



Nicole Huff 2010 – 2012

Graduate Student Advising

Lauren Williamson Psychology & Neuroscience, Fall 2009 – present, *primary advisor*  
 Adam Gorski Psychology & Neuroscience, practicum, Spring 2010  
 Jessica Bolton Psychology & Neuroscience, Fall 2010 – present, *primary advisor*  
 Michael Lacagnina Psychology & Neuroscience, Spring 2012 – present, *primary advisor*  
 Drew Day Integrated Toxicology admitting program rotation, Spring 2013  
 Carina Block Psychology & Neuroscience, Fall 2014 – present, *primary advisor*  
 Steven Marinero Neurobiology rotation, Fall 2014

Major Area Paper/M.A. Committees

Sarah Wong-Goodrich Psychology & Neuroscience (M.A.P)  
 Kristen Pleil Psychology & Neuroscience (M.A.P)  
 Jennifer Gibson Psychology & Neuroscience (M.A.)  
 Lauren Williamson Psychology & Neuroscience (M.A.P)  
 Christina Tognoni Psychology & Neuroscience (M.A.P)  
 Adam Gorka Psychology & Neuroscience (M.A.P)  
 Jessica Bolton Psychology & Neuroscience (M.A.P)  
 Mark Rossi Psychology & Neuroscience (M.A.P)  
 Joseph Barter Psychology & Neuroscience (M.A.P)

Dissertation Committees

Sarah Wong-Goodrich Psychology & Neuroscience  
 Kristen Pleil Psychology & Neuroscience  
 Munir Gunes Kutlu Psychology & Neuroscience  
 Lauren Williamson Psychology & Neuroscience  
 Tina Tognoni Psychology & Neuroscience  
 Kendra Smyth Ecology  
 Matthew Kan Immunology

**Supervised Trainee Research Awards**

NIH National Research Service Award

Postdoctoral Investigator: Jaclyn Schwarz, 2010-2013

*“Immune Function and Sex Differences in Morphine Analgesia and Reward”*

NSF Predoctoral Fellowship

Graduate Student Investigator: Lauren Williamson, 2010-2013

*“Effects of Differential Immune Responses on Functional Neurogenesis in Adulthood”*

NSF Predoctoral Fellowship

Graduate Student Investigator: Jessica Bolton, 2011-2014

*“Environmental Pollution, Neuroinflammation, and Later-Life Susceptibility to Metabolic and Behavioral Disruption”*