Rachel J. Smith

Texas A&M University
Department of Psychological and Brain Sciences | Institute for Neuroscience
ILSB 3151B | 301 Old Main Dr. | TAMU 3474 | College Station, TX 77843
(979)458-0240 | rachelsmith@tamu.edu

EDUCATION

2008	Ph.D., Neuroscience	University of Pennsylvania, Philadelphia, PA Advisor: Gary Aston-Jones, PhD
2002	B.S., Biopsychology, High Honors	University of California, Santa Barbara Honors Thesis Advisor: Aaron Ettenberg, PhD

PROFESSIONAL EMPLOYMENT

2015-	Assistant Professor, Department of Psychological and Brain Sciences, Texas A&M Univ.
2015-	Graduate Faculty, Institute for Neuroscience, Texas A&M University
2014-2015	Research Assistant Professor, Dept. of Neurosciences, Medical University of South Carolina
2013-2014	Postdoctoral Fellow, Medical University of South Carolina, laboratory of Thomas Jhou
2010-2013	Postdoctoral Fellow, Medical University of South Carolina, laboratory of Peter Kalivas
2008-2010	Postdoctoral Fellow, Medical University of South Carolina, laboratory of Gary Aston-Jones

RESEARCH SUPPORT

Current funding

2019-2023 R01 Project Grant, NIDA/NIH (R01DA046457): Establishing a link between habits and punishment resistance (Role: PI)
Total amount: $1,689,224

2022-2023 Supplement to R01DA046457, NIDA/NIH (Role: PI)
Total amount: $70,275

2021-2023 T3 (Texas A&M Triads for Transformation): Neurobiology of habit memory extinction (Role: Co-I)
Total amount: $30,000

Previous funding

2018-2020 T3 (Texas A&M Triads for Transformation): A high-throughput wireless platform electronic for optogenetics and its application in neuroscience (Role: Co-I)
Total amount: $30,000

2014-2017 R21 Cutting Edge Basic Research Award, NIDA/NIH (R21DA037744): Opposing roles of distinct output projections from prefrontal cortex (Role: PI)
Total amount: $345,751

TRAINEE FUNDING

2022-2024 F99 D-SPAN Fellowship, NINDS/NIH (F99NS130870): Exploring striatal circuits underlying behavioral flexibility during punishment of cocaine seeking
PI: Adelis Cruz (Sponsor: Rachel Smith)
Total amount: $74,581

FELLOWSHIPS AND AWARDS

2011-2013 Postdoctoral NRSA Fellowship (F32), NIH/NIDA (DA031519), Molecular mechanisms of cocaine-induced alterations in accumbens AMPA receptors

2010-2011 Training Fellowship at MUSC (T32), NIH/NIDA, Drug abuse training program, P.I. Jacqueline McGinty

2009 Travel Award, Gordon Research Seminar on Catecholamines; Biddeford, ME

2008 Travel Award, International Narcotics Research Conference; Charleston, SC

2005-2007 Predoctoral NRSA Fellowship (F31), NIH/NIDA (DA019733), Involvement of protracted withdrawal in morphine relapse

2007 Travel Award, NIDA Mini-Convention at Society for Neuroscience; San Diego, CA

2004 Travel Award, NIDA Mini-Convention at Society for Neuroscience; San Diego, CA

2004-2005 Training Fellowship at Penn (T32), NIH/NIDA, Fellowship in IV drug abuse treatment research, P.I. Charles O'Brien

2002-2004 Training Fellowship at Penn (T32), NIH, Graduate training in systems and integrative biology, P.I. Michael Nusbaum

2002 High Honors at graduation, UC Santa Barbara

2002 Distinction in the Major, UC Santa Barbara

2002 Academic Excellence Award, College of Letters & Science Honors Program, UC Santa Barbara

1998-2002 Dean's Honors List, UC Santa Barbara

JOURNAL ARTICLES

Google Scholar h-index 20, citations >3900; NIH Relative Citation Ratio (RCR) 3.67

[G]graduate student, [R]research assistant, [U]undergraduate student

Peer-reviewed articles

1. Gangal H, Xie X, Huang Z, Cheng Y, Wang X, Lu J, Zhuang X, Essoh A, Huang Y, Chen R, Smith LN, **Smith RJ**, Wang J (**2023**) Drug reinforcement impairs cognitive flexibility by inhibiting striatal cholinergic neurons. *Nature Communications* 14(1):3886.
2. Jones BO[G], Cruz AM[G], Kim TH[R], Spencer HF[R], **Smith RJ** (**2022**) Discriminating goal-directed and habitual cocaine seeking in rats using a novel outcome devaluation procedure. *Learning & Memory* 29:447-457.

