

CURRICULUM VITAE

Astrid Mariela Cardona-Acosta

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RESEARCH INTERESTS

My research interest focuses on the study of the causal relationship between early life experiences (stress and use of psychotropic drugs), brain biochemistry and behavior. Currently, my research focus is on assessing the long-term neurobiological consequences of benzodiazepine (Alprazolam) drug exposure during adolescence as a primer for drug abuse/addiction liability in adulthood.

EDUCATION

Texas A&M University, College Station, Texas August 2019 – Present
Behavioral and Cellular Neuroscience
PhD student

Texas A&M University, College Station, Texas Spring 2021
M.S Psychological Sciences
Thesis Advisor: Dr. Carlos Bolaños-Guzmán

Texas A&M University, College Station, Texas Fall 2018
B.S Psychology
Minor in Spanish and Neuroscience

RESEARCH EXPERIENCE

Neuroscience laboratory – Dr. Carlos Bolaños August 2017 – December 2018
Undergraduate research assistant

- Administer injections to rodents.
- Assist on neurosurgical procedures on rodents.
- Run biochemical tests on brain tissue and quantification of data for PCR and Western Blot analysis.
- Perform behavioral tests, Social Interaction, Forced Swim Test and Elevated-Plus Maze.

Social psychology laboratory – Dr. Brandon Schmeichel August 2016 – May 2017
Undergraduate research assistant

- Conducted experiments on human subjects.
- Coded short essays based on content and description.
- Collected and entered data.

MANUSCRIPTS IN PREPARATION

1. Parise L.F., **Cardona-Acosta A.M.**, Parise E., Bolaños-Guzman C.A. Animal Models in Neuropsychiatric Disorders. In: Charney D.S., Buxbaum J.D., Binder E.B., Gordon J.A., Picciotto M.R., Nestler E.J. (Eds.), *Neurobiology of Mental Illness*, 6th Edition: Oxford: New York. (Submitted Spring 2022).
2. **Cardona-Acosta A.M.**, Sial O.K., Parise L.F., Gnecco T., Enriquez Marti G., Hernandez-Guzman D., Bolaños-Guzmán, C. A. Alprazolam Exposure During Adolescence Induces Life-

Long Dysregulation of Reward Sensitivity and Second Messenger Signaling Within the VTA-NAc Pathway (To be submitted Summer 2022).

3. **Cardona-Acosta A.M.**, Bolaños-Guzman C.A. Role of the Dopaminergic Pathway in Antidepressant Effects of Ketamine. Special Issue Ketamine and its Metabolites: Potential as Novel Treatments for Depression. *Neuropharmacology* (To be submitted Fall 2022).
4. **Cardona-Acosta A.M.**, Meisser N., Bolaños-Guzman C.A. Alprazolam: A Review of Use, Misuse, and Abuse Liability. (To be submitted Fall 2022).

PUBLICATIONS

1. Parise, E. M., Parise, L. F., Sial, O. K., **Cardona-Acosta, A. M.**, Gyles, T. M., Juarez, B., Chaundry, D., Han, M.-H., Nestler, E. J., Bolaños-Guzmán, C. A (2021). The Resilient Phenotype Induced by Prophylactic Ketamine Exposure During Adolescence Is Mediated by the VTA-NAC Pathway. *Biological Psychiatry*.
2. Sial O.K., Gnecco T., **Cardona-Acosta A.M.**, Vieregge E.L., Cardoso E., Parise L.F., Bolaños-Guzmán C.A (2021). Exposure to vicarious social defeat stress and western-style diets during adolescence leads to physiological dysregulation, decreases in reward sensitivity and reduced antidepressant efficacy in adulthood. *Frontiers Neuroscience*.

