# Ryan T. LaLumiere

**Psychological and Brain Sciences**
Curriculum Vitae

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## EDUCATION AND PROFESSIONAL HISTORY

### Higher Education

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| 2005 | **PhD**, Biological Sciences, Department of Neurobiology and Behavior, University of California, Irvine |
| 2000 | **BS**, Psychology, Summa cum laude, Mt. St Mary's University |

### Professional and Academic Positions

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|---|---|
| 2023 - present | **Professor,** Department of Psychological and Brain Sciences, University of Iowa |
| 2017 - 2023 | **Associate Professor**, Department of Psychological and Brain Sciences, University of Iowa |
| 2010 - Present | **Faculty Member**, Interdisciplinary Graduate Program in Neuroscience, University of Iowa |
| 2010 - 2017 | **Assistant Professor**, Department of Psychology, University of Iowa |
| 2009 - 2010 | **Research Assistant Professor**, Department of Neurosciences, Medical University of South Carolina |
| 2005 - 2009 | **Postdoctoral Fellow**, Department of Neurosciences, Mentor: Dr. Peter W. Kalivas, Medical University of South Carolina |
| 2000 - 2005 | **Graduate Researcher**, Department of Neurobiology and Behavior, Laboratory of James L. McGaugh, Center for the Neurobiology of Learning and Memory, University of California |

### Honors and Awards

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| 2024-present | **Fellow,** American College of Neuropsychopharmacology |
| 2023-2028 | **Ronnie Ketchel Faculty Fellow,** Department of Psychological and Brain Sciences, University of Iowa. |
| 2023-2025 | **Collegiate Scholar**, College of Liberal Arts and Sciences, University of Iowa. |
| 2023 | **Outstanding Faculty Mentor Award,** Graduate College, University of Iowa. |
| 2019 | **Elected Full Member**, American College of Neuropsychopharmacology |
| 2014 | **Associate Member**, American College of Neuropsychopharmacology, Elected Associate Member of the ACNP |
| 2010 | **Travel Fellowship**, American College of Neuropsychopharmacology (ACNP) |
| 2010 | **Travel Fellowship**, For Winter Conference on Brain Research |
| 2009 | **Travel Award**, NIDA, for Julius Axelrod Lecture Poster Session at the Society for Neuroscience Meeting |
| 2008 | **Travel Award**, NIDA, for Early Career Investigator Poster Session at the NIDA Mini-Convention “Frontiers in Addiction Research” at the Society for Neuroscience meeting |
| 2008 | **Travel Award**, NIDA, for Early Career Investigator Poster Session at the American Psychological Association Annual Convention |
| 2004 | **2nd Place in Best Data Blitz Presentation**, University of California, Irvine, Annual Spring Meeting for the Center of the Neurobiology of Learning and |

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|---|---|
| | Memory |
| 2003 | **Steinhaus Teaching Award**, University of California, Irvine |
| 2002 | **Wisconsin Symposium Emotion Travel Award**, University of Wisconsin, Madison, Symposium on Emotion, Learning & Memory |
| 2000 | **Graduated Summa Cum Laude**, Mt. St. Mary's University, originally, Collge |

### Memberships

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| | American Association for the Advancement of Science |
| | American Psychological Society |
| | International Behavioral Neuroscience Society |
| | Molecular and Cellular Cognition Society |
| | Society for Neuroscience |
| 2024 – present | Fellow, American College of Neuropsychopharmacology |
| 2019 - 2023 | Full Member, American College of Neuropsychopharmacology |
| 2016 - Present | European Behavioural Pharmacology Society |
| 2014 - 2018 | Associate Member, American College of Neuropsychopharmacology |
| 2016 | New York Academy of Science |

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## SCHOLARSHIP

### Publications

**CLAS * System** * = Senior Author, Major Contribution, ** = Secondary Contribution *** = Equal Contribution, **** = Minor Contribution

#### *Refereed Articles*

1. ***LaLumiere, R.T.**, Buen, T.-V., and McGaugh, J.L. (2003). Posttraining intra-basolateral amygdala infusions of norepinephrine enhance consolidation of memory for contextual fear conditioning. Journal of Neuroscience, 23, 6754-6758.

2. **Miranda, M.I., **LaLumiere, R.T.**, Buen, T.V., Bermudez-Rattoni, F., and McGaugh, J.L. (2003). Blockade of noradrenergic receptors in the basolateral amygdala impairs taste memory. European Journal of Neuroscience, 18, 2605-2610.

3. ***LaLumiere, R.T**., Pizano, E., and McGaugh, J.L. (2004). Intra-basolateral amygdala infusions of AP-5 impair or enhance retention of inhibitory avoidance depending on training conditions. Neurobiology of Learning and Memory, 81, 60-66.

4. ***LaLumiere, R.T.,** Nguyen, L.T., and McGaugh, J.L. (2004). Posttraining intra-basolateral amygdala infusions of dopamine modulate consolidation of inhibitory avoidance memory: Involvement of noradrenergic and cholinergic systems. European Journal of Neuroscience, 20, 2804-2810.

5. ***LaLumiere, R.T.,** Nawar, E.M., and McGaugh, J.L. (2005). Modulation of memory consolidation by the basolateral amygdala or nucleus accumbens shell requires concurrent dopamine receptor activation in both brain regions. Learning & Memory, 12, 296-301.

6. ***LaLumiere, R.T.,** and McGaugh, J.L. (2005). Memory enhancement induced by intra-basolateral amygdala infusions of β-adrenergic or muscarinic agonists require activation of dopamine receptors: Involvement of right, but not left, basolateral amygdala. Learning & Memory, 12, 527-532.

7. ****Shen, H., Korutla, L., Champtiaux, N., Toda, S., LaLumiere, R., Vallone, J., Klugmann, M., Blendy, J.A., Mackler, S.A., and Kalivas, P.W. (2007). NAC1 regulates the recruitment of the proteasome complex into dendritic spines. Journal of Neuroscience, 27, 8903-8913.

8. ***LaLumiere, R.T.**, and Kalivas, P.W. (2008). Glutamate Release in the Nucleus Accumbens Core Is Necessary for Heroin-Seeking. Journal of Neuroscience, 28, 3170-7.

9. ***LaLumiere, R.T.**, and Kalivas, P.W. (2008). Cocaine Addiction: Mechanisms of Action. Psychiatric Annals, 38, 252-258.

10. *Peters, J., **LaLumiere, R.T.**, and Kalivas, P.W. (2008) The Projection from Infralimbic Prefrontal Cortex to the Nucleus Accumbens Shell is Necessary for Inhibiting Cocaine seeking in Extinguished Rats. Journal of Neuroscience, 28, 6046-53.

11. *Uys, J.D, and **LaLumiere, R.T.** (2008). Glutamate: The new frontier in pharmacotherapy for cocaine addiction. CNS & Neurological Disorders Drug Targets, 7, 482-491.

12. **Kalivas, P.W., **LaLumiere, R.T**., Knackstedt, L.A., and Shen, H. (2009). Glutamate Transmission in Addiction. Neuropharmacology, 56, supplement 1, 169-173.

13. **Berglind, W., Whitfield, T., **LaLumiere, R. T.**, Kalivas, P.W., and McGinty, J.F. (2009). A Single Intra-PFC Infusion of BDNF Prevents Cocaine-Induced Alterations in Extracellular Glutamate Within the Nucleus Accumbens. Journal of Neuroscience, 29, 3715-3719.