3. Ma T, Huang Z, Xie X, Cheng Y, Zhuang X, Childs MJ, Gangal H, Wang X, Smith LN, **Smith RJ**, Zhou Y, Wang J (**2022**) Chronic alcohol drinking persistently suppresses thalamostriatal excitation of cholinergic neurons to impair cognitive flexibility. *Journal of Clinical Investigation* 132(4):e154969.
4. Brown RM*, Dayas CV*, James MH*, **Smith RJ*** (**2022**) New directions in modelling dysregulated reward seeking for food and drugs. *Neuroscience & Biobehavioral Reviews* 132:1037-1048. (*denotes equal contribution)
5. Cruz AC[G], Kim TH[R], **Smith RJ** (**2021**) Monosynaptic retrograde tracing from prelimbic neuron subpopulations projecting to either nucleus accumbens core or rostromedial tegmental nucleus. *Frontiers in Neural Circuits* 15:639733.
6. Cruz AM[G], Spencer HF[R], Kim TH[R], Jhou TC, **Smith RJ** (**2021**) Prelimbic cortical projections to rostromedial tegmental nucleus play a suppressive role in cue-induced reinstatement of cocaine seeking. *Neuropsychopharmacology* 46(8):1399-1406.
    a. Featured in a Research Highlight: Chow JJ, Reiner DJ (2021) From head to tail (of the VTA): role of projections from prelimbic cortex to rostromedial tegmental nucleus in cocaine reinstatement. *Neuropsychopharmacology* 46: 1395–1396.
7. **Smith RJ**, Anderson RI, Haun HL, Mulholland PJ, Griffin WC, Lopez MF, Becker HC (**2020**) Dynamic c-Fos changes in mouse brain during acute and protracted withdrawal from chronic intermittent ethanol exposure and relapse drinking. *Addiction Biology* 25:e12804.
    a. Top Downloaded Article: Wiley publisher named this as one of the most downloaded articles during the first 12 months of publication.
8. **Smith RJ**, Vento PJ, Chao YS, Good CH, Jhou TC (**2019**) Gene expression and neurochemical characterization of the rostromedial tegmental nucleus (RMTg) in mice and rats. *Brain Structure & Function* 224(1):219-238.
9. **Smith RJ**, Laiks LS[G] (**2018**) Behavioral and neural mechanisms underlying habitual and compulsive drug seeking. *Progress in Neuropsychopharmacology & Biological Psychiatry* 87:11-21.
10. Smith AC, Scofield MD, Heinsbroek JA, Gipson CD, Neuhofer D, Roberts-Wolfe DJ, Spencer S, Garcia-Keller C, Stankeviciute NM, **Smith RJ**, Allen NP, Lorang MR, Griffin WC 3rd, Boger HA, Kalivas PW (**2017**) Accumbens nNOS interneurons regulate cocaine relapse. *Journal of Neuroscience* 37(4):742-56.
11. Beckley JT, Randall PK, **Smith RJ**, Hughes BA, Kalivas PW, Woodward JJ (**2016**) Phenotype-dependent inhibition of glutamatergic transmission on nucleus accumbens medium spiny neurons by the abused inhalant toluene. *Addiction Biology* 21(3):530-46.
12. Scofield MD, Boger HA, **Smith RJ**, Li H, Haydon PG, Kalivas PW (**2015**) Gq-DREADD selectively initiates glial glutamate release and inhibits cue-induced cocaine seeking. *Biological Psychiatry* 78(7):441-51.
13. Mahler SV, Moorman DE, **Smith RJ**, James MH, Aston-Jones G (**2014**) Motivational activation: a unifying hypothesis of orexin/hypocretin function. *Nature Neuroscience* 17(10):1298-303.
14. **Smith RJ**, Aston-Jones G (**2014**) Incentive learning for morphine-associated stimuli during protracted abstinence increases conditioned drug preference. *Neuropsychopharmacology* 39(2): 373-9.
15. **Smith RJ**, Lobo MK, Spencer S, Kalivas PW (**2013**) Cocaine-induced adaptations in D1 and D2 accumbens projection neurons (a dichotomy not necessarily synonymous with direct and indirect pathways). *Current Opinion in Neurobiology* 23(4):546-52.

16. Mahler SV, **Smith RJ**, Aston-Jones G (**2013**) Interactions between VTA orexin and glutamate in cue-induced reinstatement of cocaine seeking in rats. *Psychopharmacology* 226(4):687-698.
17. **Smith RJ**, Aston-Jones G (**2012**) Orexin/hypocretin 1 receptor antagonist reduces heroin self-administration and cue-induced heroin seeking. *European Journal of Neuroscience* 35(5):798-804.
18. Zhou L, **Smith RJ**, Do PH, Aston-Jones G, See RE (**2012**) Repeated orexin 1 receptor antagonism effects on cocaine seeking in rats. *Neuropharmacology* 63: 1201-1207.
19. Mahler SV, **Smith RJ**, Moorman DE, Sartor GC, Aston-Jones G (**2012**) Multiple roles for orexin/hypocretin in addiction. *Progress in Brain Research* 198:79-121.
20. **Smith RJ**, Aston-Jones G (**2011**) Alpha-2 adrenergic and imidazoline receptor agonists prevent cue-induced cocaine seeking. *Biological Psychiatry* 70(8):712-9.
21. Wiggins A, **Smith RJ**, Shen HW, Kalivas PW (**2011**) Integrins modulate relapse to cocaine-seeking. *Journal of Neuroscience* 31(45):16177-84.
22. **Smith RJ**, Tahsili-Fahadan P, Aston-Jones G (**2010**) Orexin/hypocretin is necessary for context-driven cocaine-seeking. *Neuropharmacology* 58:179-184.
23. Cason AM, **Smith RJ**, Tahsili-Fahadan P, Moorman DE, Sartor GC, Aston-Jones G (**2010**) Role of orexin/hypocretin in reward-seeking and addiction: implications for obesity. *Physiology & Behavior* 100(5):419-28.
24. Aston-Jones G, **Smith RJ**, Sartor GC, Moorman DE, Massi L, Tahsili-Fahadan P, Richardson KA (**2010**) Lateral hypothalamic orexin/hypocretin neurons: A role in reward-seeking and addiction. *Brain Research* 1314:74-90.
25. **Smith RJ**, See RE, Aston-Jones G (**2009**) Orexin/hypocretin signaling at the orexin 1 receptor regulates cue-elicited cocaine-seeking. *European Journal of Neuroscience* 30:493-503.
26. Aston-Jones G, **Smith RJ**, Moorman DE, Richardson KA (**2009**) Role of lateral hypothalamic orexin neurons in reward processing and addiction. *Neuropharmacology* 56:112-121.
27. **Smith RJ**, Aston-Jones G (**2008**) Noradrenergic transmission in the extended amygdala: role in increased drug-seeking and relapse during protracted drug abstinence. *Brain Structure & Function* 213:43-61.
28. **Smith RJ**, Doyle GA, Han AM, Crowley JJ, Oslin DW, Patkar AA, Mannelli P, Demaria PA, Jr., O'Brien C P, Berrettini WH (**2005**) Novel exonic mu-opioid receptor gene (OPRM1) polymorphisms not associated with opioid dependence. *American Journal of Medical Genetics Part B - Neuropsychiatric Genetics* 133B:105-109.
29. Talbot K, Eidem WL, Tinsley CL, Benson MA, Thompson EW, **Smith RJ**, Hahn CG, Siegel SJ, Trojanowski JQ, Gur RE, Blake DJ, Arnold SE (**2004**) Dysbindin-1 is reduced in intrinsic, glutamatergic terminals of the hippocampal formation in schizophrenia. *Journal of Clinical Investigation* 113:1353-1363.

