

# Rebecca M Shansky, PhD

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## CAREER HISTORY

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Dec 2017 – present

**Associate Professor**

Department of Psychology  
Northeastern University, Boston MA

Sept 2011 – Dec 2017

**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 & David Leonardo, 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

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**Current**

2020-2025

NIMH R01 MH123803 (PI Shansky)

Title: Infralimbic circuit control over a sex-dependent switch in threat responding

Total direct costs: \$1,485,696

2020-2022

NIMH R21 MH122914-01 (PI Shansky)

Title: TRPV1 signaling as a sex-specific mechanism of contextual fear generalization

Total direct costs: \$275,000

2019-2021

NIMH R21 MH120546 (PI Shansky)

Title: Mapping mesocortical contributions to estrous-dependent learning processes

Total direct costs: \$275,000

## **Past**

2017-2019

NIMH R56 MH11493

Title: Endocannabinoid modulation of stress coping in prefrontal-brainstem circuits

Total direct costs: \$256,000

2016-2018

Brain Research Foundation Fay/Frank Seed grant

Title: Chemogenetic dissection of sex-specific fear circuits

Total direct costs: \$80,000

2012-2014

NIMH R21 MH098006-01

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

Total direct costs: \$275,000

2006-2009

NIH/NIMH NRSA F32 MH075506-03

Title: Sex differences in stress-induced dendritic remodeling

## **PEER-REVIEWED PUBLICATIONS** (reverse chronological)

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**RM Shansky** (2020) "Sex differences in mechanisms of disease" *Genes, Brain, and Behavior*, 19(3) e12646

**RM Shansky** (2020) "Sex differences in 3D: Differentiation, dimorphism, or dependence?" *Genes, Brain, and Behavior*, 19(2)

**RM Shansky** (2019) "Are hormones a 'female problem' for animal research?" *Science* May 31; 364(6443):825-826.

MV Baratta, TM Gruene, SD Dolzani, LE Chun, SF Maier, and **RM Shansky** (2019) "Controllable stress elicits circuit-specific patterns of prefrontal plasticity in males, but not females" *Brain Structure and Function* Jun; 224(5):1831-1843

M Rincon-Cortés, JP Herman, S Lupien, J Maguire, and **RM Shansky** (2019) "Stress: Influence of sex, reproductive status and gender" *Neurobiology of Stress*; Feb (10)

J Colom-Lapetina, AJ Li, T Pelegrina-Perez, and **RM Shansky** (2019) "Behavioral diversity across classic rodent models is sex-dependent" *Frontiers in Behavioral Neuroscience*; March 6.

**RM Shansky** (2018) "Sex differences in behavioral strategies: avoiding interpretational pitfalls" *Current Opinion in Neurobiology*; 49:95-98

J Colom-Lapetina, SL Begley, ME Johnson, KJ Bean, WN Kuwamoto, and **RM Shansky** (2017) "Strain-dependent sex differences in a long-term forced swim paradigm" *Behavioral Neuroscience*; October; 131(5):428-36

**RM Shansky** and CS Woolley (2016) "Considering sex as a biological variable will be valuable for neuroscience research" *Journal of Neuroscience* November 23;36(47): 11817-11822

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

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 \*Cover image

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 in *eLife*. Additional commentary in *Trends in Neurosciences* by Jones & Monfils Feb 2016. Featured in *Scientific American Mind*, Nov 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

## BOOKS & BOOK CHAPTERS

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**RM Shansky** "Sex Differences in amygdala structure and function: From rodents to humans" chapter 12 in: *Handbook of Amygdala Structure and Function*. P. 275-284. Eds J. Urban and J.A. Rosenkranz. Elsevier, 2020

**RM Shansky, ed.** *Sex Differences in the Central Nervous System*. San Diego: Elsevier, 2016

## AWARDS AND HONORS

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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

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2020	Sainsbury Wellcome Centre, University College of London, <i>London England</i> Colorado University Boulder, <i>Boulder CO</i> PRIM&R's IACUC Conference ( <i>virtual</i> ) originally to be held in <i>Orlando, FL</i>
2019	University of California Irvine, <i>Irvine CA</i> Worcester Polytechnic Institute, <i>Worcester MA</i> Louisiana State University Health Sciences Center, <i>New Orleans LA</i> SUNY Buffalo, <i>Buffalo NY</i> International Max Plank Research School NeuroCom, <i>Leipzig Germany</i> Brandeis University, <i>Waltham MA</i> HubWeek festival, <i>Boston MA</i> Society for Neuroscience Annual Meeting Minisymposium <i>Chicago, IL</i> Whitehead Institute High School Teacher Program <i>Cambridge, MA</i> Boston Area Neuroscience Fall Symposium <i>Boston MA</i> <b>*Keynote</b> American College of Neuropsychopharmacology <i>Orlando, FL</i>
2018	McLean Hospital, <i>Belmont MA</i> Brigham and Women's Hospital, <i>Boston MA</i> Organization for the study of sex differences (OSSD) annual meeting, <i>Atlanta GA</i> National Student Leadership Conference, Harvard Medical School, <i>Boston MA</i> Stress Neurobiology Workshop, <i>Banff AB</i> Pavlovian Society Annual Meeting, <i>Iowa City, IA</i> Tufts University School of Medicine, <i>Boston MA</i> Society for Neuroscience Annual Meeting Short Course, <i>San Diego CA</i>
2017	Eastern Psychological Association Annual meeting, <i>Boston MA</i> University of Cincinnati, <i>Cincinnati OH</i> Dartmouth College, <i>Hanover NH</i> Organization for the study of sex differences (OSSD) annual meeting, <i>Montréal QC</i> University College at Cork, <i>Cork, Ireland</i> Gordon Research Conference on Amygdala in Health and Disease, <i>Easton MA</i> Mind and Life Institute Dialogue with the Dalai Lama, <i>Gaborone Botswana</i> University of Pittsburgh, <i>Pittsburgh PA</i> Perdue University, <i>West Lafayette, IN</i> University of Minnesota, <i>Minneapolis, MN</i>
2016	ACNP annual meeting, <i>Hollywood FL</i> University of Connecticut, <i>Storrs CT</i> University of Massachusetts, <i>Amherst MA</i> International Society for Psychoneuroendocrinology (ISPNE), <i>Miami FL</i> Kavli Institute, <i>Santa Barbara CA</i>

