

Federico Sanabria, Ph.D.
Curriculum Vitae



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 URL <https://www.dropbox.com/s/oe2o7c9l4ufgkmz/SanabriaCV.pdf?dl=0>
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Appointments

2014 – present Associate Professor, Department of Psychology, Arizona State University, Tempe, AZ, USA.
 2008 – 2014 Assistant Professor, Department of Psychology, Arizona State University, Tempe, AZ, USA.
 2008 Postdoctoral Research Associate, Department of Psychology, Arizona State University, Tempe, AZ, USA. Position funded by a grant from NIDA to Janet L. Neisewander.
 2004 – 2008 Postdoctoral Research Associate, Department of Psychology, Arizona State University, Tempe, AZ, USA. Position funded by grants from NIMH and NSF to Peter R. Killeen.

Visiting Positions

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

Education

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.

Honors and Awards

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.

Research Interests

Central Theme Experimental research on basic behavioral and cognitive processes underlying behavioral regulation in various species, and the application of this research to the study of psychiatric disorders, primarily substance abuse and attention deficit hyperactivity disorder (ADHD). Processes include learning, timing, choice, and response inhibition.

Publications – Refereed Empirical Research

Summary of Scientific Impact (Source: Google Scholar)

Citations. All: 940. Since 2012: 747. H-index: 18.

Publications are listed in reverse chronological order, then alphabetically.

**Denotes Dr. Sanabria as senior author (typically last). *Denotes Dr. Sanabria as senior collaborating author. +Denotes graduate student under direct supervision of Dr. Sanabria. ^Denotes undergraduate student under direct supervision of Dr. Sanabria. #Denotes visiting scholar in Dr. Sanabria's laboratory.

1. ^Romero K, +Daniels CW, Gipson CD, ****Sanabria F**. Suppressive and enhancing effects of nicotine on food-seeking behavior. *Behavioural Brain Research* 2018, 339:130. PMID: 29175447.
2. Bell MC, ***Sanabria F**. Failure to find a distance effect in pigeon choice. *Journal of the Experimental Analysis of Behavior* 2017; 108:1. PMID: 28542842.
3. +Brackney RJ, Cheung THC, ****Sanabria F**. A bout analysis of operant response disruption. *Behavioural Processes* 2017; 141:42. PMID: 28431947. Times cited: 1.
4. +Daniels CW, ****Sanabria**. 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* 2017; 43:280.
5. +Daniels CW, ****Sanabria F**. Interval timing under a behavioral microscope: Dissociating motivational and timing processes in fixed-interval performance. *Learning & Behavior* 2017; 45:29. PMID: 27443193. Times cited: 3.
6. #Íbias J, +Daniels CW, Miguéns M, Pellón R, ***Sanabria F**. The effect of methylphenidate on the microstructure of schedule-induced polydipsia in an animal model of ADHD. *Behavioural Brain Research* 2017; 333:211. PMID: 28669538.
7. Jiménez A, ***Sanabria F**, Cabrera F. The effect of lever height on the microstructure of operant behavior. *Behavioural Processes* 2017; 140:181. PMID: 28499811. Times cited: 1.
8. +Watterson E, ^Spitzer A, Watterson LR, +Brackney RJ, Zavala AR, Olive MF, ****Sanabria F**. Nicotine-induced behavioral sensitization in an adult animal model of attention deficit/hyperactivity disorder (ADHD). *Behavioural Brain Research* 2016; 312:333. PMID: 27363925. Times cited: 2.
9. +Brackney RJ, ****Sanabria F**. The distribution of response bout lengths and its sensitivity to differential reinforcement. *Journal of the Experimental Analysis of Behavior* 2015; 104:167. PMID: 26377437. Times cited: 4.
10. +Daniels CW, Fox AE, Kyonka EGE, ****Sanabria F**. Biasing temporal judgments in rats, pigeons, and humans. *International Journal of Comparative Psychology* 2015; 28. Times cited: 5.
11. +Daniels CW, +Watterson E, ^Garcia R, +Mazur GJ, +Brackney RJ, ****Sanabria F**. Revisiting the effect of nicotine on interval timing. *Behavioural Brain Research* 2015; 283:238. PMID: 25637907. Times cited: 4.
12. #Íbias J, Pellón R, ***Sanabria F**. A microstructural analysis of schedule-induced polydipsia reveals incentive-induced hyperactivity in an animal model of ADHD. *Behavioural Brain Research* 2015; 278:417. PMID: 25447297. Times cited: 8.
13. +Watterson E, +Daniels CW, Watterson LR, +Mazur GJ, +Brackney RJ, Olive MF, ****Sanabria F**. Nicotine-induced place conditioning and locomotor activity in an adolescent animal model of attention deficit/hyperactivity disorder (ADHD). *Behavioural Brain Research* 2015; 291:184. PMID: 26008156. Times cited: 7.
14. +Watterson E, +Mazur GJ, ****Sanabria F**. Validation of a method to assess ADHD-related impulsivity in animal models. *Journal of Neuroscience Methods* 2015; 252:36. PMID: 25840365. Times cited: 3.
15. Hoffman AN, Lorson NG, ***Sanabria F**, Olive MF, Conrad CD. Chronic stress disrupts fear extinction and enhances amygdala and hippocampal Fos-like expression in an animal model of post-traumatic stress disorder. *Neurobiology of Learning and Memory* 2014; 112:139. PMID: 24508064. Times cited: 20.
16. +Mazur GJ, ^Wood-Isenberg G, +Watterson E, ****Sanabria F**. Detrimental effects of acute nicotine on the response-withholding performance of spontaneously hypertensive and Wistar Kyoto rats. *Psychopharmacology* 2014; 231:2471. PMID: 24414609. Times cited: 7.
17. ****Sanabria F**, ^Oldenburg L. Adaptation of timing behavior to a regular change in criterion. *Behavioural Processes* 2014; 101:58. PMID: 23962672. Times cited: 3.