Commentaries

1. **Smith RJ**, Aston-Jones G (**2009**) Inactivating the activated: identifying functions of specific neural networks. *Nature Neuroscience* 12:965-966.

INVITED SEMINARS AND ORAL PRESENTATIONS

Central European Biomedical Congress, May 2023. Investigating the link between habitual cocaine seeking and punishment resistance in rat models of addiction. Panel speaker: Tracking brain projections and cell signaling involved in neuroadaptations triggered by cocaine, stress, or neurodegeneration. Krakow, Poland. [Virtual presentation]

Pavlovian Society Meeting, October 2022. Investigating the link between habits and punishment-resistant cocaine seeking. Panel speaker: Transitions from goals to habits: Identifying the what, when and how. Milwaukee, WI.

International Behavioral Neuroscience Society Meeting, June 2021. Dysregulated cocaine self-administration and habitual responding in rats. Panel speaker: New directions in modelling dysregulated reward seeking. Puerto Vallarta, Mexico. [Virtual presentation]

University of Texas at Austin, Dept. of Psychology, Behavioral Neuroscience Seminar, September 2020. Investigating the link between habitual behavior and compulsive cocaine use in rats. Virtual due to COVID-19 pandemic.

Cancelled due to COVID-19 pandemic *International Behavioral Neuroscience Society Meeting, June 2020*. Dysregulated cocaine self-administration and habitual responding in rats. Panel speaker: New directions in modelling dysregulated reward seeking. Glasgow, Scotland.

National Library of Medicine Exhibit "Pick your Poison" at Texas A&M Health Science Center, October 2019. Studying addiction: Animal models and neuroscience methods. Bryan, TX.

Research Society on Alcoholism, June 2019. Dynamic changes in c-Fos expression in the mouse brain during acute and protracted withdrawal from chronic intermittent ethanol exposure and drinking. Panel speaker: Brain wide neural activation in animal models of alcohol abuse and dependence. Minneapolis, MN.

Texas A&M MD/PhD Summer Seminar Series, June 2019. Habitual and compulsive drug seeking in animal models of addiction. Bryan, TX.

Winter Conference on Brain Research, January 2019. Using outcome devaluation and a seeking-taking chained schedule of cocaine self-administration to investigate a link between habits and punishment resistance. Panel speaker: Embracing the diversity of self-administration protocols in drug addiction research. Snowmass, CO.

Winter Conference on Brain Research, January 2018. Roles for dorsal striatum in habitual cocaine seeking and punishment resistance. Panel speaker: Two sides of the same slope: dissecting separate and shared neural substrates of reward and aversion. Whistler, BC, Canada.

The University of Texas Health Science Center at San Antonio, Dept. of Pharmacology, February 2017. Stress-associated neural systems and addiction. San Antonio, TX.

Texas A&M University, Dept. of Psychology, Behavioral and Cellular Neuroscience, April 2016. Habitual and compulsive cocaine seeking in animal models. College Station, TX.

Texas A&M University, Institute for Neuroscience, September 2015. Stress-associated neural systems and addiction. College Station, TX.

Florey Institute of Neuroscience & Mental Health, Behavioural Neuroscience Division, August 2015. Stress-associated neural systems and addiction. Melbourne, Australia.

NIH panel on "Refining the circuitry of addiction with cutting-edge tools," April 2015. Investigating the contributions of distinct prefrontal cortex projection subpopulations to drug seeking using optogenetics and rabies tracing. Rockville, MD.

Texas A&M University, Dept. of Psychology, May 2014. Stress-associated neural systems and addiction. College Station, TX.

Texas Tech Health Sciences Center, Dept. of Pharmacology and Neuroscience, April 2014. Stress-associated neural systems and addiction. Lubbock, TX.

Medical University of South Carolina, Dept. of Neurosciences, February 2014. Stress-associated neural systems and addiction. Charleston, SC.

