

## **CURRICULUM VITAE**

### **Steven B. Harrod, Ph.D.**

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University of South Carolina  
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### **DEGREES:**

B.A. Psychology, University of Kentucky, 1993.  
M.A. Experimental Psychology: Psychobiology, Kent State University, 1997.  
Ph.D. Experimental Psychology: Psychobiology, Kent State University, 1999.

### **EMPLOYMENT:**

Postdoctoral Fellow, Department of Psychology, University of Kentucky, 1999 - 2001. Mentor: Michael Bardo, PhD.

Postdoctoral Fellow, Pharmacy Department, University of Kentucky, 2002 - 2003.  
Mentor: Linda Dwoskin, PhD.

Visiting Assistant Professor, Department of Psychology, University of Kentucky, 2003-2004.

Research Assistant Professor, Department of Psychology, University of South Carolina, 2004 – 2006.

Assistant Professor, Department of Psychology, University of South Carolina, 2006 – 2012.

Associate Professor, Department of Psychology, University of South Carolina, 2012- present.

### **RESEARCH ACTIVITIES**

#### **GRANTS PENDING:**

1. National Institute on Drug Abuse. 2R01DA021287-06: Prenatal IV nicotine: Long-term Vulnerability to Stimulant Drugs; \$252,000/year, 2013-

2018, PI.

2. University of South Carolina, ASPIRE II. Prenatal Nicotine Exposure and the Orexin System: Long-Term Vulnerability to Stimulant Drugs, \$100,000, 2013-2014, PI.

**GRANTS AWARDED:**

1. National Institute of Health. 2R01 HD043680-05A1: Maternal HIV: Developmental Neurotoxicity; \$250,000/year, 2012 – 2017, Co-I.
2. National Institute on Drug Abuse. RO1 DA021287: Prenatal IV nicotine: Long-term Vulnerability to Stimulant Drugs; \$252,000/year, 2007-2013, PI.
3. National Institute of Health. R01 DA13712: Neurodevelopmental Basis of Nicotine Sensitization; \$200,000/year, 2004-2007, Co-I.
4. University of South Carolina, Research Productivity Scholar: RPS-06-12366: Prenatal IV Nicotine: Long-Term Vulnerability to Stimulant Drugs; \$18,000, 2006-2007, PI.
5. University of South Carolina, Magellan Scholar, Alexandra Basilakos. 13580-07-15762: MGS: Does Lobeline Attenuate the Psychostimulant Effects of Methamphetamine in Adolescent Male and Female Rats? \$3000; 2007, PI.
6. University of South Carolina, Magellan Scholar, Lauren Ballina. 13580-08-18640: MGS: Does Gonadectomy Alter the Acquisition and Expression of METH-Induced Conditioned Taste Avoidance in Periadolescent Rats? \$3000; 2008, PI.
6. University of South Carolina, Magellan Voyager, Alexandra Basilakos, Sex differences in METH-induced Conditioned Taste Avoidance in Adolescent Rats. Travel Award, 2007.
7. University of South Carolina, Magellan Voyager, Alicia Latham, Sex differences in METH-induced Conditioned Taste Avoidance in Adolescent Rats. Travel Award, 2007.
8. F32 DA060168:  $\alpha$ -Lobeline and Amphetamine Self-Administration (2000-2002; NIDA NRSA Postdoctoral Fellowship).
9. T32 DA07304: Research Training in Drug Abuse Behavior (1999-2000; NIH Training Grant: Principal Administrator: Thomas Garrity, Ph.D).
10. F32 MH12375-0: The Role of Long-Term Potentiation in Pavlovian Fear

Conditioning (1999-2001; NIH NRSA Postdoctoral Fellowship; *Declined*).

### **Non Funded Grants**

1. National Institute on Drug Abuse. R01 DA019660-01: Prenatal Cocaine and Cerebellar Development. \$225,000/year, Co-I; 2004.
2. National Institute on Drug Abuse. RO1 DA021287-01: Prenatal IV nicotine: Long-term Vulnerability to Stimulant Drugs; \$252,000/year, 2005, PI.
3. National Institute on Drug Abuse. R01 DA019660-01A1: Prenatal Cocaine and Cerebellar Development. \$225,000/year, Co-I; 2005.
4. National Institute on Drug Abuse. RO1 DA023067-01: Effect of Dietary Cadmium Exposure on Nicotine Neuropsychopharmacology. \$114,715/year, Co-I; 2006.
5. National Institute on Drug Abuse. RO1 DA021287-01 A1: Prenatal IV nicotine: Long-term Vulnerability to Stimulant Drugs; \$252,000/year, 2006, PI.
6. National Institute on Drug Abuse. R01 DA019660-01A2: Prenatal Cocaine and Cerebellar Development. \$225,000/year, Co-I; 2007.
7. National Institute on Drug Abuse. R01: VMAT2 Releasers for Methamphetamine Addiction. \$50,000.00/year, Co-I; 2007.
8. National Institute on Drug Abuse. R01: VMAT2 Uptake Inhibitors and Releasers for Stimulant Addiction. \$50,000.00/year, Co-I; 2007.
9. National Institute on Drug Abuse. RO1 DA021287-01 A2: Prenatal IV nicotine: Long-term Vulnerability to Stimulant Drugs; \$252,000/year, 2007, PI.
10. National Institute on Drug Abuse. R01: Selective GSK-3 Inhibitors for Methamphetamine Addiction. \$50,000.00/year, Co-I; 2007.
11. National Institute on Drug Abuse. R21: GSK-3 Inhibitors for Methamphetamine Addiction. \$50,000.00/year, Co-I; 2007.
12. 2007 Searle Scholar Internal Competition: Development of Pharmacotherapies for Adolescent Methamphetamine Abuse. Proposal was not chosen to compete for the Searle Scholar Award.
13. 2003: NIH Behavioral Science Track Award for Rapid Transition.