18. +Watterson E, ****Sanabria F**, Zavala AR, Privitera GJ. Response inhibition capacity and short-term memory are robust to the effects of high fat diet during adolescence. *Universitas Psychologica* 2014; 13:1161. Times cited: 1.
19. Cabrera F, ***Sanabria F**, Jimenez AA, Covarrubias P. An affordance analysis of unconditional lever pressing in rats and hamsters. *Behavioural Processes* 2013; 92:36. PMID: 23073500. Times cited: 18.
20. +Brackney RJ, Cheung THC, ^Herbst K, +Hill JC, ****Sanabria F**. Extinction learning deficit in a rodent model of attention-deficit hyperactivity disorder. *Behavioral and Brain Functions* 2012, 8:59. PMID: 23237608. Times cited: 12.
21. Cheung THC, Neisewander JL, ****Sanabria F**. Extinction under a behavioral microscope: Isolating the sources of decline in operant response rate. *Behavioural Processes* 2012; 90:111. PMID: 22425782. Times cited: 13.
22. +Hill JC, #Covarrubias P, ^Terry J, ****Sanabria F**. The effect of methylphenidate and rearing environment on behavioral inhibition in adult male rats. *Psychopharmacology* 2012; 219:353. PMID: 22057663. Times cited: 12.
23. +Hill JC, ^Herbst K, ****Sanabria F**. Characterizing operant hyperactivity in the spontaneously hypertensive rat. *Behavioral and Brain Functions* 2012; 8:5. PMID: 22277367. Times cited: 30.
24. ^Mika A, +Mazur GJ, Hoffman AN, Talboom JS, Bimonte-Nelson HA, ***Sanabria F**, Conrad CD. Chronic stress impairs prefrontal cortex-dependent response inhibition and spatial working memory. *Behavioral Neuroscience* 2012; 126:605. PMID: 22905921. Times cited: 64.
25. Peartree NA, Hood LE, Thiel KJ, ***Sanabria F**, Pentkowski NS, Neisewander JL. Limited physical contact through a mesh barrier is sufficient for social reward-conditioned place preference in adolescent male rats. *Physiology & Behavior* 2012; 105:749. PMID: 22008744. Times cited: 50.
26. Peartree NA, ***Sanabria F**, Thiel KJ, Weber SM, Cheung THC, Neisewander JL. A new criterion for acquisition of nicotine self-administration in rats. *Drug and Alcohol Dependence* 2012; 124:63. PMID: 22243759. Times cited: 15.
27. +Brackney RJ, Cheung THC, Neisewander JL, ****Sanabria F**. The isolation of motivational, motoric, and schedule effects on operant performance: A modeling approach. *Journal of the Experimental Analysis of Behavior* 2011; 96:17. PMID: 21765544. Times cited: 38.
28. +Mazur GJ, ****Sanabria F**. Spatial serial conditioning maintained with minimal temporal contingency. *Behavioural Processes* 2011; 87:135. PMID: 21238551.
29. Podlesnik CA, ***Sanabria F**. Repeated extinction and reversal learning of an approach response support an arousal-mediated learning model. *Behavioural Processes* 2011; 87:125. PMID: 21172410. Times cited: 6.
30. Privitera GJ, Zavala AR, ***Sanabria F**, Sotak K. High fat diet during pre and periadolescence impairs learning of a conditioned place preference in adulthood. *Behavioral and Brain Functions* 2011; 7:21. PMID: 21703027. Times cited: 17.
31. Robles E, Roberts NA, ***Sanabria F**. Dynamics of choice during estimation of subjective value. *Behavioural Processes* 2011; 87, 34. PMID: 21276839. Times cited: 3.
32. Barker DJ, **Sanabria F**, Lasswell A, Thrailkill E, Pawlak AP, Killeen PR. Brief light as a practical aversive stimulus for the albino rat. *Behavioural Brain Research* 2010; 214:402. PMID: 20600344. Times cited: 20.
33. Avila I, Reilly MP, **Sanabria F**, Posadas-Sanchez D, Chavez CL, Banerjee N, Killeen PR, Castañeda E. Modeling operant behavior in the Parkinsonian rat. *Behavioural Brain Research* 2009; 198:298. PMID: 19073222. Times cited: 27.
34. Cabrera F, **Sanabria F**, Shelley D, Killeen PR. The “Lunching” effect: Pigeons track motion towards food more than motion away from it. *Behavioural Processes* 2009; 82:229. PMID: 19591911. Times cited: 8.
35. Killeen PR, **Sanabria F**, Dolgov I. Dynamics of conditioning and extinction. *Journal of Experimental Psychology: Animal Behavior Processes* 2009; 35:447. PMID: 19839699. Times cited: 23.
36. Thiel KJ, **Sanabria F**, Neisewander L. Synergistic interaction between nicotine and social rewards in adolescent male rats. *Psychopharmacology* 2009; 204:391. PMID: 19224200. Times cited: 102.
37. Thiel KJ, **Sanabria F**, Pentkowski NS, Neisewander JL. Anti-craving effects of environmental enrichment. *International Journal of Neuropsychopharmacology* 2009; 12:1151. PMID: 19691875. Times cited: 69.
38. ****Sanabria F**, Thrailkill E. Pigeons (*Columba livia*) approach Nash Equilibria in experimental Matching Pennies competitions. *Journal of the Experimental Analysis of Behavior* 2009; 91:169. PMID: 19794832. Times cited: 7.

