

Federico Sanabria, Ph.D.


Curriculum Vitae



URL: <https://www.dropbox.com/s/09eu1qcbdidbvjg/SanabriaCV.pdf?dl=0>
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General Information

Contact Information

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Behavioral Neuroscience and Comparative Psychology
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Email: Federico.Sanabria@asu.edu
Webpage: <https://psychology.clas.asu.edu/research/labs/basic-behavioral-processes-lab>
ResearcherID: A-7950-2008
ORCID  0000-0003-0719-6766

Education

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|-------------|---|
| 2000 – 2004 | M.A. and Ph.D., Experimental Psychology, State University of New York, Stony Brook, NY, USA. Committee Chair: Howard Rachlin. |
| 1996 | Professional degree (5-yr B.S. equivalent), Psychology, Universidad de los Andes, Bogotá, Colombia. |

Appointments

Department of Psychology, Arizona State University, Tempe, AZ, USA

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|----------------|---|
| 2024 – present | Professor |
| 2014 – 2024 | Associate Professor |
| 2008 – 2014 | Assistant Professor |
| 2008 | Postdoctoral Research Associate, Position funded by a grant from NIDA to Janet L. Neisewander. |
| 2004 – 2008 | Postdoctoral Research Associate, Position funded by grants from NIMH and NSF to Peter R. Killeen. |

Visiting Positions

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| 2015 | Visiting Research Scholar, School of Psychology, Universidad Nacional Autónoma de México, Mexico City, DF, Mexico. (Funded by DGAPA). |
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Honors and Awards

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| 2012 | NIDA/NIAAA/APA (Div. 28 & 50). Early Career Investigator Travel Award. |
| 2008 | American Psychological Association, Division 25 (Experimental Analysis of Behavior). B. F. Skinner New Research Award – Basic Research Category. |
| 1997 | First Congress of Psychology for Professionals in America (Mexico City, México).
Academic Excellence – Undergraduate Level, First Place. |
| 1993 | Latin American Association for Behavior Analysis and Modification (Bogotá, Colombia).
Undergraduate Essay on Behavior Analysis, First Place. |

Special Training

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| 2023 | Microcredential in Fostering a Culture of Inclusion and Belonging. Association of College and University Educators (ACUE). |
| 2019 | Certificate in Effective Teaching Instruction. Association of College and University Educators, American Council on Education (ACUE/ACE). |

Research

Research Interests

My research program is focused on fundamental cognitive and behavioral processes involved in animal learning and motivation. These processes are highly conserved phenotypes involved in various psychopathologies, from substance dependence to anxiety disorders. I seek to understand these processes through the development of computational models of motivated behavior. To validate these models, I rely on high-throughput behavioral assays implemented in laboratory animals. An important component of my research involves the design and validation of these assays.

Publications

Summary of Scientific Impact

Source: [Google Scholar](#)

Citations. All: 2111. Since 2019: 876. H-index: 26.

Publications are listed in reverse chronological order, then alphabetical. Last author is typically a senior member of the research team that provided oversight and guidance.

**Dr. Sanabria as senior author (typically last). *Dr. Sanabria as senior collaborating author (role explained in bullet point, including percent contribution). +Graduate student under direct supervision of Dr. Sanabria. ^Undergraduate student under direct supervision of Dr. Sanabria. #Postdoctoral or visiting scholar in Dr. Sanabria's laboratory.

Peer-Reviewed

In Press

1. **Sanabria, F.**, #Santos, C., Rajagopal, S., & Sasaki, T. (2024). Reversal learning in ant colonies. *International Journal of Comparative Psychology*, 37, 1. <https://doi.org/10.46867/ijcp.20778>

2023

2. +Gupta, T. A., & ***Sanabria, F.** (2023). Motivated to time: Effects of reinforcer devaluation and opportunity cost on interval timing. *Learning and Behavior*, 51, 308-320. <https://doi.org/10.3758/s13420-023-00572-6>

2022

3. Berberian, S., Patock-Peckham, J. A., Guarino, K., +Gupta, T., ***Sanabria, F.**, & Infurna, F. (2022). Does loneliness before the age of twelve indirectly affect impaired control over drinking, alcohol use, and problems through perceived stress? *Addictive Behaviors Reports*, 16, 100448. <https://doi.org/10.1016/j.abrep.2022.100448>
4. +Gupta, T. A., +Daniels, C. W., ^Espinoza, J. I., Smith, B. H., & ****Sanabria, F.** Assessing complex odor discrimination in mice using a novel instrumental patterning task. *Journal of Experimental Psychology: Animal Learning and Cognition*, 48(4), 358-369. <https://doi.org/10.1037/xan0000341>

2021

5. ^Berk, H. R., +Gupta, T. A., & ****Sanabria, F.** (2021). On the appropriate measure to estimate hyperbolic discounting rate (K) using the method of least squares. *Perspectives on Behavior Science*, 44(4), 667–682. <https://doi.org/10.1007/s40614-021-00306-x>
6. +Brackney, R. J., ^Garcia, R., & ****Sanabria, F.** (2021). Longer operant lever-press duration requirements induce fewer but longer response bouts in rats. *Learning and Behavior*, 49(3), 330–342. <https://doi.org/10.3758/s13420-021-00464-7>
7. Holter, M. C., Hewitt, L. T., Nishimura, K. J., Knowles, S. J., Bjorklund, G. R., Shah, S., ... Newbern, J. M. (2021). Hyperactive MEK1 signaling in cortical GABAergic neurons promotes embryonic parvalbumin neuron loss and defects in behavioral inhibition. *Cerebral Cortex*, 31(6), 3064–3081. <https://doi.org/10.1093/cercor/bhaa413>
8. ****Sanabria, F.** (2021) Pavlovian and instrumental conditioning. *Oxford Research Encyclopedia of Psychology*. <https://doi.org/10.1093/acrefore/9780190236557.013.784>

2020

9. Judd, J. M., Smith, E. A., Kim, J., Shah, V., ***Sanabria, F.**, & Conrad, C. D. (2020). Chronic stress has lasting effects on improved cued discrimination early in extinction. *Learning and Memory*, 27(8), 319–327. <https://doi.org/10.1101/LM.051060.119>
10. Patock-Peckham, J. A., Belton, D. A., D'Ardenne, K., Tein, J.-Y., Bauman, D. C., Infurna, F. J., ... McClure, S. M. (2020). Dimensions of childhood trauma and their direct and indirect links to PTSD, impaired control over drinking, and alcohol-related-problems. *Addictive Behaviors Reports*, 12, 100304. <https://doi.org/10.1016/j.abrep.2020.100304>
11. ****Sanabria, F.** (2020). Internal-clock models and misguided views of mechanistic explanations: A reply to Eckard & Lattal (2020). *Perspectives on Behavior Science*, 43(4), 779–790. <https://doi.org/10.1007/s40614-020-00268-6>
12. ***Sanabria, F.**, & Bell, M. C. (2020). Failure to find a distance effect in pigeon choice: Manipulating amount and delay of reinforcement. *Journal of the Experimental Analysis of Behavior*. <https://doi.org/10.1002/jeab.627>
13. #Santos, C., & ****Sanabria, F.** (2020). Past outcomes and time flexibly exert joint control over midsession reversal performance in the rat. *Behavioural Processes*, 171. <https://doi.org/10.1016/j.beproc.2019.104028>

2019

14. Alfaro, L., ***Sanabria, F.**, & Cabrera, R. (2019). The role of outcome unit size in the collective foraging strategies of rats. *International Journal of Comparative Psychology*, 32. Retrieved from <https://escholarship.org/uc/item/43v0k8wx>
15. +Gupta, T. A., +Daniels, C. W., Ortiz, J. B., Stephens, M., ^Overby, P., ^Romero, K., ... ****Sanabria, F.** (2019). The differential role of the dorsal hippocampus in initiating and terminating timed responses: A lesion study using the switch-timing task. *Behavioural Brain Research*, 376(August), 112184. <https://doi.org/10.1016/j.bbr.2019.112184>
16. ****Sanabria, F.**, +Daniels, C. W., +Gupta, T., & #Santos, C. (2019). A computational formulation of the behavior systems account of the temporal organization of motivated behavior. *Behavioural Processes*, 169, 103952. <https://doi.org/10.1016/j.beproc.2019.103952>

2018

17. +Daniels, C. W., ^Overby, P. F., & ****Sanabria, F.** (2018). Between-session memory degradation accounts for within-session changes in fixed-interval performance. *Behavioural Processes*, 153. <https://doi.org/10.1016/j.beproc.2018.05.004>
18. +Daniels, C. W., & ****Sanabria, F.** (2018). An associability decay model of paradoxical choice. *Journal of Experimental Psychology: Animal Learning and Cognition*, 44(3), 258–271. <https://doi.org/10.1037/xan0000179>
19. ^Overby, P. F., +Daniels, C. W., Del Franco, A., Goenaga, J., Powell, G. L., Gipson, C. D., & ****Sanabria, F.** (2018). Effects of nicotine self-administration on incentive salience in male Sprague Dawley rats. *Psychopharmacology*. <https://doi.org/10.1007/s00213-018-4829-4>
20. Rojas-Leguizamón, M., Baroja, J. L., ***Sanabria, F.**, & Orduña, V. (2018). Response-inhibition capacity in spontaneously hypertensive and Wistar rats: Acquisition of fixed minimum interval performance and responsiveness to D-amphetamine. *Behavioural Pharmacology*, 29(8), 668–675. <https://doi.org/10.1097/FBP.0000000000000411>
21. ^Romero, K., +Daniels, C. W., Gipson, C. D., & ****Sanabria, F.** (2018). Suppressive and enhancing effects of nicotine on food-seeking behavior. *Behavioural Brain Research*, 339, 130–139. <https://doi.org/10.1016/j.bbr.2017.11.023>

2017

22. Bell, M. C., & ***Sanabria, F.** (2017). Failure to find a distance effect in pigeon choice. *Journal of the Experimental Analysis of Behavior*, 108(1), 1–16. <https://doi.org/10.1002/jeab.259>
23. +Brackney, R. J., Cheung, T. H. C., & ****Sanabria, F.** (2017). A bout analysis of operant response disruption. *Behavioural Processes*, 141(Part 1). <https://doi.org/10.1016/j.beproc.2017.04.008>
24. +Daniels, C. W., & ****Sanabria, F.** (2017). About bouts: A heterogeneous tandem schedule of reinforcement reveals dissociable components of operant behavior in Fischer rats. *Journal of Experimental Psychology: Animal Learning and Cognition*, 43(3), 280–294. <https://doi.org/10.1037/xan0000144>

25. +Daniels, C. W., & ****Sanabria, F.** (2017). Interval timing under a behavioral microscope: Dissociating motivational and timing processes in fixed-interval performance. *Learning & Behavior*, 45(1), 29–48. <https://doi.org/10.3758/s13420-016-0234-1>
26. #Íbias, J., +Daniels, C. W., Miguéns, M., Pellón, R., & ****Sanabria, F.** (2017). The effect of methylphenidate on the microstructure of schedule-induced polydipsia in an animal model of ADHD. *Behavioural Brain Research*, 333, 211–217. <https://doi.org/10.1016/j.bbr.2017.06.048>
27. #Jiménez, Á. A., ***Sanabria, F.**, & Cabrera, F. (2017). The effect of lever height on the microstructure of operant behavior. *Behavioural Processes*, 140, 181–189. <https://doi.org/10.1016/j.beproc.2017.05.002>

2016

28. +Watterson, E., ^Spitzer, A., Watterson, L. R., +Brackney, R. J., Zavala, A. R., Olive, M. F., & ****Sanabria, F.** (2016). Nicotine-induced behavioral sensitization in an adult rat model of attention deficit/hyperactivity disorder (ADHD). *Behavioural Brain Research*, 312, 333–340. <https://doi.org/10.1016/j.bbr.2016.06.050>

2015

29. +Brackney, R. J., & ****Sanabria, F.** (2015). The distribution of response bout lengths and its sensitivity to differential reinforcement. *Journal of the Experimental Analysis of Behavior*, 104(2), 167–185. <https://doi.org/10.1002/jeab.168>
30. +Daniels, C. W., Fox, A. E., Kyonka, E. G. E., & ****Sanabria, F.** (2015). Biasing temporal judgments in rats, pigeons, and humans. *International Journal of Comparative Psychology*, 28, 1–18.
31. +Daniels, C. W., +Watterson, E., ^Garcia, R., +Mazur, G. J., +Brackney, R. J., & ****Sanabria, F.** (2015). Revisiting the effect of nicotine on interval timing. *Behavioural Brain Research*, 283, 238–250. <https://doi.org/10.1016/j.bbr.2015.01.027>
32. Íbias, J., Pellón, R., & ***Sanabria, F.** (2015). A microstructural analysis of schedule-induced polydipsia reveals incentive-induced hyperactivity in an animal model of ADHD. *Behavioural Brain Research*, 278, 417–423. <https://doi.org/10.1016/j.bbr.2014.10.022>
33. +Watterson, E., +Daniels, C. W., Watterson, L. R., Mazur, G. J., +Brackney, R. J., Olive, M. F., & ****Sanabria, F.** (2015). Nicotine-induced place conditioning and locomotor activity in an adolescent animal model of attention deficit/hyperactivity disorder (ADHD). *Behavioural Brain Research*, 291, 184–188. <https://doi.org/10.1016/j.bbr.2015.05.031>
34. +Watterson, E., +Mazur, G. J., & ****Sanabria, F.** (2015). Validation of a method to assess ADHD-related impulsivity in animal models. *Journal of Neuroscience Methods*, 252, 36–47. <https://doi.org/10.1016/j.jneumeth.2015.03.020>

