

Rebecca M Shansky, PhD

Northeastern University • 360 Huntington Ave • 125 Nightingale Hall • Boston, MA 02215
r.shansky@neu.edu • (617) 373 6819

CAREER HISTORY

Sept 2011 – present

Assistant Professor

Department of Psychology
Northeastern University, Boston MA

Feb 2011 – Aug 2011

Research Scientist

Division of Integrative Neuroscience
Columbia University, New York NY
Laboratory of Alex Dranovsky, MD, PhD

Nov 2004 – Dec 2010

Post-doctoral Fellow

Department of Neuroscience
Mount Sinai School of Medicine, New York NY
Laboratory of John Morrison, PhD
Co-mentors: Bruce McEwen, PhD and Joseph LeDoux, PhD

Sept 1999 – Sept 2004

PhD, Neurobiology

Department of Neurobiology
Yale University, New Haven CT
Laboratory of Amy Arnsten, PhD

Thesis title: *Sex differences in stress-induced prefrontal cortex dysfunction: hormone and catecholamine interactions*

Sept 1994 – May 1998

BA, Psychology

Columbia University, New York NY

FUNDING

Past

2012-2014

NIMH R21 MH098006-01

Title: Sex-specific neuroanatomical markers of vulnerability in an animal model of PTSD

2006-2009

NIH/NIMH NRSA F32 MH075506-03

Title: Sex differences in stress-induced dendritic remodeling

PEER-REVIEWED PUBLICATIONS (reverse chronological)

MR Farrell, F Holland, RM Shansky, and HC Brenhouse (2016) Sex-specific effects of early life stress on social interaction and prefrontal cortex dendritic morphology in young rats" *Behavioral Brain Research* Sep 1; 310:119-25 [Epub May 11]

TM Gruene, K Flick, S Rendall, JH Cho, JM Gray, and RM Shansky (2016) "Activity-dependent structural plasticity after aversive experiences in amygdala and auditory cortex pyramidal neurons" *Neuroscience* July 22;328:157-64

TM Gruene, K Flick, A Stefano, SD Shea, and RM Shansky (2015) "Sexually divergent expression of active and passive conditioned fear responses in rats." *Elife* Nov 14:4
*selected for "Insight" commentary, podcast interview in *Elife*. Additional commentary in *Trends in Neurosciences* by Jones & Monfils [epub Jan 6 2016]

TM Gruene, E Roberts, V Thomas, A Ronzio, and RM Shansky (2015) "Sex-specific neuroanatomical correlates of fear expression in prefrontal-amygdala circuits" *Biological Psychiatry* Aug 1;78(3): 186-93 *Cover image and commentary in this issue

MR Farrell, TM Gruene, and RM Shansky (2015) "The influence of stress and gonadal hormones on neuronal structure and function." *Hormones and Behavior* Nov;75:118-24

RM Shansky (2015) "Sex differences in PTSD resilience and susceptibility: challenges for animal models of fear learning" *Neurobiology of Stress* January (1): 60-65

TM Gruene, J Lipps, CD Rey, A Bouck, and RM Shansky (2014) "Heat exposure in female rats elicits abnormal fear expression and cellular changes in prefrontal cortex and hippocampus" *Neurobiology of Learning and Memory* Oct: 38-42

CD Rey, J Lipps, and RM Shansky (2014) "Dopamine D1-receptor activation rescues extinction impairments in low-estrogen female rats and induces cortical layer-specific activation changes in prefrontal-amygdala circuits." *Neuropsychopharmacology* Apr;39(5):1282-9

RM Shansky, J Lipps. (2013) "Stress-induced cognitive dysfunction: hormone-neurotransmitter interactions in the prefrontal cortex." *Frontiers in Human Neuroscience* 7:123.

RM Shansky, C Hamo, W Lou, PR Hof, BS McEwen and JH Morrison. (2010) "Estrogen promotes stress sensitivity in a prefrontal cortex-amygdala pathway" *Cerebral Cortex* Nov 20(11) 2560-7

RM Shansky (2009) "Estrogen, stress and the brain: progress toward unraveling gender discrepancies in major depressive disorder." *Expert Review in Neurotherapeutics* Jul 9(7): 967-73 Review.