39. **Sanabria F**, Thraillkill E, Killeen PR. Timing with opportunity cost: Concurrent schedules of reinforcement improve peak timing. *Learning & Behavior* 2009; 37:217. PMID: 19542089. Times cited: 14.
40. Acosta JI, Thiel KJ, **Sanabria F**, Browning JR, Neisewander JL. Effect of schedule of reinforcement on cue reinstatement of cocaine-seeking behavior. *Behavioural Pharmacology* 2008; 19:129. PMID: 18261220. Times cited: 22.
41. **Sanabria F**, Acosta JI, Killeen PR, Neisewander JL, Bizo LA. Modeling the effects of fluoxetine on food-reinforced behavior. *Behavioural Pharmacology* 2008; 19:61. PMID: 18195595. Times cited: 18.
42. **Sanabria F**, Killeen PR. Evidence for impulsivity in the Spontaneously Hypertensive Rat drawn from complementary response-withholding tasks. *Behavioral and Brain Functions* 2008; 4:7. PMID: 18261220. Times cited: 58.
43. **Sanabria F**, Killeen PR. Better statistics for better decisions: Rejecting null hypotheses statistical tests in favor of replication statistics. *Psychology in the Schools* 2007; 44:471. PMID: 19122766. Times cited: 23.
44. **Sanabria F**, Killeen PR. Temporal generalization accounts for response resurgence in the peak procedure. *Behavioural Processes* 2007; 74:126. PMID: 17141981. Times cited: 27.
45. Bizo LA, Chu JYM, **Sanabria F**, Killeen PR. The failure of Weber's Law in time perception and production. *Behavioural Processes* 2006; 71:201. PMID: 16386378. Times cited: 87.
46. **Sanabria F**, Sitomer MT, Killeen, PR. Negative automaintenance omission training is effective. *Journal of the Experimental Analysis of Behavior* 2006; 86:1-10. PMID: 16903489. Times cited: 18.
47. **Sanabria F**, Baker F, Rachlin, H. Learning by pigeons playing against tit-for-tat in an operant prisoner's dilemma. *Learning & Behavior* 2003; 31:318. PMID: 14733481. Times cited: 20.