International Behavioral Neuroscience Society Meeting, 2010. The noradrenergic alpha-2 agonist clonidine attenuates cue-induced reinstatement of cocaine-seeking. Sardinia, Italy.

Neuropalooza Student/Postdoc Research Symposium (MUSC and College of Charleston), 2009. Orexin/hypocretin regulation of cue- and drug-elicited relapse to cocaine-seeking. Charleston, SC.

Georgia/South Carolina Neuroscience Consortium, 2008. The orexin-1 receptor antagonist SB-334867 blocks cue-induced reinstatement of cocaine-seeking in rats. Columbia, SC.

Winter Conference on Brain Research, 2008. Orexin regulates cue- but not drug-elicited cocaine-seeking. Panel chair and speaker: Motivation, learning, or reward: what is orexin's role in addiction? Snowbird, UT.

CONFERENCE PRESENTATIONS

*Poster presentations (*presenting author, [G]graduate student, [R]research assistant, [U]undergrad student)*

1. Cruz AM*[G], Handel SN[G], **Smith RJ**. Investigating the roles of the intralaminar thalamus, prefrontal cortex, and dorsal striatum in punishment cocaine seeking in rats. *Behavior, Biology, and Chemistry (BBC) Conference 2023: Translational Research in Substance Use Disorders, San Antonio, TX*.
2. Handel SN*[G], **Smith RJ**. c-Fos activity in cortical and thalamic afferents to dorsomedial and dorsolateral striatum during punished cocaine seeking. *Society for Neuroscience 2022, San Diego, CA.*
3. Cruz AM*[G], Handel SN[G], **Smith RJ**. Investigating the roles of the intralaminar thalamus and dorsal striatum in punished cocaine seeking in rats. *Society for Neuroscience 2022, San Diego, CA.*
4. Kahanek PL[U*], Cruz AM[G], Starnes AN[U], **Smith RJ**. Noncontingent footshock, unlike contingent footshock, does not reduce cocaine seeking in rats. *Society for Neuroscience 2022, San Diego, CA.*
5. Jones BO*[G], Cruz AM[G], **Smith RJ**. Random ratio and random interval schedules of reinforcement have a strong influence on the development of punishment resistance in cocaine-seeking rats. *Society for Neuroscience 2022, San Diego, CA.*
6. Gangal H*, Xie X, Cheng Y, Wang X, Lu J, Zhuang X, Essoh A, Huang Y, Smith LN, **Smith RJ**, Wang J. Drug reinforcement impairs cognitive flexibility via inhibiting striatal cholinergic neurons. *Society for Neuroscience 2022, San Diego, CA.*
7. Cruz AM*[G], Handel SN[G], **Smith RJ**. Investigating the role of the prefrontal cortex, intralaminar thalamus, and dorsal striatum in compulsive cocaine seeking in rats. *National Hispanic Science Network 2022, Grand Rapids, MI.*
8. Cruz AM*[G], Handel SN[G], **Smith RJ**. Investigating the role of the prefrontal cortex, intralaminar thalamus, and dorsal striatum in compulsive cocaine seeking in rats. *Gordon Research Conference on Frontal Cortex 2022, Ventura Beach, CA.*

9. Cruz AM*[G], Kim TH[R], **Smith RJ**. Monosynaptic retrograde tracing from prelimbic neuron subpopulations projecting to either nucleus accumbens core or rostromedial tegmental nucleus. *National Hispanic Science Network 2021*, Virtual.
10. Handel SN*[G], Jones BO[G], **Smith RJ**. Schedules of reinforcement influence cocaine-seeking patterns that correspond with goal-directed and habitual behavior in rats. *Society for Neuroscience 2021*, Virtual.
11. Cruz AM*[G], **Smith RJ**. Investigating the role of the intralaminar nuclei of the thalamus in compulsive cocaine seeking. *Society for Neuroscience 2021*, Virtual.
12. Huang Z*, Ma T, Xie X, Cheng Y, Zhuang X, Gangal H, Wang X, Smith L, **Smith R**, Zhou Y, Wang J. Chronic alcohol intake compromises cholinergic modulation of striatal glutamatergic transmission and reduces behavioral flexibility. *Society for Neuroscience 2021*, Virtual.
13. Jones B*[G], **Smith RJ**. Effects of punishment on goal-directed and habitual responding for food and cocaine. *Society for Neuroscience 2021*, Virtual.
14. Handel SN*[G], **Smith RJ**. Afferents to dorsomedial and dorsolateral striatum in the rat. *Society for Neuroscience Global Connectome 2021*, Virtual.
15. Jones BO*[G], **Smith RJ**. The role of habitual behavior in punishment resistance differs for food and cocaine self-administration. *Society for Neuroscience Global Connectome 2021*, Virtual.
16. Cruz AM*[G], Kim TH[R], **Smith RJ**. Monosynaptic retrograde tracing from prelimbic neuron subpopulations projecting to either nucleus accumbens core or rostromedial tegmental nucleus. *Society for Neuroscience Global Connectome 2021*, Virtual.
17. Cruz AM*[G], Spencer HF[R], Kim TH[R], Jhou TC, **Smith RJ**. Prelimbic cortical projections to rostromedial tegmental nucleus play a suppressive role in cue-induced reinstatement of cocaine seeking. *International Behavioral Neuroscience Society 2020*, Virtual due to COVID-19 pandemic.
18. Cruz AM*[G], Spencer HF[R], Jhou TC, **Smith RJ**. Inactivation of prelimbic projections to rostromedial tegmental nucleus enhances cue-induced reinstatement of cocaine seeking. *Society for Neuroscience 2019*, Chicago, IL.
19. Jones BO*[G], Spencer HF[R], Kim TH[R], **Smith RJ**. Goal-directed and habitual cocaine seeking: Further assessment of noncontingent cocaine as a method to cause satiety and outcome devaluation. *Society for Neuroscience 2019*, Chicago, IL.
20. Spencer HF*[R], Kim TH[R], **Smith RJ**. A persistence of habitual responding for cocaine underlies punishment resistance. *Society for Neuroscience 2018*, San Diego, CA.
21. **Smith RJ***, Kim TH[R], Spencer HF[R]. Goal-directed and habitual cocaine seeking using ratio and interval schedules of reinforcement. *Society for Neuroscience 2017*, Washington, DC.
22. Griffin WC*, Haun HL, Olsen AK, **Smith RJ**, Anderson RI, Boger HA, Becker HC. Repeated cycles of chronic intermittent ethanol exposure alters neuronal activity in the ventral hippocampus and nucleus accumbens. *Society for Neuroscience 2017*, Washington, DC.
23. **Smith RJ***, Kim TH[R], Spencer HF[R]. Goal-directed and habitual cocaine seeking using ratio and interval schedules of reinforcement. *Gordon Research Conference on Catecholamines 2017*, Newry, ME.
24. Griffin WC*, **Smith RJ**, Anderson RI, Haun HL, Becker HC. Effects of repeated cycles of chronic intermittent ethanol exposure on neuronal activation in the ventral hippocampus and nucleus accumbens. *Research Society on Alcoholism 2017*, Denver, CO.

