Curriculum Vitae for

Luis Alberto Natividad, Ph.D.

(Revised: 01/2019)

Brief Statement

My main career objective is to establish an independent research program in the study of drug addiction and related pathological constructs (e.g., anxiety, cognitive dysfunction) at a major academic/research institution. Towards this goal, my laboratory will implement advanced platforms in mass spectrometry to comprehensively study the effects of drugs of abuse and negative affective states on small molecule transmitters and protein signaling in the brain. My research endeavors have thus far integrated behavioral and biochemical approaches to study neurotransmitter and lipid signaling systems in brain regions that modulate behavioral anxiety and the anhedonic responses of the "dark side" of addiction. Basal limbic function is important to the study of motivated behavior; however, there is a paucity of information concerning the role of upstream cortical networks that modulate cognitive function. In this regard, my most recent endeavors have employed cognitive behavioral models to profile the emergence of impulsive- and compulsive-like behaviors during protracted alcohol withdrawal. The K99-R00 Pathway to Independence Award has allowed me to expand my research scope into broad-scale assessments of the brain proteome using cutting-edge mass spectrometric analyses. Taken together, the combined biochemical/behavioral approach will facilitate my goal of establishing a research program integrating the power of mass spectrometry with the precision of behavioral neuroscience techniques to elucidate novel mechanisms of addiction and related psychiatric disorders (e.g., negative affect).

Current Position

Post-doctoral Research Associate (2016-Current): Laboratory of Marisa Roberto, Ph.D. and John R. Yates, III, Ph.D.

Contact Information

The Scripps Research Institute (TSRI)
Department of Neuroscience
10550 North Torrey Pines Road
Mail code: SP-2400
La Jolla, California 92037
Phone: (858) 784-7412
Fax: (858) 784-7405
Electronic mail: lnativi@scripps.edu

Education

1. Post-doctoral Research Associate (2012-2016): TSRI- Laboratory of Loren H. Parsons, Ph.D. (deceased 06/2016)
2. Ph.D. (2012): The University of Texas at El Paso (UTEP)- Psychology with emphasis in Neuroscience- Laboratory of Laura E. O'Dell, Ph.D.
3. M.A. (2009): UTEP- Experimental Psychology- Laboratory of Laura E. O'Dell, Ph.D.
4. B.A. (2002): University of Texas at Austin- Psychology

Grants

1. August 2017- Current: National Institutes of Health (NIH) Pathway to Independence Award- National Institute on Alcohol Abuse and Alcoholism (NIAAA; K99-AA025393).
2. July 2012- July 2015: Research Supplement to Promote Diversity in Health-Related Research- NIAAA (Parent Grant: R01-AA020404, LHP)
3. January 2012- August 2012: Diana Natalicio Dissertation Fellowship Award- UTEP
4. June 2008- June 2011: NIH Ruth L. Kirschstein National Research Service Award Pre-doctoral Fellowship- National Institute on Drug Abuse (NIDA; F31-DA021133)
5. May 2006- April 2007: American Psychological Association (APA), Diversity Program in Neuroscience Fellowship- National Institute of Mental Health (NIMH; T32-MH018882)

Publications

Pubmed Link: https://www.ncbi.nlm.nih.gov/sites/myncbi/luis.natividad.1/bibliography/40968990/public/?sort=date&direction=ascending