Publications – Refereed Empirical Research (Under Review)

- R1. Alfaro L, ***Sanabria F**, Cabrera R. The role of outcome unit size in the social foraging strategies of rats.
- R2. +Brackney RJ, ^Garcia R, ****Sanabria F**. Longer operant lever-press duration requirements induce fewer but longer response bouts in rats.
- R3. +Daniels CW, ****Sanabria F**. PeaRL: A computational model of gambling-like behavior.
- R4. ^Overby PF, +Daniels CW, Del Franco A, Goenaga J, Powell GL, Gipson CD, ***Sanabria F**. Self-administration of nicotine transiently enhances incentive salience.
- R5. Rojas-Leguizamón M, Baroja JL, ***Sanabria F**, Orduña V. Response inhibition capacity in female SHR and Wistar rats: Acquisition of Fixed Minimum Interval (FMI) performance and responsiveness to d-amphetamine.
- R6. ****Sanabria F**, +Mazur GJ, Hoffman AN, ^Martinez B, Watterson LR, Peartree NA, +Watterson E, +Brackney RJ, ^Simonsen M. Effects of chronic nicotine on response inhibition and Fos activation in spontaneously hypertensive rats.

Publications – Theoretical Papers, Chapters, Commentaries, Editorials, and Other Contributions

- T1. **Sanabria F**. Operant conditioning. In J. Vonk & T.K. Shackelford (Eds.) *Encyclopedia of animal cognition and behavior* (in press). Cham, Switzerland: Springer.
- T2. Podlesnik CA, **Sanabria F**. SQAB 2016: Persistence and relapse. *Behavioural Processes* 2017; 141:1.
- T3. Lefebvre VA, **Sanabria F**. Bipolar choice in the experimental chamber. *Psikhologicheskii Zhurnal* 2009; 30:65.
- T4. Lefebvre VA, **Sanabria F**. Matching by fixing and sampling: A local model based on internality. *Behavioural Processes* 2008; 78:204. PMID: 18282666. Times cited: 2.
- T5. **Sanabria, F**. Tools, drugs and signals in the road from evolution to money [Commentary on Lea & Webley]. *Behavioral and Brain Sciences* 2006; 29:193. Times cited: 2.
- T6. **Sanabria F**, Killeen PR. Freud meets Skinner: Hyperbolic curves, elliptical theories and Ainslie Interests [Commentary on Ainslie]. *Behavioral and Brain Sciences* 2005; 28:660. Times cited: 1.
- T7. **Sanabria F**, Killeen PR. All thumbs? [Commentary on Hutchinson & Gigerenzer] *Behavioural Processes* 2005; 69:143. PMID: 15845300.
- T8. **Sanabria F**. Análisis molar y molecular: Dos visiones de la conducta [Molar and molecular analyses: Two views on behavior]. *Universitas Psychologica* 2002; 1:27.
- T9. **Sanabria F**. Psychologists on the March [Review of J. H. Capshew]. *Revista Latinoamericana de Psicología* 2000; 32:181.

Grant-Seeking Activity**Grants – Ongoing**

- 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.
- 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*. Sponsor: NIH. Total direct costs: \$1,247,099.

Grants – Completed

- 4/2012 – 1/2016 PI: **Federico Sanabria (100%)**. *Analysis of instrumental overactivity in an animal model of ADHD*. Sponsor: NIH (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.

Grants – Submitted in 2017

- Submitted 6/2017 PI: **Federico Sanabria (100%)**. *Dissociating the components of motivated behavior*. Submitted to NIH (R01DA045840). Total direct costs: \$1,000,000.
- Submitted 2/2017 PI: **Federico Sanabria (70%)**. Co-I: Cheryl Conrad (30%). *Sustained threat and interval timing*. Submitted to NIH (R03MH115245). Total direct costs: \$100,000.

Grants – Submitted in 2016

- Submitted 3/2016 PI: Brian H. Smith (34%), **Federico Sanabria (33%)**, Clive D. L. Wynne (33%). Sponsor: Coherent Technical Services Inc. (Prime Sponsor: DoD Army Corps of Engineers). Total direct costs: \$327,556.
- Submitted 3/2016 PI: **Federico Sanabria (70%)**. Co-I: Cheryl Conrad (30%). *Sustained threat and interval timing*. Submitted to NIH (R03MH109793). Total direct costs: \$100,000.
- Submitted 2/2016 PI: **Federico Sanabria (40%)**, Cassandra Gipson-Reichardt (30%), M. Foster Olive (30%). *Preclinical assessment of the sex-specific contribution of adolescent nicotine intake to tobacco product abuse liability*. Sponsor: NIH (R01DA042753). Total direct costs: \$1,250,000.

Invited Oral Platform Presentations and Workshops – International

- 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.
- 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.
- 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.
- Sanabria F.**, Daniels CW. The microstructure of steady-state fixed-interval performance. Biennial Meeting of the International Society for Comparative Psychology 2014, Bogotá, Colombia.
- 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.
- 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.

7. **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.
8. **Sanabria F.** Elección, economía y conducta [Choice, economics, and behavior]. Universidad de Ibagué 2010, Ibagué, Colombia.
9. **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.
10. **Sanabria F.** Avances recientes en la investigación en “timing”. [Recent Advances in timing research]. Universidad Nacional de Colombia 2009, Bogotá, Colombia.
11. **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.
12. **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.
13. **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.
14. **Sanabria F.** Impulsividad como déficit inhibitorio: Un modelo conductual. [Impulsivity as an inhibitory deficit: A behavioral model]. Fundación Universitaria Konrad Lorenz 2007, Bogotá, Colombia.
15. **Sanabria F.** Tiempo paradójico [Paradoxical time]. Pontificia Universidad Javeriana 2006, Bogotá, Colombia.
16. 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.** Quantitative modeling in behavior analysis, Part 1: Why? Annual Convention of the Association for Behavior Analysis 2016, Chicago, IL.
2. **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.
3. 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.
4. **Sanabria F,** Watterson L. On measuring response inhibition capacity. Texas Association for Behavior Analysis Regional Conference 2014, San Antonio, TX.
5. **Sanabria F.** Linking psychological constructs to behavioral performance using generative models. Annual Convention of the Association for Behavior Analysis 2012, Seattle, WA.
6. **Sanabria F.** A cost-dependent frustration hypothesis of the Partial Reinforcement Extinction Effect (PREE). California State University 2010, Long Beach, CA.
7. **Sanabria F.** Impulsivity and timing in the Spontaneously Hypertensive Rat, a rodent model of ADHD. Texas Christian University 2008, Fort Worth, TX.
8. **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.
9. **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.
10. **Sanabria, F.** Behavioral deficits in a rodent model of ADHD. California State University East Bay 2006, Hayward, CA.
11. **Sanabria F,** Killeen PR. Wrinkles in time. International Conference on Comparative Cognition 2006, Melbourne Beach, FL.