25. **Smith RJ***, Vento PJ, Jhou TC. Delineation of rostromedial tegmental nucleus (RMTg) in rats and mice via nociceptin/OFQ expression and anatomical connectivity. *International Society for Neurochemistry 2015*, Cairns, Australia.
26. **Smith RJ***, Jhou TC. Delineation of rostromedial tegmental nucleus (RMTg) in rats and mice via nociceptin/OFQ expression and anatomical connectivity. *Winter Conference on Brain Research 2015*, Big Sky, MT.
27. Gipson CD*, Spencer S, Stankeviciute N, Allen N, **Smith RJ**, Kalivas PW. Cue-induced cocaine seeking involves nucleus accumbens glutamate overflow mediated by mGluR2/3 and mGluR5. *Society for Neuroscience 2014*, Washington, DC.
28. **Smith RJ***, Scofield MD, McGinty JF, Kalivas PW. Fos activation in D1/dynorphin- and D2/enkephalin-expressing striatal neurons during reinstatement of cocaine seeking. *Society for Neuroscience 2013*, San Diego, CA.
29. Scofield MD*, **Smith RJ**, Boger HA, Kalivas PW. DREADD-mediated enhancement of glial glutamate release in the NAcore inhibits cue-induced relapse to cocaine seeking. *Society for Neuroscience 2013*, San Diego, CA.
30. Beckley JT*, Randall PK, **Smith RJ**, Kalivas PW, Woodward JJ. Physiological properties of nucleus accumbens core medium spiny neurons predict neuronal subpopulation and toluene-induced long term depression. *Society for Neuroscience 2013*, San Diego, CA.
31. **Smith RJ***, Scofield MD, Ferguson SM, Neumaier JF, McGinty JF, Kalivas PW. Fos activation in accumbens-pallidal and accumbens-nigral neurons during reinstatement of cocaine seeking. *Society for Neuroscience 2012*, New Orleans, LA.
32. Zhou L*, Do P, **Smith RJ**, Aston-Jones G, See RE. Chronic orexin 1 receptor antagonism reduces cocaine-seeking in rats. *Society for Neuroscience 2011*, Washington, DC.
33. **Smith RJ***, Aston-Jones G. The noradrenergic alpha-2 agonist clonidine attenuates cue-induced reinstatement of cocaine-seeking. *Motivational Neuronal Networks 2010*, Wrightsville Beach, NC.
34. **Smith RJ***, Aston-Jones G. The orexin / hypocretin 1 receptor antagonist SB-334867 reduces self-administration and cue-induced reinstatement of heroin in rats. *Society for Neuroscience 2010*, San Diego, CA.
35. Fallon RV*, **Smith RJ**, Aston-Jones G. The effects of a history of chronic cocaine exposure and protracted abstinence on future cocaine self-administration in rats. *Society for Neuroscience 2010*, San Diego, CA.
36. **Smith RJ***, Aston-Jones G. Noradrenergic transmission is critical for cue-induced reinstatement of cocaine-seeking. *Gordon Research Conference and Gordon Research Seminar on Catecholamines 2009*, Biddeford, ME.
37. **Smith RJ***, Aston-Jones G. Noradrenergic transmission is critical for cue-induced reinstatement of cocaine-seeking. *Society for Neuroscience 2009*, Chicago, IL.
38. Tahsili-Fahadan P*, **Smith RJ**, Aston-Jones G. Involvement of orexin (hypocretin) pathway in context-induced reinstatement of cocaine-seeking in rats. *Society for Neuroscience 2009*, Chicago, IL.
39. Tahsili-Fahadan P*, **Smith RJ**, Aston-Jones G. Involvement of orexin (hypocretin) pathway in context-induced reinstatement of cocaine-seeking in rats. *American College of Neuropsychopharmacology 2009*, Hollywood, FL.
40. **Smith RJ***, Aston-Jones G. The orexin / hypocretin 1 receptor antagonist SB-334867 reduces cocaine-seeking in rats after 1 or 14 days of abstinence. *Society for Neuroscience 2008*, Washington, DC.