1. Natividad, L.A.*, Buczynski, M.W.*, McClatchy D.B., Yates, J.R. (2018). From synapse to function: a perspective on the role of neuroproteomics in elucidating mechanisms of drug addiction. Proteomes, In press. PMID: 30544849
2. Serrano, A., Pavon, F.J., Buczynski, M.W., Schlosburg, J., Natividad, L.A., Polis, I.Y., Stouffer, D., Zorrilla, E.P., Roberto, M., Rodriguez de Fonseca, F., Cravatt, B.F., Martin-Fardon, R., Parsons, L.H. (2018). Deficient endocannabinoid signaling in the central amygdala contributes to alcohol dependence-related anxiety-like behavior and excessive alcohol intake. Neuropsychopharmacology, In press. PMID: 29748627
3. Stopponi, S., Fotio, Y., Domi, A., Borruto, A.M., Natividad, L., Roberto M., Ciccocioppo, R., Cannella, N. (2017). Inhibition of fatty acid amide hydrolase in the central amygdala alleviates comorbid expression of innate anxiety and excessive alcohol intake. Addiction Biology, In press. PMID: 29071769
4. Natividad, L.A.*, Steinman, M.Q.*, Laredo, S.A., Irimia, C., Polis, I.Y., Lintz, R., Buczynski, M.W., Martin-Fardon, R., Roberto, M., Parsons, L.H. (2017). Phosphorylation of calcium/calmodulin-dependent protein kinase II in the rat dorsal medial prefrontal cortex is associated with alcohol-induced cognitive inflexibility. Addiction Biology, In press. PMID: 28940879
5. Carcoba, L.M., Flores, R.J., Natividad, L.A., O'Dell, L.E. (2017). Amino acid modulation of dopamine in the nucleus accumbens mediates sex differences in nicotine withdrawal. Addiction Biology, In press. PMID: 28940989.
6. Natividad, L.A., Buczynski, M.W., Herman, M.A., Kirson, D., Oleata, C.S., Irimia, C., Polis, I., Ciccocioppo, R., Roberto, M., Parsons, L.H. (2017). Constitutive increases in amygdalar corticotropin-releasing factor and fatty acid amide hydrolase drive an anxious phenotype. Biological Psychiatry, 82(7):500-510.
7. Irimia, C., Buczynski, M.W., Natividad, L.A., Laredo, S.A., Avalos, N., Parsons, L.H. Dysregulated glycine signaling contributes to increased impulsivity during protracted alcohol abstinence. (2017). Journal of Neuroscience, 37(7):1853-1861.
8. Buczynski M.W., Herman M.A., Hsu K.L., Natividad L.A., Irimia C., Polis I.Y., Pugh H., Chang J.W., Niphakis M.J., Cravatt B.F., Roberto M., Parsons L.H. (2016). Diacylglycerol lipase disinhibits VTA dopamine neurons during chronic nicotine exposure. Proceedings of the National Academy of Sciences, 113(4):1086-91.
9. Carcoba, L.M., Orfila, J.E., Natividad, L.A., Torres, O.V., Pipkin, J.A., Castañeda, E., Moss, D.E., O'Dell, L.E. (2014). Cholinergic transmission during nicotine withdrawal is influenced by age and pre-exposure to nicotine: Implications for teenage smoking. Developmental Neuroscience, 36(3-4):347-355.
10. Irimia, C., Wiskerke, J., Natividad, L.A., Polis, I.Y., de Vries, T.J., Pattij, T., Parsons, L.H. (2013). Increased impulsivity in rats as a result of repeated cycles of alcohol intoxication and abstinence. Addiction Biology, 20(2):263-74.
11. Natividad, L.A., Torres, O.V., Friedman, T.C., O'Dell, L.E. (2013). Adolescence is a period of development characterized by short- and long-term vulnerability to the rewarding effects of nicotine and reduced sensitivity to the anorectic effects of this drug. Behavioural Brain Research, 257:275-285.
12. O'Dell, L.E., Natividad, L.A., Pipkin, J.A.+, Roman, F.+, Torres, I., Jurado, J., Torres, O.V., Friedman, T.C., Tenayuca, J.M., Nazarian, A. (2013). Enhanced nicotine self-administration and suppressed dopaminergic systems in a rat model of diabetes. Addiction Biology, 19(6):1006-19.
13. Torres, O.V., Gentil, L.G., Natividad, L.A., Carcoba, L.M., O'Dell, L.E. (2013). Behavioral, biochemical, and molecular indices of stress are enhanced in female versus male rats experiencing nicotine withdrawal. Frontiers in Psychiatry, 4:38.
14. Natividad, L.A., Buczynski, M.W., Parsons, L.H., Torres, O.V., O'Dell, L.E. (2012). Adolescent rats are resistant to adaptations in excitatory and inhibitory mechanisms that modulate mesolimbic dopamine during nicotine withdrawal. Journal of Neurochemistry, 123(4):578-588.
15. Tejeda, H.A.*, Natividad, L.A.*, Orfila, J. E., Torres, O.V., O'Dell, L.E. (2012). Dysregulation of kappa-opioid receptor systems by chronic nicotine modulate the nicotine withdrawal syndrome in an age-dependent manner. Psychopharmacology, 224(2):289-301.
16. Natividad, L.A., Tejeda, H.A., Torres, O.V., O'Dell, L.E. (2010). Nicotine withdrawal produces a decrease in extracellular levels of dopamine in the nucleus accumbens that is lower in adolescent versus adult male rats. Synapse, 64(2):136-145.

17. Torres, O.V., Natividad, L.A., Tejeda, H.A., Van Weelden, S.A., O'Dell, L.E. (2009). The rewarding and aversive effects of nicotine in female rats are age-, hormone-, and sex-dependent. Psychopharmacology, 206(2):303-12.
18. Torres, O.V., Tejeda, H.A., Natividad, L.A., O'Dell, L.E. (2008). Enhanced vulnerability to the rewarding effects of nicotine during the adolescent period of development. Pharmacology, Biochemistry and Behavior, 90: 658-663.
19. O'Dell, L.E., Torres, O.V., Natividad, L.A., Tejeda, H.A. (2007). Adolescent nicotine exposure produces less affective measures of withdrawal relative to adult nicotine exposure in male rats. Neurotoxicolgy and Teratology, 29(1): 17-22.