Invited Oral Platform Presentations and Workshops – Regional

1. 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.

2. **Sanabria F.** The organization of behavior and its implications for applied analysis. Annual Conference of the Arizona Association for Behavior Analysis 2014, Phoenix, AZ.
3. **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.** A computational approach to comparative psychopathology. International Congress of Psychology 2016, Yokohama, Japan.
2. **Sanabria F,** Daniels CW. On the temporal organization of behavior. Biennial Meeting of the International Society for Comparative Psychology 2016, Sydney, Australia.
3. 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.
4. **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.
5. 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.
6. **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,** 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. **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.
9. **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.
10. **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.
11. 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.
12. 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.

13. **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.
14. **Sanabria F,** Mazur GJ. Spatial Pavlovian conditioning. Fall Meeting of the Comparative Cognition Society 2011, Seattle, WA.
15. **Sanabria F,** Mazur GJ. Spatial Pavlovian conditioning. Annual Meeting of the Psychonomic Society 2011, Seattle, WA.
16. 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.
17. **Sanabria F,** Hill JC. The dynamics of conditioning and extinction. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2009, Phoenix, AZ.
18. **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.
19. **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.
20. **Sanabria F,** Thrailkill, E. Pigeons matching pennies. Annual Meeting of the Psychonomic Society 2006, Houston, TX.
21. **Sanabria F,** Killeen PR. Accounting for cyclic responding in timing using binary counting. Annual Convention of the Association for Behavior Analysis 2006, Atlanta, GA.
22. **Sanabria F,** Sitomer MT, Killeen PR. A lagged negative automaintenance procedure. Annual Convention of the Association for Behavior Analysis 2005, Chicago, IL.
23. **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. 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.
2. **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.
3. **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. 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.
2. 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.
3. Overby PF, Daniels CW, del Franco A, Goenaga J, Powell GL, Gipson-Reichardt CS, **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.
4. 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.
5. 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.
6. 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.
7. 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.

8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.
17. 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.
18. 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.
19. 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.
20. 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.
21. 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.
22. 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.
23. 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.
24. 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.
25. 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.
26. **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.
27. **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.
28. 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.

29. 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.
30. 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.
31. 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.
32. 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.
33. 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.
34. 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.
35. 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.
36. 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.
37. 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.
38. 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.
39. 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.
40. 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.
41. Mazur GJ, Whillock C, **Sanabria F**. Spatial Pavlovian conditioning. Annual Meeting of the Society for the Quantitative Analysis of Behavior 2010, San Antonio, TX.
42. 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.
43. 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.
44. **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.
45. **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.
46. 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.
47. 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.
48. **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.
49. 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.

50. 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.
51. **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.
52. **Sanabria F**, Dolgov I, Killeen PR. Dynamics of conditioning and extinction under lagged omission contingencies. Annual Meeting of the Pavlovian Society 2005, Anaheim, CA.
53. **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.
54. **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.
55. **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. 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.
2. 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.
3. 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.
4. Zoloto A, Mazur GJ, Cranston KA, **Sanabria F**. Discounting and environmentally responsible behavior. Annual Four-Corners ABA Conference 2013, Flagstaff, AZ.
5. 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.
6. 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.
7. 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.
8. Mazur GJ, Whillock C, **Sanabria F**. Spatial Pavlovian conditioning. Annual Four-Corners ABA Conference 2010, Park City, UT.
9. 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.
10. 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. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.