14. ***LaLumiere, R.T**., Niehoff, K.E., and Kalivas, P.W. (2010). The infralimbic cortex regulates the consolidation of extinction training after cocaine self-administration. Learning and Memory, 17, 168-175.

15. **Knackstedt, L.A., Moussawi, K., **LaLumiere, R.,** Schwendt, M., Klugmann, M., & Kalivas, P.W. (2010). Extinction training after cocaine self-administration induces glutamatergic plasticity to inhibit cocaine-seeking. Journal of Neuroscience, 30, 7984-7992.

16. ***LaLumiere, R.T.** (2011). A new technique for controlling the brain: Optogenetics and its potential for use in research and the clinic. Brain Stimulation, 4, 1-6.

17. ***LaLumiere, R.T**., Smith, K.C., and Kalivas, P.W. (2012). Neural circuit competition in cocaine-seeking: Roles of the infralimbic cortex and nucleus accumbens shell. European Journal of Neuroscience, 35, 614-622.

18. **Trantham-Davidson, H., **LaLumiere, R.T.**, Reissner, K., Kalivas, P., and Knackstedt, L. (2012). Ceftriaxone normalizes nucleus accumbens synaptic transmission, glutamate transport and export following cocaine self-administration and extinction training. Journal of Neuroscience, 32: 12406-12410.

19. *Stefanik, M.T., Moussawi, K., Kupchik, Y.M., Smith, K.C., Miller, R.L., Huff, M.L., Deisseroth, K., Kalivas, P.W., and **LaLumiere, R.T.** (2013). Optogenetic inhibition of cocaine seeking in rats. Addiction Biology, 18: 50-53.

20. *Huff, M.L., Miller, R.L., Deisseroth, K., Moorman, D.E., and **LaLumiere, R.T.** (2013). Posttraining optogenetic manipulations of basolateral amygdala activity modulate consolidation of inhibitory avoidance memory in rats. Proceedings of the National Academy of Sciences of the United States of America, 110: 3597-3602.

21. **Mahler, S.V., Hensley-Simon, M., Tahsili-Fahadan, P., **LaLumiere, R.T.,** Thomas, C., Fallon, R.V., Kalivas, P.W., and Aston-Jones, G. (2014). Modafinil attenuates reinstatement of cocaine seeking:

role for cystine-glutamate exchange and metabotropic glutamate receptors. Addiction Biology, 19, 49-60.

22. ***LaLumiere, R.T**. (2014). Optogenetic dissection of amygdala functioning. Frontiers in Behavioral Neuroscience, 8.

23. *Kreple, C.J., Lu, Y., Taugher, R.J., Schwager-Gutman, A.L., Du, J., Stump, M., Wang, Y., Ghobbeh, A., Fan, R., Cosme, C.V., Sowers, L.P., Welsh, M.J., Radley, J.J., **LaLumiere, R.T**, and Wemmie, J.A**.** (2014). Acid-sensing ion channels in the nucleus accumbens contribute to synaptic transmission and inhibit cocaine-associated plasticity. Nature Neuroscience, 17: 1083-91.

24. *Huff, M.L., and **LaLumiere, R.T**. (2015). The rostromedial tegmental nucleus modulates behavioral inhibition following cocaine self-administration in rats. Neuropsychopharmacology, 40: 861-73.

25. *Cosme, C.V., Gutman, A.L., and **LaLumiere, R.T.** (2015). The dorsal agranular insular cortex regulates the cued reinstatement of cocaine-seeking, but not food-seeking, behavior. Neuropsychopharmacology, 40: 2425-2433.

26. *Radley, J.J., Anderson, R.M., Cosme, C.V., Glanz, R.M., Miller, M.C., Romig-Martin, S.A., and **LaLumiere, R.T.** (2015). The contingency of cocaine administration accounts for structural and functional medial prefrontal deficits and increased adrenocortical activation. Journal of Neuroscience, 35: 11897-11910.

27. *Huff, M.L., Emmons, E.B., Narayanan, N.S., and **LaLumiere, R.T**. (2016). Basolateral amygdala projections to ventral hippocampus modulate the consolidation of footshock, but not contextual, learning in rats. Learning & Memory, 23: 51-60.

28. **Johnson, S.B., Emmons, E.B., Anderson, R.M., Glanz, R.M., Romig-Martin, S.A., Narayanan, N.S., **LaLumiere, R.T.,** and Radley, J.J. (2016). A basal forebrain site coordinates the modulation of endocrine and behavioral stress responses via divergent neural pathways. Journal of Neuroscience, 36: 8687-8699. doi: 10.1523/JNEUROSCI.1185-16.2016.

29. *Gutman, A.L., Ewald, V.A., Cosme, C.V., Worth, W.R., and **LaLumiere, R.T.** (2017). The infralimbic and prelimbic cortices contribute to the inhibitory control of cocaine-seeking behavior during a discriminative stimulus task in rats. Addiction Biology, 22: 1719-1730. doi: 10.1111/adb.12434.

30. *Cosme, C.V., Gutman, A.L., Worth, W.R., and **LaLumiere, R.T.** (2018). D1, but not D2, receptor blockade within the infralimbic cortex and medial orbitofrontal cortex impairs the reinstatement of cocaine seeking in a region-specific manner. Addiction Biology, 2: 16-27. doi: 10.1111/adb.12442

31. ***LaLumiere, R.T.,** McGaugh, J.L., and McIntyre, C.K. (2017). Emotional modulation of learning and memory: Pharmacological implications. Pharmacological Reviews, 69: 236-255. doi: 10.1124/pr.116.013474.

32. *Gutman, A.L., Nett, K.E., Cosme, C.V., Worth, W.R., Gupta, S.C., Wemmie, J.A., and **LaLumiere, R.T**. (2017). Extinction of cocaine seeking requires a window of infralimbic pyramidal neuron activity after unreinforced lever presses. Journal of Neuroscience, 37: 6075-6086. doi: 10.1523/JNEUROSCI.3821-16.2017.

33. *Ewald, V.A., and **LaLumiere, R.T**. (2018). Neural systems mediating the inhibition of cocaine-associated memories. Pharmacology, Biochemistry, and Behavior, 174:53-63. doi: 10.1016/j.pbb.2017.07.006.

34. *Wahlstrom, K.L., Huff, M.L., Emmons, E.B., Freeman, J.H., Narayanan, N.S., McIntyre, C.K., and **LaLumiere, R.T.** (2018). Basolateral amygdala inputs to the medial entorhinal cortex selectively

modulate the consolidation of spatial and contextual learning. Journal of Neuroscience, 38: 2698-2712. doi: 10.1523/JNEUROSCI.2848-17.2018.

35. *Muller Ewald, V.A., De Corte, B.J., Gupta, S.C., Lillis, K.V. Narayanan, N.S., Wemmie, J.A., and **LaLumiere, R.T**. (2019). Attenuation of cocaine seeking in rats via enhancement of infralimbic cortical activity using stable step-function opsins. Psychopharmacology, 236: 479-490. doi: 10.1007/s00213-018-4964-y.

36. *Gutman, A.L., Cosme, C.V., Noterman, M.F., Worth, W.R., Wemmie, J.A., and **LaLumiere, R.T**. (2020). Overexpression of ASIC1A in the nucleus accumbens of rats potentiates cocaine-seeking behavior. Addiction Biology, 25. doi: 10.1111/adb.12690.

37. **Ghobbeh, A., Taugher, R., Alam, S., Fan, R., **LaLumiere, R.T**., and Wemmie, J.A. (2018). A novel role for acid-sensing ion channels (ASIC1A) in Pavlovian reward conditioning. Genes, Brain and Behavior, doi: 10.1111/gbb.12531. [Epub ahead of print].

38. **Johnson, S., Emmons, E., Lingg, R., Anderson, R., Romig-Martin, S., **LaLumiere, R.T.**, Narayanan, N., Viau, V., and Radley, J.J. (2018). Prefrontal-bed nucleus circuit modulation of a passive coping response. Journal of Neuroscience, 39: 1405-1419. doi: 10.1523/JNEUROSCI.1421-18.2018

39. **Hannapel, R., Ramesh, J., Ross, A., **LaLumiere, R.T.,** Roseberry, A.G., and Parent, M.B. (2019). Postmeal optogenetic inhibition of dorsal or ventral hippocampal pyramidal neurons increases future intake. eNeuro. doi: 10.1523/ENEURO.0457-18.

40. *Lingg, R.T., Johnson, S.B., Emmons, E.B., Anderson, R.M., Romig-Martin, S.A., Narayanan, N.S., McGaugh, J.L., **LaLumiere, R.T**., and Radley, J.J. (2020). Bed nuclei of the stria terminalis modulate memory consolidation via glucocorticoid-dependent and -independent circuits. Proceedings of the National Academy of Sciences of the United States of America, 117: 8104-8114. doi: 10.1073/pnas.1915501117.

41. *Wahlstrom, K.L., Alvarez-Dieppa, A., McIntyre, C.K., and **LaLumiere, R.T**. (2021). The medial entorhinal cortex mediates basolateral amygdala effects on spatial memory and downstream activity-regulated cytoskeletal-associated protein expression. Neuropsychopharmacology, 46: 1172-1182. doi: 10.1038/s41386-020-00875-6.

42. **Briggs, S.B., Ware, C.B., Sharma, K., Davis, S., **LaLumiere, R.T.,** and Parent, M.B. (2021). Postmeal optogenetic inhibition of dorsal hippocampal principal neurons increases future intake in a time-dependent manner. Neurobiology of Learning and Memory, 183. doi: 10.1016/j.nlm.2021.107478.

43. *Roesler, R., Parent, M.B., **LaLumiere, R.T**., and McIntyre, C.K. (2021). Amygdala-hippocampal interactions in synaptic plasticity and memory formation. Neurobiology of Learning and Memory, 184: doi: 10.1016/j.nlm.2021.107490.

44. ****Meyer, H.C., Sangha, S., Radley, J.J., **LaLumiere, R.T.,** and Baratta, M.V. (2021). Environmental certainty influences the neural systems regulating threat and stress. Neuroscience and Biobehavioral Reviews, 131:1037-1055. doi: 10.1016/j.neubiorev.2021.10.014

45. *Nett, K.E., and **LaLumiere, R.T**. (2021). Infralimbic cortex functioning across motivated behaviors: Can the differences be reconciled? Neuroscience and Biobehavioral Reviews. 131: 704-721. doi: 10.1016/j.neubiorev.2021.10.002

46. *Muller Ewald, V.A., Kim, J., Farley, S.J., Freeman, J.H., and **LaLumiere, R.T**. (2022). Neurophysiological encoding of the inhibition of cocaine seeking in the rat infralimbic cortex. Addiction Biology. DOI:10.1111/adb.13106.

47. **Canto-de-Souza, L., Demetrovich, P.G., Plas, S., Souza, R.R., Epperson, J., Wahlstrom, K.L., Nunes-de-Souza, R.L., **LaLumiere, R.T**., Planeta, C.S., and McIntyre, C.K. (2021). Daily optogenetic stimulation of the left infralimbic cortex reverses extinction impairments in male rats exposed to single prolonged stress. Frontiers in Behavioral Neuroscience. doi: 10.3389/fnbeh.2021.780326.

48. **Gupta, S.C., Ghobbeh, A., Taugher, R.J., Fan, R., Hardie, J.B., **LaLumiere, R.T**., and Wemmie, J.A. (2022). Carbonic anhydrase 4 disruption prevents synaptic and behavioral adaptations induced by cocaine withdrawal. Science Advances. doi: 10.1126/sciadv.abq5058.

49. *Nett, K.E., and **LaLumiere, R.T**. (2023). Pair housing does not alter incubation of craving, extinction, and reinstatement after heroin self-administration in female and male rats. Behavioral Neuroscience, 137: 111-119. doi: 10.1037/bne0000544.

50. *Nett, K.E., Zimbelman, A.R., McGregor, M.S., Alizo Vera, V., Harris, M.R., and **LaLumiere, R.T.** (2023). Infralimbic projections to the nucleus accumbens shell and amygdala regulate the encoding of cocaine extinction learning. Journal of Neuroscience, 43: 1348-1359. doi: 10.1523/JNEUROSCI.2023-22.2022.

51. **Gupta, S.C., Taugher-Hebl, R.J., Hardie, J.B., Fan, R., **LaLumiere, R.T.**, and Wemmie, J.A. (2023). Effects of acid-sensing ion channel-1A (ASIC1A) on cocaine-induced synaptic adaptations. Frontiers in Physiology. doi: 10.3389/fphys.2023.1191275

52. *Glickman, B., and **LaLumiere, R.T**. (2023). Theoretical considerations for optimizing the use of optogenetics with complex behavior. Current Protocols, 3, e836. doi: 10.1002/cpz1.836.

53. *McGregor, M.S., and **LaLumiere, R.T.** (2023). Still a “hidden island”? The rodent insular cortex in drug seeking, reward, and risk. Neuroscience and Biobehavioral Reviews. doi: 10.1016/j.neubiorev.2023.105334.

54. *McGregor, M.S., Cosme, C.V. and **LaLumiere, R.T.** (2024). Insular cortex subregions have distinct roles in cued heroin seeking after extinction learning and prolonged withdrawal in rats. Neuropsychopharmacology, 49: 1540-1549. doi: 10.1038/s41386-024-01846-x.

55. *Glickman, B., Wahlstrom, K.L., Radley, J.J., and **LaLumiere, R.T.** (2024). Basolateral inputs to the nucleus accumbens shell modulate the consolidation of cued-response and inhibitory avoidance learning. Neurobiology of Learning and Memory. doi: 10.1016/j.nlm.2024.107988.

56. **Fuller, M.J., Andrys, N.R.R., Gupta, S.C., Ghobbeh, A., Kreple, C.J., Fan, R., Taugher-Hebl, R.J., Radley, J.J., **LaLumiere, R.T.**, and Wemmie JA. (2024). The role of acid-sensing ion channel 1A (ASIC1A) in the behavioral and synaptic effects of oxycodone and other opioids. International Journal of Molecular Sciences, 25. doi: 10.3390/ijms252111584.