41. **Smith RJ***, See RE, Aston-Jones G. The orexin-1 receptor antagonist SB-334867 blocks cue-induced reinstatement of cocaine-seeking in rats. *International Narcotics Research Conference 2008*, Charleston, SC.
42. Aston-Jones G*, **Smith RJ**. The orexin / hypocretin 1 receptor antagonist SB-334867 reduces cocaine-seeking in rats after abstinence. *American College of Neuropsychopharmacology 2008*, Scottsdale, AZ.
43. **Smith RJ***, See RE, Aston-Jones G. The orexin-1 receptor antagonist SB-334867 blocks cue-induced reinstatement of cocaine-seeking in rats. *Society for Neuroscience 2007*, San Diego, CA.
44. Talbot K, Eidem WL, Tinsley CL, Benson MA, Thompson EW, **Smith RJ**, Hahn CG, Siegel SJ, Trojanowski JQ, Gur RE, Blake DJ, Arnold SE*. Dysbindin-1 is reduced in intrinsic glutamatergic terminals of the hippocampal formation in schizophrenia. *American College of Neuropsychopharmacology 2006*, Hollywood, FL.
45. **Smith RJ***, Harris GC, Aston-Jones G. Increased acquisition of morphine-cue associations during protracted withdrawal. *Society for Neuroscience 2005*, Washington, DC.
46. **Smith RJ***, Harris GC, Aston-Jones G. Dependence prior to, but not subsequent to, stimulus-drug conditioning increases drug seeking during protracted morphine withdrawal. *American College of Neuropsychopharmacology 2004*, San Juan, Puerto Rico.
47. **Smith RJ***, Harris GC, Aston-Jones G. Dependence prior to, but not subsequent to, stimulus-drug conditioning increases drug seeking during protracted morphine withdrawal. *Society for Neuroscience 2004*, San Diego, CA.
48. Talbot K*, Eidem WL, Benson MA, **Smith RJ**, Trojanowsk JQ, Gur RE, Hahn CG, Blake DJ, Arnold SE. Dysbindin and vesicular glutamate transporter-1 (VGluT-1) are altered in the hippocampal formation in schizophrenia. *Society for Neuroscience 2003*, New Orleans, LA.
49. Doyle GA*, Sheng XR, **Smith RJ**, Han AM, Crowley JJ, Berrettini WH. Identification of polymorphisms in human OPRM1 and possible associations with opioid dependence. *Society for Neuroscience 2003*, New Orleans, LA.
50. Ben-Shahar O*, Bernardi R, Shubin M**, Smith RJ**, Kennedy N, Teague K, Ettenberg A. Differential c-Fos activation within limbic areas in response to discriminative stimuli for food. *Society for Neuroscience 2001*, San Diego, CA.

TEACHING

Courses

PBSI 336: Drugs and Behavior, undergraduate, 3 credits, Texas A&M (previously PSYC/NRSC 336)

Fall 2023 (197 students)
Fall 2022 (117 students)
Spring 2022 (117 students)
Spring 2021 (90 students)
Fall 2020 (38 students)
Fall 2019 (38 students)
Spring 2019 (34 students)
Fall 2018 (37 students)
Spring 2018 (25 students)

Fall 2017 (22 students)
Spring 2017 (15 students)
Fall 2016 (17 students)

PBSI 649: Neuroscience of Addiction and Anxiety (Seminars in Behavioral Neuroscience), graduate, 3 credits, Texas A&M (previously PSYC/NRSC 649)

Spring 2023 (15 students)
Spring 2020 (10 students)
Spring 2018 (6 students)
Spring 2016 (6 students)

PBSI 235: Intro to Behavioral & Cognitive Neuroscience, undergraduate, 3 credits, Texas A&M (previously PSYC/NRSC 235 or 335: Physiological Psychology)

Spring 2023 (285 students)
Spring 2021 (275 students)
Spring 2019 (246 students)

Course Honors Contracts

PBSI 235, Spring 2023 – 1 student
PBSI 336, Fall 2022 – 3 students
PBSI 336, Spring 2022 – 2 students
PSYC 335, Spring 2019 – 1 student

Undergraduate Research

PBSI or PSYC or NRSC 485: Directed studies, undergraduate research, Texas A&M

2022-2023: Fall (3) | Spring (3)
2021-2022: Fall (3) | Spring (3)
2020-2021: Fall (4) | Spring (4) | Summer (3)
2019-2020: Fall (3) | Spring (4)
2018-2019: Fall (3) | Spring (5) | Summer (2)
2017-2018: Fall (1) | Spring (4) | Summer (2)
2016-2017: Fall (1) | Spring (2)

PSBI or PSYC or NRSC 491: Independent research, undergraduate research, Texas A&M

2022-2023: Fall (1 PBSI, 1 BIOL) | Spring (2)
2021-2022: Fall (1) | Spring (1, via BIOL)
2020-2021: Spring (1)
2019-2020: Fall (2)
2018-2019: Spring (1)
2017-2018: Fall (1) | Spring (1)

Lectures

NRSC 602: Principles of Neuroscience, Part 2, graduate course, Texas A&M - 2 lectures