2014 (Pre-Tenure: 2008-2014)

35. Hoffman, A. N., Lorson, N. G., ***Sanabria, F.**, Foster Olive, M., & Conrad, C. D. (2014). Chronic stress disrupts fear extinction and enhances amygdala and hippocampal Fos expression in an animal model of post-traumatic stress disorder. *Neurobiology of Learning and Memory*, 112. <https://doi.org/10.1016/j.nlm.2014.01.018>
36. +Mazur, G. J., ^Wood-Isenberg, G., +Watterson, E., & ****Sanabria, F.** (2014). Detrimental effects of acute nicotine on the response-withholding performance of spontaneously hypertensive and Wistar Kyoto rats. *Psychopharmacology*, 231(12), 2471–2482. <https://doi.org/10.1007/s00213-013-3412-2>
37. ****Sanabria, F.**, & ^Oldenburg, L. (2014). Adaptation of timing behavior to a regular change in criterion. *Behavioural Processes*, 101, 58–71. <https://doi.org/10.1016/j.beproc.2013.07.018>
38. Watterson, E., Zavala, A. R., Privitera, G. J., & Sanabria, F. (2014). Response-inhibition capacity and short-term memory are robust to the effects of high fat diet (HFD) during pre and periadolescence. *Universitas Psychologica*, 13(3). <https://doi.org/10.11144/Javeriana.UPSY13-3.rics>

2013

39. Cabrera, F., ***Sanabria, F.**, Jimenez, Á. A., & Covarrubias, P. (2013). An affordance analysis of unconditioned lever pressing in rats and hamsters. *Behavioural Processes*, 92, 36–46. <https://doi.org/10.1016/j.beproc.2012.10.003>

2012

40. +Brackney, R. J., Cheung, T. H. C., ^Herbst, K., +Hill, J. C., & ****Sanabria, F.** (2012). Extinction learning deficit in a rodent model of attention-deficit hyperactivity disorder. *Behavioral and Brain Functions*, 8(1), 59. <https://doi.org/10.1186/1744-9081-8-59>

41. Cheung, T. H. C., Neisewander, J. L., & ****Sanabria, F.** (2012). Extinction under a behavioral microscope: Isolating the sources of decline in operant response rate. *Behavioural Processes*, 90(1), 111–123. <https://doi.org/10.1016/j.beproc.2012.02.012>
42. +Hill, J. C., #Covarrubias, P., ^Terry, J., & ****Sanabria, F.** (2012). The effect of methylphenidate and rearing environment on behavioral inhibition in adult male rats. *Psychopharmacology*, 219(2), 353–362. <https://doi.org/10.1007/s00213-011-2552-5>
43. +Hill, J. C., ^Herbst, K., & ****Sanabria, F.** (2012). Characterizing operant hyperactivity in the Spontaneously Hypertensive Rat. *Behavioral and Brain Functions*, 8, 5. <https://doi.org/10.1186/1744-9081-8-5>
44. ^Mika, A., +Mazur, G. J., Hoffman, A. N., Talboom, J. S., Bimonte-Nelson, H. A., ***Sanabria, F.**, & Conrad, C. D. (2012). Chronic stress impairs prefrontal cortex-dependent response inhibition and spatial working memory. *Behavioral Neuroscience*, 126(5), 605–619. <https://doi.org/10.1037/a0029642>
45. Peartree, N. A., Hood, L. E., Thiel, K. J., ***Sanabria, F.**, Pentkowski, N. S., Chandler, K. N., & Neisewander, J. L. (2012). Limited physical contact through a mesh barrier is sufficient for social reward-conditioned place preference in adolescent male rats. *Physiology & Behavior*, 105(3), 749–756. <https://doi.org/10.1016/j.physbeh.2011.10.001>
46. Peartree, N. A., ***Sanabria, F.**, Thiel, K. J., Weber, S. M., Cheung, T. H. C., & Neisewander, J. L. (2012). A new criterion for acquisition of nicotine self-administration in rats. *Drug and Alcohol Dependence*, 124, 63–69. <https://doi.org/10.1016/j.drugalcdep.2011.12.011>

2011

47. +Brackney, R. J., Cheung, T. H. C., Neisewander, J. L., & ****Sanabria, F.** (2011). The isolation of motivational, motoric, and schedule effects on operant performance: A modeling approach. *Journal of the Experimental Analysis of Behavior*, 96(1), 17–38. <https://doi.org/10.1901/jeab.2011.96-17>
48. +Mazur, G. J., & ****Sanabria, F.** (2011). Spatial serial conditioning maintained with minimal temporal contingency. *Behavioural Processes*, 87(1), 135–141. <https://doi.org/10.1016/j.beproc.2011.01.004>
49. Podlesnik, C. A., & ***Sanabria, F.** (2011). Repeated extinction and reversal learning of an approach response supports an arousal-mediated learning model. *Behavioural Processes*, 87(1), 125–134. <https://doi.org/10.1016/j.beproc.2010.12.005>
50. Privitera, G. J., Zavala, A. R., ***Sanabria, F.**, & Sotak, K. L. (2011). High fat diet intake during pre and periadolescence impairs learning of a conditioned place preference in adulthood. *Behavioral and Brain Functions*, 7. <https://doi.org/10.1186/1744-9081-7-21>
51. Robles, E., Roberts, N. A., & ***Sanabria, F.** (2011). Dynamics of choice during estimation of subjective value. *Behavioural Processes*, 87(1). <https://doi.org/10.1016/j.beproc.2011.01.009>

2010

52. Barker, D. J., **Sanabria, F.**, Lasswell, A., Thrailkill, E. A., Pawlak, A. P., & Killeen, P. R. (2010). Brief light as a practical aversive stimulus for the albino rat. *Behavioural Brain Research*, 214(2), 402–408. <https://doi.org/10.1016/j.bbr.2010.06.020>

2009

53. Avila, I., Reilly, M. P., **Sanabria, F.**, Posadas-Sánchez, D., Chavez, C. L., Banerjee, N., ... Castañeda, E. (2009). Modeling operant behavior in the Parkinsonian rat. *Behavioural Brain Research*, 198(2), 298–305. <https://doi.org/10.1016/j.bbr.2008.11.033>
54. Cabrera, F., **Sanabria, F.**, Shelley, D., & Killeen, P. R. R. (2009). The “lunching” effect: Pigeons track motion towards food more than motion away from it. *Behavioural Processes*, 82(3), 229–235. <https://doi.org/10.1016/j.beproc.2009.06.010>
55. Killeen, P. R., **Sanabria, F.**, & Dolgov, I. (2009). The dynamics of conditioning and extinction. *Journal of Experimental Psychology: Animal Behavior Processes*, 35(4), 447–472. <https://doi.org/10.1037/a0015626>
56. Lefebvre, V. A., & **Sanabria, F.** (2009). Bipolar choice in the experimental chamber. *Psikhologicheskii Zhurnal*, 30(4). [Russian]
57. ****Sanabria, F.**, & Thrailkill, E. A. (2009). Pigeons (Columba Livia) approach Nash equilibrium in experimental matching pennies competitions. *Journal of the Experimental Analysis of Behavior*, 91(2), 169–183. <https://doi.org/10.1901/jeab.2009.91-169>
58. **Sanabria, F.**, Thrailkill, E. A., & Killeen, P. R. (2009). Timing with opportunity cost: Concurrent schedules of reinforcement improve peak timing. *Learning & Behavior*, 37(3), 217–229. <https://doi.org/10.3758/LB.37.3.217>

59. Thiel, K. J., **Sanabria, F.**, & Neisewander, J. L. (2009). Synergistic interaction between nicotine and social rewards in adolescent male rats. *Psychopharmacology*, 204(3), 391–402. <https://doi.org/10.1007/s00213-009-1470-2>
60. Thiel, K. J., **Sanabria, F.**, Pentkowski, N. S., & Neisewander, J. L. (2009). Anti-craving effects of environmental enrichment. *The International Journal of Neuropsychopharmacology*, 12(9), 1151–1156. <https://doi.org/10.1017/S1461145709990472>

2008 (Postdoc: 2004-2008)

61. Acosta, J. I., Thiel, K. J., **Sanabria, F.**, Browning, J. R., & Neisewander, J. L. (2008). Effect of schedule of reinforcement on cue-elicited reinstatement of cocaine-seeking behavior. *Behavioural Pharmacology*, 19(2), 129–136. <https://doi.org/10.1097/FBP.0b013e3282f62c89>
62. Lefebvre, V. A., & **Sanabria, F.** (2008). Matching by fixing and sampling: A local model based on internality. *Behavioural Processes*, 78(2). <https://doi.org/10.1016/j.beproc.2008.01.002>
63. **Sanabria, F.**, Acosta, J. I., Killeen, P. R., Neisewander, J. L., & Bizo, L. A. (2008). Modeling the effects of fluoxetine on food-reinforced behavior. *Behavioural Pharmacology*, 19(1), 61–70. <https://doi.org/10.1097/FBP.0b013e3282f3df9b>
64. **Sanabria, F.**, & Killeen, P. R. (2008). Evidence for impulsivity in the Spontaneously Hypertensive Rat drawn from complementary response-withholding tasks. *Behavioral and Brain Functions*, 4(1), 7. <https://doi.org/10.1186/1744-9081-4-7>

2007

65. **Sanabria, F.**, & Killeen, P. R. (2007). Better statistics for better decisions: Rejecting null hypotheses statistical tests in favor of replication statistics. *Psychology in the Schools*, 44(5), 471–481. <https://doi.org/10.1002/pits.20239>
66. **Sanabria, F.**, & Killeen, P. R. (2007). Temporal generalization accounts for response resurgence in the peak procedure. *Behavioural Processes*, 74(2), 126–141. <https://doi.org/10.1016/j.beproc.2006.10.012>

2006

67. Bizo, L. A., Chu, J. Y. M., **Sanabria, F.**, & Killeen, P. R. (2006). The failure of Weber's law in time perception and production. *Behavioural Processes*, 71(2–3), 201–210. <https://doi.org/10.1016/j.beproc.2005.11.006>
68. **Sanabria, F.**, Sitomer, M. T., & Killeen, P. R. (2006). Negative automaintenance omission training is effective. *Journal of the Experimental Analysis of Behavior*, 86(1), 1–10. <https://doi.org/10.1901/jeab.2006.36-05>

2003 (PhD Student)

69. **Sanabria, F.**, Baker, F., & Rachlin, H. (2003). Learning by pigeons playing against tit-for-tat in an operant prisoner's dilemma. *Learning & Behavior*, 31(4), 318–331. <https://doi.org/10.3758/BF03195994>

Books, Chapters, Commentaries, Editorials, and Other Contributions (Not Peer Reviewed)

1. ***Sanabria F.**, Craig, A. R., & Kyonka, E. (2023). SQAB 2022: New directions in learning research. *Behavioural Processes*, 210, 104902. <https://doi.org/10.1016/j.beproc.2023.104902>
2. ***Sanabria, F.**, Langdon, A., & Izquierdo, A. (2022). Timing, neural timescales, and temporal cognition. *Behavioral Neuroscience*, 136, 347-348. <https://doi.org/10.1037/bne0000538>
3. Mitchell, S. H., Craig, A. R., & ***Sanabria, F.**, Subramaniam, S. (2022). SQAB 2021: Translational research using computational approaches. *Behavioural Processes*, 200, 104703. <https://doi.org/10.1016/j.beproc.2022.104703>
4. ****Sanabria, F.** (2019). *Primer on learning and conditioning: A quantitative approach* (1st ed.). San Diego, CA: Cognella.
5. ***Sanabria, F.**, Podlesnik, C. A., & Mitchell, S. H. (2019). SQAB 2018: Biobehavioral processes. *Behavioural Processes*, 168, 103938. <https://doi.org/10.1016/j.beproc.2019.103938>
6. Podlesnik, C. A., & ***Sanabria, F.** (2018). SQAB 2017: Quantitative and comparative analyses of behavior. *Behavioural Processes*, 152, 1–2. <https://doi.org/10.1016/j.beproc.2018.05.003>
7. ****Sanabria, F.** (2018). Operant conditioning. In J. Vonk & T. Shackelford (Eds.), *Encyclopedia of animal cognition and behavior* (pp. 1–20). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-47829-6_777-1
8. Podlesnik, C. A., & ***Sanabria, F.** (2017). SQAB 2016: Persistence and relapse. *Behavioural Processes*, 141, 1–2. <https://doi.org/10.1016/j.beproc.2017.05.001>