## ***Non-refereed Articles***

*Book Chapters*

1 * Gutman, A. L., LaLumiere, R. T. Optogenetics in reward and drug addiction. K. Appasani (Ed.), *Optogenetics: From Neuronal Function to Mapping and Disease Biology*. Cambridge University Press. Accepted/In Press November 9, 2015

2 * LaLumiere, R. T. (2014). Dopamine and Memory. A. Meneses (Ed.), *Identification of Neural Markers Accompanying Memory*. Amsterdam: Elsevier.

3 * LaLumiere, R. T., Kalivas, P. W. (2012). Motivational Systems: Rewards and Incentive Value. I. Weiner, R. J. Nelson, & S. Mizumori (Eds.), *Handbook of Psychology (2nd ed.) Volume 3: Biological Psychology and Neuroscience*. Wiley.

*Encyclopedia Entry*

1 LaLumiere, R. T. Drug Priming. *Neuroscience and Biobehavioral Psychology*. Elsevier. Accepted/In Press December 9, 2015

2 * LaLumiere, R. T., Kalivas, P. W. (2010). Drug Priming. G. Koob, M. Le Moal, & R. Thompson (Eds.), *Encyclopedia of Behavioral Neuroscience*. Elsevier.

*Commentaries and Perspectives*

1 ** Kreple, C., Lu, Y., LaLumiere, R. T., Wemmie, J. (2014). *Drug abuse and the simplest neurotransmitter* (vol. 5, pp. 746-748). ACS Chemical Neuroscience.

2 * LaLumiere, R. T. (2013). *Opening the genome to reduce cocaine-seeking behavior* (vol. 110, pp. 2442-2443). Proceedings of the National Academy of Sciences of the United States of America.

3 * Müller Ewald, V. A., LaLumiere, R. T. (2019). Response-contingent optogenetics to discover the mechanisms of nicotine-cue associations. *Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology*.

## Grants

***Funded***
***Current***

June 2023 – March 2028 *Circuit versus stress hormonal influences in consolidation of fear memory strength and precision.*
R01 MH132223-01A1. Funded by NIH/NIMH. Award amount: **$2,320,181.** LaLumiere percent effort: 15%. Contact PI: Jason Radley. MPI: **RYAN T. LALUMIERE.**

April 2023 – January 2028 *Estradiol signaling pathways mediating sex differences in striatal synaptic plasticity.*
R01 DA056113-01A1. Award amount: **$3,262,065.** LaLumiere percent effort: 10%. Principal investigator: Kim Blackwell (Biomedical Engineering). Co-Investigator: Ted Abel (Neuroscience and Pharmacology). Co-Investigator: **RYAN T. LALUMIERE.**

Feb 2023 – Dec 2027 *Neural circuits and mechanisms underlying active and passive stress coping.*
R01 MH132207-01A1. Funded by NIH/NIMH. Award Amount: **$3,439,695**. LaLumiere percent effort: 15%. Contact PI: Jason Radley. **MPI: RYAN T. LALUMIERE**. Co-Investigator: Nandakumar Narayanan and Alan K. Johnson (University of Iowa).

Sept 2021 – July 2025 *Novel mechanisms for correcting opioid-induced synaptic abnormalities.*
R01 DA052953. Funded by NIH/NIDA. Award amount: **$2,321,445.00**. Percent effort: 10%. Principal investigator: John Wemmie. **Co-Investigator: Ryan T. LALUMIERE**.

July 2020 – April 2025 *Neural systems mediating the extinction and inhibition of cocaine seeking.*
R01 – DA049139. Funded by NIH/NIDA. Award amount: **$2,214,605.00**. Percent effort: 20%. **Principal Investigator: Ryan T. LALUMIERE**.

***Pending***

Sept 2025 – August 2030 *Non-opioid target for reversing opioid-induced synaptic and network changes underlying drug seeking.*
R01 Funded by NIH/NIDA. Award amount: **$3,058,565.** PI: John Wemmie (Psychiatry). LaLumiere percent effort: 8%. **Co-Investigator: Ryan LaLumiere.** Currently awaiting study section review.

July 2025 – August 2030 *Interactions between opioid addiction-related circuits and homeostatic hunger pathways*
R01 Funded by NIH/NIDA. Award amount: $2,884,410. PI: Deniz, Atasoy (Neuroscience and Pharmacology). LaLumiere percent effort: 10%. **Co-Investigator: Ryan LaLumiere.**
Currently awaiting study section review.

***Completed***

Sep 2019 - Jul 2025 *Neural systems controlling the inhibition of heroin seeking.* R01 - DA048055
Funded by NIH/NIDA. Award amount: **$2,133,375.00**. Percent effort: 20%. **Principal Investigator: Ryan T LALUMIERE**.

Mar 2019 - Nov 2022 *Neural Circuit Basis of Maladaptive Endocrine and Behavioral Responses Following Chronic Stress.* R01 MH119106A
Funded by NIH/NIMH. Percent effort: 10. Investigator/s Jason Radley (Principal Investigator), **RYAN T. LALUMIERE** (Co-Investigator).

Feb 2018 - Nov 2022 *Basolateral amygdala circuits in defensive behavior regulation R01 MH113325-01A1*
Funded by NIH/NIMH. Award amount: **$1,814,375.00**. Percent effort: 5. Investigator/s **Ryan LaLumiere** (Co-Investigator), John Wemmie (Principal Investigator), Nandakumar Narayanan (Co-Investigator).

Sept 2021 – Oct 2022 Diversity Supplement for Yasmine Sherafat – DA048055-S1. Funded by NIH/NIDA. Award amount: **$214,764**. Percent Effort: 0%. **Principal Investigator**: **Ryan T. LaLumiere**. This supplement covers postdoctoral fellow Dr. Yasmine Sherafat for work under R01 DA048055.

Sep 2018 - Jun 2021 *Hippocampal modulation of energy intake DK1114700*
Funded by NIH/NIDDK. Award amount: ($1,292,280.00) Percent effort: 5. Investigator/s Marise Parent (Principal Investigator), Ryan T. LALUMIERE (Co-Investigator).

Mar 2015 - Feb 2022 *Neural pathways modulating memory consolidation R01 – MH104384*
Funded by NIH/NIMH. Award amount: ($1,935,000.00). Investigator/s Ryan T. LaLumiere (Principal Investigator), Christa K. McIntyre (Multi-PI).

Sep 2014 - Jun 2019 *Modulation of Synaptic and Behavioral Measures of Addiction by Acid-sensing Ion Channels R01 – DA037216*
Funded by NIH/NIDA. Award amount: ($1,793,125.00). Investigator/s John

Wemmie (Principal Investigator), Ryan T. LaLumiere (Multi-PI).

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| Aug 2017 - Jul 2018 | *Circuits and cellular mechanisms of chronic stress-induced HPA axis hyperactivity R56MH095972*<br>Funded by NIH/NIMH. Percent effort: 5. Investigator/s Jason Radley (Principal Investigator), Ryan LaLumiere (Co-Investigator). |
| Sep 2013 - May 2018 | *Isolating the Extinction Circuit for Cocaine Seeking R01 – DA034684*<br>Funded by NIH/NIDA. Award amount: ($1,665,000.00). Investigator/s Ryan T. LaLumiere (Principal Investigator). |
| Sep 2012 - Aug 2013 | *Optogenetic modulation of memory consolidation for footshock-based learning R21 – MH097111*<br>Award amount: ($275,000.00). |
| Dec 2012 | *Old Gold Summer Fellowship*<br>Award amount: ($6,000.00). The role of the rostromedial tegmental nucleus in the extinction of cocaine-seeking |

## Invited talks/lectures/conference/short course presentations

a. International

- Symposium panel, presenter and chair. Title of my talk: “Frontal cortical systems in rats regulating the extinction and inhibition of cocaine seeking”. Winter Conference on Brain Research, Jan/Feb 2024, Breckenridge, CO. Part of a panel entitled “Neural systems regulating the competition for control over motivated behavior.”

