

Curriculum Vitae

Erica N. Grodin Ph.D.

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PROFESSIONAL EXPERIENCE

- 2021 – present **Associate Project Scientist**, *Department of Psychology, University of California, Los Angeles, Addictions Laboratory, Mentor: Dr. Lara A. Ray*
- Primary Research:* Investigating the microbiome-gut-brain axis in alcohol use disorder to develop novel microbiome-targeted treatments. Specifically, elucidating the relationship between gut dysbiosis, clinical phenomenology of AUD, and a brain-based biomarker in individuals with AUD and matched controls.
- Additional Research Projects:* Investigating the neural mechanisms of action of pharmacotherapies for alcohol use disorder. Using functional neuroimaging I study the effect of novel pharmacotherapies on neural biomarkers of AUD including alcohol cue-reactivity and stress. Investigating the use of phenotyping methods to identify subtypes of individuals with AUD, with the end goal of using precision medicine approaches to improve alcohol use disorder treatment.
- 2018 – 2021 **Postdoctoral Scholar**, *Department of Psychology, University of California, Los Angeles, Addictions Laboratory, Mentor: Dr. Lara A. Ray*
- 2010-2012 **Postbaccalaureate Intermural Research Training Award Fellow**, *National Institute on Alcohol Abuse and Alcoholism, Section on Brain Electrophysiology and Imaging, Mentor: Dr. Daniel Hommer*

EDUCATION

- 2012 – 2018 **Doctor of Philosophy in Neuroscience**, *Brown University and the National Institutes of Health, Clinical Neuroimaging Research Core, Mentors: Dr. Vijay Ramchandani and Dr. Reza Momenan*
Dissertation: The Neural Correlates of Impulsivity and Compulsivity in Alcohol Dependence
- 2006-2010 **Bachelor of Arts in Psychology**, *American University*
Honors Research Thesis, Department of Psychology, Psychopharmacology Lab, Mentor: Anthony Riley
Honor's Thesis: Assessment of the Conditioned Taste Aversion Phenomenon Induced by Binge Eating

PEER-REVIEWED PUBLICATIONS

1. **Grodin, E. N.**, Lin, H., Durkee, C. A., Hommer, D. W., Momenan, R. (2013). Deficits in cortical, diencephalic and midbrain gray matter in alcoholism measured by VBM: Effects of co-morbid substance abuse. NeuroImage: Clinical, 2: 469-476
2. **Grodin, E.N.**, White, T.L. (2015). The Neuroanatomical Delineation of Agentic and Affiliative Extraversion. