Sondra T. Bland

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University of Colorado Denver
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Education

1991: B.A. Magna Cum Laude, Education.
University of North Carolina at Charlotte.

2000: Ph.D., Psychology, University of Texas at Austin.
Major: Behavioral Neuroscience
Minor: Statistics

Professional Experience

2009 – current: Assistant Professor, Department of Psychology, University of Colorado Denver
2001 – 2009: Postdoctoral Research Associate, Department of Psychology and Neuroscience, University of Colorado at Boulder. Laboratory of Steven Maier.
Fall, 2000: Assistant Instructor, Department of Psychology, University of Texas at Austin
Summer, 1998: Research Assistant, Department of Physical Medicine and Rehabilitation, Baylor College of Medicine, Houston TX. Laboratory of Harvey Levin.
1997 – 2000: Graduate Fellow, Department of Psychology, University of Texas at Austin
Summer, 1997: Intern, Neuroscience Department, Genentech, Inc. San Francisco CA. Laboratory of Nicholas van Bruggen.
1995 – 1997: Graduate Teaching Assistant, Department of Psychology, University of Texas at Austin

Refereed Publications

Articles in peer-reviewed journals (reverse chronological order; undergraduate coauthors from my laboratory are in italics, Masters student coauthors from my laboratory are underlined):

1. *Ahern A., Goodell D.J., Adams J.,* & **Bland S.T.** (2016) Brain regional differences in social encounter-induced Fos expression in male and female rats after post-weaning social isolation. *Brain Research*, 1630:120-33. doi: 10.1016/j.brainres.2015.11.006.
2. *Grotewold S.K., Wall V.L., Goodell D.J., Hayter C.,* **Bland S.T**. (2014) Effects of cocaine combined with a social cue on conditioned place preference and nucleus accumbens monoamines after isolation rearing in rats. *Psychopharmacology* 231(15):3041-53.
3. *Wall V.L.,* Fischer, E.K., **Bland, S.T.** (2012). Isolation rearing attenuates social interaction-induced expression of immediate early gene protein products in the medial prefrontal cortex of male and female rats. *Physiology and Behavior,* 107, 440-50.

4. Hutchinson M.R., Northcutt A.L., Hiranita T., Wang X., Lewis S., Kopajtic T.A., Loram L., Sfregola C., Galer E., Miles N.E., **Bland S.T.,** Amat J., Rozeske R.R., Maslanik T., Chapman T., Strand K., Fleshner M., Bachtell R.K., Yin H., Katz J.L., Rice K.C., Maier S.F., Watkins L.R. (2012) Opioid activation of toll-like receptor 4 importantly contributes to drug reinforcement *Journal of Neuroscience*, 32(33):11187-11200..

5. **Bland S.T.**, Beckley J.T., Watkins L.R., Maier S.F., Bilbo S.D. (2010) Neonatal Escherichia coli infection alters glial, cytokine, and neuronal gene expression in response to acute amphetamine in adolescent rats. *Neurosci Lett,* 474:52-57.

6. **Bland S.T.,** Beckley J.T., Young S., Tsang V., Watkins L.R., Maier S.F., Bilbo S.D. (2010) Enduring consequences of early-life infection on glial and neural cell genesis within cognitive regions of the brain. *Brain Behav Immun,* 24:329-338.

7. McDevitt R.A., Szot P, Baratta M.V., **Bland S.T.**, White S.S., Maier S.F., Neumaier J.F. (2009). Stress-induced transcriptional activity in the locus coeruleus is not sensitive to stressor controllability. *Brain Research, 1285:109-18*.

8. **Bland, S.T.**, Hutchinson M R., Watkins L.R., Maier S.F. (2009). The glial activation inhibitor AV411 reduces morphine-induced nucleus accumbens dopamine release and precipitated morphine withdrawal. *Brain Behav Immun.*, 23(4): 492-497.

9. Rozeske, R.R., Der-Avakian, A., **Bland, S.T.**, Beckley J.T., Watkins L.R., Maier S.F. (2008). The medial prefrontal cortex regulates the differential expression of morphine conditioned place preference following a single exposure to controllable or uncontrollable stress. *Neuropsychopharmacology,* 34(4):834-43.

10. Hutchinson M.R., Northcutt A.L., Chao L.W. Kearney J.J., Zhang Y., Berkelhammer D.L., Loram L.C., Rozeske R.R., **Bland S.T.**, Maier S.F., Gleeson T.T., Watkins L.R. (2008) Minocycline suppresses morphine-induced respiratory depression, suppresses morphine-induced reward, and enhances systemic morphine-induced analgesia. *Brain Behav Immun.*22(8):1248-1256.

11. **Bland S.T.**, Tamblyn J.P., Barrientos R.M., Greenwood B.N., Watkins L.R., Campeau S., Day H.E., and Maier S.F. (2007) Expression of fibroblast growth factor-2 and brain-derived neurotrophic factor mRNA in the medial prefrontal cortex and hippocampus after uncontrollable or controllable stress. *Neuroscience*. 144, 1219-1228.

12. Hutchinson, M.R., **Bland S.T.**, Johnson, K.W., Rice, K.C., Maier S. F., Watkins L. R. (2007) Opioid-induced glial activation: mechanisms of activation and implications for opioid analgesia, dependence and reward. *TheScientificWorldJournal* 7:98-111.

13. Wiesler-Frank, J., Jekich B.M., Mahoney J.H., **Bland S.T.,** Maier S.F., Watkins L.R. (2007) A novel immune-to-CNS communication pathway: cells of the meninges surrounding the spinal cord CSF space produce proinflammatory cytokines in response to an inflammatory stimulus. *Brain Behav Immun* 21:711-718.

14. Frank, M.G., Der-Avakian A., **Bland S.T.**, Watkins L.R., and Maier S.F. (2007) Stress-induced glucocorticoids suppress the antisense molecular regulation of FGF-2 expression. *Psychoneuroendocrinology*. May;32(4):376-84.

15. Hein, A.M., Stutzman, D.L., **Bland S.T.**, Barrientos R.M., Watkins L.R., Rudy J.W., Maier S.F. (2007) Prostaglandins are necessary and sufficient to induce contextual fear learning

impairments after interleukin-1 beta injections into the dorsal hippocampus. *Neuroscience,* 150(4):754-63.

16. Der-Avakian A., **Bland S.T.**, Rozeske R.R., Tamblyn J.P., Hutchinson M.R., Watkins L.R., Maier S.F. (2007) The effects of a single exposure to uncontrollable stress on the subsequent conditioned place preference responses to oxycodone, cocaine, and ethanol in rats. *Psychopharmacology (Berl)* 2007 May;191(4):899-907.

17. Der-Avakian A., Rozeske R.R., **Bland S.T.**, Watkins L.R., and Maier S.F. (2007) The effects of a single session of inescapable tailshock on the subsequent locomotor response to brief footshock and cocaine administration in rats. *Psychopharmacology (Berl)* May;191(4):909-17.

18. **Bland S.T.,** Schmid M.J., Greenwood B.N., Watkins L.R., Maier S.F. (2006) Behavioral control of the stressor modulates stress-induced changes in neurogenesis and fibroblast growth factor-2. *Neuroreport*. 17, 593-597.

19. Der-Avakian A., **Bland S.T.**, Schmid M.J., Watkins L.R., Spencer R.L., Maier S.F. (2006) The role of glucocorticoids in the uncontrollable stress-induced potentiation of nucleus accumbens shell dopamine and conditioned place preference responses to morphine. *Psychoneuroendocrinology*. 31, 653-663.

20. Amat J., Baratta M.V., Paul E., **Bland S.T.**, Watkins L.R., Maier S.F. (2005) Medial prefrontal cortex determines how stressor controllability affects behavior and dorsal raphe nucleus. *Nature Neurosci*. 8, 365-371.

21. **Bland S.T.,** Schmid M.J., Der-Avakian A., Watkins L.R., Spencer R.L., Maier S.F. (2005) Expression of c-fos and BDNF mRNA in subregions of the prefrontal cortex of male and female rats after acute uncontrollable stress. *Brain Res*. 1051, 90-99.

22. Der-Avakian A., Will M.J., **Bland S.T.,** Deak T., Nguyen K.T., Schmid M.J., Spencer R.L., Watkins L.R., Maier S.F. (2005) Surgical and pharmacological suppression of glucocorticoids prevents the enhancement of morphine conditioned place preference by uncontrollable stress in rats. *Psychopharmacology (Berl)*. 179, 409-417.

23. Takase L.F., Nogueira M.I., **Bland S.T.,** Baratta M., Watkins L.R., Maier S.F., Fornal C.A., Jacobs B.L. (2005) Effect of number of tailshocks on learned helplessness and activation of serotonergic and noradrenergic neurons in the rat. *Behav Brain Res*. 162, 299-306.

24. **Bland S.T.**, Schmid M.J., Watkins L.R., Maier S.F. (2004) Prefrontal cortex serotonin, stress, and morphine-induced nucleus accumbens dopamine. *Neuroreport*. 15, 2637-2641.

25. Amat J., Tamblyn J.P., Paul E.D., **Bland S.T.,** Amat P., Foster A.C., Watkins L.R., Maier S.F. (2004) Microinjection of urocortin 2 into the dorsal raphe nucleus activates serotonergic neurons and increases extracellular serotonin in the basolateral amygdala. *Neuroscience*. 129, 509-519.

26. **Bland S.T.**, Twining C., Schmid M.J., Der-Avakian A., Watkins L.R., Maier S.F. (2004) Stress potentiation of morphine-induced dopamine efflux in the nucleus accumbens shell is dependent upon stressor uncontrollability and is mediated by the dorsal raphe nucleus. *Neuroscience*. 126, 705-715.

27. Takase L.F., Nogueira M.I., Baratta M., **Bland S.T.**, Watkins L.R., Maier S.F., Fornal C.A., Jacobs B.L. (2004) Inescapable shock activates serotonergic neurons in all raphe nuclei of rat. *Behav Brain Res*. 153, 233-239.

28. Will M.J., Der-Avakian A., **Bland S.T.,** Grahn R.E., Hammack S.E., Sparks P.D., Pepin J.L., Watkins L.R., Maier S.F. (2004) Electrolytic lesions and pharmacological inhibition of the dorsal raphe nucleus prevent stressor potentiation of morphine conditioned place preference in rats. *Psychopharmacology (Berl)*. 171, 191-198.

29. **Bland S.T.,** Hargrave D., Pepin J.L., Amat J., Watkins L.R., Maier S.F. (2003) Stressor controllability modulates stress-induced dopamine and serotonin efflux and morphine-induced serotonin efflux in the medial prefrontal cortex. *Neuropsychopharmacology*. 28, 1589-1596.

30. **Bland S.T.,** Twining C., Watkins L.R., Maier S.F. (2003) Stressor controllability modulates stress-induced serotonin but not dopamine efflux in the nucleus accumbens shell. *Synapse*. 49, 206-208.

31. **Bland S.T.**, Pillai R.N., Aronowski J., Grotta J.C., Schallert T. (2001) Early overuse and disuse of the affected forelimb after moderately severe intraluminal suture occlusion of the middle cerebral artery in rats. *Behav Brain Res* 126:33-41.

32. Schallert T., Fleming S.M., Leasure J.L., Tillerson J.L., **Bland S.T.** (2000) CNS plasticity and assessment of forelimb sensorimotor outcome in unilateral rat models of stroke, cortical ablation, parkinsonism and spinal cord injury. *Neuropharmacology* 39:777-787.

33. **Bland S.T.**, Schallert T., Strong R., Aronowski J., Grotta J.C., Feeney D.M. (2000) Early exclusive use of the affected forelimb after moderate transient focal ischemia in rats : functional and anatomic outcome. *Stroke* 31:1144-1152.

34. Humm J.L., Kozlowski D.A., **Bland S.T.**, James D.C., Schallert T. (1999) Use-dependent exaggeration of brain injury: is glutamate involved? *Exp Neurol* 157:349-358.

35. **Bland S.T.**, Gonzales R.A., Schallert T. (1999) Movement-related glutamate levels in rat hippocampus, striatum, and sensorimotor cortex. *Neurosci Lett* 277:119-122.

36. Benavidez D.A., Fletcher J.M., Hannay H.J., **Bland S.T.**, Caudle S.E., Mendelsohn D.B., Yeakley J., Brunder D.G., Harward H., Song J,. Perachio N.A., Bruce D., Scheibel R.S., Lilly M.A., Verger-Maestre K., Levin H.S. (1999) Corpus callosum damage and interhemispheric transfer of information following closed head injury in children. *Cortex* 35:315-336.

Manuscripts in preparation (currently being written):

1. *Goodell D.J., Ahern A., Baynard, J.*, & **Bland S.T.** Aggressive behavior and medial prefrontal cortex activation during an escapable social encounter is altered by adolescent social isolation and is dependent upon the social history of the stimulus rat.
2. *Jonscher, R., Boxer, E., Alessi, A.,* Loetz, E., & **Bland, S.T.** The novel endocannabinoid degradation inhibitor, MJN110, dose-dependently affects social behavior and medial prefrontal cortex activation in rats.

Refereed Book Review

1. **Bland, S.T.** (2010). Review of *Stress--From Molecules to Behavior: A Comprehensive Analysis of the Neurobiology of Stress Responses*. H. Sorq, A. Friedman, and D. Kaufer (Eds.), *Brain Behav Immun,* 24:1029–1031.

Non-Refereed Book Chapters

1. Maier, S.F., Amat J., Baratta, M.V. , **Bland S.T.**, Christianson J.C., Thompson B., Rozeske, R.R., & Watkins L.R. (2008). The role of the medial prefrontal cortex in mediating resistance and vulnerability to the impact of adverse events. In: C. Pariente (Ed.), *Depression: Translational Approaches to Understanding and Treating*, Oxford University Press, 2009.

2. Spencer, R.L., **Bland, S.T.** (2007) Hippocampal neurons. *The Encyclopedia of Stress, Second Edition*. George Fink (Ed.) pp 311-320. Academic Press.

3. Schallert T., Humm JL, **Bland S.T.,** Jones T.A., Kolb B., Aronowski J., Grotta J.C. (2002). Activity-associated growth factor expression and related neuronal events in recovery of function after brain injury. In: D.W. Choi, R.G. Dacey, C.Y. Hsu, W.J. Powers (Eds.), *Cerebrovascular Disease: Momentum at the End of the Second Millenium*. Armonk: Futura.

4. Schallert T., **Bland S.T.,** & Fleming S.M. (2001). Neural events in recovery of function after ischemia. In: J. Krieglstein, S. Klumpp (Eds.), *Proceedings of the International Symposium on Pharmacology of Cerebral Ischemia*, Medpharm Scientific Publishers.

5. Schallert T., **Bland S.T.**, Humm J.L., Tillerson, J.L., Gonzales, R.A., Williams L., Aronowski J., & Grotta J. (2000). Motor rehabilitation, use-related neural events, and reorganization of the brain after injury. In: H.S. Levin & J. Grafman (Eds.), *Cerebral Reorganization of Function After Brain Damage*, Oxford Univ Press.

Non-Refereed Presentations at Meetings

- Society for Neuroscience Annual Meeting, 1998-2015 (43 abstracts authored or coauthored).
- Neurobiology of Stress Workshop; 2006, 2008, 2010 (3 abstracts authored).
- NIDA Frontiers in Addiction Research, 2004-2008 (1 invited abstract authored).
- American Neuroendocrine Society, 2005 & 2008 (2 abstracts authored).
- Front Range Neuroscience Group Annual Meeting, 2004-2015 (15 abstracts authored or coauthored).
- Rocky Mountain Regional Neuroscience Group Annual Meeting 2010-2015 (4 abstracts authored)
- Society for Neurotrauma, 1998-2000 (5 abstracts authored or coauthored).
- American Academy of Neurology Annual Meeting, 1999 (1 abstract authored).

Seminars presented

2014; UCD Department of Integrative BiologyFall Seminar Series. Impact of controllability of social experience on social encounter-induced alterations in brain and behavior.

2013; New Mexico State University, Psychology Department Colloquium. Adolescent adversity alters social experience-induced medial prefrontal cortex function and behavior.

2012; UCD Department of Psychology Colloquium. The impact of adolescent social environment of social interaction-induced changes in medial prefrontal cortex and reward.

2011; UCD Department of Integrative Biology Spring Seminar Series. Sex differences and environmental influences on medial prefrontal cortex function and behavior in rats.

Courses Taught

- Behavioral Neuroscience
- Drugs, Brain, and Behavior
- Advanced Behavioral Neuroscience
- Neural Basis of Learning
- Statistics and Research Design

Service

2016, Ad hoc panel member, Biobehavioral Regulation, Learning and Ethology (BRLE) Study Section, National Institute of Health (NIH).

2014-current; University of Colorado CLAS Council.

2014-current; University of Colorado CLAS Council Executive Committee.

2014, Ad hoc panel member, Biobehavioral Regulation, Learning and Ethology (BRLE) Study Section, National Institute of Health (NIH).

2013, Ad hoc panel member, Neural Systems Cluster (Modulation) Review Panel, National Science Foundation (NSF).

2012, Ad hoc panel member, Behavioral Neuroscience Fellowship (F02A) Review Panel, National Institute of Health (NIH).

2011-2013; Member, University of Colorado Faculty Council Women's Issues Committee

2010-2013; Member, University of Colorado Denver Faculty Assembly Women's Issues Committee

2010-2011; Coordinated UCD Psychology Department colloquium series

2010; Member, local organizing committee, Neurobiology of Stress Workshop

2010-current; Associate Director, BRAiN (Building Achievement in Neuroscience Research)

2009-current; Member, steering committee, Front Range Regional Neuroscience group.

2001-current; Ad hoc manuscript review: Behavioural Neuroscience; Brain Research; International Journal of Developmental Neuroscience; Biological Psychiatry; Behavioral and Brain Functions; Brain, Behavior, and Immunity; Neurochemistry International;

Neuroscience; Neuropsychopharmacology; Physiology and Behavior; BMC Neuroscience; Addiction Biology, Animal Biology.

Professional organizations (current)

- Society for Neuroscience
- Front Range Neuroscience Group
- Rocky Mountain Regional Neuroscience Group
- Faculty for Undergraduate Neuroscience
- UCD-AMC Center for NeuroScience

Honors

2007: NIDA Frontiers in Neuroscience Travel Award.
1999: Fred Murphy Jones Fellowship in alcohol research.
1996-1999: NIH NIAAA Predoctoral Training Grant AA07471.

Grants Funded (Active)

2015-2020, MPI, NIH R25NS080685 "Building Research Achievement in Neuroscience (BRAiN)": Sondra Bland, Barbara Lyons, Diego Restrepo, PI's. $2,315,365.

2014-2017: PI, NIH R15MH102717 "Adolescent Social Isolation, Social Behavior, and Prefrontal Cortex"; $462,720

Grants Funded (Past)

2015-2016: CoPI, Student Project Grant: UROP awarded to Jazmin Fontentenot, Matt Ishiki, and Raleigh Jonscher "The Effect of Isolation Rearing on Glutamate in the Medial Prefrontal Cortex"; $3,600.

2014: CoPI, Student Project Grant: UROP awarded to Raleigh Jonscher "The effects of 2-AG on behavior through pharmaceutical inhibition of MAG-L"; $1,200.

2011: PI, University of Colorado Denver CLAS Research Innovation Seed Program (CRISP) Award: "Sex differences in the effects of adolescent social deprivation."; $9,912.

2011: CoPI, Student Project Grant: UROP awarded to Dayton Goodell, "Effects of Past Social Experience on Behavior in an Escapable Social Abuse Situation"; $1,196.

2010-2011: PI, NIH 1R03DA029673 (B/START); "Social Influences on Drug Reward and Monoamines"; $114,750.

2010-2014: Co-I, NIH R25GM097633; (Diego Restrepo, Elba Serrano PI's). "BRAiN: Building Research Achievement in Neuroscience"; $2,397,208

2006-2008: PI, NARSAD Young Investigator Award. “Mechanisms of Stressor Controllability Modulation of Stress-induced Changes”; $60,000.

2004-2009: Co-Investigator, NIH R01DA013159 (Steve Maier, PI): “Stressor Controllability, Drugs of Abuse, and Serotonin”; $1,356,016.

2003-2006: PI, Postdoctoral NRSA, NIH F32DA01600: “Stressor Controllability, Drugs, and the Prefrontal Cortex”; $146,896.