- Panel member of a special Professional Development session at Winter Conference on Brain Research, Jan/Feb 2022. Panel was entitled “The lifecycle of an NIH grant application”.

- Symposium panel, presenter. Title of talk: “Basolateral amygdala-entorhinal cortex influences on contextual and spatial memory consolidation”. Winter Conference on Brain Research, Jan/Feb 2022. Part of a panel entitled “New developments on novel circuits that govern responses to threat and safety.”

- Symposium panel, presenter. Title of talk: “Infralimbic cortex and the inhibition of drug-seeking behavior: Insights from multiple drugs and approaches”. International Behavioral Neuroscience Society, Puerto Vallarta, Mexico. June 2021. (Part of a panel entitled: “The cognitive basis of drug relapse: Neural circuitry underlying extinction and reinstatement of reward-seeking behavior”)

- Chair, symposium panel. “Neural systems regulating responses to stress, threat, and safety”. International Behavioral Neuroscience Society, Puerto Vallarta, Mexico. June 2021.

- Symposium panel. Title of talk: “Specific projections from the amygdala modulate the consolidation of different aspect of memory”. International Behavioral Neuroscience Society, Boca Raton, FL. June 2018. Chair and presenter.

- Symposium panel. Title of talk: “Prefrontal mechanisms underlying the extinction and inhibition of cocaine seeking”. International Learning and Memory meeting, Huntington Beach, CA. April 2018. Chair and presenter.

- Panelist for Mini-Symposium at annual Society for Neuroscience Meeting. Title of talk: “*The infralimbic cortex: What does it actually do during cocaine-seeking behavior?”* Washington, D.C. November 2017.

- Invited talk. "*Corticolimbic regulation of behavior: Insights from multiple memory systems and cocaine seeking*". Sapienza University of Rome, Rome, Italy. September 2017.

- Symposium panel. Title of talk: "*Recent insights into the Infralimbic Cortical Regulation of the Extinction and Inhibition of Cocaine seeking".* European Behavioral Pharmacology Society annual meeting. September 2017. Heraklion, Greece. Served as chair and presenter.

- Invited talk. "Investigations into the neural circuits involved in memory consolidation and cocaine-seeking behavior." University of New South Wales, Sydney, Australia. February 2016.

- Invited talk. "Investigations into the neural circuits involved in memory consolidation and cocaine-seeking behavior." Florey Institute of Neuroscience and Mental Health, University of Melbourne, Australia. February 2016.

- Invited talk. "Investigations into the neural circuits involved in memory consolidation and cocaine-seeking behavior." Translational Research Institute, Queensland University of Technology, Brisbane, Australia. February 2016.

- Title: "Short Course in Optogenetics". I provided a short course in optogenetics, comprising three onehour lectures given to graduate students at the Universidad Nacional Autonoma de Mexico (UNAM) in Queretaro, Mexico. The course focused on: 1) the history and background on the opsins and the basic description of the opsins; 2) the technical aspects of opsin delivery and light delivery to neurons; and 3) the benefits/drawbacks of optogenetics and a tour through selected optogenetic findings. August 16, 2012.

- Title: "Neural circuits driving and suppressing drug-seeking behavior in rats". August 17, 2012. Colloquium at the Universidad Nacional Autonoma de Mexico (UNAM) in Queretaro, Mexico.

b. <u>National</u>

- Invited talk, "Neural systems governing the competition for control over drug-seeking behavior". Center for Molecular and Behavioral Neuroscience, Rutgers University, Newark. October 2025.

- Invited talk, "Neural systems governing the competition for control over drug-seeking behavior". University of Minnesota. April 2024.

- Invited talk, "Neural systems governing the competition for control over drug-seeking behavior". Medical College of Wisconsin. March 2024.

- Invited talk, "Neural systems governing the competition for control over drug-seeking behavior". University of Texas-El Paso. October 27, 2023.

- Invited talk, "Mechanisms mediating competing motivations for control over drug-seeking behavior". California State University – San Marcos. April 2023.

- Invited talk, "Mechanisms mediating competing motivations for control over drug-seeking behavior". University of Pittsburgh, Pittsburgh, PA. March 2023.

- Presenter, Frontal Cortex Gordon Research Conference: Frontal Cortex Structure and Function Across Model Systems. Title of talk: "PFC Subregions in the Regulation of Drug Seeking". Ventura, CA, August 2022.

- Invited talk, “Frontal cortical mechanisms for inhibiting drug seeking in rodents”. University of Tennessee Health Science Center, November 2021.

- Presenter, Annual Pavlovian Society meeting. “Amygdala influences on memory consolidation: Insights from multiple memory systems”. Iowa City, IA, October 2018.

- Invited talk. “Amygdala influences on memory consolidation: Insights from multiple memory systems”. Scripps Research Institute, Jupiter, FL. June 2018.

- Invited speaker for Presidential Symposium. Title: “Amygdala influences on memory consolidation: How emotionally arousing events influence our memories for them.” Psychiatric Research Society, Park City, Utah. February 2017.

- Chair/organizer and presenter for Symposium Panel entitled, “*The Extinction and Inhibition of Drug Seeking and Fear-related Memories: Mechanisms and Therapeutic Targets*”. My presentation is entitled: “Recent insights into the infralimbic cortical regulation of the extinction and inhibition of cocaine seeking”. American College of Neuropsychopharmacology. Hollywood, Florida. December 2016.

- Invited talk. “Optogenetic approaches in studies of drug addiction and memory consolidation.” Bradley University, Peoria, IL. September 2016.

- Invited talk. “Prefrontal cortical regulation of cocaine seeking: Insights from extinction and discriminative stimuli-based tasks.” Marquette University, Milwaukee, WI. September 2016.

- Invited talk. “Back-and-forth influences: How cocaine alters the prefrontal cortex and the prefrontal cortex alters cocaine seeking.” Medical University of South Carolina, Charleston, SC. June 2016.

- Chair and organizer for Symposium Panel entitled, “*Novel Molecular Targets in Cocaine Addiction*”. American College of Neuropsychopharmacology. Hollywood, Florida. December 2015.

- Invited talk. “Prefrontal mechanisms underlying cocaine addiction”. Rutgers University, Brain Health Institute. November 2015.

- Invited talk. “Prefrontal mechanisms underlying cocaine addiction”. University of Pennsylvania, Department of Psychology. November 2015.

- Invited talk. “Prefrontal mechanisms underlying cocaine addiction”. University of Texas-Dallas, School of Behavioral and Brain Sciences. June 17, 2015.

- Chair and organizer for symposium panel entitled, “The double black diamonds of stress and drug abuse: Crossing trails in the mesocorticolimbic system”. Winter Conference on Brain Research, January 24-30, 2015. Big Sky, Montana.