Spring 2018, Spring 2019, Spring 2020, Spring 2021, Spring 2022, Spring 2023

VIBS 289: Neuroscience 101, undergraduate course, Texas A&M - 1 lecture

Fall 2018, Spring 2020, Fall 2020, Spring 2021

PSYC 691: Psychology Graduate First-Year Colloquium, graduate course, Texas A&M - 1 lecture

Fall 2015, Fall 2016

Guest Lectures & Teaching Assistantships

Guest Lecturer, Comparative Medicine Program at Texas A&M, Project overview for animal care staff and technicians (Fall 2017)

Teaching Assistant, MUSC, Neuroanatomy for first year medical students (Fall 2014, Spring 2013, Fall 2013, Spring 2013)

Guest Lecturer, College of Charleston, Capstone Seminar Course for seniors (Spring 2013)

Guest Lecturer, Ashley Hall High School, Summer Research Program in Neuroscience (Summer 2012, Summer 2011)

Guest Lecturer, College of Charleston, Behavioral Neuroscience Course (Spring 2011)

Head Teaching Assistant, Penn, Introductory Neuroscience Course in Department of Biological Basis of Behavior (Spring 2006)

Teaching Assistant, Penn, Introductory Neuroscience Course in Department of Biological Basis of Behavior (Fall 2004)

Guest Lecturer, Penn, Introductory Neuroscience Course for Upward Bound program (Summer 2003)

STUDENT MENTORSHIP AND SUPERVISION

Doctoral Students, Dissertation Committee Chair

1.	Morgan Paladino	2022-	PhD, Psychology, Texas A&M University
2.	Sophia Handel	2019-	PhD, Psychology, Texas A&M University
3.	Adelis Cruz	2018-	PhD, Psychology, Texas A&M University
4.	Bradley Jones	2017-	PhD, Neuroscience, Texas A&M University

Master's Students, Dissertation Committee Chair

Lillian Laiks	2015-2018	MS, Neuroscience, Texas A&M University

Doctoral Students, Dissertation Committee Member

1.	Samantha Plas	2022-	PhD, Neuroscience, Texas A&M University
2.	Sojung Youn	2022-	PhD, Psychology, Texas A&M University
3.	Tugce Tuna	2022-	PhD, Neuroscience, Texas A&M University
4.	Juan Balcazar	2022-	PhD, Psychology, Texas A&M University
5.	Sienna Partipilo	2022-	PhD, Psychology, Texas A&M University
6.	Will Purvines	2021-	PhD, Neuroscience, Texas A&M University

7.	Corinne Kelly	2021-	PhD, Neuroscience, Texas A&M University
8.	Krithika (Kay) Vasudevan	2020-	PhD, Neuroscience, Texas A&M University
9.	Alex Stefanov	2020-	PhD, Neuroscience, Texas A&M University
10.	Ty Gadberry	2020-	PhD, Psychology, Texas A&M University
11.	Cecily Oleksiak	2019-	PhD, Neuroscience, Texas A&M University
12.	Michael Totty	2019-2022	PhD, Neuroscience, Texas A&M University
13.	Jacob Davis	2018-2022	PhD, Psychology, Texas A&M University
14.	Annalise Binette	2018-2023	PhD, Neuroscience, Texas A&M University
15.	Reed Ressler	2017-2021	PhD, Neuroscience, Texas A&M University
16.	Jessica Huebschman	2017-2022	PhD, Neuroscience, Texas A&M University
17.	Karthik Ramanathan	2016-2020	PhD, Neuroscience, Texas A&M University
18.	Yifeng Cheng	2015-2018	PhD, Medical Science, Texas A&M HSC

Master's Students, Committee Member

1.	Yana Lokshina	2020-2022	MS, Neuroscience, Texas A&M University
2.	Maricela Mirelez	2020-2021	MS, Microbiology, Texas A&M University
3.	Mary Grace deKeratry	2020-2021	MEd, Educational Psychology, Texas A&M University
4.	Claire Leight	2016-2017	MEd, Educational Psychology, Texas A&M University

Undergraduate Students – Lab Research

1. Katherine (KJ) Jaffe – Summer 2023
2. Izy Lee – Spring 2023
3. Ashley Miller – Spring 2023
4. Lily Davidson – Fall 2022, Spring 2023
5. Guillermo Aguilar – Fall 2022, Spring 2023
6. Jacqueline (Jacqui) Sifuentes – Summer 2022, Fall 2022
7. Victoria Johnson – Spring 2022
8. Sarah Mitchell – Spring 2022, Summer 2022, Fall 2022
9. Sandy Georges – Summer 2021, Fall 2021, Spring 2022, Fall 2022, Spring 2023
10. Payton Kahanek – Summer 2021, Fall 2021, Spring 2022, Summer 2022, Fall 2022, Spring 2023
11. Nikita Nutalapati – Spring 2021
12. McKinzie Turner – Fall 2020, Spring 2021, Fall 2021
13. Emily Ward – Fall 2020, Spring 2021
14. Ashley Starnes – Spring 2020, Fall 2020, Spring 2021, Fall 2021
15. Angel Campos – Spring 2020, Fall 2020
16. Alyssa Diaz – Summer 2019, Fall 2019, Spring 2020
17. Brenae Reeves – Spring 2019, Fall 2019
18. Tiffany Dobry – Spring 2019, Summer 2019, Fall 2019
19. Samin Arianpour – Spring 2019