9. Bizo, L. A., Chu, J. Y. M., ***Sanabria, F.**, & Killeen, P. R. (2014). Corrigendum to “The failure of Weber’s law in time perception and production” [Behav. Process. 71 (2-3) (2006) 201-210]. *Behavioural Processes*, 106. <https://doi.org/10.1016/j.beproc.2013.08.014>
10. **Sanabria, F.** (2006). Tools, drugs, and signals in the road from evolution to money. *Behavioral and Brain Sciences*, 29(2), 193–194. <https://doi.org/10.1017/S0140525X06429046>
11. **Sanabria, F.**, & Killeen, P. R. (2005). All thumbs? *Behavioural Processes*, 69(2), 143–145. <https://doi.org/10.1016/j.beproc.2005.02.015>
12. **Sanabria, F.**, & Killeen, P. R. (2005). Freud meets Skinner: Hyperbolic curves, elliptical theories, and Ainslie interests. *Behavioral and Brain Sciences*, 28(5), 660–661. <https://doi.org/10.1017/S0140525X05330111>
13. **Sanabria F.** (2002). Análisis molar y molecular: Dos visiones de la conducta. *Universitas Psychologica*, 1(2), 27-33. [Spanish]
14. **Sanabria, F.** (2000). Psychologists on the march. *Revista Latinoamericana De Psicología*, 32(1), 181–186. [Spanish; Book Review]

Pre-Prints and Under Review

- R1.+Daniels, C. W., & ****Sanabria, F.** Interval timing and motivation are dissociable when interval-initiating responses are discriminable from target responses. <https://doi.org/10.31234/osf.io/9j3k2>
- R2.+Gildea, M., #Santos, C., ****Sanabria, F.** & Sasaki, T. An associative-learning account of collective learning. <https://doi.org/10.31234/osf.io/qsuyt>
- R3.+Gupta, T. A., Peay, D. N., ^Cote, B., Conrad, C. D., & ****Sanabria, F.** Prospective and retrospective timing tasks dissociate the effects of chronic stress on motivation and interval timing.
- R4.Killeen, P.R., & ***Sanabria, F.** Correlation-based law of effect?

Grant-Seeking Activities

Grants under Review

10/2023 PI: **Federico Sanabria (50%)**, M. Foster Olive (50%). Behavioral microstructure and economics of murine alcohol-seeking behavior. NIH (R01AA031682). Total direct costs: \$1,250,000.

Ongoing Grants

1/2022 – 12/2024 PI: **Federico Sanabria (50%)**, Takao Sasaki (University of Georgia, 50%). *Empirical and theoretical investigation of associative learning in groups of animals*. NSF (2118012). Total direct costs: \$506,874.

Completed Grants

- 5/2021 – 5/2022 PI: **Federico Sanabria (100%)**. *Mechanisms Mediating the Effect of Adolescent Social Stress on Alcohol Preferences: Analysis of Behavioral Self-Regulation*. Institute for Social Science Research. Total direct costs: \$7,052.
- 7/2017 – 5/2021 PI: Jason Newbern (70%). Co-I: **Federico Sanabria (15%)**, Heather Bimonte-Nelson (15%). *Functions of ERK/MAPK signaling in GABAergic circuit development*. NIH (R01NS097537). Total direct costs: \$1,247,099.
- 9/2018 – 8/2020 PI: Cassandra Gipson-Reichardt (100%). Consultants: Julie Marusich (0%), Joshua Beckmann (0%), **Federico Sanabria (0%)**. *Glutamatergic mechanisms underlying nicotine addiction and relapse following nicotine reduction*. NIH (R03DA045881). Total direct costs: \$100,000.
- 6/2018 – 5/2020 PI: **Federico Sanabria (70%)**. Co-I: Cheryl Conrad (30%). *Sustained threat and interval timing*. Submitted to NIH (R03MH115245). Total direct costs: \$100,000.
- 8/2017 – 7/2018 PI: Brian H. Smith, **Federico Sanabria**, Richard C. Gerkin, Salvatore Oddo. *Odor detection and classification in a mouse model of Alzheimer’s disease*. Sponsor: Arizona Alzheimer’s Consortium. Total direct costs: \$47,780.
- 4/2012 – 1/2016 PI: **Federico Sanabria (100%)**. *Analysis of instrumental overactivity in an animal model of ADHD*. Sponsor: NIMH (R03MH094562). Total direct costs: \$100,000.
- 1/2013 – 6/2014 PI: **Federico Sanabria (50%)**, M. Foster Olive (50%). *Responsiveness to nicotine in an animal model of ADHD*. Seed Funding from the College of Liberal Arts and Sciences, Arizona State University. Total direct costs: \$50,000.
- 9/2011 – 4/2013 PI: **Federico Sanabria (100%)**. *Nicotine and impulsivity in an animal model of ADHD*. Sponsor: NIDA (R03DA032632). Total direct costs: \$75,000.

Grant Applications Submitted in 2021-2023 – Not Funded

- 8/2023 PI: **Federico Sanabria (50%)**, M. Foster Olive (25%), Fuat Balci (25%).
Computational and neurobiological bases of the memory of time. NSF. Total direct costs: \$872,023.
- 7/2021 PI: **Federico Sanabria (50%)**, M. Foster Olive (32%), Fuat Balci (18%).
Computational and neurobiological bases of the memory of time. NIMH (R01MH127256). Total direct costs: \$1,537,104.

Consultant

- 9/2021 PI: David Jarmolowicz. *Chemobrain: Agent specific effects on hippocampal and striatal function*. University of Kansas Cancer Center Pilot Program. Total direct costs: \$34,916.
- 5/2019 PI: Marisol Lamprea. *Evaluación conductual y neurobiológica del estrés social temprano como modulador de la interacción entre nicotina y refuerzo social en ratas adolescentes [Neurobiological and behavioral assessment of early social stress as modulator of the interaction between nicotine and social reinforcement in adolescent rats]*. Colciencias (Colombia). Total direct costs: COP \$571,473,280 (~ USD \$173,806).

Presentations

Invited Oral Platform Presentations and Workshops – International

1. **Sanabria F**, Gutierrez B, Hibshman A, Gildea M, Sasaki T. Solución de problemas colectivos en ratas [Solution of collective problems in rats]. CIIAC/ABA Colombia 2024. Online.
2. **Sanabria F**, Gildea M. The temporal structure of response sequences. Biennial Meeting of the International Society for Comparative Psychology 2023. Aguascalientes, Mexico.
3. **Sanabria F**. Economía conductual y valor motivacional de estímulos en modelos animales: Limitaciones y oportunidades [Behavioral economics and motivational value of stimuli in animal models: Limitations and opportunities]. Seminario sobre Modelos Matemáticos y Análisis de Datos, Centro de Estudios e Investigaciones en Comportamiento (CEIC), Universidad de Guadalajara 2022. Online.
4. **Sanabria F**, Santos C. Expanding the scope of associative learning models by incorporating the untidiness of natural stimuli. International Conference of the Spanish Society for Comparative Psychology 2022. Almería, Spain.
5. **Sanabria F**. Efecto del estrés crónico en la percepción del tiempo en modelos animales [The effect of chronic stress on time perception in animal models]. Congreso Nacional y Seminario Internacional de Neurociencias, Colegio Colombiano de Neurociencias 2021. Online.
6. **Sanabria F**. La organización de la conducta y sus implicaciones para el análisis aplicado [The organization of behavior and its implications for applied analysis]. ABA Colombia 2021. Online.
7. **Sanabria F**. Computational mechanisms in comparative psychology. Presidential Address at the Biennial Meeting of the International Society for Comparative Psychology 2018, Los Angeles, CA.
8. **Sanabria F**. Una aproximación computacional a la psicopatología comparada [A computational approach to comparative psychopathology]. Congreso de Innovaciones en Psicología y Salud Mental 2017, Tunja, Colombia.
9. **Sanabria F**. Medición de la capacidad de inhibición de respuesta en modelos animales. [Measuring response inhibition capacity in animal models]. Universidad Nacional Autónoma de México 2015, Ciudad de México, D.F., Mexico.
10. **Sanabria F**. Análisis de ráfagas para revelar la estructura de la conducta [A bout analysis that reveals the structure of behavior]. Centro de Estudios e Investigaciones en Comportamiento (CEIC), Universidad de Guadalajara 2015, Guadalajara, Mexico.
11. **Sanabria F.**, Daniels CW. The microstructure of steady-state fixed-interval performance. Biennial Meeting of the International Society for Comparative Psychology 2014, Bogotá, Colombia.
12. **Sanabria F**. Dinámica del control temporal de la conducta [Dynamics of temporal control of behavior]. Colloquium on Research in Physiological and Experimental Psychology, Universidad Autónoma de México 2013, Ciudad de México, D.F., Mexico.
13. **Sanabria F**. Modelos generativos de conducta: Una propuesta para el análisis experimental del comportamiento en el siglo XXI. [Generative models of behavior: A proposal for the experimental analysis of behavior in the 21st century]. Mexican Congress of Behavior Analysis 2012, Guanajuato, Guanajuato, Mexico.

14. **Sanabria F.** El Transtorno por Déficit de Atención e Hiperactividad (TDAH), desde la perspectiva de la investigación basada en animales [Attention Deficit Hyperactivity Disorder (ADHD) from the perspective of animal-based research]. Universidad Nacional Autónoma de México 2011, Ciudad de México, D.F., Mexico.
15. **Sanabria F.** Elección, economía y conducta [Choice, economics, and behavior]. Universidad de Ibagué 2010, Ibagué, Colombia.
16. **Sanabria F.** Introducción a la formulación y evaluación de modelos cuantitativos del comportamiento [Introduction to the formulation and evaluation of quantitative models of behavior]. Universidad Nacional de Colombia 2009, Bogotá, Colombia.
17. **Sanabria F.** Avances recientes en la investigación en “timing”. [Recent Advances in timing research]. Universidad Nacional de Colombia 2009, Bogotá, Colombia.
18. **Sanabria F.** Avances recientes en modelos experimentales de impulsividad [Recent advances in experimental models of impulsivity]. International Congress of Psychology COLPSIC-ASCOFAPSI 2009, Bogotá, Colombia.
19. **Sanabria F.** Introducción a la formulación y evaluación de modelos cuantitativos del comportamiento [Introduction to the formulation and evaluation of quantitative models of behavior]. Centro de Estudios e Investigaciones en Comportamiento (CEIC), Universidad de Guadalajara 2009, Guadalajara, Mexico.
20. **Sanabria F.,** Killeen PR. Continual reconditioning reveals the dynamics of conditioning and extinction: Newton, Pavlov, and Skinner shake hands. Biennial Meeting of the International Society for Comparative Psychology 2008, Buenos Aires, Argentina.
21. **Sanabria F.** Impulsividad como déficit inhibitorio: Un modelo conductual. [Impulsivity as an inhibitory deficit: A behavioral model]. Fundación Universitaria Konrad Lorenz 2007, Bogotá, Colombia.
22. **Sanabria F.** Tiempo paradójico [Paradoxical time]. Pontificia Universidad Javeriana 2006, Bogotá, Colombia.
23. Killeen PR, **Sanabria F.** Continual reconditioning. Associative Learning Today: Conference in Honour of Shepard Siegel 2005, Hamilton, ON, Canada.

Invited Oral Platform Presentations and Workshops – National

1. **Sanabria F.** The organization of behavior in bouts of responses, SQAB Tutorial, Annual Convention of the Association for Behavior Analysis International 2023, Denver, CO.
2. **Sanabria F.** Why should applied behavior analysts care about quantitative models of behavior? Webinar Series, Association for Behavior Analysis International 2023. Online.
3. **Sanabria F.** Incentive motivation and behavior systems. California State University (CSU) Basic Research and Instruction in Neuroscience (BRAIN) Alliance Colloquium 2022. Online
4. **Sanabria F.** Why should applied behavior analysts care about quantitative models of behavior? Annual Conference of Four Corners ABA 2022. Tucson, AZ.
5. Gupta TA, **Sanabria F.** More time, more memory: The structure of behavior entrained to long intervals. University of California Los Angeles 2021. Online.
6. **Sanabria F.** Adaptive algorithms: An ecological-computational framework for studying motivated behavior. University of California Santa Barbara 2020, Santa Barbara, CA.
7. **Sanabria F.** Adaptive algorithms: An ecological-computational framework for studying motivated behavior. California State University 2019, Long Beach, CA.
8. **Sanabria F.** Quantitative modeling in behavior analysis, Part 1: Why? Annual Convention of the Association for Behavior Analysis 2016, Chicago, IL.
9. **Sanabria F,** Brackney RJ, Daniels CW. The momenta of behavior: Disrupting the organization of operant responses. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2016, Chicago, IL.
10. Íbias J, Pellón R, **Sanabria F.** Motivational and motor characteristics of schedule-induced polydipsia by an engagement bout model. First Joint Portuguese-Spanish Meeting on Comparative Psychology – Annual Meeting of the Spanish Society for Comparative Psychology 2014, Braga, Portugal.
11. **Sanabria F,** Watterson L. On measuring response inhibition capacity. Texas Association for Behavior Analysis Regional Conference 2014, San Antonio, TX.
12. **Sanabria F.** Linking psychological constructs to behavioral performance using generative models. Annual Convention of the Association for Behavior Analysis 2012, Seattle, WA.
13. **Sanabria F.** A cost-dependent frustration hypothesis of the Partial Reinforcement Extinction Effect (PREE). California State University 2010, Long Beach, CA.
14. **Sanabria F.** Impulsivity and timing in the Spontaneously Hypertensive Rat, a rodent model of ADHD. Texas Christian University 2008, Fort Worth, TX.