Book Chapters:

1. Natividad, L.A., Maccioni, P., Parsons, L.H., Colombo, G. (2014). Cannabinoid-alcohol interactions. In: Cannabinoids, Endocannabinoids, and Modulation of Emotion, Memory, and Motivation (pp. 363-391). Eds. L. Fattore and P. Campolongo. Springer, New York. DOI: 10.1007/978-1-4939-2294-9_14

Manuscripts in Preparation:

1. Natividad, L.A., Buczynski, M.W., Polis, I.Y., Stouffer, D., Viader, A., Cravatt, B.F., Parsons, L.H. Enhanced nicotine reward in a mouse model of the P129T FAAH gene polymorphism.
2. Suarez, J., Khom, S., Alen, F., Natividad, L.A., Varodayan, F., Patel, R., Kirson, D., Arco, R., Ballesta, A., Bajo, M., Rubio, L., Martín-Fardon, R., Rodríguez de Fonseca, F., Roberto, M. Fluoxetine administration during alcohol deprivation dysregulates glutamatergic transmission and cannabinoid signaling in the central amygdala.

(*) Authors that contributed equally to this report. (+) Authors that I mentored.

Honors and Awards

1. October 2017 and 2018: The National Hispanic Science Network (NHSN) Travel Award
2. October 2017: NHSN- Excellence in Research by a New Investigator Award
3. January 2017: Winter Conference on Brain Research Travel Award
4. June 2016: Research Society on Alcoholism (RSA) Junior Investigator Travel Award
5. April 2014: Selected participant of the NIDA/NIAAA Diversity Supplements Workshop
6. January 2014: Volterra Conference- Alcoholism and Stress Travel Award
7. May 2013: RSA Junior Investigator Travel Award
8. September 2012: NHSN Travel Award
9. August 2011: NIDA- Selected participant of Frontiers in Addiction Research symposia at Society for Neuroscience
10. August 2011: NHSN Travel Award
11. May 2011: Texas Tech Medical School Research Colloquium- Outstanding Student Presentation Award
12. March 2011: Behavior, Biology and Chemistry (BBC) Travel Award
13. August 2010: NIDA- Selected participant of Frontiers in Addiction Research symposia at Society for Neuroscience
14. March 2010: BBC Travel Award
15. October 2009: NHSN- Excellence in Research by a Graduate Student Award
16. August 2009: American Psychological Association Travel Award
17. June 2009: NHSN/NIDA- Summer Internship Training Fellow
18. March 2009: BBC Travel Award
19. March 2008: Primm-Singleton Underrepresented Population Committee Travel Award to attend the College on Problems of Drug Dependence meeting
20. June 2006: Marine Biological Laboratories- Summer Program in Neuroscience, Ethics and Survival (SPINES) and Post-Course Research Fellow
21. May 2005: NHSN- Interdisciplinary Research Training Institute Fellow
22. April 2005: UTEP- Graduate Excellence Scholarship Award
23. August 1999; June 2000: Americorp National Service Award- National Service Education Award
24. August 1998: UTEP- Undergraduate University Academic Scholarship

Service

1. January 2019: The National Hispanic Science Network (NHSN)- Steering committee member
2. October 2018: NHSN- Chairman of the Early Career Leadership Committee
3. January 2018: NHSN- Conference planning committee member and Chair of the "Cannabis Research" panel
4. January 2017: NHSN- Conference planning committee member and Co-Chair of the "Translational Research in Alcoholism" panel with Judith Arroyo, Ph.D. (NIAAA)
5. June 2016 and October 2017: NHSN- Poster Competition Organizer
6. September 2014: NHSN- Co-chair of the "Stress and Alcohol" panel with Marcelo F. Lopez, Ph.D. (Medical University of South Carolina)
7. April 2011: UTEP- Student representative in the steering committee for the Outstanding Teaching Award by a Graduate Student
8. February 2011: UTEP- Student representative in the Graduate Program Committee

Research Experience

1. August 2012- Current: The Scripps Research Institute
Title: Post-doctoral Research Associate
Training Experience: Currently investigating the role of endogenous cannabinoid and kinase signaling systems in influencing the cognitive behavioral and neurochemical effects of alcohol dependence and withdrawal. I gained research experience with targeted mass spectrometry methods for assaying small-molecule neurotransmitters and endogenous cannabinoids in brain tissue dissections and microdialysates. I gained experience with chemo-proteomic techniques such as activity-based protein profiling to broadly evaluate serine hydrolase enzyme activity and used these techniques to describe the role of dysregulated endocannabinoid mechanisms in the central amygdala that facilitate a co-morbid stress/anxiety and alcohol-drinking phenotype. I also gained experience with operant models of cognitive behavior including the 5-choice serial reaction time task and strategy set-shifting to evaluate impulsive- and compulsive-like constructs in rats given dependence-inducing regimens of alcohol (e.g., vapor inhalation and liquid diet). Presently, I am collaborating with the laboratory of Dr. John Yates to integrate a neuroproteomics approach in my work for identifying novel molecular signaling pathways and phosphorylation mechanisms that are dysregulated by chronic alcohol exposure.
Primary Contact: Marisa Roberto, Ph.D., Post-doctoral Mentor and Professor
The Scripps Research Institute- The Department of Neuroscience in La Jolla, California
E-mail: mroberto@scripps.edu