- Conditioned Stimulus Properties of Nicotine. PI. Scored but non-funded.
14. Trajectory to obesity: DA plasticity & drug abuse vulnerability (R21), NIH. \$398,750.00; Co-I. Pending.
  15. Neuroadaptations in behavioral and substance abuse addictions (CEBRA; R21), NIH. \$362,500.00; Co-I.
  16. Nicotine and HIV-1-induced dysfunction of the mesolimbic dopamine system (RO1), NIH. \$1,796,750.00; Co-I.
  17. Preclinical Models of HIV-Associated Neurocognitive Disorder (RO1), NIH. \$1,812,500.00; Co-I.
  18. Cellvizio In Vivo Confocal System for the University of South Carolina. Shared Instrumentation Grant Program (S10), NIH. \$437,865.00, Co-I.
  19. The effects of nicotine in a model of schizophrenia: Age and sex differences (R01), NIDA. \$50,000, Co-I.

#### **PEER REVIEW EXPERIENCE:**

##### **Ad hoc reviews:**

Behavioral Brain Research  
Behavioral Neuroscience  
Neuropsychopharmacology  
Pharmacology, Biochemistry, and Behavior  
Psychopharmacology  
Neurobiology of Learning and Memory  
European Journal of Pharmacology  
International Journal of Neuropsychopharmacology  
Journal of Behavioral and Neuroscience Research  
Drug and Alcohol Dependence  
Neuropharmacology  
Neuroscience  
Experimental and Clinical Psychopharmacology  
Physiology and Behavior  
Acta Pharmacologia Sinica  
Addiction Biology

#### **PUBLICATIONS:**

Harrod SB, Metzger MM, & Riccio DC (1996) Does induced recovery from

amnesia represent a disinhibition effect? *Physiology and Behavior*, 60:1375-1378.

Metzger MM, Harrod SB, & Riccio DC (1998) Is acquired tolerance to hypothermia susceptible to extinction? *The Psychological Record*, 48:33-34.

Land CL, Harrod SB, & Riccio DC (1998) The Interval between the CS and UCS as a determiner of generalization performance. *Psychonomic Bulletin & Review*, 5(4):690-693.

Harrod SB, Flint R, Riccio DC (2001) MK-801 induces retrieval, but not acquisition, deficits for passive avoidance conditioning, *Pharmacology, Biochemistry, and Behavior*, 69:585-593.

Harrod SB, Klebaur JE, Crooks PA, Dwoskin LP, Bardo MT (2001) Lobeline attenuates *d*-methamphetamine self-administration in rats, *Journal of Pharmacology and Experimental Therapeutics*, 298:172-179.

Harrod SB, Metzger MM, Stempowski NK, & Riccio DC (2002) Cold Tolerance: Behavioral differences following single or multiple cold exposures. *Physiology and Behavior*, 76: 27 -39.

Miller DK, Harrod SB, Green TA, Wong MY, Bardo MT, & Dwoskin LP (2002). Lobeline attenuates the locomotor-activating properties of repeated nicotine administration in rats. *Pharmacology, Biochemistry & Behavior*, 74(2): 279-86.

Harrod SB, Dwoskin LP, Green TA, Gerhke B, Bardo MT (2003). Lobeline does not serve as a reinforcer in rats. *Psychopharmacology*, 165: 397 - 404.

Gehrke BJ, Harrod SB, Cass WA & Bardo MT (2003). The effect of neurotoxic doses of methamphetamine on methamphetamine conditioned place preference in rats. *Psychopharmacology*, 166: 249 - 257.

Harrod SB, Dwoskin LP, & Bardo MT (2004). Lobeline produces conditioned taste avoidance in rats. *Pharmacology, Biochemistry & Behavior*, 78: 1-5.

Harrod SB, Mactutus CF, Bennett K, Hasselrot U, Wu G, Welch M, Booze RM (2004). Sex differences and repeated IV nicotine: Behavioral sensitization and dopamine receptors. *Pharmacology, Biochemistry & Behavior*, 78(3):581-92.

Harrod SB, Booze RM, Welch M, Browning CE, Mactutus CF. (2005). Acute and repeated intravenous cocaine-induced locomotor activity is altered as a function of sex and gonadectomy in rats. *Pharmacology, Biochemistry & Behavior*. 82(1):170-181.

Harrod SB, Mactutus CF, Browning CE, Welch M, Booze RM. (2005).

Homecage observations following acute and repeated IV cocaine in intact and gonadectomized rats. *Neurotoxicology Teratology*. 27(6):891-896.

Silvers, JM, Wallace, DR, Harrod, SB, Mactutus CF, Booze RM (2006). Altered dopamine and sigma receptor binding in nucleus accumbens and striatum in dams and offspring following prenatal cocaine. *Neurotoxicology Teratology*. 28(2): 173-80.

Harrod SB, Booze RM, Mactutus CF. Sex differences in nicotine levels following repeated intravenous injection in rats are attenuated by gonadectomy. *Pharmacol Biochem Behav*. 2007;86(1):32-6.

Neugebauer NM, Harrod SB, Stairs DJ, Crooks PA, Dwoskin LP, Bardo MT. Lobelane decreases methamphetamine self-administration in rats. *Eur J Pharmacol*. 2007; 24;571(1):33-8.

Silvers JM, Harrod SB, Mactutus CF, Booze RM. Automation of the novel object recognition task for use in adolescent rats. *J Neurosci Methods*. 2007;166(1):99-103.

Harrod SB, Mactutus CF, Fitting S, Hasselrot U, Booze RM. Intra-accumbal Tat1-72 alters acute and sensitized responses to cocaine. *Pharmacol Biochem Behav*. 2008, 90(4):723-9.

Harrod SB, Van Horn L. Sex differences in tolerance to the hypoactive effects of lobeline in periadolescent rats. *Pharmacol Biochem Behav*. 94: 296-304, 2010.

Harrod SB, Lacy RT, Ballina LE. Persistent expression of methamphetamine-induced CTA in periadolescent rats. *Pharmacol Biochem Behav*. 2010 Oct;96(4):515-20. Epub 2010 Jul 23.

Neugebauer, NM, Harrod, SB, and Bardo, MT. Effects of nicotine pretreatment on methamphetamine self-administration and methamphetamine-seeking in rats. *Drug and Alcohol Dependence*, Sep 3. 2009 [Epub ahead of print]; 2010.

Lacy RT, Mactutus CF, Harrod SB. Prenatal IV nicotine exposure produces a sex difference in sensorimotor gating of the auditory startle reflex in adult rats. *Int J Dev Neurosci*. 2011 Dec 8. [Epub ahead of print].

Horton DB, Siripurapu KB, Norrholm SD, Culver JP, Hojahmat M, Beckmann JS, Harrod SB, Deaciuc AG, Bardo MT, Crooks PA, Dwoskin LP. meso-Transdiene Analogs Inhibit Vesicular Monoamine Transporter-2 Function and Methamphetamine-evoked Dopamine Release. *J Pharmacol Exp Ther*. 2010 Dec 21. [Epub ahead of print].

Midde NM, Gomez AM, Harrod SB, Zhu J. Genetically expressed HIV-1 viral proteins attenuate nicotine-induced behavioral sensitization and alter mesocorticolimbic ERK and CREB signaling in rats. *Pharmacol Biochem Behav.*, 2011 Jun;98(4):587-97. Epub 2011 Mar 21

Mactutus CF, Harrod SB, Hord LL, Moran LM, Booze RM. Prenatal IV Cocaine: Alterations in Auditory Information Processing. *Frontiers in Child and Neurodevelopmental Psychiatry*, 2011;2:38. Epub 2011 Jun 28..

Harrod SB, Lacy RT, Zhu J, Hughes BA, Perna M, Brown RW. Gestational IV nicotine produced elevated BDNF in the mesocorticolimbic dopamine system of adolescent offspring. *Synapse*, 2011 Dec;65(12):1382-92.

Lacy RT, Hord LL, Morgan A, Harrod SB. Intravenous gestational nicotine exposure results in increased motivation for sucrose reward in adult rat offspring. *Drug and Alcohol Dependence*, 2012; 124(3):299-306. Epub 2012 Feb 27.

Harrod, S.B., Lacy, R.T., Morgan, A.J. Offspring of prenatal IV nicotine exposure exhibit increased sensitivity to the reinforcing effects of methamphetamine. *Frontiers in Neuropharmacology*, 2012;3:116. Epub 2012 Jun 18.

Morgan, AJ, Harrod SB, Stanley EM, Lacy RT, Fadel JR (2013). Intravenous prenatal nicotine exposure increases orexin expression in the lateral hypothalamus and orexin innervation of the ventral tegmental area in adult male rats. *Drug and Alcohol Dependence*.

#### **MANUSCRIPTS UNDER REVIEW:**

Lacy RT, Morgan, AJ, Harrod SB. Offspring of intravenous prenatal nicotine exposure exhibit increased motivation to self-administer methamphetamine during adulthood, *Psychopharmacology*.

Lacy RT, Brown RW, Morgan, AJ, Mactutus CF, Harrod SB. Intravenous prenatal nicotine: alterations in METH-induced hyperactivity, conditioned hyperactivity, and BDNF protein levels in adult rat offspring. *Developmental Neuroscience*.

## **MANUSCRIPTS IN PREPARATION:**

Harrod SB, Crooks PA, Jenkins MJ, Zhu J, Zheng G, Deaciuc AG, and Dwoskin LP. *Meso-transdiene*, a defunctionalized analog of  $\alpha$ -lobeline, inhibits dopamine and serotonin uptake into rat striatal and hippocampal synaptosomes.

Harrod SB, Webb KM, Fitting S, Booze RM, Mactutus CF. Gestational IV nicotine potentiates cocaine-induced locomotor activity in adult female rats.

## **PRESENTATIONS AT NATIONAL OR REGIONAL CONFERENCES:**

### **Posters:**

Harrod SB & Kraemer PJ (1995). Human short-term memory of brief auditory and visual durations. Midwestern Psychological Association, Chicago, IL.

Metzger MM, Kissinger SC, Harrod SB, Riccio DC, & Toulon R (1995). Failure to extinguish associative control of cold tolerance in rats. Midwestern Psychological Association, Chicago, IL.

Harrod SB, Metzger MM, & Riccio DC (1996). Does induced recovery from amnesia represent a disinhibition effect? Midwestern Psychological Association, Chicago, IL.

Harrod SB, Metzger MM, & Riccio DC (1996). Long-term persistence of hypothermia tolerance in rats. Midwestern Psychological Association, Chicago, IL.

Harrod SB, Metzger MM, Mancine JL, & Riccio DC (1996) Does induced recovery from amnesia represent a disinhibition effect? Biomedical Sciences Poster Session, Kent State University.

Harrod SB, Flint RW, Land CL, & Riccio DC (1997). MK-801 induced state-dependent-retention for single trial passive avoidance conditioning in rats. Midwestern Psychological Association, Chicago, IL.

Harrod SB, Hock BJ, Metzger MM, Riccio DC & Bunsey M (1997). A role of the hippocampus in learned cold tolerance. Society for Neuroscience, New Orleans, LA.

Harrod SB, Kaut KP, Riccio DC & Bunsey M (1998). Different roles of hippocampus and hippocampal cortex in tests of one-trial aversive learning.

Neuroscience, Los Angeles, CA. (Poster).

Millin-Lippnos PA, Moody EW, Harrod SB, & Riccio DC (1999). Attenuation of neophobia as a measure of stimulus generalization at varying delays following initial flavor exposure. Midwestern Psychological Association, Chicago, IL.

Stempowski NK, Harrod SB, Metzger MM, Riccio DC. (2000). Cold Tolerance: Behavioral differences following single or multiple cold exposures. Society for Neuroscience, New Orleans, LA.

Harrod SB, Philipps\* SB, Gerhke BJ, Crooks PA, Dwoskin LP, Bardo MT (2000). Lobeline does not serve as a reinforcer in rats. Society for Neuroscience, New Orleans, LA.

Renda\* AM, Harrod SB, Bardo MT (2000). *Meso-transdiene*: A Weapon against Stimulant Drug Abuse. 2<sup>nd</sup> Annual Honors Psychology Poster Presentation, University Kentucky.

Harrod SB, Crooks PA, Dwoskin LP (2001). Defunctionalized structural analogs of  $\alpha$ -lobeline inhibit [<sup>3</sup>H]dopamine uptake into rat striatal synaptosomes. College on the Prevention of Drug Dependence (CPDD), Scottsdale, AZ.

Green TA, Miller DK, Wong MY, Harrod SB, Crooks PA, Bardo MT, Dwoskin LP (2001). Lobeline attenuates methamphetamine and cocaine self-administration and locomotor sensitization in rats. Society for Neuroscience, San Diego, CA.

Gerhke BJ, Rauhut AS, Harrod SB, Bardo MT (2001). Assessment of locomotor activity and conditioned place preference (CPP) following intravenous nicotine in rats. Society for Neuroscience, San Diego, CA.

Harrod SB, Crooks PA, Zhu J, Dwoskin LP (2001). *Meso-transdiene*, a defunctionalized analog of lobeline, inhibits dopamine and serotonin uptake into rat striatal and hippocampal synaptosomes. Society for Neuroscience, San Diego, CA.

Harrod SB, Miller DK, Bardo MT, Dwoskin LP (2002). Effect of continuous-release lobeline on methamphetamine-induced hyperactivity and methamphetamine self-administration in rats. College on the Prevention of Drug Dependence (CPDD), Quebec City.

Dwoskin LP, Miller DK, Zheng G, Grinevich VP, Norrholm SD, Harrod SB, Bardo MT, Crooks PA (2002). Lobeline: A potential treatment for psychostimulant abuse using VMAT2 as a novel target. Dopamine, 2002.

Hendricks\* DM, Wigginton\* H, Neugebauer NM, Harrod SB, & Bardo MT (2003). The effects of nicotine and mecamylamine on methamphetamine self-administration. Biological Sciences Poster Session, Lexington KY.