7. 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 Experience – Undergraduate Courses

- PSY 320 Learning and Motivation, Arizona State University
Spring 2013, Spring 2014, Fall 2015, Fall 2016
- 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
- PSY 425 Biological Bases of Behavior, Arizona State University
Spring 2008

Teaching Experience – Graduate Courses

- PSB 573 Advanced Principles of Learning and Analysis of Behavior, Arizona State University
Fall 2016
- PSY 512 Advanced Learning, Arizona State University
Fall 2009, Fall 2011, Spring 2014, Spring 2016
- PSY 591 Behavioral Neuroscience Seminar, Arizona State University
Fall 2008 through Fall 2017
- PSY 591 Impulsivity, Arizona State University
Fall 2012
- PSY 591 Modeling, Arizona State University
Fall 2010
- Pre-doc course Analysis of Behavior, Fundación Universitaria Konrad Lorenz (Bogotá, Colombia)
Spring – Fall 2007

Topical Guest Lectures

- The Basic Behavioral Processes Lab. January 22nd, 2013. Psychology Honors Colloquium.
- The Basic Behavioral Processes Lab. February 9th, 2012. Psychology Honors Colloquium.
- The Basic Behavioral Processes Lab. February 4th, 2010. Psychology Honors Colloquium.
- Relatedness and optimal play in evolutionary games. August 29th, 2006. Math & Cognition Seminar.
- Wrinkles in time. April 5th, 2006. Behavioral Neuroscience Seminar.
- Paradoxical timing. November 21st, 2005. Cognition and Behavior Seminar.
- Solving the puzzle of reciprocal altruism. December 7th, 2004. Math & Cognition Seminar.

Associate Editor

- 2015 – 2019 Learning & Behavior (Psychonomic Society Journal)
- 2014 – 2017 Journal of the Experimental Analysis of Behavior

Guest Editor

- 2016 – 2017 Behavioural Processes: Special Issue SQAB 2016 (co-edited with Christopher Podlesnik)

Editorial Boards and Committees

- 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	Journal of Experimental Psychology: Animal Learning and Cognition (previously Journal of Experimental Psychology: Animal Behavior Processes)
Animal Cognition	
Avances en Psicología Latinoamericana	
Behavioural Brain Research	
Behavioural Processes*	Journal of the Experimental Analysis of Behavior
Biological Psychiatry	Journal of Mathematical Psychology
Canadian Journal of Experimental Psychology	Journal of Neuroscience Methods
Epilepsy & Behavior	Neuropsychopharmacology
Frontiers in Human Neuroscience	Pensamiento Psicológico
Frontiers in Psychology	Physiology & Behavior
IEEE Transactions in Neural Networks	PLoS ONE
International Journal of Comparative Psychology	Psychonomic Bulletin & Review
Learning & Behavior	
Psychopharmacology	

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

Grant Review Service

2017	Perception, Action & Cognition. Division of Behavioral and Cognitive Sciences, National Science Foundation. 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, National Science Foundation.
2013	Biobehavioral regulation, learning and ethology (BRLE) study section (February and June meetings). Center for Scientific Review, National Institutes of Health. Temporary member.

Organizational Leadership and Service

2017 – 2020	Annual Convention of the Association for Behavior Analysis International. Program Board Coordinator.
2016 – 2017	National Hispanic Science Network (NSHN), Conference Planning Committee Member. The Phoenix Footprint, Lead Organizer.
2015 – 2023	Society for the Experimental Analysis of Behavior, Board of Directors.
2015 – 2017	Annual Convention of the Association for Behavior Analysis International. Program Committee Chair.
2013 – 2017	Society for the Quantitative Analysis of Behavior. Executive Board Member.
2014 – 2018	International Society for Comparative Psychology. President-Elect/President.
2012 – 2015	Annual Convention of the Association for Behavior Analysis International. Co-Coordinator for the Experimental Analysis of Behavior program.

Other Professional Service

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. Symposium: Variables affecting resurgence and renewal across species. Discussant.
2015	Annual Convention of the Association for Behavior Analysis International. 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 the Association for Behavior Analysis International. Symposium: Economics, Inhibition, and Self-Administration: Behavioral Pharmacology of Nicotine in Rats. Chair.
- 2014 Annual Convention of the Association for Behavior Analysis International. Symposium: Behavioral Variability: Its Fundamental Importance and Relation to other Phenomena. Discussant.
- 2013 - 2017 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 the Association for Behavior Analysis International. Symposium: Factors that Affect Local Choice and Temporal Discrimination. Discussant.
- 2013 Annual MGE@MSA/WAESO Student Research Conference. Judge.
- 2012 – present Departamento Administrativo de Ciencia, Tecnología e Innovación (Colciencias), Colombia. Peer evaluator for research grant proposals and institutional accreditation.
- 2012 Annual Convention of the Association for Behavior Analysis International. 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.