2. January 2005- August 2012: UTEP
Title: Ph.D. student in the Social, Cognition, and Neuroscience program
Training Experience: Conducted basic behavioral and neurochemical research examining the role of development (e.g., adolescence) in the onset of addictive behaviors driven by nicotine abuse. I gained research experience in behavioral techniques such as conditioned place procedures, physical assessment of drug withdrawal, and intravenous self-administration. I also learned basic biochemical techniques for assaying neurochemicals in the brain using high performance liquid chromatography. Together, these skill sets were applied toward my main focus of investigating the role of small-molecule transmitter systems in the ventral tegmental area that influenced developmental sensitivity to the behavioral and neurochemical effects of nicotine withdrawal.
Primary Contact: Laura E. O'Dell, Ph.D., Graduate Mentor and Professor
UTEP- Department of Psychology in El Paso, Texas
E-mail: lodell@utep.edu

3. June 2009- August 2009: National Institute on Drug Abuse
Title: Summer Internship Fellow
Training: Participated in neurochemical projects studying opioid-receptor modulation of the neurochemical effects of cocaine in rats. I gained experience with capillary electrophoresis coupled to laser-induced fluorescence detection for assaying amino acid transmitters in the laboratory of Toni Shippenberg, Ph.D.
Primary Contact: Agustin Zapata, Ph.D., Staff Scientist of Dr. Shippenberg (deceased)

National Institute on Drug Abuse- Integrative Neuroscience Branch in Baltimore, Maryland
Email: azapata@mail.nih.gov

4. September 2000-May 2002: University of Texas at Austin
Title: Laboratory Assistant
Training Experience: Participated in research studying ethanol-induced changes in the expression of dopamine receptors in rats. I gained research experience in immunocytochemistry techniques and brain preparation procedures.
Primary Contact: Adriana Alcantara, Ph.D., Undergraduate Mentor and Adjunct Associate Professor
Baylor School of Medicine- Department of Pediatrics- Psychology in Houston, Texas
E-mail: aaalcant@bcm.edu

Scientific Abstracts

Poster Presentations:

1. Natividad, L.A., Buczynski, M.W., Polis, I.Y., Stouffer, D.G., Viader, A., Cravatt, B.F., Parsons, L.H. Enhanced nicotine reward in a mouse model of the P129T FAAH gene polymorphism. Society for Neuroscience (SFN), 2018.
2. Natividad, L.A., Steinman, M.Q., Laredo, S.A., Irimia, C., Polis, I.Y., Lintz, R., Buczynski, M.W., Martin-Fardon, R., Roberto, M., Parsons, L.H. Differential expression of calcium/calmodulin-dependent protein kinase II in the rat medial prefrontal cortex is associated with alcohol-induced cognitive inflexibility. Behavior, Biology and Chemistry (BBC), 2017 and Research Society on Alcoholism (RSA), 2017.
3. Natividad, L.A., Buczynski, M.W., Herman, M.A., Kirson, D., Irimia, C., Varodayan, F., Ciccocioppo, R., Roberto, M., Parsons, L.H. Corticotropin-releasing factor drives an anxiogenic-like phenotype via fatty acid amide hydrolase. RSA, 2016.
4. Irimia, C., Buczynski, M.W., Natividad, L.A., Laredo, S.A., Avalos, N., Parsons, L.H. Dysregulated glycine signaling contributes to increased impulsivity during protracted alcohol abstinence. The Gordon Research Conference (GRC)-Alcohol and the Nervous System, 2016 and SFN, 2016.
5. Natividad, L.A., Buczynski, M.W., Herman, M.A., Varodayan, F., Ciccocioppo, R., Roberto, M., Parsons, L.H. Dysregulated endocannabinoid signaling in the central amygdala: consequence of chronic alcohol exposure versus premorbid vulnerability factor. RSA, 2015.
6. Natividad, L.A., Buczynski, M.W., Herman, M.A., Stouffer, D., Ciccocioppo, R., Roberto, M., Parsons, L.H. Marchigian Sardinian alcohol-preferring rats exhibit deficient anandamide regulation of stress-induced increases in excitatory glutamate transmission in the central amygdala. Volterra- Alcoholism and Stress: A Framework for Future Treatment Strategies, 2014.
7. Natividad, L.A., Buczynski, M.W., Polis, I.Y., Stouffer, D.G., Viader, A., Cravatt, B.F., Parsons, L.H. Drug-Specific Alterations in Reward in a Mouse Model of the P129T-FAAH Gene Polymorphism. NIDA/NIAAA Diversity Workshop, 2014.
8. Natividad, L.A., Buczynski, M.W., Polis, I.Y., Stouffer, D.G., Viader, A., Cravatt, B.F., Parsons, L.H. Enhanced nicotine reward in a mouse model of the P129T FAAH gene polymorphism. SFN, 2013.
9. Buczynski, M.W., Herman, M.A., Hsu, K., Natividad, L.A., Irimia, C., Polis, I.Y., Pugh, H., Chang, J.W., Niphakis, M.J., Cravatt, B.F., Roberto, M.A., Parsons, L.H. Chronic nicotine exposure diminishes inhibitory control of VTA dopamine neurons through enhanced DAGL-mediated 2-AG signaling. SFN, 2013.
10. Buczynski, M.W., Natividad, L.A., Polis, I.Y., Stouffer, D.G., Viader, A., Cravatt, B.F., Parsons, L.H. Enhanced Nicotine Reward In A Mouse Model of the P129T FAAH Gene Polymorphism. The Gordon Research Conference-Endocannabinoids, 2013.
11. Natividad, L.A., Polis, I.Y., Cravatt, B.F., Parsons, L.H. Alleviation of withdrawal-related anxiety-like behavior and excessive alcohol consumption following selective inhibition of 2-AG clearance. RSA, 2013.
12. Natividad, L.A., Buczynski, M.W., Parsons, L.H., Torres, O.V., O'Dell, L.E. Adolescent rats are resistant to adaptations in excitatory and inhibitory mechanisms that modulate mesolimbic dopamine during nicotine withdrawal. Salk, Foundation Ipsen, and Nature Symposium, 2013.