- Title: “Role of the amygdala in forebrain modulation of anxiety-related learning and memory”. March 29, 2014. Part of symposium entitled, “Amygdala and pH Chemosensitivity in Panic Versus Anxiety.” Annual meeting for the Anxiety and Depression Association of America, Chicago, IL.

- Chair and organizer for panel entitled, “Midbrain systems and the regulation of aversion and reward”. Presentation as part of this panel: “Driving and inhibiting cocaine-seeking behavior: Interactions between cortical and midbrain systems”. Winter Conference on Brain Research, January 25, 2014 – January 30, 2014. Steamboat Springs, CO.

- Title: “Optogenetic uses in drug-seeking behavior and memory consolidation”. May 2, 2013. Presentation as part of a symposium. Optogenetics-2013 Meeting, Waltham, MA.

- Title: “Competition for control over cocaine-seeking behavior: Opposing roles within the prefrontal cortex”. 1/26/11. Winter Conference on Brain Research. Keystone, CO. Part of panel titled: To ski or not to ski, that is the cortical question: Prefrontal regulation of behavioral and cognitive flexibility. Organizer and chair of panel: LaLumiere.

- Title: “Regulation of heroin-seeking behavior by prefrontal cortical inputs to the nucleus accumbens”. 1/24/10. Winter Conference on Brain Research. Breckenridge, CO. Part of panel titled: Glutamate’s Roles in Opiate Addiction.

c. University of Iowa

- Colloquium for Psychological and Brain Sciences. “Multiple memory systems: Historical tour to current work in the laboratory.” September 2022.

- Presentation for Behavioral-Biomedical Interface Program seminar. “How to give a scientific talk *effectively*”. September 2021.

- Invited talk for Department of Biology. “Prefrontal mechanisms underlying cocaine addiction”. January 2016.

- Presentation at Neuroscience Research Day, Neuroscience Program, University of Iowa. Title: “Driving and inhibiting cocaine-seeking behavior: Interactions between cortical and midbrain systems”. November 11, 2014.

- Presentation at the Molecular Psychiatry Interest Group, University of Iowa. Title: “Role of the amygdala in forebrain modulation of anxiety-related learning and memory”. April 1, 2014.

- Title: “Drug addiction: Lessons from neurobiology”. November 26, 2012. Special colloquium for Clinical Psychology area in Department of Psychology at University of Iowa.

- Title: “Neural circuits governing drug-seeking behavior in rats: Lessons from studies with heroin and cocaine”. March 28, 2012. Brown Bag series for Department of Psychology.

# TEACHING

## Other teaching contributions

***Individual lecture for MOHD IV***

Oct 2015 - May 2016 — I was asked to participate in the new medical school curriculum by giving a double lecture for the Mechanisms of Health and Disease (MOHD) IV course. My lecture to the medical students was entitled "Reward and Salience (including substance use disorders)" and the first one was delivered on October 16, 2015

## Undergraduate mentorship

- Summer Research Opportunity Program, a program designed to provide promising underrepresented undergraduate students with in-depth research experiences.
    - Summer 2011. Alexandria Pitzer, student from Pennsylvania State University.
    - Summer 2012. Mentored Alyse Gray, student from Ohio State University.
    - Summer 2014. Mentored Krystal Wynter, University of Virgin Islands; and Salimot Ojerinde, Indiana University.
    - Summer 2015. Mentored Stephanie Munoz, Vassar University.
    - Summer 2016. Mentored Sandry Garcia, Brooklyn College; and AnnMarie Bennett, Adams State University.
- Iowa Center for Research by Undergraduates (ICRU) Fellowships
    - Academic year 2011-2012. Nathan Myhre
    - Summer 2012. Julia Collison
    - Academic year 2012-2013 Julia Collison
    - Summer 2013. Alexandra Toft.
    - Academic year 2013-2014. Erin Naffziger.
    - Summer 2015. Adiceson Peppels.
    - Academic year 2015-2016. Chelsea Ryan
    - Fall 2016. Emily Beltz.
    - Spring 2017. Madison Owen.
    - Summer 2017. Katherine (Katie) Lillis.
    - Academic year. 2017-2018. Jesse Gray.
    - Spring 2018. Cody Zak.
    - Summer 2018. Christina Grimes
    - Academic year 2018-2019. Kaylie Lyons
    - Summer 2019. Maria Greufe.
    - Academic year 2020-2021. Gabriel Gaudencio.
- Core Research Mentor (2016 – present), Iowa Biosciences Academy. Internal program designed to prepare promising underrepresented minorities currently at the University of Iowa for graduate school in the biosciences. I provided mentoring for the following students in the program.
    - Danny Carson – 2021 – present.
    - Vanessa Alizo – 2018 – 2020. Performed her Honors project for Honors in the Major (neuroscience) in my laboratory. Currently a Ph.D. (neuroscience) student at the University of California, Irvine.
    - Zosia (Zoe) Horak. Spring 2016 – 2017.

- Rachel Vasquez. Summer and Fall 2015.

- Undergraduates completing honors theses in my laboratory:
    - Jesse Gray, 2016-2018.
    - Vanessa Alizo, 2018-2020, defended her honors thesis in Neuroscience, Spring 2020
    - Gabriel Gaudencio, 2019 – 2022.

- Three undergraduates designated Biological Psychology as an honors course (Fall 2011). Students wrote 5-page papers on special topic.
- One undergraduate designated Biological Psychology as an honors course (Fall 2012). Student wrote a 5-page paper on special topic.
- Two undergraduates designated Biological Psychology as an honors course (Fall 2013). Students wrote a 5-page paper on special topic.

## Graduate student mentoring/advising

***Graduate (Ph.D.) students in LaLumiere laboratory***

| | |
|---|---|
| ***In progress*** | |
| August 2024 – present | Jones, Kaitlyn. Behavioral and Cognitive Neuroscience, Psychology. University of Iowa. Serve as dissertation advisor/chair and mentor. |
| June 2024 - present | Liu, Hanxiao (Hudson). Interdisciplinary Neuroscience Program, University of Iowa. Serve as dissertation advisor/chair and mentor. |
| August 2023 - present | Holm, Aspen. Behavioral and Cognitive Neuroscience, Psychology. University of Iowa. Serve as dissertation advisor/chair and mentor. |
| August 2020 - Present | Zimbelman, Alexa. Behavioral and Cognitive Neuroscience, Psychology. University of Iowa. Serve as dissertation advisor/chair and mentor. Received an **F31 NRSA** (Feb. 2024 – present) under me. |
| June 2020 - Present | McGregor, Matt. Interdisciplinary Neuroscience Program, University of Iowa. Serve as dissertation advisor/chair and mentor. |
| ***Completed*** | |
| June 2019 - Present | Glickman, Bess Interdisciplinary Neuroscience Program, University of Iowa, Serve as dissertation advisor/chair and mentor |
| August 2016 – September 2022 | Nett, Kelle Interdisciplinary Neuroscience Program, Interdisciplinary, University of Iowa, Serve as dissertation advisor/chair and mentor |
| August 2015 – May 2021 | Wahlstrom, Krista Behavioral and Cognitive Neuroscience, Psychology, Psychological and Brain Sciences, University of Iowa, Servd as dissertation advisor/chair and mentor. Received an **F31 NRSA** under me. |
| June 2015 – May 2020 | Muller Ewald, Victoria Interdisciplinary Neuroscience Program, University of Iowa, Served as dissertation advisor/chair and mentor. |