POSTER PRESENTATIONS

1. **Cardona-Acosta A.M.**, Meisser N., Bolaños-Guzmán C.A (2022) Alprazolam exposure during adolescence exacerbates morphine spontaneous withdrawal. Texas A&M Society for Neuroscience Chapter symposium, College Station, TX.
2. **Cardona-Acosta A.M.**, Sial O.K., Gnecco T., Enriquez Marti G., Hernandez Guzman D., Bolaños-Guzman C.A (2022) Alprazolam exposure during adolescence induces life-long dysregulation of reward sensitivity and second messenger signaling within the VTA-NAc pathway. International Behavioral Neuroscience Society Conference, Glasgow, Scotland.
3. **Cardona-Acosta A.M.**, Sial O.K, Gnecco T., Enriquez Marti G., Hernandez Guzman D., Bolaños-Guzman C.A (2021) Alprazolam exposure during adolescence induces life-long dysregulation of reward sensitivity and second messenger signaling within the VTA-NAc pathway. Texas A&M Chapter of Society for Neuroscience symposium, College Station, TX.
4. Sial O.K., Gnecco T., **Cardona-Acosta A.M.**, Cardoso E., Vieregge E.L., Parise L.F, Bolaños-Guzman C.A. (2021) Early-life adversity followed by western-style diet leads to physiological dysregulation, depressive phenotype, decreases in reward sensitivity, and treatment resistance in adulthood. Society for Neuroscience; Global Connectome- Virtual Conference.
5. **Cardona-Acosta A.M.**, Sial O.K, Gnecco T., Enriquez Marti G., Hernandez Guzman D., Bolaños-Guzman C.A (2021) Alprazolam exposure during adolescence induces life-long dysregulation of reward sensitivity and second messenger signaling within the nucleus accumbens (NAc). Society for Neuroscience, virtual conference.
6. **Cardona-Acosta A.M.**, Sial O.K., Gnecco T., Cardoso E., Bolaños-Guzman C.A (2021) Alprazolam exposure during adolescence dysregulates reward sensitivity and second messenger signaling within the VTA-NAc pathway. National Hispanic Science Network, virtual conference.

7. **Cardona-Acosta A.M.**, Sial O.K., Gnecco T., Cardoso E., Bolaños-Guzman C.A (2020) Alprazolam exposure during adolescence dysregulates second messenger signaling in the mesolimbic dopamine reward system. National Hispanic Science Network, virtual conference.
8. **Cardona-Acosta A.M.**, Parise L.F., Sial O.K., Viereg E.L., Rozofsky J.P., Bolaños-Guzmán C.A (2020) Alprazolam exposure during adolescence dysregulates reward sensitivity and second messenger signaling in adulthood., Biology, Behavior and Chemistry: Translational research in Addiction Conference, San Antonio, TX.
9. Sial O.K., Parise L.F., Gnecco T., **Cardona-Acosta A.M.**, Bolaños-Guzmán C.A (2019) Social stress during adolescence followed by western-style diet leads to physiological dysregulation, depressive phenotype, and decreases in reward sensitivity in adulthood., American College of Neuropsychopharmacology, Orlando, FL.
10. Sial O.K., Parise L.F., Gnecco T., **Cardona-Acosta A.M.**, Bolaños-Guzmán C.A (2019) Social stress during adolescence followed by western-style diet leads to physiological dysregulation, depressive phenotype, and decreases in reward sensitivity in adulthood., National Hispanic Science Network, New Orleans, LA.
11. Sial O.K., Parise L.F., Skansi P.N., **Cardona-Acosta A.M.**, Viereg E.L., Gnecco T., Bolaños-Guzmán C.A (2019) Social stress during adolescence followed by western-style diet leads to physiological dysregulation, depressive phenotype, and decreases in reward sensitivity in adulthood. International Behavioral Neuroscience Society, Cairns, Australia.
12. Sial O.K., Parise L.F., Skansi P.N., **Cardona-Acosta A.M.**, Viereg E.L., Gnecco T., Bolaños-Guzmán C.A (2019) Social stress during adolescence followed by western-style diet leads to physiological dysregulation, depressive phenotype, and decreases in reward sensitivity in adulthood., Biology, Behavior and Chemistry: Translational research in Addiction Conference, San Antonio, TX.
13. Sial O.K., Parise L.F., Skansi P.N., **Cardona-Acosta A.M.**, Viereg E.L., Gnecco T., Bolaños-Guzmán C.A (2018) Social stress during adolescence followed by western-style diet leads to physiological dysregulation, depressive phenotype, and decreases in reward sensitivity in adulthood. Society for Neuroscience, San Diego, CA.
14. **Cardona-Acosta A.M.**, Parise L.F., Sial O.K., Viereg E.L., Rozofsky J.P, Bolaños-Guzmán C.A (2018) Alprazolam exposure during adolescence dysregulates reward sensitivity and second messenger signaling in adulthood. Society for Neuroscience annual meeting, San Diego, CA.
15. **Cardona-Acosta A.M.**, Alcantara L.F., Rozofsky J.P., Bolaños-Guzmán C.A (2018) Lasting neurobiological consequences of alprazolam exposure in adolescent C57BL/6J mice. National Hispanic Science Network annual meeting, Rockville, MD.
16. Parise L.F., Sial O.K., **Cardona-Acosta A.M.**, Viereg E.L., Skansi P.N., Bolaños-Guzmán C.A (2018) Extracellular-regulated kinase 2 in the lateral habenula regulates reactivity to stress in adolescent male rats. Society for Neuroscience annual meeting, San Diego, CA.
17. Sial O.K., Parise L.F., Skansi P.N., **Cardona-Acosta A.M.**, Viereg E.L., Gnecco T., Bolaños-Guzmán C.A (2018) Social stress during adolescence followed by western-style diet leads to physiological dysregulation, depressive phenotype, and decreases in reward sensitivity in adulthood. Society for Neuroscience annual meeting, San Diego, CA.