13. Natividad, L.A., Buczynski, M.W., Parsons, L.H., Torres, O.V., O'Dell, L.E. Adolescent rats are resistant to adaptations in excitatory and inhibitory mechanisms that modulate mesolimbic dopamine during nicotine withdrawal. National Hispanic Science Network (NHSN), 2012
14. Jackson, J.A., Natividad, L.A., Torres, I.D., Nazarian, A. O'Dell, L.E. The rewarding effects of nicotine are enhanced in diabetic rats, an effect that appears to be mediated via suppressed dopamine systems. BBC, 2012.
15. Jackson, J.A., Natividad, L.A., Torres, I.D., Nazarian, A. O'Dell, L.E. The rewarding effects of nicotine are enhanced in diabetic rats. College on Problems of Drug Dependence (CPDD), 2012.
16. Natividad, L.A., Parsons, L.H., Orfila, J.E., Torres, O.V., O'Dell, L.E. Periadolescent rats are resistant to adaptations in excitatory and inhibitory mechanisms that modulate mesolimbic dopamine during nicotine withdrawal. SFN, 2011.
17. Orfila, J.E., Torres, I.D., Natividad, L.A., Castañeda, E., and O'Dell, L.E. Examination of cholinergic levels in the nucleus accumbens during nicotine exposure and withdrawal. SFN, 2011.
    17. O'Dell, L.E., Natividad, L.A., Escalante, E., Torres, I.D., Nazarian, A. The rewarding effects of nicotine are enhanced in diabetic rats. SFN, 2011.
18. Natividad, L.A., Orfila, J.E., Torres, O.V., Parsons, L.H., O'Dell, L.E. Adolescent rats are resistant to adaptations in excitatory and inhibitory mechanisms that modulate mesolimbic dopamine during nicotine withdrawal. NHSN, 2011.
19. Natividad, L.A., Escalante, E., Mangubat, M., Chang-Sung., S., Torres., O.V., Friedman, T.C., and O'Dell, L.E. Age differences in food-intake and the weight-suppressant effects of self-administered nicotine. Endocrine Society, 2011.
20. Torres, O.V., Natividad, L.A., Muñiz, A.K., Byers, D.M., O'Dell, L.E. Behavioral, biochemical and molecular indices of nicotine withdrawal: differential impact of sex on stress-related markers. CPDD, 2011.
21. Natividad, L.A., Orfila, J.E., Torres, O.V., Parsons, L.H., O'Dell, L.E. Developmental differences in nicotine withdrawal are mediated via enhanced excitatory and reduced inhibitory mechanisms that regulate dopamine transmission in the mesolimbic pathway. BBC, 2011.
22. Orfila, J.E., Torres, I., Natividad, L.A., Castañeda, E., and O'Dell, L.E. Cholinergic levels in the nucleus accumbens (NAcc) are enhanced in adolescent versus adult rats exposed to nicotine but are similar in both age groups following nicotine withdrawal. BBC, 2011.
23. Torres, O.V., Natividad, L.A., Byers, D.M., O'Dell, L.E. Developmental and sex differences in the expression of the molecular targets in a rat model of nicotine withdrawal. BBC, 2011.
24. Natividad, L.A., Escalante, E., Torres, O.V., Tejeda, H.A., Friedman, T.C., O'Dell, L.E. Age differences in the rewarding and weight-suppressant effects of nicotine. SFN, 2010.
25. Orfila, J.E., Torres, I.D., Natividad, L.A., Castañeda, E., and O'Dell, L.E. Cholinergic levels in the nucleus accumbens (NAcc) are enhanced in adolescent versus adult rats exposed to nicotine but are similar in both age groups following nicotine withdrawal. SFN, 2010.
26. Torres, O.V., Natividad, L.A., Walker, E.M., Muñiz, A.K., and O'Dell, L.E. Differential impact of sex on stress-related markers during nicotine withdrawal. SFN, 2010.
27. Orfila, J.E., Torres, I.D., Natividad, L.A., Castañeda, E., and O'Dell, L.E. Nicotine withdrawal produces similar changes in cholinergic transmission in the nucleus accumbens of adolescent versus adult rats. NHSN, 2010.
28. Orfila, J.E., Torres, I.D., Natividad, L.A., Castañeda, E., and O'Dell, L.E. Cholinergic transmission in the nucleus accumbens is lower in adolescent versus adult rats experiencing nicotine withdrawal. CPDD, 2010.
29. Orfila, J.E., Torres, I.D., Natividad, L.A., Castañeda, E., and O'Dell, L.E. Nicotine withdrawal produces similar changes in cholinergic transmission in the nucleus accumbens of adolescent versus adult rats. BBC, 2010.
30. Escalante, E., Natividad, L.A., Roman, F., and O'Dell, L.E. The rewarding effects of nicotine are enhanced in diabetic rats. BBC, 2010.
31. Torres, O.V., Natividad, L.A., Walker, E.M., Muñiz, A.K., and O'Dell, L.E. Nicotine withdrawal enhances anxiety-like behavior in female versus male rats. BBC, 2010.
32. Natividad, L.A., Roman, F., Torres, O.V., Tejeda, H.A., and O'Dell, L.E. Exposure to nicotine during adolescence alters intake of the drug later in adulthood. NHSN, 2009.
33. Torres, O.V., Muniz, A., Roman, F., Beas, B.S., Natividad, L.A., and O'Dell, L.E. Nicotine withdrawal is diminished during adolescence in female and male rats. NHSN, 2009.