Harrod SB, Neugebauer NM, Dwoskin LP, and Bardo MT (2003). The effects of nicotine on methamphetamine self-administration and methamphetamine drug-seeking behavior in rats. Society for Neuroscience, New Orleans, LA.

Harrod SB, Mactutus CF, Bennett K, Hasselrot U, Wu G, Welch M, Booze RM (2004). Sex differences and repeated IV nicotine: Behavioral sensitization and dopamine receptors. Society for Neuroscience, San Diego, CA.

Harrod SB, Booze RM, Welch M, Browning CE, Mactutus CF. (2005). Acute and repeated intravenous cocaine-induced locomotor activity is altered as a function of sex and gonadectomy. CPDD, Orlando FL.

Harrod SB, Booze RM, Welch M, Browning CE, Mactutus CF. (2005). Acute and repeated intravenous cocaine-induced locomotor activity is altered as a function of sex and gonadectomy. Frontiers in Neuroscience, Charleston, SC; March 18<sup>th</sup>.

Booze RM, Aksenov MY, Aksenova MV, Harrod SB, Hasselrot U, Mactutus CF, Nath A, Wallace DR. (2005). Cocaine potentiates HIV-1 Tat neurotoxicity via the dopamine transporter. Presented at Society for Neuroimmune Pharmacology.

Silvers JM, Harrod SB, Mactutus CF, Booze RM. (2005). Prenatal cocaine exposure alters response to novelty in adolescent rats. To be presented at Society for Neuroscience, Washington, DC

Neugebauer NM, Harrod SB, and Bardo MT (2005). The Effect of Nicotine Pretreatment on Methamphetamine Self-Administration, Methamphetamine-Seeking, and Locomotor Activity in Rats. Presented at EBPS, Barcelona, Spain.

Harrod SB, Mactutus CF, and Booze RM. (2005). Sex differences in plasma nicotine levels following repeated intravenous injection are attenuated by ovariectomy in rats. Presented at Society for Neuroscience, Washington, DC.

Latham\* A, Conder J, Basilakos\* AA, Ballina L, Harrod SB. Sex Differences in Methamphetamine-induced Conditioned Taste Avoidance in Adolescent Rats. To be presented at MPA, May 3-4, 2007.

S.B. Harrod, B.J. Barte. Periadolescent Female Rats Exhibit Increased Resistance to the Extinction of Meth-Induced CTA (Society for Neuroscience, 11.12.07).

Webb KM, Fitting S, Booze RM, Mactutus CF, Harrod SB. Gestational IV nicotine potentiates cocaine-induced locomotor activity in adult female rat. Society for Neuroscience, San Diego, CA, 2007.

S. Fitting, L.L. Hord, K.M. Webb, R.M. Booze, C.F. Mactuts, S.B. Harrod. Prenatal IV Nicotine: Sex-dependent alterations in sensory gating as evidenced by prepulse inhibition of the acoustic startle response. (Society for Neuroscience, 11.12.07).

Silvers, J; Ferris, M; Harrod, S; Mactutus, C; Booze, R. Response to novelty correlates with dopamine receptor alterations in prenatal cocaine exposed adolescent rats (Society for Neuroscience, 11.12.07).

Lacy RT, Ballina\* L, Longacre I, Harrod SB (2008). Adolescent and adult rats display sex differences in the expression of METH-induced CTA with extended CS-US conditioning intervals (GA/SC Neuroscience Consortium: Columbia, SC; March 29).

Lacy RT, Ballina\* L, Longacre I, Harrod SB (2008). Periadolescent male, but not female, rats acquire METH-induced CTA when the CS-US trace interval is extended beyond two hours (College on Problems of Drug Dependency: San Juan, PR; June 19).

Lacy, R.T., Brown, R.W., Ballina, L.E., Hughes, B.A., & Harrod, S.B. (2010). IV gestational nicotine exposure increases brain-derived neurotrophic factor in adolescent rats. Poster presented at the College on Problems of Drug Dependency; June 15, Scottsdale, AZ.

Lacy, R.T., Hord, L.L., Morgan, A.J. & Harrod, S.B. (2011). Gestational intravenous nicotine increases motivation for sucrose reward in adult rat offspring. Poster presented at the College on Problems of Drug Dependency; June 23, Hollywood, FL.

Morgan, A.J., Fadel, J.R., Harrod, S.B., Stanley E., (2011). Caffeine activation of brain stress regions. The College on Problems of Drug Dependency; June 2011, Hollywood, FL.

Morgan, A.J. Harrod, S.B., Lacy, R.T., Stanley, E., Fadel J.R., (2011). Low-dose prenatal IV nicotine exposure alters expression of orexin/hypocretin and appositions onto dopamine neurons in the VTA. Society for Neuroscience, November 2011, Washington, D.C.

Maxwell, S., Lacy, R., Morgan, A. & Harrod, S. (2012). Does prenatal IV nicotine increase motivation for methamphetamine reinforcement in rats? Presented at Discovery Day; April 20, Columbia, SC.