ORAL PRESENTATIONS

1. **Cardona-Acosta A.M** (2022) Alprazolam exposure during adolescence dysregulates reward sensitivity and second messenger signaling within the VTA-NAc pathway. Student Research Week, Texas A&M University.
2. **Cardona-Acosta A.M** (2021) Dysregulation of reward sensitivity and second messenger signaling induced by alprazolam exposure during adolescence. Behavioral and Cellular Neuroscience seminar series, Texas A&M University.

INVITED GUEST LECTURES

1. **Cardona-Acosta A.M** (2022) Anxiolytics: Clinical use, long-term consequences, and abuse liability. Icahn School of Medicine at Mount Sinai, NY.

PROFESSIONAL ASSOCIATIONS

- Society for Neuroscience, *Student Member* May 2018 – Present
- National Hispanic Science Network on Drug Addiction, *Student Member* May 2018 – Present

HONORS & AWARDS

- Scientific Development Travel Fellowship NHSN Fall 2022
- Charles H. Gregory Graduate Strategic Fellowship Spring 2022
- Scientific Development Travel Fellowship NHSN Fall 2021
- Scientific Development Travel Fellowship NHSN Fall 2020
- Opioid Overdose Education & Naloxone Administration Certificate Summer 2020
- eIRTI Fellow, University of Southern California Summer 2020
- Behavior, Biology and Chemistry Travel Award Spring 2020
- Professional Development G.R.A.D. Aggies Basic Certificate Spring 2020
- Cum Laude Graduation Distinction Fall 2018
- Texas A&M Society for Neuroscience Symposium- 2nd Place Fall 2018
- Scientific Development Travel Fellowship NHSN Fall 2018
- Houston Aggie Moms Scholarship Recipient Fall 2018
- Texas A&M Aggie Spirit Award Spring 2018
- Liberal Arts Dean's list Fall 2015

PROFESSIONAL DEVELOPMENT

- Psychology Department Organization of Graduate Students (PDOGS), *Webmaster* Fall 2022-Present
- Texas A&M Society for Neuroscience Chapter symposium, *Judge* Spring 2022
- Early Career Leadership Committee, National Hispanic Science Network, *Member* Fall 2021-Present
- Graduate Student Representative (BCN area), Texas A&M University Fall 2021-Spring 2022
- Women in Science and Engineering, Texas A&M University, *Member* Fall 2020-Present
- Texas A&M Opioid Task Force, *Member/Ambassador* Summer 2020 – Present
- Students for Advancing Neuroscience Discovery and Innovation, *Member* August 2017 – May 2018
- Hispanic Studies Association, *Member/Mentor* August 2017 – December 2017

OUTREACH

- Phoebe's Home Shelter, *Volunteer* August 2016- April 2017
- Alzheimer's Walk Event, *Volunteer* Fall 2016
- Texas A&M BUILD, *Volunteer* Fall 2016

RESEARCH SKILLS

- Rodents: Handling, intraperitoneal/subcutaneous injections, stereotaxic surgery, brain extraction and slicing, perfusions.
- Behavioral assessments: Conditioned place preference, forced swim test, social interaction test, chronic social defeat, elevated plus maze, and locomotor activity.
- Biochemical techniques: qPCR, Western Blot, DNA/RNA and protein isolation, immunohistochemistry.
- General laboratory skills: pipetting, drug preparation, handling hazardous chemicals, autoclaving and other general lab maintenance.
- Analytical skills: Data management, analysis and application in SPSS and GraphPad Prism.