34. Natividad, L.A., Tejeda, H.A., Torres, O.V., Castañeda E., and O'Dell, L.E. The neurochemical effects of nicotine withdrawal on dopamine transmission in the nucleus accumbens are lower in adolescent relative to adult rats. American Psychological Association, 2009.
35. Torres, Oscar V., Natividad, L.A., Byers, Donna M., Tejeda, Hugo A. and O'Dell, Laura E. Nicotine withdrawal enhances anxiety-like behavior and expression of stress-related genes in female versus male rats. BBC, 2009.
36. Orfila J.E., Tejeda H.A., Natividad L.A., Torres O.V., Castañeda E., and O'Dell L.E. The behavioral and neurochemical effects produced by kappa-opioid receptor stimulation are diminished in nicotine-dependent adolescent versus adult rats. BBC, 2009.
37. Tejeda, H.A., Torres, O.V., Natividad, L.A., Orfila, J.R., Castañeda, E., and O'Dell, L.E. Stimulation of kappa opioid receptors elicits nicotine withdrawal in adult but not adolescent rats. NHSN, 2008.
38. Torres, O.V., Natividad, L.A., Tejeda, H.A., and O'Dell, L.E. The rewarding effects of nicotine are age-, hormone- and sex-dependent in rats. NHSN, 2008.
39. Natividad, L.A., Tejeda, H.A., Torres, O.V., Castañeda, E., and O'Dell, L.E. Robust developmental differences to the neurochemical effects of nicotine withdrawal are not observed following nicotine administration in adolescent versus adult rats. SFN, 2008.
40. Tejeda, H.A., Natividad, L.A., Torres, O.V., Castañeda, E., and O'Dell, L.E. The behavioral and neurochemical effects produced by kappa-opioid receptor stimulation are diminished in nicotine-dependent adolescent versus adult rats. SFN, 2008.
41. Torres, O.V., Van Weelden, S.A., Natividad, L.A., Tejeda, H.A., B.S., Beas, and O'Dell, L.E. The rewarding effects of nicotine are enhanced in female adolescent rats relative to adults that display rewarding or aversive effects in a hormone-dependent manner. SFN, 2008.
42. Natividad, L.A., Tejeda, H.A., Torres, O.V., and O'Dell, L.E. Diminished neurochemical effects of nicotine withdrawal in adolescent versus adult rats. CPDD, 2008.
43. Tejeda, H.A., Torres, O.V., Natividad, L.A., Beas, B.S., and O'Dell, L.E. Stimulation of kappa-opioid receptors induces the behavioral effects of nicotine withdrawal in nicotine-dependent adult but not adolescent rats. Society for Research on Nicotine and Tobacco (SRNT), 2008.
44. Byers, D.M., Natividad, L.A., Tejeda, H.A., Torres, O.V., and O'Dell, L.E. Developmental and sex differences in the expression of key molecular targets during nicotine withdrawal. SRNT, 2008.
45. Torres, O.V., Natividad, L.A., Tejeda, H.A., and O'Dell, L.E. The rewarding effects of nicotine are enhanced during adolescence in both male and female rats. SRNT, 2008.
46. Natividad, L.A., Torres, O.V., Tejeda, H.A., and O'Dell, L.E. Pre-exposure to nicotine during adolescence facilitates nicotine self-administration in adult rats given intermittent access to escalating nicotine doses. SFN, 2007.
47. Tejeda, H.A., Natividad, L.A., Torres, O.V., and O'Dell, L.E. Stimulation of kappa-opioid receptors elicits nicotine withdrawal in adult but not adolescent rats. SFN, 2007.
48. Torres, O.V., Tejeda, H.A., Natividad, L.A., and O'Dell, L.E. The rewarding effects of nicotine are enhanced in female adolescent rats and in adult females in an estrous-dependent manner. SFN, 2007.
49. Byers, D.M., Natividad, L.A., Tejeda, H.A., Torres, O.V., and O'Dell, L.E., Characterization of gene targets of nicotine withdrawal in male and female adolescent and adult rats. SFN, 2007.
50. Byers, D.M. Natividad, L.A., Irwin, L.N., and O'Dell, L.E. Molecular targets of nicotine withdrawal are differentially expressed in adolescent and adult rats. CPDD, 2007.
51. Torres, O.V., Tejeda, H.A., Natividad, L.A., and O'Dell, L.E. Reduced nicotine withdrawal may contribute to enhanced tobacco use during adolescence. NHSN, 2006.
52. Natividad, L.A., Torres, O.V., Tejeda, H.A., and O'Dell, L.E. Nicotine withdrawal produces a decrease in dopamine release in the nucleus accumbens of adult, but not adolescent rats. SFN, 2006.
53. Torres, O.V., Tejeda, H.A., Natividad, L.A., and O'Dell, L.E. Enhanced nicotine reward and diminished nicotine withdrawal in adolescent versus adult rats. SFN, 2006.
54. O'Dell, L.E., Natividad, L.A., Torres, O.V., and Tejeda, H.A. The affective properties of nicotine withdrawal are diminished in adolescent versus adult rats. CPDD, 2005.
55. Torres, O.V., Natividad, L.A., Tejeda, H.A., and O'Dell, L.E. Diminished nicotine withdrawal in adolescent rats: Implications for vulnerability to addiction. Faculty for Undergraduate Neuroscience at the SFN, 2005.