20. Lauren Scarborough – Summer 2018
21. Keland Moore – Summer 2018, Fall 2018, Spring 2019, Summer 2019, Spring 2020
22. Caitlin (Caity) McOsker – Spring 2018, Fall 2018
23. Jordan Brickley – Spring 2019, Fall 2018
24. Molly Harrison – Spring 2018, Fall 2018
25. Dana Luu – Fall 2017, Spring 2018, Spring 2019
26. Kelcy Klein – Spring 2017
27. Jaclyn (Jackie) James – Spring 2017, Fall 2017, Spring 2018
28. Maci Hanson – Fall 2016, Spring 2017

Undergraduate Students – Research Scholars

Keland Moore, 2019-2020, Investigating the neural mechanism of cocaine satiety within the nucleus accumbens core

Undergraduate Students – Teaching Scholars

1. Geneva Brown, PBSI 235, Spring 2023
2. Sara Ishee, PBSI 235, Spring 2023
3. Mye Miller, PBSI 336, Fall 2022
4. Jessica Neff, PBSI 336, Spring 2022
5. Katheleen Chavez, PSYC 235, Spring 2021
6. Haley Hart, PSYC 235, Spring 2021
7. Peyton Taylor, PSYC 335, Spring 2019

Undergraduate Students – NIH/NIDA Undergraduate Summer Research Interns

1. Katherine (KJ) Jaffe, 2023
2. Jacqueline Sifuentes, 2022

Research Assistants (paid technicians in the lab)

1. Payton Kahanek (2021-2023, 15 hours/week)
2. Lauren Scarborough (2018-2019, full time)
3. Haley Spencer (2016-2018, full time)
4. Tabitha Kim (2015-2016, full time)

Post-baccalaureate Fellows

Molly McKinney, 2022-2024, NIH/NIDA Post-baccalaureate fellow in Brian Anderson's lab at Texas A&M (Role: Member of mentorship team)

Graduate Lab Rotations (Texas A&M Neuroscience PhD program)

1. Will Purvines (Spring 2021)
2. Alex Stefanov (Fall 2019)
3. Bradley Jones (Spring 2018)
4. Himanshu Gangal (Fall 2017)
5. Lillian Laiks (Fall 2015)

6. Mabel Terminel (Fall 2015)

PROFESSIONAL MEMBERSHIPS

Society for Neuroscience (since 2003)

International Behavioral Neuroscience Society (2010, 2020-2021)

International Society for Neurochemistry (2015)

Pavlovian Society (2022)

SERVICE

Department & University

Department of Psychological & Brain Sciences, Texas A&M

Area Coordinator for Behavioral and Cellular Neuroscience (BCN): 2020-current

Diversity, Equity, and Inclusion Committee: 2020-2022

ACES Fellow Search Committee (Accountability, Climate, Equity, and Scholarship Fellowship program): 2020-2021, 2021-2022

Diversity & Inclusion Subcommittee on Recruitment/Retention of BIPOC staff: 2020-2021

Faculty Development and Awards Committee: 2018-2020, 2016-2017

Events Committee: 2017-2018

Faculty Search Committee, four tenure-track positions in spinal cord injury, Texas A&M: 2015-2017

Faculty Search Committee, two tenure-track positions (assistant and associate) in affective science, Texas A&M Department of Psychology: 2015-2016

Graduate Student Fellowship Application Support Program review committee: 2015-2016

Texas A&M Institute for Neuroscience (TAMIN)

Membership Committee: 2021-current

Graduate Program Committee: 2015-2021

TAMIN website, faculty liaison for student webmaster, 2016-current

Poster judge, TAMIN Spring Symposium: 2022, 2019, 2018, 2016

Poster judge, Texas A&M Society for Neuroscience Winter Symposium: 2022, 2021, 2017, 2015

Redesigned the website for TAMIN: 2016

University of Pennsylvania

Student Representative, Penn Neuroscience Grad Group Academic Review Committee: 2005-2006

Scientific community

Mentor, Society for Neuroscience, Trainee Professional Development Award, feature on "Starting a Lab," including informative email to trainees, live chat on Neuronline community, and Q&A via Zoom: 2021.

Travel fellow mentor, International Behavioral Neuroscience Society: 2021

Mentor, Society for Neuroscience meeting, Career Development Topics: A Networking Event, "Setting up and managing a laboratory" (invited by the SFN Professional Development Committee), 2019

Travel fellow mentor, Winter Conference on Brain Research: 2019, 2018

Associate editor, *Frontiers in Behavioral Neuroscience*, section on Motivation and Reward, 2022-current

Review editor, *Frontiers in Systems Neuroscience*, 2018-current; *Frontiers in Behavioral Neuroscience*, 2020-current

Ad-hoc journal reviewing: *Addiction Biology, Behavior Research and Therapy, Behavioural Brain Research, Brain Research, Drug and Alcohol Dependence, Frontiers in Aging Neuroscience, Frontiers in Behavioral Neuroscience, Frontiers in Psychiatry, Frontiers in Systems Neuroscience, International Journal of Neuropsychopharmacology, Neurobiology of Learning and Memory, Neuropsychopharmacology, Neuroscience and Biobehavioral Reviews, Physiology & Behavior, PLoS ONE, Progress in Neuro-Psychopharmacology & Biological Psychiatry, Psychopharmacology*

Broader community

Volunteer for Brain Awareness Week, lectures and demonstrations, Charleston, SC: 2011

Volunteer at Brain Awareness Week, Brain Bee, Penn: 2006

Volunteer at Brain Awareness Week, Franklin Institute, Philadelphia, PA: 2005