15. **Sanabria F.** Out of control: How I learned to stop worrying and love the unruly pigeon. APA Division 25 Awards Symposium: Annual Convention of the American Psychological Association 2008, Boston, MA.
16. **Sanabria F.** Impulsivity and timing in the Spontaneously Hypertensive Rat, a rodent model of Attention Deficit Hyperactivity Disorder. University of California Los Angeles 2007, Los Angeles, CA.
17. **Sanabria, F.** Behavioral deficits in a rodent model of ADHD. California State University East Bay 2006, Hayward, CA.
18. **Sanabria F,** Killeen PR. Wrinkles in time. International Conference on Comparative Cognition 2006, Melbourne Beach, FL.

Invited Oral Platform Presentations and Workshops – Regional and Local

1. **Sanabria F.** Behavioral methods in neuroscience. Brain & You Fair (Graduate Association of Interdisciplinary Neuroscience Students) 2018, Tempe, AZ.
2. Daniels CW, Laude JR, **Sanabria F.** Reinforcement learning and associability signals are sufficient to produce gambling-like behavior. ASU/BNI Neuroscience Symposium 2017, Tempe, AZ.
3. **Sanabria F.** The organization of behavior and its implications for applied analysis. Annual Conference of the Arizona Association for Behavior Analysis 2014, Phoenix, AZ.
4. **Sanabria F,** Hill JC. Dissociation of timing, impulsivity, and bursting in a modified Differential Reinforcement of Low Rates (mDRL) schedule. Annual Conference of Four-Corners Association for Behavior Analysis 2009, Sedona, AZ.

Other Oral Platform Presentations – International

1. **Sanabria F.** The role of comparative psychology in mental health research. Third International Student Symposium on Animal Behaviour and Cognition 2023, Mexico City, Mexico.
2. **Sanabria F.** On the measurement of incentive motivation in animal models. Biennial Meeting of the International Society for Comparative Psychology 2021, Santiago, Chile.
3. Dos Santos C, **Sanabria F,** Vasconcelos M, Machado A. Behavioral control of outcomes and time in rats and pigeons. International Meeting of the Spanish Society for Comparative Psychology 2019, Malaga, Spain.
4. Daniels CW, Gupta T, **Sanabria F.** A kernel density inspired Bayesian model of interval timing: Predicting and accounting for prior distribution and likelihood function. Biennial Meeting of the International Society for Comparative Psychology 2018, Los Angeles, CA.
5. Gupta TA, Daniels CW, **Sanabria F.** Intermediate probe distribution affects temporal bisection performance in rats. Biennial Meeting of the International Society for Comparative Psychology 2018, Los Angeles, CA.
6. **Sanabria F.** A computational approach to comparative psychopathology. International Congress of Psychology 2016, Yokohama, Japan.
7. **Sanabria F,** Daniels CW. On the temporal organization of behavior. Biennial Meeting of the International Society for Comparative Psychology 2016, Sydney, Australia.
8. Íbias J, Miguens M, Pellón R, **Sanabria F.** Methylphenidate modulates motivational and motor characteristics of schedule-induced polydipsia in an animal model of ADHD. International Congress of the Spanish Society for Comparative Psychology 2015, Sevilla, Spain.
9. **Sanabria F.** Sobre la organización de la conducta en ráfagas [On the organization of behavior in bouts]. V Seminario Internacional sobre Comportamiento y Aplicaciones (SINCA) 2015, Mexico City, Mexico.
10. Bizo LA, **Sanabria F,** Killeen PR. Testing an animal model of ADHD: An application of the mathematical principles of reinforcement. International Conference of the Association for Behavior Analysis 2005, Beijing, China.
11. **Sanabria F,** Baker F, Rachlin H. Señalización de la cooperación y la deserción en un juego del dilema del prisionero con operantes libres. [Signaling cooperation and defection in a free operant prisoner's dilemma game]. Iberoamerican Congress of Psychology 2002, Bogotá, Colombia.

Other Oral Platform Presentations – National

1. **Sanabria F.** Estimating reinforcer efficacy from demand curves, dose-dependent curves, and choice: a principled and practical approach. Annual Convention of the Association for Behavior Analysis International 2024, Philadelphia, PA.
2. Sasaki T, Gildea M, Santos C, Hibshman A, Gutierrez B, **Sanabria F.** Investigation of associative learning in groups of animals. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2024, Philadelphia, PA.

3. **Sanabria F**, Santos C, Gildea M. Theoretical foundations of value assessment: A demand equation drawn from maximization principles. Annual Convention of the Association for Behavior Analysis International 2023, Denver, CO.
4. Santos C, Rajagopal S, Gildea M, Sasaki T, **Sanabria F**. Associative learning in groups of animals. Conference on Comparative Cognition 2023, Melbourne, FL.
5. Gupta TA, **Sanabria F**. Isolating temporal control in long-interval timing tasks: Implications for research on hippocampal function. Annual Convention of the Association for Behavior Analysis 2021. Online.
6. **Sanabria F**. Theory, models, and scientific progress: The case of MPR 2.0. Annual Convention of the Association for Behavior Analysis 2021, Online.
7. Gupta TA, **Sanabria F**. How to get rats to initiate fixed interval 48-s schedules of reinforcement: An opportunity-cost model of interval timing. Annual Meeting of the Pavlovian Society 2020, Online.
8. Daniels CW, Gupta TA, **Sanabria F**. A kernel density inspired Bayesian model of interval timing: Predicting and accounting for prior distribution and likelihood function of expected durations effects on temporal bisection performance. Annual Meeting of the Society for Neuroscience 2018, San Diego, CA.
9. Daniels CW, Stephens M, Newbern J, **Sanabria F**. On the sensitivity of two time-based response-withholding tasks to non-timing variables. Annual Convention of the Association for Behavior Analysis 2018, San Diego, CA.
10. Bell MC, **Sanabria F**. Covert deliberation in pigeons? Annual Convention of the Association for Behavior Analysis 2018, San Diego, CA.
11. **Sanabria F**, Romero K, Daniels CW. Suppressive and enhancing effects of nicotine on food-seeking behavior. Annual Convention of the National Hispanic Science Network 2017, Phoenix, AZ.
12. Daniels CW, **Sanabria F**. Behavioral microscopes: Isolating the stochastic process of interval timing. Annual Convention of the Association for Behavior Analysis 2015, San Antonio, TX.
13. Daniels CW, **Sanabria F**. Bout-Like behavior in fixed-interval performance: Implications for theories of interval timing. Fall Meeting of the Comparative Cognition Society 2015, Chicago, IL.
14. Daniels CW, Laude JR, Zentall TR, **Sanabria F**. Reanalysis of reinforcement history and successive-pair training: Expansion of the theory. Annual International Conference on Comparative Cognition 2014, Melbourne Beach, FL.
15. Ibias J, Pellón R, **Sanabria F**. Dissociating motivation and motor characteristics of schedule-induced polydipsia in an animal model of ADHD. International Congress of the Spanish Society for Comparative Psychology 2014, Braga, Portugal.
16. Mazur GJ, Hoffman AN, Watterson E, Watterson LR, **Sanabria F**. Acute and chronic nicotine decreases response inhibition performance and enhances the reinforcing efficacy of sucrose. Annual Convention of the Association for Behavior Analysis 2014, Chicago, IL.
17. Brackney RJ, Cheung THC, **Sanabria F**. Behavioral processes contributing to the generation of bout-like responding. Annual Convention of the Association for Behavior Analysis 2013, Minneapolis, MN.
18. **Sanabria F**. Generative models of behavior: A proposal for a behaviorism of the 21st century. Annual Convention of the Association for Behavior Analysis 2013, Minneapolis, MN.
19. **Sanabria F**, Mazur GJ, Wood-Isenberg G, Watterson, E. Effects of nicotine on response-withholding performance in an animal model of attention deficit hyperactivity disorder (ADHD). Winter Conference on Animal Learning and Behavior 2013, Winter Park, CO.
20. **Sanabria F**, Watterson E. Assessing response inhibition with the Fixed Minimum Interval (FMI) schedule of reinforcement. Annual Convention of the Association for Behavior Analysis 2012, Seattle, WA.
21. Somkuwar SS, **Sanabria F**, Beckmann JT, Bardo K, Kantak M, Dwoskin LP. Impulsivity and timing disturbances assessed by DRL schedules in a rat model of ADHD. Annual Meeting of the Society for Neuroscience 2012, New Orleans, LA.
22. Hill JC, **Sanabria F**. Characterizing operant hyperactivity in an animal model of attention-deficit hyperactivity disorder. Annual Convention of the Association for Behavior Analysis International 2011, Denver, CO.
23. **Sanabria F**. Three views on ADHD, from the perspective of animal-based research. Annual Convention of the Association for Behavior Analysis International 2011, Denver, CO.
24. **Sanabria F**, Mazur GJ. Spatial Pavlovian conditioning. Fall Meeting of the Comparative Cognition Society 2011, Seattle, WA.
25. **Sanabria F**, Mazur GJ. Spatial Pavlovian conditioning. Annual Meeting of the Psychonomic Society 2011, Seattle, WA.

26. Kenrick DT, **Sanabria F**, Sundie J, Killeen PR. Game theory and social domains: How fitness interdependencies transform strategic decisions. Annual Conference of the Society for Personality and Social Psychology 2010, Las Vegas, NV.
27. **Sanabria F**, Hill JC. The dynamics of conditioning and extinction. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2009, Phoenix, AZ.
28. **Sanabria F**. Beyond efficiency: A model of DRL with attention, activity, timing, and impulsivity modules. Winter Conference on Animal Learning and Behavior 2007, Winter Park, CO.
29. **Sanabria F**. More than just waiting: Impulsivity, hyperactivity, inattention, and timing in the lever-holding and DRL performance of SHR rats. Annual Convention of the Association for Behavior Analysis 2007, San Diego, CA.
30. **Sanabria F**, Thrailkill, E. Pigeons matching pennies. Annual Meeting of the Psychonomic Society 2006, Houston, TX.
31. **Sanabria F**, Killeen PR. Accounting for cyclic responding in timing using binary counting. Annual Convention of the Association for Behavior Analysis 2006, Atlanta, GA.
32. **Sanabria F**, Sitomer MT, Killeen PR. A lagged negative automaintenance procedure. Annual Convention of the Association for Behavior Analysis 2005, Chicago, IL.
33. **Sanabria F**, Sitomer MT, Killeen PR. Negative automaintenance does not maintain. Winter Conference on Animal Learning and Behavior 2005, Winter Park, CO.

Abstracts and Poster Presentations – International

1. Gupta TA, Daniels CW, Ortiz JB, Stephens M, Overby P, Romero K, Conrad CD, **Sanabria F**. The dorsal hippocampus selectively controls the start of timed responses: A lesion study using the switch-timing task. Conference of the Timing Research Forum 2019, Queretaro, Mexico.
2. Peartree NA, Hood LE, **Sanabria F**, Thiel KJ, Neisewander JL. A social encounter with limited physical contact produces conditioned place preference in male adolescent rats. Annual Meeting of the International Behavioral Neuroscience Society 2010, Sardinia, Italy.
3. **Sanabria F**, Bizo LA, Killeen PR. Breaking Weber's Law: Systematic deviations in temporal production and discrimination in pigeons and rats. Annual Meeting of the Psychonomic Society 2005, Toronto, ON, Canada.
4. **Sanabria F**, Baker F, Rachlin H. Signaling cooperation and defection in a free operant prisoner's dilemma. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2002, Toronto, ON, Canada.

Abstracts and Poster Presentations – National

1. Gildea M, Hibshman A, Gutierrez BC, **Sanabria F**. Spatially separated response sequences are organized in functional bouts. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2024, Philadelphia, PA.
2. Gildea M, **Sanabria F**. Spatially separated response sequences are organized in functional bouts. Annual Meeting of the Psychonomic Society 2024, New York, NY.
3. Gutierrez B, Hibshman A, Gildea M, Sasaki T, **Sanabria F**. Collective "insight" in rats. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2024, Philadelphia, PA.
4. Hibshman A, Gildea M, Gutierrez BC, Sasaki T, **Sanabria F**. Collective learning and memory in rats. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2024, Philadelphia, PA.
5. Bower C, Santos C, **Sanabria F**. The effect of social context on associative learning. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2023, Denver, CO.
6. Gupta TA, **Sanabria F**. Tagging components of behavior entrained to long intervals: An opportunity-cost model of interval timing. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2021, Online.
7. Gupta TA, **Sanabria F**. Effects of skewed probe distributions in temporal bisection in rats: Evidence for within-session shifts in responding. Annual Meeting of the Psychonomic Society 2020, Online.
8. Judd JM, Smith EA, Kim J, Peay D, Badaruddin BS, **Sanabria F**, Conrad CD. Investigation of second-order conditioning as a potential mechanism of the maintenance of fear memories in a rodent model of post-traumatic stress disorder. Annual Meeting of the Society for Neuroscience 2019, Chicago, IL.
9. Gupta TA, **Sanabria F**. Effects of skewed probe distributions in temporal bisection in rats: Evidence for within-session shifts in responding. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2019, Chicago, IL.
10. Miller A, Gupta TA, **Sanabria F**. Elemental and configural odor discrimination in the APP/PS1 mouse, an animal model of Alzheimer's disease. Annual Meeting of the Society for the Quantitative Analysis of

Behavior 2019, Chicago, IL.

11. Renteria D, Gupta TA, **Sanabria F**. Effects of acute and chronic stress on prospective interval timing in rats. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2019, Chicago, IL.
12. Daniels CW, Espinoza JI, Gupta TA, Smith BH, **Sanabria F**. Mice can learn a complex instrumental olfactory patterning task. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2018, San Diego, CA.
13. Daniels CW, **Sanabria F**. Tagging constituents of fixed- and peak-interval performance in rats reveals dissociable components of interval timing. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2018, San Diego, CA.
14. Gupta TA, Daniels CW, Inguito D, Coury A, Nishimura K, **Sanabria F**, Newbern J. Acquisition and maintenance of fixed-minimum interval performance is impaired in cortical GABAergic neuron deficient mice. Annual Meeting of the Society for Neuroscience 2018, San Diego, CA.
15. Gupta TA, Daniels CW, **Sanabria F**. Probe-interval distribution affects temporal bisection performance in rats. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2018, San Diego, CA.
16. Inguito D, Gupta TA, Daniels CW, Coury A, Nishimura K, Newbern J, **Sanabria F**. Acquisition and maintenance of fixed-minimum interval performance is impaired in cortical GABAergic neuron deficient mice. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2018, San Diego, CA.
17. Daniels CW, **Sanabria F**, Smith BH. Target odor detection in mice: The benefit of training with multiple background odors. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2017, Denver, CO.
18. Judd JM, Shah V., Flegenheimer A., Le B, **Sanabria F**, Conrad CD. How do rest periods following the end of chronic stress impact fear conditioning? Annual Meeting of the Society for Neuroscience 2017, Washington, DC.
19. Overby PF, Daniels CW, del Franco A, Goenaga J, Powell GL, Gipson-Reichardt CD, **Sanabria F**. Self-administration of nicotine transiently enhances sign-tracking in rats. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2017, Denver, CO.
20. Romero K, Daniels CW, **Sanabria F**. Nicotinic alterations in the microstructure of response rate. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2017, Denver, CO.
21. Stephens MJ, Daniels CW, Ortiz JB, Romero K, Overby PF, Conrad CD, **Sanabria F**. Deactivation of the dorsal hippocampus impairs acquisition more than maintenance of interval timing. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2017, Denver, CO.
22. Becker RJ, Daniels CW, **Sanabria F**. Response initiation improves acquisition but does not protect from changes in motivation in a switch timing task. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2016, Chicago, IL.
23. Daniels CW, Laude JR, **Sanabria F**. Reinforcement learning accounts for suboptimal pigeons and optimal rats. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2016, Chicago, IL.
24. Jimenez AA, **Sanabria F**, Cabrera F. Selective effect of lever height relative to rat forepaw on within-bout response rate. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2016, Chicago, IL.
25. Romero K, Daniels CW, Hewitt LT, Newbern J, Oliver MF, **Sanabria F** (2016). Response-topography effects in mice performing two response-withholding tasks. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2016, Chicago, IL.
26. Brackney RJ, **Sanabria F**. What's in a bout? Functional manipulations of response rate components. Annual Meeting of the Association for Behavior Analysis International 2015, San Antonio, TX.
27. Daniels CW, **Sanabria F**. The effect of chronic nicotine administration on sign- and goal-tracking: A pilot study. Annual Meeting of the Pavlovian Society 2015, Portland, OR.
28. Daniels CW, Herrera CC, **Sanabria F**. Does nicotine speed up subjective time or induce impulsivity? Annual Meeting of the Society for Neuroscience 2015, Chicago, IL.
29. Daniels CW, **Sanabria F**. Within-session changes in fixed-interval performance. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2015, San Antonio, TX.
30. Herrera CC, Daniels CW, **Sanabria F**. Clock-speed or response-threshold? A new hypothesis about the effects of nicotine on interval timing. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2015, San Antonio, TX.
31. Hewitt L, Moreno M, Bjorklund GR, Daniels CW, Olive MF, **Sanabria F**, Marsh S, Treiman D, Snider WD, Newbern JM. Hyperactivation of ERK1/2 signaling in developing GABAergic circuits reduces parvalbumin interneuron number and increases cortical excitability. Annual Meeting of the Society for Neuroscience 2015, Chicago, IL.

32. Judd JM, Nishimura KJ, Arnett CR, **Sanabria F**, Conrad C. Fear conditioning using a two-tone discrimination paradigm: Potential use for chronic stress investigations. Annual Meeting of the Society for Neuroscience 2015, Chicago, IL.
33. Overby P, Daniels CW, Ortiz B, Conrad CD, **Sanabria F**. Effects of dorsal-hippocampal lesion on the variable-interval performance of rats. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2015, San Antonio, TX.
34. Daniels CW, **Sanabria F**. The microstructure of steady-state fixed-interval performance. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2014, Chicago, IL.
35. Watterson EW, Daniels CW, Mazur GJ, Watterson L, **Sanabria F**. Nicotine-induced conditioned place preference and locomotor activity in an adolescent model of Attention-Deficit Hyperactivity Disorder (ADHD). Annual Meeting of the Society for the Quantitative Analysis of Behavior 2014, Chicago, IL.
36. Tschumi C, Bowman M, Sanford E, **Sanabria F**, Privitera GJ, Crawford CA, Zavala AR. Behavioral effects of a high fat diet on the sensitizing response to nicotine in adolescent rats. Annual Meeting of the Society for Neuroscience 2013, San Diego, CA.
37. Watterson E, **Sanabria F**. The fixed minimum interval (FMI) schedule as a method for dissociating motivation and response inhibition capacity. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2013, Minneapolis, MN.
38. Cabrera F, **Sanabria F**, Jimenez AA, Covarrubias P. An affordance analysis of lever pressing in rats and hamsters: The operant level revisited. Annual meeting of the Society for the Quantitative Analysis of Behavior 2012, Seattle, WA.
39. Brackney RJ, Wilson C, Moritz A, **Sanabria F**. Local dynamics of a human concurrent choice preparation. Annual meeting of the Society for the Quantitative Analysis of Behavior 2012, Seattle, WA.
40. Cheung THC, Weber SM, Adams M, **Sanabria F**, Neisewander JL. Comparing the effect of sucrose and cocaine reinforcer magnitude on resistance to extinction. Annual Meeting of the College on Problems of Drug Dependence 2012, Palm Springs, CA.
41. Mazur GJ, Wood-Isenberg G, Watterson E, **Sanabria F**. Nicotine and impulsivity in an animal model of ADHD. Annual meeting of the Society for the Quantitative Analysis of Behavior 2012, Seattle, WA.
42. **Sanabria F**. Measuring impulsivity in animal models using the fixed minimum interval (FMI) schedule of reinforcement. Annual Convention of the American Psychological Association 2012, Orlando, FL.
43. **Sanabria F**, Mazur GJ, Wood-Isenberg G, Watterson E. The effect of nicotine on the performance of an animal model of attention-deficit hyperactivity disorder (ADHD) in a novel response-withholding task. Annual Meeting of the Society for Neuroscience 2012, New Orleans, LA.
44. Watterson E, Nemirovsky N, Privitera G, Zavala A, **Sanabria F**. Influence of adolescent exposure to a high fat diet on adult performance in a response inhibition task. Annual Meeting of the Society for Neuroscience 2012, New Orleans, LA.
45. Watterson E, **Sanabria F**. Influence of adolescent exposure to a high fat diet on adult performance on the Fixed Minimum Interval (FMI) schedule. Annual meeting of the Society for the Quantitative Analysis of Behavior 2012, Seattle, WA.
46. Brackney RJ, Hill JC, Herbst K, **Sanabria F**. Extinction in an animal model of ADHD: A bout-response analysis identifies deficits beyond baseline performance. Annual meeting of the Society for the Quantitative Analysis of Behavior 2011, Denver, CO.
47. Cheung THC, Weber SM, Adams M, **Sanabria F**, Neisewander JL. The behavioral microscope: A dynamic, fine-grained model of extinction. Annual Meeting of the Society for Neuroscience 2011, Washington, DC.
48. Mazur GJ, Mika A, Hoffman AN, Conrad CD, **Sanabria F**. Chronic stress impairs performance in a response-withholding task. Annual meeting of the Society for the Quantitative Analysis of Behavior 2011, Denver, CO.
49. Mika A, Mazur GJ, Hoffman AN, Talboom J, Bimonte-Nelson HA, **Sanabria F**, Conrad CD. Chronic stress impairs behavioral inhibition and working memory, two distinct measures of medial prefrontal cortex function. Annual Meeting of the Society for Neuroscience 2011, Washington, DC.
50. Watterson E, **Sanabria F**. Dissociating motivation and trait impulsivity using the Fixed Minimum Interval (FMI) schedule. Annual meeting of the Society for the Quantitative Analysis of Behavior 2011, Denver, CO.
51. Zavala AR, Privitera GJ, **Sanabria F**. High fat diet intake during periadolescence impairs acquisition of a high-fat food-induced conditioned place preference in adulthood. Annual Conference of the National Hispanic Science Network on Drug Abuse 2011, Miami, FL.

52. Bastle RM, Weber SM, Turk M, **Sanabria F**, Cheung THC, Neisewander JL. Contextual and discrete cue contributions to renewed cocaine-seeking behavior. Annual Meeting of the Society for Neuroscience 2010, San Diego, CA.
53. Beird T, Hill JC, **Sanabria F**. The dynamics of conditioning in a probabilistic automaintenance procedure. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2010, San Antonio, TX.
54. Brackney RJ, Cheung THC, **Sanabria F**. A bi-exponential model of response-bout analysis under differential effort requirements. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2010, San Antonio, TX.
55. Cheung THC, Weber SM, Brackney RJ, **Sanabria F**, Neisewander JL. Dissociating motivation and motor influences on operant behavior: A microstructural analysis of inter-response times. Annual Meeting of the Society for Neuroscience 2010, San Diego, CA.
56. Hill JC, Schiro J, **Sanabria F**. The dynamics of choice in a discrete-trials procedure. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2010, San Antonio, TX.
57. Mazur GJ, Whillock C, **Sanabria F**. Spatial Pavlovian conditioning. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2010, San Antonio, TX.
58. Peartree NA, **Sanabria F**, Hills D, Painter M, Weber SM, Hood LE, Fruth N, Thiel KJ, Neisewander JL. Comparison of acquisition of nicotine vs. cocaine self-administration without food restriction or prior training. Annual Meeting of the College on Problems of Drug Dependence 2010, Scottsdale, AZ.
59. Robles E, Roberts NA, **Sanabria F**. Within-session changes in response time during choice based on aesthetic preference. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2010, San Antonio, TX.
60. **Sanabria F**, Hill JC, Herbst K. The components of operant hyperactivity in an animal model of ADHD. Annual Meeting of the Society for Neuroscience 2010, San Diego, CA.
61. **Sanabria F**, Podlesnik CA. Modeling successive reversals of conditioned approach performance. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2010, San Antonio, TX.
62. Nash C, Islam Z, Carpenter P, Kupfer A, **Sanabria F**. Using DRL and LHT schedules of human timing behavior. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2009, Phoenix, AZ.
63. Peartree NA, **Sanabria F**, Hills D, Painter M, Thiel KJ, Weber SM, Hood LE, Neisewander JL. Mathematical modeling of acquisition of nicotine self-administration in adolescent rats. Annual Meeting of the Society for Neuroscience 2009, Chicago, IL.
64. **Sanabria F**, Hill JC, Terry J, Covarrubias P. The effects of housing conditions and methylphenidate on two volitional inhibition tasks. Annual Meeting of the Society for Neuroscience 2009, Chicago, IL.
65. Thiel NA, Painter MR, Hills D, Pentkowski NS, **Sanabria F**, Neisewander JL. Environmental enrichment during drug abstinence attenuates cocaine-seeking behavior. Annual Meeting of the Society for Neuroscience 2009, Chicago, IL.
66. Dolgov I, **Sanabria F**, Killeen PR. Persistence-Pavlov-Skinner model of conditioning and extinction dynamics. Fall Conference on Comparative Cognition and Learning 2008, Chicago, IL.
67. **Sanabria F**, Thrailkill E, Killeen PR. Timing with opportunity cost: The effect of concurrent schedules of reinforcement on peak timing. Annual Meeting of the Psychonomic Society 2007, Long Beach, CA.
68. **Sanabria F**, Dolgov I, Killeen PR. Dynamics of conditioning and extinction under lagged omission contingencies. Annual Meeting of the Pavlovian Society 2005, Anaheim, CA.
69. **Sanabria F**, Sitomer MT, Bizo LA, Killeen PR. The peak procedure: A question half-answered. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2005, Chicago, IL.
70. **Sanabria F**, Rachlin H. The role of signals in cooperation learning by pigeons against a Tit-for-Tat strategy. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2004, Boston, MA.
71. **Sanabria F**, Chiu A. Risk-sensitivity in human subjects as a function of rate of reinforcement. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2003, San Francisco, CA.