Oral Presentations:

1. Natividad, L.A. Impaired endocannabinoid signaling in stress and addiction. Invited Speaker- Department of Pharmacology and Toxicology. University of Texas at Austin, 2018. Austin, Texas.
2. Natividad, L.A. Stress, addiction and neuroscience: Retrospections on the academic career path. Invited Speaker- Department of Psychology. University of Texas at El Paso, 2018. El Paso, Texas.
3. Natividad, L.A. Impaired endocannabinoid signaling in stress and addiction. Invited Speaker- School of Neuroscience. Virginia Polytechnic Institute and State University, 2018. Blacksburg, Virginia.
4. Natividad, L.A. Impaired endocannabinoid signaling in stress and addiction. Invited Speaker- Department of Physiology. Louisiana State University Health Sciences Center, 2018. New Orleans, Louisiana.
5. Natividad, L.A. Dysregulated endocannabinoid signaling in the central amygdala: influence of chronic alcohol exposure versus premorbid vulnerability. Research Society on Alcoholism (RSA), 2018. San Diego, California.
6. Natividad, L.A. Impaired endocannabinoid signaling in stress and addiction. Invited Speaker- Neuroscience Research Seminar for the School of Life Sciences. Arizona State University, 2018. Tempe, Arizona.
7. Natividad, L.A. Dysregulation of endogenous cannabinoid systems in the central amygdala critically underlies co-morbid symptoms of anxiety and excessive alcohol consumption. The National Hispanic Science Network (NHSN), 2017. Phoenix, Arizona.
8. Natividad, L.A. Phosphorylation of calcium/calmodulin-dependent protein kinase II in the rat dorsal medial prefrontal cortex is associated with alcohol-induced cognitive inflexibility. NHSN, 2017 Data Blitz. Phoenix, Arizona.
9. Natividad, L.A. Dysregulation of endogenous cannabinoid systems in the central amygdala influences co-morbid symptoms of innate anxiety and excessive alcohol consumption. Invited Speaker- Interdisciplinary Research Training Institute on Hispanic Drug Abuse, 2017. Los Angeles, California.
10. Natividad, L.A. Constitutive increases in amygdalar corticotropin-releasing factor and fatty acid amide hydrolase drive an anxious phenotype. Winter Conference on Brain Research, 2017. "The Larry Parsons Memorial Panel". Big Sky, Montana.
11. Natividad, L.A. Examination of the neurochemical mechanisms of nicotine and alcohol withdrawal in limbic regions of the brain. Invited Speaker- California State University Colloquium, 2014. Long Beach, California.
12. Natividad, L.A., Polis, I.Y., Cravatt, B.F., Parsons, L.H. Alleviation of withdrawal-related anxiety-like behavior and excessive alcohol consumption following selective inhibition of 2-AG clearance. NHSN, 2014. El Paso, Texas.
13. Natividad, L.A. Examination of the neurochemical mechanisms of nicotine and alcohol withdrawal in limbic regions of the brain. Invited Speaker- California State University Colloquium, 2014. San Marcos, California.
14. Natividad, L.A., Polis, I.Y., Cravatt, B.F., Parsons, L.H. Alleviation of withdrawal-related anxiety-like behavior and excessive alcohol consumption following selective inhibition of 2-AG clearance. RSA, 2013. Orlando, Florida.
15. Natividad, L.A., Orfila, J.E., Torres, O.V., Parsons, L.H., O'Dell, L.E. Adolescent rats are resistant to adaptations in excitatory and inhibitory mechanisms that modulate mesolimbic dopamine during nicotine withdrawal. NHSN, 2011 Data Blitz. Washington, D.C.
16. Natividad, L.A., Orfila, J.E., Torres, O.V., Parsons, L.H., O'Dell, L.E. The mechanisms that mediate developmental sensitivity to nicotine withdrawal involve amino acid regulation of mesolimbic dopamine systems. Texas Tech Research Colloquium, 2011. El Paso, Texas
17. Natividad, L.A., Torres, O.V., Escalante, E., O'Dell, L.E. The rewarding effects of nicotine are enhanced in adolescent rats and adults that were pre-exposed to nicotine during adolescence. Behavior, Biology and Chemistry (BBC), 2010. San Antonio, Texas.
18. Natividad, L.A., Roman, F., Torres, O.V., Tejeda, H.A., and O'Dell, L.E. Exposure to nicotine during adolescence alters intake of the drug later in adulthood. NHSN, 2009 Data Blitz. Miami, Florida.
19. Natividad, L.A., Roman, F., Tejeda, H.A., Torres, O.V., Castañeda E., and O'Dell, L.E. Diminished neurochemical effects of nicotine withdrawal in adolescent versus adult rats. BBC, 2009. San Antonio, Texas.
20. Natividad, L.A., Torres, O.V., Tejeda, H.A., Castañeda, E., and O'Dell, L.E. The neurochemical effects of nicotine withdrawal are different in adolescent and adult rats. NHSN, 2008. Washington, D.C.