Weinberg, D., Lacy, R., & Harrod, S. (2012). Prenatal intravenous nicotine increases sensitivity to methamphetamine reinforcement in rats. Presented at Discovery Day; April 20, Columbia, SC.

Lacy, R.T., Hord, L.L., Morgan, A.J., & Harrod, S.B. (2012) Intravenous gestational nicotine exposure results in increased motivation for sucrose reward in adult rat offspring. College on the Problems of Drug Dependence, June 12, 2012.

### **Oral Presentations**

Harrod SB, Hock BJ, Metzger MM, Riccio DC & Bunsey M (1997). A role of the hippocampus in learned cold tolerance. Tri-State Animal Cognition Meeting, Bloomington, IN.

Harrod SB, Metzger MM, Mancine\* JL, & Riccio DC (1997). Tones, but not hypothermia, release a previously extinguished avoidance response in rats. Midwestern Psychological Association, Chicago, IL.

Land CL, Harrod SB, & Riccio DC (1997). The Interval between the CS and UCS as a determiner of generalization performance. Midwestern Psychological Association, Chicago, IL.

Harrod SB, Stempowski NK, Metzger MM, & Riccio DC (1998). Hypothermia Tolerance: Activity and rates of re-warming differ following single or multiple cold exposures. Tri-State Animal Cognition Meeting, University of Kentucky, Lexington, KY.

Stempowski NK, Harrod SB, Metzger MM, & Riccio DC (1998). Associative cold tolerance does not change with repeated exposure to cold. Midwestern Psychological Association, Chicago, IL.

Harrod SB, Ray JL, & Riccio DC (1998). Delay effect and latent inhibition have an additive effect on conditioned taste aversion (CTA). Midwestern Psychological Association, Chicago, IL.

Harrod SB, Klebaur JE, Crooks PA, Dwoskin LP, Bardo MT (2000). Lobeline attenuates *d*-methamphetamine self-administration in rats. College on the Prevention of Drug Dependence (CPDD), San Juan, Puerto Rico.

Miller DK, Green TA, Harrod SB, Crooks PA, Bardo MT, Dwoskin LP (2000). Lobeline attenuates the locomotor-activating properties of repeated nicotine or *d*-methamphetamine administration in rats. College on the Prevention of Drug Dependence (CPDD), San Juan, Puerto Rico.

- Gerhke BJ, Harrod SB, Bardo MT (2001). Intravenous methamphetamine produces hyperactivity and single trial conditioned place preference: Effect of lobeline pretreatment. Midwestern Psychological Association, Chicago, IL.
- Neugebauer NM, Harrod SB, Dwoskin LP, & Bardo MT (2003). The effects of nicotine and mecamylamine on methamphetamine self-administration. Midwestern Psychological Association, Chicago, IL.
- Harrod SB, Mactutus CF, Fitting S, Hasselrot U, Booze RM (2006). Intra-accumbal Tat injection attenuates the effects of intravenous cocaine-induced locomotor activity in rats. Georgia / South Carolina Neuroscience Consortium, April 8<sup>th</sup>, Charleston, SC.
- Harrod SB (2007). Lobeline-induced sex differences in adolescent rats: Females exhibit increased sensitivity to the hypoactive effects of lobeline; College on the Problems of Drug Dependence.
- Lacy RT, Longacre I, Ballina\* L, Harrod SB (2008) Periadolescent rats exhibit sex differences in METH-induced CTA with extended CS-US trace intervals. (Presented at Midwestern Psychological Association, Chicago, IL, May 2).
- Longacre I, Basilakos\* AA, Latham\* A, Harrod SB (2008). Lobeline decreases meth-induced hyperactivity in male and female periadolescent rats (Presented at Midwestern Psychological Association, Chicago, IL; 5.2.08).
- Harrod SB, Longacre I, & Basilakos\* AA (2008). Lobeline attenuates METH-induced hyperactivity but does not alter METH-mediated contextual conditioning in male and female periadolescent rats (College on the Prevention of Drug Dependence, San Juan, PR; 6.19).
- Harrod SB, Longacre I, & Basilakos\* AA (2008). Lobeline attenuates METH-induced hyperactivity but does not alter METH-mediated contextual conditioning in male and female periadolescent rats (Presented at CPDD, San Juan, PR; 6.18).
- Harrod SB (2008). Lobeline attenuates METH-induced hyperactivity but does not alter METH-mediated contextual conditioning in male and female periadolescent rats (Assistant Professor Research Showcase, Department of Psychology, University of South Carolina).
- Lacy, R., Mactutus, C., Ballina, L., & Harrod, S. (2009). Prenatal nicotine exposure causes modality specific deficits in prepulse inhibition of the startle reflex in preweanling rats. Presented at the Midwestern Psychological Association meeting; April 30, Chicago, IL.

Brown, R.W., Hughes, B.A., Lacy, R., Ballina, L., & Harrod S.B. (2010). The effects of IV gestational nicotine exposure on adolescent methamphetamine sensitization and brain-derived neurotrophic factor (BDNF). Presented at the Midwestern Psychological Association meeting; May 1, Chicago, IL.