Departmental Service – Department of Psychology, Arizona State University

- 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

- 2017 Responsible Conduct of Research (RCR) workshop on animal welfare and research
- 2016 – 2018 Member of the Curriculum and Academic Programs Committee (CAPC)
- 2016 – 2017 Member of the University Hearing Board
- 2009 – present 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.
- 2006 Barrett Summer Scholars Student tour guide, Arizona State University.

University Service – SUNY Stony Brook

- 2002 Undergraduate Tutor, Disability Support Services.

2001 High School Research Mentor, Nicolás Páramo, Simons Summer Research Fellow.

Community Service

2010, 2011 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.

Professional Memberships

2011 – present National Hispanic Science Network

2011 – 2012 Comparative Cognition Society

2009 – present Society for Neuroscience

2008 – present Sigma Xi

2008 – present International Society for Comparative Psychology

2004 – present Psychonomic Society, Fellow

2004 – 2013 Association for Psychological Science

1999 – present Society for the Quantitative Analysis of Behavior

1999 – present Association for Behavior Analysis International

1997 – present American Psychological Association

Chair of Graduate Student Dissertation (Ph.D.)

2015 – present Carter W. Daniels, Psychology – 2014, 2015 Sigma Xi Grants-in-Aid recipient. 2016 Psychology Doctoral Scholar Award, 2017 APA Dissertation Award.

2009 – 2015 Ryan J. Brackney, Neuroscience – arrived with M.S. in Behavior Analysis. 2015 Insight Data Science Fellow.

2010 – 2015 Elizabeth Watterson, Psychology – arrived with M.A. in Psychology.

2011 – 2014 Gabriel J. Mazur, Psychology.

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

2016 Carter W. Daniels, Psychology.

2013 Gabriel J. Mazur, Psychology.

2013 Ryan J. Brackney, Neuroscience.

2013 Elizabeth Watterson, Psychology.

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

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

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 C. Chuang, Applied Behavior Analysis.

2016 – 2017 Ashley Pruitt, Applied Behavior Analysis.

Chair of Undergraduate Honors Thesis

2016 – 2017 Paula Overby, Psychology

2016 – 2017 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).

2010 Alison Moritz, Psychology.

2010 Katrina Herbst, Psychology.

Undergraduate Research Mentorship

^aUnder-represented 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.

2017	10 new students: Abrahm Coury, ^{af} Jorge Espinoza, Lesley Estrada, Ali Golightly, Rachael Halby, Denise Inguito, Christina McBroom, Jessica Pleasant, Katie Riordan, Sarah Sparks (volunteer).
2016	10 new students: Andria Albert, Ashley Mack, Daniel Matloff, Meghan Nandan, Sophia Parmenter, Rockell Schmidt, Hollie Smith, Amanda Sodoma, Andrej Sodoma, 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, Cavan Winikates, Lyndsie Yochum.
2012	9 new students: Chris Fencl, ^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, Chris 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, Allison Lucas, Alison Moritz, Robert Schettig, Jonathan Schiro, Lauren Shields, ^c Joel Terry.
2004 – 2007	33 students: Afroza Ahmed, 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 Lamoureaux, ^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.

Technical Training and Visiting Scholars

2015 – 2016	Ángel Jiménez (Universidad de Guadalajara, Mexico, Fulbright Scholar)
2013	Javier Íbias (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 Thrailkill (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)

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

2017	Raul Garcia – ASU, Neuroscience.
2015 – 2017	Bryce Ortiz – ASU, Psychology, Behavioral Neuroscience

2014 – present	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).

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

2017	Ryan Becker – ASU, Social and Behavioral Sciences, Psychology.
2017	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.

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

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.

Member (non-chair) of Honors Student Thesis Committee

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.