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|---|---|
| August 2012 - September 2017 | Cosme, Caitlin Behavioral and Cognitive Neuroscience, Psychology, Psychological and Brain Sciences, University of Iowa, Served as dissertation advisor/chair and mentor. Received an **F31 NRSA** under me. |
| August 2011 - September 2016 | Huff, Mary Behavioral and Cognitive Neuroscience, Psychology, Psychological and Brain Sciences, University of Iowa, Served as dissertation advisor/chair and mentor. Received an **F31 NRSA** under me. |

***PhD - Dissertation Committee Member (for students not in LaLumiere laboratory)***

| | |
|---|---|
| 2022 – present | Wachter, Shannon. Psychology. Freeman laboratory. |
| 2022 – present | Gupta, Stuti. Psychology. Freeman laboratory. |
| 2021 – 2024 | Pierson, Samantha. Neuroscience. Marcinkiewcz laboratory. |
| 2021 – 2024 | Houlton, Sydney. Neuroscience. Strathearn laboratory. |
| 2021 – 2024 | Skog, Timothy. Neuroscience. Radley laboratory. |
| 2021 – 2023 | Sodoma, Matthew. Psychology, Voss laboratory |
| 2021 – 2022. | Glanz, Ryan. Psychology. Blumberg laboratory. |
| 2020 – 2021. | Heslin, Kelsey. Neuroscience. Parker laboratory. |
| 2019 – 2021 | Harmata, Gail. Neuroscience. Wemmie laboratory. |
| 2019 – 2022. | Broschard, Matthew. Psychology. Freeman laboratory. |
| 2019 – 2022 | Lingg, Ryan. Psychology. Radley laboratory. |
| 2019 - 2021 | Farley, Sean. Psychology. Freeman laboratory. |
| 2019 – 2020 | Pak, Thomas. Neuroscience. Sheffield laboratory. |
| 2016 - 2018 | Del Rio Bermudez, Carlos, Psychology. Blumberg laboratory |
| 2015 - 2017 | Johnson, Shane. Neuroscience. Radley laboratory. |
| Summer 2015 - Fall 2018 | Weng, Timothy. Psychology. Voss laboratory. |
| Fall 2015 - Spring 2018 | Mukherjee, Didhiti. Psychology. Blumberg laboratory. |
| Spring 2015 - Spring 2018 | Anderson, Rachel. Psychology. Radley laboratory |
| 2014 - Spring 2016 | Tiriac, Alexander. Psychology. Blumberg laboratory. |
| 2014 - Spring 2015 | Hurley, Seth. Psychology. Johnson laboratory. |
| 2013 - Spring 2015 | Bigelow, James. Psychology. Poremba laboratory. |
| 2013 - 2014 | Steinmetz, Adam. Psychology. Freeman laboratory. |
| 2012 - 2014 | Gaznick, Natassia. Neuroscience. Tranel laboratory. |
| 2011 - Spring 2012 | Todd, William D. Psychology. Blumberg laboratory. |

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| ***External students (non-UI)*** | |
| 2023 | Dana Smith. University of Pittsburgh. Defended in March 2023. Laboratory of Mary Torregrossa. |
| 2022 – present | Nicole Cook. University of Texas-San Antonio. Thesis proposal in Fall 2022. Laboratory of Isabel Muzzio. |
| 2021 – present | Luisa Alatorre – Rutgers University-Newark – Thesis proposal August 2022. Laboratory of Denis Pare. |
| 2017 - 2019 | Vasiliki Kanta-Chantzi – Rutgers University-Newark – Defended May 2019. Laboratory of Denis Pare. |

***Comprehensive Exam Committee for Neuroscience Program (that I can remember)***

| | |
|---|---|
| Summer 2021 | Angela Richardson, Blumberg Laboratory |
| Summer 2021 | Samantha Pierson, Marcinkewcz laboratory |
| Summer 2019 | Timothy Skog, Radley laboratory |
| Summer 2018 | Thomas Pak, Sheffield Laboratory |
| Summer 2018 | Tien Tong |

***Research Advisory Committee***

| | |
|---|---|
| Fall 2023 – present | Aspen Holm. LaLumiere |
| Fall 2023 – present | Emily Schulz. Radley |
| Fall 2022 – present | Khamma, Jacqueline (Jae). Radley |
| Fall 2022 – Summer 2023 | Kabasele, Shion. LaLumiere |
| Fall 2021 – present | Ahmad, Midha. Blumberg |
| Fall 2020 - present | Zimbelman, Alexa. LaLumiere |
| Fall 2019 – present | Hinz, Dalton. Radley |
| Fall 2018 – | Wachter, Shannon. Freeman |

| | |
|---|---|
| Spring 2021 | |
| Fall 2016 – Spring 2019 | Lingg, Ryan. Radley |
| Fall 2015 – Spring 2018 | Wahlstrom, Krista. LaLumiere |
| Fall 2014 - Spring 2016 | Bowden, Jessica, Poremba |
| Fall 2013 - Spring 2015 | Del Rio, Carlos, Blumberg |
| Fall 2012 - Spring 2014 | Anderson, Rachel, Radley |
| Fall 2012 - Spring 2014 | Cosme, Caitlin |
| Fall 2012 - Spring 2014 | Mukherjee, Didhiti, Blumberg |
| Fall 2011 - Spring 2013 | Brzykcy, Stephen, Wasserman |
| Fall 2011 - Spring 2013 | Davis, Tobin, Freeman |
| Fall 2011 - Spring 2013 | Huff, Mary L. |
| Fall 2010 - Spring 2012 | Hurley, Seth, Johnson |
| Fall 2010 - Spring 2012 | Tiriac, Alexander, Blumberg |

**Professional Mentoring**

***Postdoctoral fellows***

| | |
|---|---|
| July 2021 – September 2022 | Sherafat, Yasmine – now tenure-track faculty at Cal State – San Marcos |
| June 2021 – Feb 2023 | Farley, Sean |
| August 2013-July 2017 | Elliott (Schwager-Gutman), Andrea |

# SERVICE

## Professional

*Grant reviewing*

2021-present

- **Regular member**, Neurobiology of Motivated Behavior (NMB) study section. NIH, July 2021 – present

2021

- Ad hoc member, Molecular Neuropharmacology and Signaling (MNPS) study section. NIH. February 25-26, 2021

2020

- Ad hoc member, Molecular Neuropharmacology and Signaling (MNPS) study section. NIH. October 22-23, 2020.
- Ad hoc member, Neurobiology of Motivated Behavior (NMB) study section. NIH. June 11-12, 2020.

2019

- Ad hoc member, Special Emphasis Panel. CEBRA grant review for NIDA (ZDA1-SXM-M-04. November 4, 2019.
- Ad hoc member, Special Emphasis Panel (conflict panel). ZRG1-BBBP-X-03 for NIH. November 1, 2019.
- Ad hoc member, Special Emphasis Panel. CEBRA grant review for NIDA. (ZDA1-SXM-M-22). March 27, 2019.

2018

- Ad hoc member, Special Emphasis Panel (Conflict panel). ZRG1-IFCN-Y-02 for NIH. October 31, 2018.
- Ad hoc member, Biobehavioral Regulation, Learning, and Ethology (BRLE) study section. NIH. February 15-16, 2018.