Lacy, R.T. (2010). Gestational intravenous nicotine exposure increases motivation for sucrose reward in adult rats. Oral presentation given at the University of South Carolina; November 19, Columbia, SC.

Lacy, R.T., Ballina, L.E., Singleton, R., & Harrod, S.B. (2010). Characterization of lobeline and methamphetamine using prepulse inhibition with six interstimulus intervals. Oral presentation at the Midwestern Psychological Association meeting; May 1, Chicago, IL.

Lacy, R.T. (2011). Gestational intravenous nicotine increases the motivation for sucrose reward and elevates brain-derived neurotrophic factor in rat offspring. Presented at Graduate Student Day: University of South Carolina; April 8, Columbia, SC.

Lacy, R.T., Hord, L.L., Morgan, A.J., & Harrod, S.B. (2011). Gestational IV Nicotine Increases Motivation for Sucrose Reward in Rats. Presented at the Midwestern Psychological Association meeting, May 5, Chicago, IL.

Lacy, R.T., Morgan, A.J., & Harrod, S.B. (2012). Prenatal intravenous nicotine increases sensitivity to methamphetamine reinforcement in rats. Presented at the Midwestern Psychological Association meeting, Chicago, IL.

Morgan, A.J., Stanley, E.M., Lacy, R.T., Harrod, S.B., Fadel, J.R. (2012). Low-dose prenatal IV nicotine exposure alters expression of orexin/hypocretin and appositions onto dopamine neurons in the VTA. To be presented at the College on the Problems of Drug Dependence, June 13, 2012, Palm Springs, California.

### **Invited Talks**

Harrod SB. Sex differences and repeated IV nicotine: Behavioral sensitization and dopamine receptors. Festschrift for James B. Appel, PhD, 9.23.05; University of South Carolina.

Harrod SB. Lobeline-induced sex differences in adolescent rats: Females exhibit increased sensitivity to the hypoactive effects of lobeline. Pharmacy

Department, University of Kentucky, 8.9.07.

Harrod SB. Gestational IV Nicotine Potentiates Cocaine-Induced Locomotor Activity in Adult Female Rats. Presented at Midwestern Psychological Association, Chicago, IL; 5.2.08.

Harrod SB. Prenatal intravenous nicotine exposure alters motivation for sucrose reward in adult rat offspring. Festschrift for David C. Riccio, PhD, Kent State University, Kent OH; 5.21.11.

### **RESEARCH AWARDS:**

Howard Hughes Undergraduate Research Award, University of Kentucky, 1991. Human Short-Term Memory of Brief Auditory and Visual Durations. Mentor: Philipp Kraemer, Ph.D.

Kent State University Dissertation Award 1998-1999.

Applied Psychological Center Research Fellowship, Kent State University, 1999. Alleviation of Retrograde Amnesia through Post-Amnesia Administration of Calcium Channel Blockers.

National Institute of Drug Abuse Director's Travel Award 2000.

National Institute of Drug Abuse Director's Travel Award 2001.

National Institute of Drug Abuse Director's Travel Award 2002.

Alexandra Basilakos, 2<sup>nd</sup> Place Winner, Poster Presentation. University of South Carolina Discovery Day, 2009: Basilakos A, Harrod SB (2009). *Lobeline Decreases Meth-induced Hyperactivity in Male and Female Periadolescent Rats.*

Lauren Ballina, 2<sup>nd</sup> Place Winner, Oral Presentation. University of South Carolina Discovery Day, 2009: *Ballina LE, Harrod SB (2010). Gestational intravenous nicotine exposure increases motivation for sucrose reward in adult rats.*

### **TEACHING EXPERIENCE:**

***Undergraduate***

**Teaching Assistant:**

Learning and Conditioning Laboratory, fall 1995, Kent State University.  
Learning and Conditioning Laboratory, spring 1996, Kent State University.

**Instructor:*****Undergraduate***

Physiological Psychology, fall 1997, Kent State University.  
Psychology Writing, fall 1997, Kent State University.  
Quantitative Methods, spring 1998, Kent State University.  
Applied Psychology, spring 1999, Kent State University.  
Brain and Behavior, fall 2001, University of Kentucky.  
Brain and Behavior, spring 2002, University of Kentucky.  
Brain and Behavior, fall 2002, University of Kentucky.  
Learning and Cognition, fall 2002, University of Kentucky.  
Learning and Cognition, spring 2003, University of Kentucky.  
Learning and Cognition, fall 2003, University of Kentucky.  
Drugs and Behavior, fall 2003, University of Kentucky.  
Learning and Cognition, spring 2004, University of Kentucky.  
Physiological Laboratory (570), spring, 2009, University of South Carolina  
Drug Use and Effects, fall 2006 - present, University of South Carolina  
498 Independent Research 2006-present.