	Organization for the study of sex differences (OSSD) annual meeting, <i>Philadelphia PA</i>
	Yale University, <i>New Haven CT</i>
	Eastern Psychological Association Annual meeting, <i>New York NY</i>
	Boston College, <i>Chestnut Hill MA</i>
	Brown University, <i>Providence RI</i>
	Winter Conference on Brain Research, <i>Breckenridge CO</i>
2015	ACNP annual meeting, <i>Hollywood FL</i>
	Gordon Research Conference on Amygdala in Health and Disease, <i>Easton MA</i>
	University of North Texas Health Science Center, <i>Fort Worth TX</i>
	Emory University, <i>Atlanta GA</i>
	Cold Spring Harbor Laboratory, <i>Cold Spring Harbor NY</i>
2014	Walter Reed Army Institute of Research, <i>Silver Spring MD</i>
	University of Vermont, <i>Burlington VT</i>
	University of New South Wales, <i>Sydney NSW</i>
	Society for Behavioral Neuroendocrinology annual meeting, <i>Sydney NSW</i>
	University of British Columbia, <i>Vancouver BC</i>
	Washington State University, <i>Pullman WA</i>
	University of Calgary, <i>Calgary AB</i>
	Eastern Psychological Association annual meeting, <i>Boston MA</i>
2013	Society for Neuroscience annual meeting, <i>San Diego CA</i>
	Harvard Medical School/MGH, <i>Charlestown MA</i>
	University of Michigan, <i>Ann Arbor MI</i>
2012	McLean Hospital-Harvard Medical School, <i>Belmont MA</i>
	Stress Neurobiology Workshop, <i>Philadelphia PA</i>
2011	University of Texas at Austin, <i>Austin TX</i>
	University of Texas Health Sciences Center, <i>San Antonio TX</i>
2010	Division of Integrative Neuroscience, <i>Columbia University, New York NY</i>
	ASPET annual meeting, <i>Anaheim CA</i>
2007	Workshop on Steroid Hormones and Brain Function, <i>Breckenridge CO</i>
2004	Conference on Sex and Gene Expression (SAGE), <i>Winston-Salem NC</i>
	Graduate Student Research Symposium, <i>Yale University, New Haven CT</i>

## PROFESSIONAL ASSOCIATIONS

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Society for Neuroscience (Member)  
 Organization for the Study of Sex Differences (current Member, past Council Member)  
 American College of Neuropsychopharmacology (Associate Member)

## PROFESSIONAL SERVICE/ACTIVITIES

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2020	Reviewing Editor, <i>eLife</i>
2020	ad-hoc reviewer NIH study section Neurobiology of Learning and Memory (LAM)
2019	ad-hoc reviewer NSF <i>Neural Systems</i> Panel
2019	Organizer, Workshop on the Future of Behavioral Neuroscience at OHSU
2019	ad-hoc reviewer NIH study section Special Emphasis Panel BDCN
2018	ad-hoc reviewer NIH study section Neurobiology of Motivated Behavior (NMB)
2018	ad-hoc reviewer NIH study section Special Emphasis Panel BDCN
2017	Membership chair, Organization for the Study of Sex Differences
2017	ad-hoc reviewer NIH Special Emphasis Panel, Emerging Technologies in Neuroscience (ETTN)
2015- 2018	Society for Neuroscience Public Education and Communication Committee (PECC)

2016	ad-hoc reviewer NIH Special Emphasis Panel, Emerging Technologies in Neuroscience (ETTN)
2015-2016	Co-chair, Networking Professional Development Workshop Society for Neuroscience Annual Meeting, Chicago IL & San Diego, CA
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, <i>Frontiers in Behavioral Neuroscience</i>
2007-	
present	Ad-hoc reviewer : <i>Nature</i> , <i>Nature Neuroscience</i> , <i>Current Biology</i> , <i>Biological Psychiatry</i> , <i>Molecular Psychiatry</i> , <i>Translational Psychiatry</i> , <i>Neuropsychopharmacology*</i> <i>eLife*</i> , <i>Neurobiology of Aging</i> , <i>Journal of Neuroscience*</i> , <i>Communications Biology</i> , <i>Brain</i> <i>Research*</i> , <i>Neuroscience*</i> , <i>European Psychiatry</i> , <i>Behavioral Brain Research</i> , <i>Neuroscience</i> <i>and Biobehavioral Reviews</i> , <i>International Journal of Neuropsychopharmacology*</i> , <i>Human</i> <i>Brain Mapping</i> , <i>Frontiers in Behavioral Neuroscience*</i> , <i>Developmental Neuroscience</i> , <i>Learning and Memory</i> , <i>Neurobiology of Learning and Memory</i> , <i>Hormones and Behavior*</i> , <i>Physiology and Behavior</i> , <i>Behavioral Brain Research*</i> * - 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