Abstracts and Poster Presentations – Regional

1. Gupta TA, Sanabria F, Oddo S, Smith BH. Elemental and configural odor discrimination in APP/PS1 mice. Annual Scientific Conference of the Arizona Alzheimer's Consortium 2019, Tempe, AZ.
2. Daniels CW, **Sanabria F**, Smith BH. Sensory vs. cognitive components of olfaction: Target odor detection training with variable background odors enhances target detection against new background odors. Annual Scientific Conference of the Arizona Alzheimer's Consortium 2017, Phoenix, AZ.
3. Becker R, Daniels CW, Robles E, **Sanabria F**. Dissociable effects of Go/No-Go difficulty on concurrent interval timing. Annual Convention of the Western Psychological Association 2017, Sacramento, CA.

4. Mazur GJ, Watterson E, Wood-Isenberg G, **Sanabria F.** Nicotine and impulsivity in an animal model of ADHD. Annual Four-Corners ABA Conference 2013, Flagstaff, AZ.
5. Zoloto A, Mazur GJ, Cranston KA, **Sanabria F.** Discounting and environmentally responsible behavior. Annual Four-Corners ABA Conference 2013, Flagstaff, AZ.
6. Spitzer A, Garcia R, **Sanabria F.** Temporal dynamics: How do pigeons update timing performance in response to changing contingencies? Annual Four-Corners ABA Conference 2013, Flagstaff, AZ.
7. Hill JC, Herbst K, Moritz A, **Sanabria F.** Characterizing operant performance in the Spontaneously Hypertensive Rat. Annual Four-Corners ABA Conference 2010, Park City, UT.
8. Hill JC, Schiro J, Covarrubias P, Terry J, **Sanabria F.** The effects of housing conditions and methylphenidate on two response inhibition tasks. Annual Southeastern ABA Conference 2010, Asheville, NC.
9. Mazur GJ, Whillock C, **Sanabria F.** Spatial Pavlovian conditioning. Annual Four-Corners ABA Conference 2010, Park City, UT.
10. Kupfer AS, Nash C, Islam Z, Carpenter P, **Sanabria F.** Using DRL and LHT schedules to examine impulsivity in human participants. Annual Four-Corners ABA Conference 2009, Sedona, AZ.
11. Terry J, Hill JC, Covarrubias P, **Sanabria F.** The effects of methylphenidate in the performance of Wistar rats in two response-withholding tasks. Annual Four-Corners ABA Conference 2009, Sedona, AZ.

Abstracts and Poster Presentations – Local

1. Espinoza JI, Daniels CW, Gupta TA, Smith BH, **Sanabria F.** Mice can learn a complex instrumental olfactory patterning task. Annual MGE@MSA/WAESO Student Research Conference 2018, Tempe, AZ.
2. Garcia R, Brackney RJ, Spitzer A, **Sanabria F.** Extinction deficit in an animal model of ADHD. Annual MGE@MSA/WAESO Student Research Conference 2013, Tempe, AZ.
3. Jerome F, Mazur GJ, Watterson E, Wood-Isenberg G, Simonsen M, Paul A, **Sanabria F.** Nicotine and impulsivity in an animal model of ADHD. Annual MGE@MSA/WAESO Student Research Conference 2013, Tempe, AZ. Award: Honorable Mention.
4. Mika A, Mazur GJ, Hoffman AN, **Sanabria F.**, Conrad CD. Chronic stress impairs behavioral inhibition and working memory, two distinct measures of medial prefrontal cortex integrity. Arizona State, Department of Psychology, University Honors Symposium 2011, Tempe, AZ.
5. Moritz A, Brackney, RJ, **Sanabria F.** Dynamics of human choice in a discrete, rapid choice task. Celebrating Honors Symposium of Research & Creative Projects 2011, Tempe, AZ.
6. Brackney RJ, Cheung THC, **Sanabria F.** A bi-exponential model of response-bout analysis under differential effort requirements. Annual Conference of Graduates in Earth, Life, and Social Sciences (GELSS) 2010, Tempe, AZ.
7. Sadeghi R., Pellon R., **Sanabria F.**, Killeen PR. Strain differences in the acquisition of an autoshaped response in rats. Undergraduate Biology Enrichment Program: Undergraduate Research Poster Symposium 2006, Tempe, AZ.
8. Paramo N, Rachlin H, **Sanabria F.** Hyperbolic discounting of delayed rewards: Evaluation of the effects of constant consumption rate. Abstract for the Simons Summer Research Program 2001, Stony Brook, NY.

Teaching and Mentoring

Teaching

Graduate Courses

PSB 573	Advanced Principles of Learning and Analysis of Behavior, Arizona State University Fall 2016, Fall 2017, Fall 2018
PSY 512	Advanced Learning, Arizona State University Fall 2009, Fall 2011, Spring 2014, Spring 2016, Fall 2018, Fall 2022
PSY 591	Behavioral Neuroscience Seminar, Arizona State University Fall 2008 – Spring 2018, Fall 2024, Spring 2025
PSY 591	Impulsivity, Arizona State University Fall 2012
PSY 591	Modeling Cognition & Behavior, Arizona State University Fall 2010, Spring 2021
PSY 591	Motivation, Arizona State University Fall 2024

Pre-doc course Analysis of Behavior, Fundación Universitaria Konrad Lorenz (Bogotá, Colombia)
Spring – Fall 2007

Undergraduate Courses

- PSY 320 Learning and Motivation, Arizona State University
Spring 2013, Spring 2014, Fall 2015, Fall 2016, Fall 2017, Spring 2019 – Fall 2021,
Spring 2023
- PSY 394 Neuroeconomics, Arizona State University
Spring 2014
- PSY 420 Analysis of Behavior, Arizona State University
Fall 2004, Fall 2006, Spring 2009, Spring 2010, Spring 2011, Spring 2012, Spring 2020,
Fall 2021
- PSY 425 Biological Bases of Behavior, Arizona State University
Spring 2008

Topical Guest Lectures

Cognitive Science and Cognitive Neuroscience Seminar. January 30, 2024. Motivation and the
Microeconomics of Behavior.

Ford Foundation Fellowships. April 2, 2018. PSY 591 Grant Writing and Professional Development.

The Basic Behavioral Processes Lab. January 22, 2013. Psychology Honors Colloquium.

The Basic Behavioral Processes Lab. February 9, 2012. Psychology Honors Colloquium.

The Basic Behavioral Processes Lab. February 4, 2010. Psychology Honors Colloquium.

Relatedness and optimal play in evolutionary games. August 29, 2006. Math & Cognition Seminar.

Wrinkles in time. April 5, 2006. Behavioral Neuroscience Seminar.

Paradoxical timing. November 21, 2005. Cognition and Behavior Seminar.

Solving the puzzle of reciprocal altruism. December 7, 2004. Math & Cognition Seminar.

Peer Teaching Evaluator

Fall 2018 PSY 320 Learning and Motivation. Instructor: Gregory Stone

Spring 2018 PSY 307 Your Brain on Drugs. Instructor: Cassandra Gipson-Reichardt

Fall 2017 PSY 320 Learning and Motivation. Instructor: Gregory Stone

Undergraduate and Post-Bac Research Mentorship

Mentorship is primarily aimed at facilitating access to graduate education in science, providing experience
in animal behavior research, guiding the identification of suitable graduate programs, and helping put
together competitive applications. **All new students are new students in my lab.**

^aMinority underrepresented student in science. ^bSOLUR (School of Life Sciences Undergraduate Research)
student. ^cStudent co-author. ^dModel Institutions for Excellence scholar (summer research program). ^eKappa
Kappa Gamma scholar. ^fWestern Alliance to Expand Student Opportunities (WAESO) student.
^gPostbaccalaureate Research Education Program (PREP) student, ^hWorkforce Inclusion through
Undergraduate Research Experience (WINURE) student.

- 2024 13 new student in my lab: Ulises Arriata^{af}, Remington Barnett, Christopher Harig, Cate
Hamilton, Jaden Hill, Sarah Knight, Baribefe (Mary) Kpee^{af}, Mrunal Marathe, Sumaiya
Munni, Emily Pappalardo, Fernie Romo, Christien Stephen, Tyler Summers.
- 2023 12 new students: ^{af}Guadalupe Bustamante, McKenna Garvey, ^{af}Ariana Jording, Zoey
Joshlin (volunteer), Brylee Lewis, Avanthika Mekala, Julianne Porter, Ashton Rauch,
Maya Sharp, Natalie Umlah, Cherry Zhang, Yunlong Zhang.
- 2022 5 new students: ^{af}Peter Azille, Natalie O'Rourke, Michelle Prem, ^{af}Benjamin Roman,
^{af}Jodie Ruiz.
- 2021 4 new students: Carter Bower, ^aElizabeth Figueroa, ^aJaeline Jimenez, Thorunn
McLaughlin.
- 2020 2 new students: Caitlin Laforest, Tristan Lyle.
- 2019 5 new students: Bridgitte Cote, ^{af}Jasmine Garcia, Logan Gilliland, Nathaniel Smith, Kiram
Tung.

2018	16 new students: Ramisa Alam, Harli Berk, Jack Fritzke, ^a Michael Piedra Gonzalez (, Julia Guido, Ritika Gupta, Gabrielle Hirneise, Raman Johal, ^a Rodrigo Mendoza, ^{af} Amara Miller, ^{af} David Renteria, Alana Samuels, ^h Ouse Sheblak, Hannah Weisman, Hayley Wilson, Anna Yee.
2017	10 new students: Abrahm Coury, ^{af} Jorge Espinoza, ^{af} Lesley Estrada, Ali Golightly, Rachael Halby, ^{af} Denise Inguito, Christina McBroom, Jessica Pleasant, Katie Riordan, Sarah Sparks.
2016	10 new students: Andria Albert, Ashley Mack, Daniel Matloff, Meghan Nandan, Sophia Parmenter, Rockell Schmidt, Hollie Smith, Amanda Sodoma, Andrej, Ashlee Starr, McAllister Stephens (volunteer).
2015	3 new students: Ryan Becker, ^a Fiorella Estrada, ^{af} Korinna Romero.
2014	5 new students: ^{af} Christine Herrera, Sanjana Khanna, ^{af} Paula Overby, Natasha Sinchuk, Jesse St. Amand.
2013	6 new students: ^{af} Luis Lopez, ^{af} Briana Martinez, Andrew Nye, ^a Paulina Solis-Loza, Cavan Winikates, Lyndsie Yochum.
2012	9 new students: Chris Fencel, ^a Ciara Francis, ^{acfg} Raul Garcia, Jake Gilmour, ^{af} Fritzgerald Jerome, Alexandra Paul, Marie Simonsen, Alex Spitzer, Gabriel Wood-Isenberg.
2011	14 new students: Aaron Chaumont, Brittany Clark, Cameron Gibbons, ^{ae} Elizabeth Gonzales, Danielle Kaczmarek, Tara Mahmood, Jennifer May, ^{bc} Aggie Mika, Christos Suriano, Colter Whillock, Samuel Williams, ^a Charles Wilson, Bianca Zietal, Alexander Zoloto.
2008 – 2010	12 students: ^b Tyler Beird, ^a Chris Bustamante, Nathan Collins, Crystal Deng, Richard Denton, Greg Edwards, Kristina Gerencser, ^c Katrina Herbst Naik, Allison Lucas, Alison Moritz, Robert Schettig, Jonathan Schiro, Lauren Shields, ^c Joel Terry.
2004 – 2007	34 students: Afroza Ahmed, Erica Babino, Dan Bacon, Michelle Barker, ^c David Barker, ^a Cindy Bazua, Carly Buckingham, Weihua Chen, ^a Crystal Contreras, ^a Natalie Cole, Courtney Ficks, ^{ad} Ana García del Valle, Michelle Gaza, ^a Vinesa Gomez, Paul Jellison, Ashley Kuhl, Jessica Lamoureux, ^c Anne Lasswell, Mantas Likas, ^a Gabriel Lopez-Mobilia, ^a Winton Lyons, Brent Mueller, Anthony Nelson, ^{ac} Liliana Oldenburg, Lara Olson, ^a Kweku Osafo-Acquaah, Hyewon Rhieu, ^{ad} Ivelisse Rivera, Kirsten Rutherford, Ramin Sadeghi, Beckie Shauinger, ^a Jennie Senf, ^c David Shelley, ^c Eric Thrailkill.