Professional Societies

National Hispanic Science Network (2007-Current), Society for Neuroscience (2008-Current), American Society for Mass Spectrometry (2014-Current), Research Society on Alcoholism (2018).

Invited Manuscript Reviews

Psychopharmacology, Behavior and Brain Functions, Neurotoxicity Research, Pharmacology, Biochemistry, and Behavior, Addictive Behaviors, International Journal of Neuropsychopharmacology, Behavioural Brain Research, Alcoholism: Clinical and Experimental Research, Addiction Biology, Pain, Neuropharmacology.

Academic References

1. Marisa Roberto, Ph.D., Post-doctoral Mentor and Professor
   TSRI (La Jolla, California)- Department of Neuroscience, Mail code: SP30-1150
   Phone: (858) 784-7262; email: mroberto@scripps.edu
2. John R. Yates, III, Ph.D., Career Development Mentor and Professor
   TSRI (La Jolla, California)- Department of Molecular Medicine, Mail code: SR-302
   Phone: (858) 784-8862; email: jyates@scripps.edu
3. Laura E. O'Dell, Ph.D., Graduate Mentor and Professor
   UTEP- Department of Psychology, Rm. 221
   Phone: (915) 747-6557; E-mail: lodell@utep.edu
4. Edward Castañeda, Ph.D., Graduate Committee Member and Professor
   UTEP- Department of Psychology, Rm. 109
   Phone: (915) 747-6558; E-mail: ecastaneda9@utep.edu
5. Roberto Ciccocioppo, Ph.D., Collaborator and Professor
   University of Camerino (Italy); School of Pharmacy, Pharmacology Unit
   Via Madonna delle Carceri 9; Camerino (MC)- 62032
   Phone: +39-0737-403313; E-mail: roberto.ciccocioppo@unicam.it

Teaching and Mentoring Experience

1. Fall 2011: UTEP Teaching Assistant to Dr. Wendy Francis- Experimental Design and Analysis of Variance.
2. Spring 2006 and 2010: UTEP Teaching Assistant for Dr. Laura O'Dell- Drugs and Behavior

Mentees:

1. Kevin Uribe, M.A. 2015- Current: Peer-mentor for Mr. Uribe's NIDA Diversity Supplement application that was funded. I worked with him as he prepared his NIH fellowship application that will likely be funded in the 16th percentile. Currently a doctoral student with Dr. Laura O'Dell in the Social, Cognition, and Neuroscience program at UTEP.
2. Jose Flores. Summer 2015: Student mentor for Mr. Flores who was part of the Harvey Mudd College Upward Bound program for high school students. I worked with him in completing a research project involving the use of an operant model of strategy set-shifting to examine the effects of protracted alcohol withdrawal on cognitive flexibility.
3. Trent Massey, B.S. Spring 2014: Undergraduate mentor for Mr. Massey who enrolled in the Independent Research course at the University of California- San Diego. I worked with him in completing a research project involving the use of 5-choice operant models to examine the effects of protracted alcohol withdrawal on measures of impulsivity. He is currently applying to medical school.
4. Francisco Roman, Pharm.D. 2011-2012: Peer-mentor for Dr. Roman while he was an undergraduate student working in Dr. O'Dell's laboratory. I worked with him in completing a research project examining the role of diabetic states in modulating the rewarding effects of nicotine. These studies were published in *Addiction Biology*. He recently graduated from pharmacy school at the University of Texas at Austin.
5. Joseph Pipkin, Ph.D. 2012: Peer-mentor for Dr. Pipkin while he was a graduate student working in Dr. O'Dell's laboratory. I also worked with him in completing a research project examining the role of diabetic states in modulating the rewarding effects of nicotine. These studies were published in *Addiction Biology*. He recently graduated from the Psychology Department at UTEP.