## SUMMER RESEARCH INSTITUTE

1. Holly Jarrell, 2005.
2. Reshane Reeder, 2007
3. Amy Zheng, 2008
4. Megan McClintick, 2009
5. Paula Hildago, 2009

## MAGELLAN SCHOLARS

1. Alexandra Basilakos, 2009
2. Lauren Ballina, 2010

## UNDERGRADUATE RESEARCH STUDENTS

Lauren Ballina, Alexandra Basilakos, Megan Blackman, Kriska Carandang, Sarah Dewitt, Humna Fayyaz, Alicia Latham, Marc Lynes, Andrew Micciche, Charlie Otten, Miroslava Radieva, George Weinberg.

***Graduate***

702D: Learning and Motivation, spring 2007; 2010 – 2013.

792A: Research Ethics, spring 2007  
819-001: SEM/Biological Role of dopamine in motivated behavior, fall 2007.  
838-001: SEM/Learning and Cognition fall 2008.  
888: Motivation and Drug/Behavior, 2008-2010.  
888: From Darwin to Behaviorism, 2012  
888: Minds Behind the Brain, 2013

## **TEACHING AWARDS**

Nomination for the *2009 Distinguished Undergraduate Research Mentor Award*

## **SERVICE**

### **Departmental Service**

**Experimental Program Director, 2013 – present**

**Member**, Executive Committee, Department of Psychology, 2005-2007.

**Member**, Institutional Animal Care and Use Committee, University of South Carolina, 2006-2008; 2012- present.

**Poster Judge**, Discovery Day, 2006.

**Member**, Graduate Student Admissions Committee, 2005-2006.

**Member**, Quantitative Search Committee, 2006.

**Member**, Clinical Neuroscience Search Committee, 2007.

**Member**, Hiring Plan Committee, Department of Psychology, 2007.

**Discussion Leader**, First Year Reading Project, University 101, 2007-2011.

**Reviewer**, Research Opportunity Program, 2007.

**Reviewer**, Magellan Scholar Program, 2007, 2009, 2011.

**Assistant Professor Research Showcase Coordinator**: Department of Psychology, October, 2008.

**Member**, Clinical/Community Child and Family Search Committee, 2008.

**Member**, Safety Committee and Chemical Hygiene Committee, Spring 2010-present.

**Member**, Undergraduate Committee, Spring 2010-present.

### **University Service**

IACUC Speaker Series: Harrod SB. The use and maintenance of intravenous catheters for the delivery of psychoactive drugs in rats. (July 27th, 2005).

IACUC Committee: 2006-2008; 2012-2013.

Undergraduate Move-in-Day 2006

Discovery Day: Poster Judge, 2006

RPS Grant: Reviewer, 2007

Magellan Scholar: Reviewer, 2007; 2009; 2011

First Year Reading Experience, 2007-2012

### **National Conference Service**

#### **SRNT Society for Research on Nicotine and Tobacco (SRNT).**

- a. I reviewed abstracts for the 2006 SRNT meeting.
- b. I reviewed abstracts for the 2007 SRNT meeting.

#### **Midwestern Psychological Association (MPA).**

- a. Moderator, 2007.
- b. Organized Research Symposium on Sex Differences and Drug Abuse (2009 meeting).
- c. Moderator, 2009

### **Service for Federal Funding Agencies**

#### **National Institute on Drug Abuse, National Institute of Health:**

*Biomarkers, Brain Development, Morphology, Genetics (ARRA GO); ZDA1 SXC-E (5B); July 29<sup>th</sup>, 2009.*

#### **National Institute on Drug Abuse, National Institute of Health:**

*Specialized Centers of Research (SCOR) on Sex Differences (P50) RFA-OD-11-003. January, 12<sup>th</sup>, 2012.*

#### **National Institute on Drug Abuse, National Institute of Health and the Federal Drug Administration:**

*Tobacco Centers of Regulatory Science for Research Relevant to the Family Smoking Prevention and Tobacco Control Act (P50). RFA DA13-003. March, 14<sup>th</sup>, 2013.*

## **Community Service**

**Consultant.** Rachel Wolf's Senior Exhibition at Heathwood Hall Episcopal School. Ms. Wolf's Exhibition is entitled *Opium Dreams and Kaleidoscope Eyes: The Effect of Drug Use on Musicians*.

## **PROFESSIONAL AFFILIATIONS**

Midwestern Psychological Association  
Psychopharmacology and Substance Abuse, Division 28, American Psychological Association  
Society for Neuroscience  
Society for Neuroscience: University of Kentucky Chapter  
– Post-Doctoral Representative for Kentucky Chapter Society for Neuroscience (2001)  
University of Kentucky Local NIDA (Neuroscientists Interested in Drug Abuse)  
– Coordinator (2002 – 2004).  
Tri-State Animal Cognition Conference  
– Moderator, Indiana University, Bloomington, IN. (2003)  
Society for Neuroscience: University of Kentucky Chapter  
– Poster judge for neuroscience day.  
Society for Neuroscience: University of South Carolina Chapter

## **HONORS:**

David Smith Research Fellowship, Kent State University, 1998-1999.  
University Fellowship, Kent State University, 1998-1999.  
Phi Beta Kappa  
Psi Chi