Chair of Undergraduate Honors Thesis Committee

2021 – 2023	Carter Bower, Neuroscience (<i>accepted to PhD program at UC Berkeley</i>)
2021 – 2022	Thorunn McLaughlin, Neuroscience
2020 – 2021	Nathaniel Smith, Psychology (<i>accepted to PhD program at Brandeis</i>)
2019 – 2020	^{af} Jasmine Garcia, Biochemistry
2019 – 2020	^{af} Amara Miller, Neuroscience
2017 – 2018	Harli Berk, Psychology
2016 – 2017	^{af} Paula Overby, Psychology (<i>Research Technician at ASU</i>)
2016 – 2017	^{af} Korinna Romero, Psychology
2012	Gabriel Wood-Isenberg, Psychology – 2013 Highly Commended recognition, The Undergraduate Awards
2011	Agnieszka Mika, Psychology (co-chaired with Dr. Cheryl Conrad; <i>Science Writer</i>)
2010	Alison Moritz, Psychology (<i>Clinical Assistant Professor at University of Arizona</i>)
2010	Katrina Herbst, Psychology (<i>Medical Fellow at University of Nevada Las Vegas</i>)

Member (non-chair) of Honors Student Thesis Committee

2024	Ananya Katyayane (Kat) Patibanda – ASU, Psychology. Chair: M. Foster Olive.
2024	David Lukacik – ASU, Psychology. Chair: Jessica Verpeut.
2024	Mason Whitaker – ASU, Life Sciences. Chair: M. Foster Olive.
2019 – 2020	Ayleen Mokbel – ASU, Neuroscience. Chair: Janet Neisewander.
2016	Brittany Le – ASU, Chemistry. Chair: Cheryl Conrad.
2015 – 2016	Jesse St. Amand – ASU, Psychology. Chair: Samuel McClure.
2014 – 2015	Nirmal Vijayavel – ASU, Life Sciences. Chair: Brian Smith.
2012	Scott Wegner – ASU, Psychology. Chair: M. Foster Olive.
2012	Kayla Chandler – ASU, Psychology. Chair: Janet L. Neisewander.
2011	Meagan Johnson – ASU, Psychology. Chair: M. Foster Olive.

- 2011 Phylicia Kimmel – ASU, Psychology. Chair: Ron Hammer
 2011 Mari Turk – ASU, Psychology. Chair: Janet L. Neisewander.
 2010 Angela Williams – ASU, Psychology. Chair: Janet L. Neisewander.

Graduate Training and Mentorship

Chair of Graduate Student Dissertation (Ph.D.)

- 2019 – 2022 *Tanya A. Gupta*, Psychology – 2020 GPSA Graduate Excellence Award, 2021 Outstanding Research Award, 2021 Teaching Excellence Award, 2021 Tony Nevin Student Research Award. Currently: Post-Doctoral Researcher at UCLA (mentor: Scott Wilke)
- 2014 – 2018 *Carter W. Daniels*, Psychology – 2014, 2015 Sigma Xi Grants-in-Aid of Research recipient. 2016 Psychology Doctoral Scholar Award, 2017 APA Dissertation Award, 2018 ASU Completion Fellowship, 2018 GPSA Outstanding Mentor Award, 2018 CLAS Graduate Excellence Award. Post-Doctoral Researcher at Columbia University (mentor: Peter Balsam). Currently: Quantitative Scientist at Prevail Therapeutics.
- 2010 – 2015 *Elizabeth Watterson*, Psychology – arrived with M.A. in Psychology. Currently: Stay-at-home parent.
- 2009 – 2015 *Ryan J. Brackney*, Neuroscience – arrived with M.S. in Behavior Analysis. 2015 Insight Data Science Fellow. Currently: Manager (Machine Learning Engineering) at Cash App
- 2011 – 2014 *Gabriel J. Mazur*, Psychology. Currently: Clinical Director at NeuroRestorative.

Member (non-chair) of Graduate Student Ph.D. Committee

- 2023 – 2024 Anamarie Johnson – ASU, Psychology, Behav Neuro & Comp Psych
- 2022 – present Amanda Acuna – ASU, Neuroscience.
- 2022 – 2023 Veronica Pena – ASU, Psychology, Behav Neuro & Comp Psych
- 2020 – present Erick Barrón – Universidad de Guadalajara, Psychology.
- 2020 – 2024 Samantha Scott – ASU, Neuroscience.
- 2019 – present Mario Pérez-Calzada – Universidad Nacional Autónoma de México, Psychology.
- 2018 – 2022 Jaime Emmanuel Alcalá – Universidad de Guadalajara, Psychology.
- 2021 Blake Elliott – ASU, Psychology, Cognitive Science
- 2017 – 2020 Raul Garcia – ASU, Neuroscience.
- 2015 – 2017 Bryce Ortiz – ASU, Psychology, Behavioral Neuroscience
- 2014 – 2018 Nataly Yañez – Universidad Nacional Autónoma de México, Psychology.
- 2014 – 2015 Candace Lewis – ASU, Psychology, Behavioral Neuroscience.
- 2014 Amber LaCrosse – ASU, Psychology, Behavioral Neuroscience.
- 2014 Natalie Peartree – ASU, Psychology, Behavioral Neuroscience.
- 2014 Lucas Watterson – ASU, Psychology, Behavioral Neuroscience.
- 2013 – 2014 Lynn Wilkie – ASU, Psychology, Behavioral Neuroscience.
- 2012 – 2013 Elizabeth Engler-Chiurazzi – ASU, Psychology, Behavioral Neuroscience.
- 2012 – 2013 Lara Pockros – ASU, Psychology, Behavioral Neuroscience.
- 2011 – 2014 Alejandro Segura – Universidad Nacional Autónoma de México, Psychology.
- 2008 Sara E. Baran – ASU, Psychology, Behavioral Neuroscience.
- 2007 Arturo R. Zavala – ASU, Psychology, Behavioral Neuroscience.
- 2007 Katie McLaughlin – ASU, Psychology, Behavioral Neuroscience (substitute member).

Chair of Graduate Student Comprehensive Examination Committee (to advance to Ph.D. candidacy)

- 2024 – present Matthew Gildea, Psychology.
- 2019 - 2020 Tanya A. Gupta, Psychology.
- 2016 Carter W. Daniels, Psychology.
- 2013 Gabriel J. Mazur, Psychology.
- 2013 Ryan J. Brackney, Neuroscience.
- 2013 Elizabeth Watterson, Psychology.

Member (non-chair) of Graduate Student Comprehensive Examination Committee

- 2021 – 2021 Anamarie Johnson – ASU, Psychology, Behav Neuro & Comp Psych
- 2021 – 2022 Veronica Pena – ASU, Psychology, Behav Neuro & Comp Psych
- 2020 Blake Elliott – ASU, Psychology, Cognitive Science
- 2019 – 2020 Dylan Peay – ASU, Psychology, Behavioral Neuroscience and Comparative Psychology

2019	Mark Namba – ASU, Psychology, Behavioral Neuroscience
2018	Jessica Judd – ASU, Psychology, Behavioral Neuroscience
2017	Raul Garcia – ASU, Neuroscience.
2016 – 2017	Cameron Gibbons – ASU, Psychology, Cognitive Science
2014	Bryce Ortiz – ASU, Psychology, Behavioral Neuroscience
2013	Ryan Bastle – ASU, Neuroscience
2013	Lynn Wilkie – ASU, Psychology, Behavioral Neuroscience
2012	Amber LaCrosse – ASU, Psychology, Behavioral Neuroscience
2012	Natalie Peartree – ASU, Psychology, Behavioral Neuroscience
2012	Lucas Watterson – ASU, Psychology, Behavioral Neuroscience
2011	Ann N. Hoffman – ASU, Psychology, Behavioral Neuroscience
2011	Lara Pockros – ASU, Psychology, Behavioral Neuroscience
2009	Katie Coombs – ASU, Psychology, Behavioral Neuroscience

Chair of Graduate Student Master Thesis (M.A.)

Note: The Department of Psychology requires an M.A. “in passing” to Ph.D.

2024 – present	Estrella Campos, Psychology – Fulbright Fellow
2023 – present	Adeline Hibshman, Psychology.
2022 – 2024	Matthew Gildea, Psychology
2017 – 2019	Tanya A. Gupta, Psychology.
2013 – 2015	Carter W. Daniels, Psychology.
2009 – 2011	Gabriel J. Mazur, Psychology.
2008 – 2011	Jade C. Hill, Psychology – 2009 Sidney W. and Janet R. Bijou Fellow.

Supervisor of Graduate Student Capstone Project (M.S.)

Note: The M.S. students in the Applied Behavior Analysis program are required to complete a faculty-supervised Capstone Project (literature review, research project, case study, or program evaluation).

2016 – 2017	Siaw Chuang, Applied Behavior Analysis (<i>Program Manager at HOPE Group</i>).
2016 – 2017	Ashley Pruitt, Applied Behavior Analysis (<i>Senior Clinical Supervisor at SARRC</i>).

Member (non-chair) of Graduate Student Thesis (M.A. or M.S.) Committee

2023	Leonardo Duque – Universidad Nacional de Colombia, Psychology.
2022	Estrella Campos – Universidad Nacional de Colombia, Psychology.
2019	Ty Tang – ASU, Psychology, Cognitive Science.
2017 – 2018	Ryan Becker – ASU, Social and Behavioral Sciences, Psychology.
2017 – 2018	Jessica Judd – ASU, Psychology, Behavioral Neuroscience.
2014 – 2015	Robert Mark Adelman – ASU, Psychology, Social.
2013	Rosaline Dye – ASU, Psychology, Cognitive Science.
2012	Ryan Bastle – ASU, Psychology, Behavioral Neuroscience.
2011	Lindsay Holly – ASU, Psychology, Clinical.
2011	Natalie A. Peartree – ASU, Psychology, Behavioral Neuroscience.
2010	Ann N. Hoffman – ASU, Psychology, Behavioral Neuroscience.
2006	Kenneth J. Thiel – ASU, Psychology, Behavioral Neuroscience.

Reader First Year Project

2022	Jayci Landfair – ASU, Psychology, Cognitive Science.
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Postdoctoral Scholars

2023 – 2024	Brissa Gutierrez (funded through NSF grant 2118012). Currently: Faculty at Universidad Intercontinental (Mexico).
2022 – 2023	Cristina Dos Santos (funded through NSF grant 2118012) – 2022 APA Div 3 Early Career Award. Currently: E2E Data Analyst at Hewlett-Packard.