2017

- Ad hoc member, Neurobiology of Learning and Memory (LAM) study section. NIH. October 24, 2017.
- Ad hoc member, Special Emphasis Panel (ZRG1-BBBP-Y-02). July 20, 2017.

2016

- Ad hoc member, Neurobiology of Learning and Memory (LAM) study section. NIH. November, 2016.
- Ad hoc member, Neurobiology of Learning and Memory (LAM) study section. NIH. February 11, 2016.

2015 and earlier

- K99/R00 Review for NIMH. June 2015.
- K99/R00 Review for NIMH. November 10, 2014.
- Swiss National Science Foundation. Ambizione grant review. May 2014.
- National Institute on Drug Abuse. Special Emphasis Panel/Scientific Review Group (2014/01 ZRG1 MDCN-G (91) S meeting. Internet Assisted Review for one grant application. January 6, 2014.
- National Institute on Drug Abuse. Special Emphasis Panel/Scientific Review Group 2013/05 ZDA1 SXC-E meeting on 3-28-13. Internet Assisted Review for two grant applications.
- National Science Foundation Proposal Review Panel. Modulation within the Neural Systems Cluster. 10/3/10-10/6/10.
- Mail-in reviewer for National Science Foundation Proposal Review Panel. Modulation within the Neural Systems Cluster. October 2011.
- Mail-in reviewer for Québec Consortium for Drug Discovery (CQDM). May 2011.
- Mail-in reviewer for the RCMI (Research Centers in Minority Institutions) Small Grant Initiative at the University of Puerto Rico. February 2012.

*Manuscript reviewing*

*2024 – present*

- Reviewing editor at eLife

Though I do not always keep track of every paper I review, over the past review period, I know that I have reviewed at least 50 new manuscripts (not including re-reviews of resubmissions).

*External letter writer*

- Individual being recommended for conferral of tenure in Investigator-Educator pathway at the University of Pittsburgh (2024)
- Individual being promoted to Full Professor at Emory University (2024)
- Individual being promoted to Associate Professor with tenure at Texas A&M University (2023)
- Individual being promoted to Associate Professor in the tenure stream (Investigator – Educator pathway) at the University of Pittsburgh (2021)
- Individual being promoted to Associate Professor without tenure at Medical University of South Carolina (2018)
- Individual being promoted to Associate Professor with tenure at Emory University (2018)

*External Ph.D. thesis committee member*

- Luisa Alatorre – Rutgers University-Newark – Thesis proposal December 2021.

- Vasiliki Kanta-Chantzi – Rutgers University-Newark – Defended May 2019.

*Other service*

- Member; Constitution, Rules, and Ethics Committee. American College of Neuropsychopharmacology. This committee is responsible for considering any changes to the constitution or by-laws presented to the committee and address any ethics issues brought before the committee. Jan 2024 – December 2026.

- Member, Education and Training Committee. American College of Neuropsychopharmacology (ACNP). 2015-2018. This committee is responsible for organizing the educational components of ACNP and includes running the travel award program, reviewing and evaluating travel award applicants, and running the different mentoring programs at ACNP.

- Mentor for the Neuroscience Scholars Program (NSP), Fall 2016 – 2018. The NSP is a mentored program run by the Society for Neuroscience that provides multiyear support and mentorship for graduate and postdoctoral trainees that are members of underrepresented groups. As part of this program, mentees are paired with mentors, who then serve as a mentor for the student for the several years that the mentee is part of the program. The overall goal of the program is to increase the number of people in neuroscience who are members of underrepresented groups. As part of this, I have participated in NSP activities at the SFN annual neuroscience meeting, beginning in Fall 2016.

- Reviewer for a chapter of the Biological Psychology textbook (Breedlove, Watson, and Rosenzweig) in preparation for a new edition (7$^{th}$ edition). February 2012, June 2015.

- Mentor for the Neuroscience Scholars Program (NSP), Fall 2012 – Fall 2014. The NSP is a mentored program run by the Society for Neuroscience that provides multiyear support and mentorship for graduate and postdoctoral trainees that are members of underrepresented groups. As part of this program, mentees are paired with mentors, who then serve as a mentor for the student for the several years that the mentee is part of the program. The overall goal of the program is to increase the number of people in neuroscience who are members of underrepresented groups. As part of this, I have participated in NSP activities at the SFN annual neuroscience meeting, beginning in Fall 2012 through the fall of 2014

- Proposal review for a book entitled “The Wiley-Blackwell Handbook on the Cognitive Neuroscience of Addiction”, edited by Stephen Wilson. February 2012.

- 2014 – 2016. Winter Conference on Brain Research, Program Committee, Assistant, assisted with poster selection.

## Department

2021 – present Director of Graduate Studies, Department of Psychological and Brain Sciences.

2019-2020. Chair, Faculty Search Committee for Clinical Science faculty member, Department of Psychological and Brain Sciences. As part of this, we were involved in the University's Path to Distinction program, serving as one of four departments in the pilot program. This search led to the successful hiring of Drs. Amanda McCleery and Bengi Baran.

2019 – 2020 Tenure review committee for an assistant professor, Member. Psychological and Brain Sciences.

2018 – 2019 Faculty Search Committee, Member. Department of Psychological and Brain Sciences. This search led to the successful hiring of Drs. Jiefeng Jiang, Dorit Kliemann, and James Traer.

2017 – 2021 Member, Teaching Observations Committee. Department of Psychological and Brain Sciences. This committee served as a group of faculty members charged with engaging in the annual classroom observations of instructors.

2010 – 2018 Animal Care and Use Committee, Member

2016 – 2018 Departmental Area Coordinator, Behavioral and Cognitive Neuroscience Training Area

2012 - 2017 Committee on Undergraduate Studies, Member

2015 Ad hoc committee for departmental organization, Member

## College

2022 - present Member of the Neuroscience Major Steering committee

2018 CLAS – Department Review Committee Member, Departmental Review of Health and Human Physiology.

2017 – 2021 Director of undergraduate studies for the Neuroscience major.

2017 – 2021 Honors Coordinator for Neuroscience Major. This involved coordinating the students were taking “Honors in the Major”, including approval of thesis proposals, approval of the final thesis, and managing the presentation of the thesis at the end of the semester.

2016 - 2017 Creation of Neuroscience major, Co-creator, Dr. Joshua Weiner (Biology) and I worked together to form the Neuroscience major, an interdisciplinary major between the Department of Biology and the Department of Psychological and

Brain Sciences. Currently, there are ~280 neuroscience majors.

2021 – 2022 Faculty Assembly (CLAS)

## University

2023-2024 Member, Search Committee for Associate Dean, Graduate College. Result: Dr. Ana Rodriguez-Rodriguez was hired as the new associate dean for academic affairs and graduate student success.

2019 – present Controlled substance in Research Committee, Member

2017 – present Iowa Neuroscience Institute Seminar Committee, Member

2014 - 2021 Awards Committee Chair for Neuroscience Graduate Program. This committee designed and administered 6 new awards for the students and oversees the administration of the Graduate College awards.

2014 – 2021 Executive Committee, Neuroscience Graduate Program. This committee provides oversight for the program and works with the director to provide feedback.

2014 – 2021 Center for Scientific Engagement, Board of Advisor