RM Shansky and JH Morrison (2009) "Stress-induced dendritic remodeling in the medial prefrontal cortex: effects of circuit, hormones and rest". *Brain Research* Oct 13;1293:108-13. Review.

RM Shansky, C Hamo, PR Hof, BS McEwen and JH Morrison (2009) "Stress-induced dendritic remodeling in the prefrontal cortex is circuit-specific" *Cerebral Cortex* Oct;19(10):2479-84

RM Shansky, G Bender and AF Arnsten (2009) "Estrogen prevents norepinephrine alpha-2a receptor reversal of stress-induced working memory impairment". *Stress* 12(5):457-63

RM Shansky and AF Arnsten (2007) "Estrogen enhances stress-induced prefrontal cortex dysfunction: relevance to Major Depressive Disorder in women". *Dialogues in Clinical Neuroscience* 8(4): 4778-81 Review.

RM Shansky, K Rubinow, A Brennan, AF Arnsten (2006) "The effects of sex and hormonal status on restraint-stress-induced working memory impairment." *Behavioral Brain Function*. 2006 Mar 7;2:8.

AF Arnsten and RM Shansky (2004) "Adolescence: vulnerable period for stress-induced prefrontal cortical function? Introduction to part IV." . *Annals of the NY Academy of Science*. 1021: 143-7. Review.

RM Shansky, C Glavis-Bloom, D Lerman, P McRae, C Benson, K Miller, L Cosand, TL Horvath and AF Arnsten. (2004) "Estrogen mediates sex differences in stress-induced prefrontal cortex dysfunction" *Molecular Psychiatry* 9(5):531-8

AWARDS AND HONORS

- 2014 Travel Award
American College for Neuropsychopharmacology (ACNP)
- 2008 New Investigator Award
Organization for the Study of Sex Differences Annual Meeting,
New Orleans LA
- 2007 Young Investigator Award
Workshop on Steroid Hormones and Brain Function, Breckenridge CO
- 2005 Florence P Haseltine Award for the Outstanding Poster Presentation by a New Investigator in Sex-Based Biology
Conference on Sex and Gene Expression, Winston-Salem NC
- 1998-2003 Trainee travel Award
Wisconsin Symposium on Emotion, Madison WI
-

INVITED TALKS

- 2016
"The neurobiology of stress: mechanisms and modulators of prefrontal dysfunction"
Kavli Institute, Santa Barbara CA
"A neural basis for sex differences in fear behavior"
Organization for the study of sex differences annual meeting, Philadelphia PA
"A neural basis for sex differences in fear behavior"
Yale University, New Haven MA
"A neural basis for sex differences in fear behavior"
Boston College, Boston MA
"A neural basis for sex differences in fear behavior"
Brown University, Providence RI
"Why preclinical sex differences research is important for clinical application"
Winter Conference on Brain Research, Breckenridge CO
"Activity-dependent structural plasticity after fear conditioning"
Winter Conference on Brain Research, Breckenridge CO
- 2015
"The future of sex differences research in Neuropsychopharmacology"
ACNP annual meeting, Hollywood FL
"Learning-dependent structural plasticity: influences of sex and gene expression"
Gordon Research Conference on Amygdala in Health and Disease, Easton MA
"Sex-dependent patterns of fear learning and expression"
University of North Texas Health Science Center, Fort Worth TX
"Sex differences in learned fear: structure-function relationships in prefrontal-amygdala circuits"
Emory University, Atlanta GA
"Sex differences in fear extinction processes: behavioral and neuroanatomical correlates"
Cold Spring Harbor Laboratory, Cold Spring Harbor NY

- 2014 "Sex differences in fear processing"
Walter Reed Army Institute of Research, Silver Spring MD
- "Sex differences in extinction circuit structure and function"
University of Vermont, Burlington VT
- "Sex differences in prefrontal-amygdala circuit structure and function"
University of New South Wales, Sydney NSW
- "Distinct structure and function of prefrontal-amygdala circuitry in resilient phenotypes"
Symposium, Society for Behavioral Neuroendocrinology annual meeting, Sydney Australia
Symposium Chair
- "Understanding fear in the female brain: a circuit-based investigation."
University of British Columbia, Vancouver BC
- "Sex-specific neuroanatomical correlates of high-fear phenotypes"
Washington State University, Pullman WA
- "Sex-specific neuroanatomical correlates of high-fear phenotypes"
Hotchkiss Brain Institute, University of Calgary, Calgary AB
- "Sex differences in fear processing: behavioral and neuroanatomical markers of extreme responses"
Eastern Psychological Association annual meeting, Boston MA
- 2013 "Sex-specific plasticity in prefrontal circuits"
Minisymposium on Structural Synaptic Plasticity – Society for Neuroscience annual meeting, San Diego CA
- "Sex-specific behavioral and neuroanatomical profiles of high-fear phenotypes"
Harvard Medical School/MGH, Charlestown, MA
- "Sex-specific behavioral and neuroanatomical profiles of high-fear phenotypes"
University of Michigan, Ann Arbor MI
- 2012 "Sex differences in fear learning and memory: a role for dopamine?"
Center for Depression, Anxiety, and Stress Research: McLean Hospital-Harvard Medical School, Belmont MA
- "Structural plasticity in the prefrontal cortex: interactions of sex, circuit, and stress"
Session speaker: Stress Neurobiology Workshop, Philadelphia PA
- 2011 "Hormonal modulation of stress-induced neural plasticity: a circuit-based approach"
University of Texas at Austin, Austin, TX
- "Hormonal modulation of stress-induced neural plasticity: a circuit-based approach"
University of Texas Health Sciences Center, San Antonio, TX
- 2010 "Hormonal modulation of stress-induced neural plasticity: a circuit-based analysis."
Division of Integrative Neuroscience, Columbia University, New York NY
- "Targeting catecholamine and second messenger influences on prefrontal cortical networks in the treatment of mental illness"
Symposium, ASPET annual meeting, San Diego CA
- 2007 "Morphological effects of estrogen and stress on prefrontal circuits"
Session speaker: Workshop on Steroid Hormones and Brain Function, Breckenridge CO
- 2004 "Sex differences in stress-induced working memory impairment: a role for estrogen"
Young Investigator Symposium: Conference on Sex and Gene Expression (SAGE), Winston-Salem NC
- 2002 "Estrogen mediates sensitivity to stress-induced prefrontal cortex dysfunction in female rats"
Graduate Student Research Symposium, Yale University, New Haven CT

PROFESSIONAL ASSOCIATIONS

Society for Neuroscience

Organization for the Study of Sex Differences (elected Council member 2014)

PROFESSIONAL SERVICE/ACTIVITIES

- 2015 Society for Neuroscience Public Education and Communication Committee
- 2015 Co-chair, Networking Professional Development Workshop
Society for Neuroscience Annual Meeting, Chicago IL
- 2015 ad-hoc reviewer NIH study section Biobehavioral Regulation, Learning, & Ethology (BRLE)
- 2014 Panel speaker, Networking Professional Development Workshop
Society for Neuroscience Annual Meeting, Washington DC
- 2012
-present Editorial Board Member, *Frontiers in Behavioral Neuroscience*
- 2007-
present Ad-hoc reviewer : *Biological Psychiatry, eLife, Neurobiology of Aging, Journal of Neuroscience**, *Brain Research**, *Neuroscience**, *European Psychiatry, Behavioral Brain Research, Neuroscience and Biobehavioral Reviews, International Journal of Neuropsychopharmacology**, *Human Brain Mapping, Frontiers in Behavioral Neuroscience**, *Developmental Neuroscience, Neurobiology of Learning and Memory, Hormones and Behavior**, *Physiology and Behavior*
* - 3 or more reviews
- 2001 Panel speaker at press conference on gender, stress, and memory at the Society for Neuroscience Annual Meeting – San Diego, CA