Technical Training and Visiting Scholars

2024	Jaden Hill (ASU, Graduate Student)
2023 – 2024	Christien Stephen (ASU, Graduate Student)
2022	Harini Karthikeyan (BASIS Scottsdale)
2021	Estrella Campos (Universidad Nacional de Colombia, Colombia)

2020	Hans Ballesteros (Universidad Nacional de Colombia, Colombia)
2020	Carlos Novoa (Universidad Nacional de Colombia, Colombia)
2019	Tristan Lyle (ASU, Graduate Student)
2018 – 2019	Cristina Dos Santos (Universidade do Minho, Portugal)
2015 – 2016	Ángel Jiménez (Universidad de Guadalajara, Mexico, Fulbright Scholar)
2013	Javier Ibias (Universidad Nacional de Educación a Distancia, Spain)
2011	Caitlin Johnson (ASU, Graduate Student)
2010	Beatriz Robayo (Universidad de Guadalajara, Mexico)
2009 – 2010	Luis Miguel Diazgranados (Universidad de los Andes, Colombia)
2009	Pablo Covarrubias (Universidad de Guadalajara, Mexico)
2008 – 2009	Anne Lasswell (ASU, Lab Manager – Sanabria Laboratory)
2008 – 2009	Liliana Oldenburg (ASU, Lab Manager – Sanabria Laboratory)
2008	Felipe Cabrera (Universidad de Guadalajara, Mexico)
2006 – 2008	Igor Dolgov (ASU, Graduate Student)
2007	Nathalie Boutros (ASU, Graduate Student)
2007	Galina Volkova (ASU, Graduate Student)
2006 – 2007	Eric Thraikill (ASU, Lab Manager – Killeen Laboratory)
2006	Heather Adams (ASU, Graduate Student)
2005 – 2006	Kayla Cranston (ASU, Lab Manager – Killeen Laboratory)
2004 – 2005	Matthew Sitomer (ASU, Graduate Student)
2004	Diana Posadas-Sánchez (ASU, Graduate Student)

Scholarly Service

Scholarly Journals

Associate Editor

2015 – 2022	Learning & Behavior (Psychonomic Society Journal)
2014 – 2017	Journal of the Experimental Analysis of Behavior

Guest Editor

2022 – 2023	Behavioural Processes: Sp. Issue SQAB 2022 (co-edited with Andrew Craig and Elizabeth Kyonka)
2021 – 2022	Behavioral Neuroscience: Sp. Issue Timing, Neural Timescales, and Temporal Cognition (co-edited with Alicia Izquierdo and Angela Langdon)
2021 – 2022	Behavioural Processes: Sp. Issue SQAB 2021 (co-edited with Suzanne Mitchell, Shrinidhi Subramaniam, and Andrew Craig)
2018 – 2019	Behavioural Processes: Sp. Issue SQAB 2018 (co-edited with Christopher Podlesnik and Suzanne Mitchell)
2017 – 2018	Behavioural Processes: Sp. Issue SQAB 2017 (co-edited with Christopher Podlesnik)
2016 – 2017	Behavioural Processes: Sp. Issue SQAB 2016 (co-edited with Christopher Podlesnik)

Editorial Boards and Committees

2022 – present	Frontiers in Behavioral Neuroscience – Review Editor for Motivation and Reward
2021 – present	Behavioral Neuroscience – Consulting Editor
2019 – present	Journal of Experimental Psychology: Animal Learning and Cognition
2019 – present	Journal of Neuroscience, Psychology, and Economics
2016 – present	Revista Mexicana de Análisis de la Conducta
2013 – present	Acta Comportamental (Universidad Veracruzana, Xalapa, Mexico)
2013 – present	Revista de Psicología (Universidad de Chile, Santiago, Chile)
2012 – 2014	Journal of the Experimental Analysis of Behavior
2011 – present	Revista Colombiana de Psicología (Universidad Nacional de Colombia) – Scientific Committee
2010 – present	Frontiers in Comparative Psychology – Review Editor
2008 – present	Diversitas: Perspectivas en Psicología (Universidad Santo Tomás, Bogotá, Colombia)
2008 – present	Universitas Psychologica (Pontificia Universidad Javeriana, Bogotá, Colombia)
2008 – present	Revista Latinoamericana de Psicología (Fundación Universitaria Konrad Lorenz, Bogotá, Colombia)

Ad Hoc Reviewer

Alcohol and Alcoholism	International Journal of Comparative Psychology
Animal Cognition	Journal of Experimental Psychology: General
Avances en Psicología Latinoamericana	Journal of Mathematical Psychology
Behavioral and Brain Functions	Journal of Neuroscience Methods
Behavioural Brain Research	Neuroscience & Biobehavioral Reviews
Behavioural Processes*	Neuropsychopharmacology
Biological Psychiatry	Pensamiento Psicológico
Canadian Journal of Experimental Psychology	Physiology & Behavior
Epilepsy & Behavior	PLoS ONE
Frontiers in Aging Neuroscience	Psychological Review
Frontiers in Behavioral Neuroscience	Psychological Science
Frontiers in Human Neuroscience	Psychonomic Bulletin & Review
Frontiers in Psychology	Psychopharmacology
IEEE Transactions in Neural Networks	Scientific Reports

*Top Reviewer 2009, Certificate of Excellence in Reviewing 2012, 2013.

Grant Review

2024	Topics in Biobehavioral Processes. Special Emphasis Panel. Center for Scientific Review, National Institutes of Health (NIH). Member
2023	Biobehavioral regulation, learning and ethology (BRLE) study section. Center for Scientific Review, NIH. Temporary member.
2023	Perception, Action & Cognition. Division of Behavioral and Cognitive Sciences. Directorate for Social, Behavioral, and Economic Sciences, National Science Foundation (NSF). Ad hoc reviewer.
2022	Modulation Program of Neural Systems Cluster. Directorate for Biological Sciences, NSF. Review Panelist.
2021	Tobacco Regulatory Science. Special Emphasis Panel. Center for Scientific Review, NIH. Member
2017	Perception, Action & Cognition. Division of Behavioral and Cognitive Sciences, NSF. Ad hoc reviewer.
2017	Fonds de la Recherche Scientifique – FNRS. Ad hoc peer reviewer.
2015	Research Councils UK, Medical Research Council. Ad hoc peer reviewer.
2013	Animal Behavior Panel 1. Division of Integrative Organismal Systems, NSF.
2013	Biobehavioral regulation, learning and ethology (BRLE) study section (February and June meetings). Center for Scientific Review, NIH. Temporary member.

Other Service

Organizational Leadership

2023 – present	International Society for Comparative Psychology (ISCP). Treasurer.
2022	International Conference of the Spanish Society for Comparative Psychology (SEPC). Scientific committee member.
2021 – 2023	International Society for Comparative Psychology (ISCP). Member of the core reorganization group.
2021 – present	ENERGIZE ASU Psychology, Inc. Member of the Board of Directors.
2021 – present	Society for the Quantitative Analysis of Behavior (SQAB). Program Chair and President-Elect.
2020 – 2023	American Psychological Association (APA), Division 25 (Behavior Analysis). Member-at-Large of the Executive Committee.
2020 – 2023	Association for Behavior Analysis International (ABAI). Member of the Science Board.
2020	Nominated for President of ABAI.
2017 – 2020	Annual Convention of ABAI. Program Board Coordinator.
2017 – 2018	National Hispanic Science Network (NHSN), Conference Planning Committee Member.
2016 – 2017	NHSN, Lead Organizer of The Phoenix Footprint 2017 Event.
2015 – 2023	Society for the Experimental Analysis of Behavior, Board of Directors.
2015 – 2017	Annual Convention of ABAI. Program Committee Chair.
2014 – 2020	ISCP. President-Elect/President/Past-President.

- 2013 – 2018 SQAB. Executive Board Member.
 2012 – 2015 Annual Convention of ABAI. Co-Coordinator for the Experimental Analysis of Behavior program.

Departmental Service (Psychology, Arizona State University)

- 2024- present Graduate Training Area Head, Behavioral Neuroscience and Comparative Psychology
 2024 ASU Open Door, Faculty volunteer and co-organizer (BNCP).
 2022 – 2023 Chair search committee member.
 2022 Co-PI, Presidential Postdoctoral Fellowship application
 2021 – 2023 Director of the Diversity, Equity, Inclusion, and Belonging *Psych for All* Committee.
 2020 Co-Convener of the Diversity, Equity, Inclusion, and Belonging *Psych for All* Committee.
 2020 Promotion committee for Jonathan Gewirtz.
 2019 – 2021 Student awards committee co-chair.
 2019 – 2020 Faculty evaluation committee chair
 2019 Child clinical faculty search committee.
 2019 Targeted hire (Jonathan Gewirtz) search committee
 2018 – 2019 Faculty evaluation committee member.
 2018 – 2019 Department-Level Cialdini Leap Forward committee member.
 2018 Arranged colloquium by Dr. Germán Gutiérrez (Universidad Nacional de Colombia).
 2016 Clinical assistant professor (MS ABA) search committee member.
 2015 – 2017 Chair search committee member.
 2013, 2016 Guest faculty at freshmen orientation lunch.
 2012 – present Advisory committee member, Applied Behavior Analysis M.S. Program.
 2012 Guest faculty at Phi Theta Kappa Honors Society Dinner.
 2011 Arranged colloquia by Dr. Peter Balsam (Columbia University), Dr. Catalin Buhusi (Medical University of South Carolina), and Dr. Derek Hamilton (University of New Mexico).
 2011 Peer teaching evaluator for Dr. Foster Olive’s 3rd Year Review.
 2010 Arranged colloquium by Dr. Carlos E. Valencia-Alfonso (Academic Medical Centre, Netherlands Institute for Neuroscience).
 2007 Departmental representative for curriculum design, Interdisciplinary Graduate Degree Program in Neuroscience.

University Service (Arizona State University)

- 2022 Peer reviewer for ASU IACUC protocol (Wynne 22-1916R)
 2021 – 2022 NIH Faculty Institutional Recruitment for Sustainable Transformation (FIRST) Program application. Member of the “Tiger” Team and Evaluation Core component.
 2018 Reviewer for the Completion Fellowship award.
 2017 Responsible Conduct of Research (RCR) workshop on animal welfare and research.
 2016 – 2018 Member of the Curriculum and Academic Programs Committee (CAPC).
 2016 – present Member of the University Hearing Board.
 2009 – 2021 Member of the Institutional Animal Care and Use Committee (IACUC).
 2009 Search committee member, Clinical Veterinarian.
 2007 Guest speaker at Department of Animal Care Technology (DACT, Arizona State University).
 2006 Barrett Summer Scholars Student tour guide, Arizona State University.

Community Service (Phoenix, Arizona)

- 2010, 2011, 2017 Guest scientist at the ASU Brain Fair – talked about science and science careers with 1st and 5th graders from local elementary schools in Phoenix.
 2009 “Meet the Scientist” speaker at the Awakening Seed School (Phoenix, AZ) – Presented animal-behavior research to 3 to 11 years old students.
 2007 Brain Awareness Week – Volunteer speaker to 6 middle-school classes on topics related to brain and behavior.
 2006 Guest speaker at Spirits of the Senses Salon – Phoenix-based cultural organization.

Other Professional Service

- 2023 Annual Convention of the Association for Behavior Analysis International (ABAI).
Symposium: Advances in Behavioral Economics. Chair.
- 2023 Ford Foundation Fellowship Program. Science review panelist (Psychology)
- 2021 Ford Foundation Fellowship Program. Science review panelist (Psychology)
- 2018 Ford Foundation Fellowship Program. Science review panelist (Psychology)
- 2018 External reviewer of tenure/promotion case. University of Texas at El Paso.
- 2017 Ad hoc abstract reviewer for the 2018 Annual Meeting of the Society for Research on
Nicotine & Tobacco (SRNT).
- 2017 Ad hoc evaluator of doctoral dissertation proposal. Fundación Universitaria Konrad
Lorenz (Colombia).
- 2017 Annual Convention of the Association for Behavior Analysis International (ABAI).
Symposium: Variables affecting resurgence and renewal across species. Discussant.
- 2015 Annual Convention of ABAI. Symposium: The role of conditioned reinforcement in
learning and memory processes: Implications for drug addiction. Discussant.
- 2015 Experimental Analysis of Human Behavior (ABAI Special Interest Group). Reviewer,
Student Paper Competition.
- 2014 Annual Convention of ABAI. Symposium: Economics, Inhibition, and Self-Administration:
Behavioral Pharmacology of Nicotine in Rats. Chair.
- 2014 Annual Convention of ABAI. Symposium: Behavioral Variability: Its Fundamental
Importance and Relation to other Phenomena. Discussant.
- 2013 - 2018 Western Alliance for Expanding Student Opportunities (WAESO) Undergraduate
Activities Committee. Reviewer of Undergraduate Research Projects.
- 2013 – 2014 International Society for Comparative Psychology, XVII Biennial Meeting. Scientific
committee member.
- 2013 Intel International Science and Engineering Festival. Special Award Judge for Sigma Xi.
- 2013 Annual Convention of ABAI. Symposium: Factors that Affect Local Choice and Temporal
Discrimination. Discussant.
- 2013 Annual MGE@MSA/WAESO Student Research Conference. Judge.
- 2012 Annual Convention of ABAI. Symposium: Analysis of Timing and Temporal Control in
Multiple Experimental Paradigms. Discussant.
- 2008 – 2009 American Psychological Association, Division 25, Basic Dissertation Award. Chair,
Evaluation Subcommittee.
- 2008 International Society for Comparative Psychology, Nancy K. Innis Award for Best
Student Presentation. Judge.
- 2007 Winter Conference on Animal Learning and Behavior. Chair, keynote speaker.
- 2005 – 2008 Maintenance of the Tutorial and Math Resources webpage of the Society for the
Quantitative Analysis of Behavior.
- 2005 Annual Convention of the Association for Behavior Analysis. Symposium: Adjunctive
Behavior and Automaintenance. Chair.
- 1993 Asociación Nacional de Estudiantes de Psicología [National Association of Psychology
Students] (Colombia). Founding Member.

Professional Memberships

- 2011 – 2018 National Hispanic Science Network
- 2011 – present Comparative Cognition Society
- 2009 – 2020 Society for Neuroscience
- 2008 – present Sigma Xi
- 2008 – present International Society for Comparative Psychology
- 2004 – present Psychonomic Society, Fellow
- 2004 – 2022 Association for Psychological Science
- 1999 – present Society for the Quantitative Analysis of Behavior
- 1999 – present Association for Behavior Analysis International, Fellow
- 1997 – present American Psychological Association (Div. 25, since 2018)

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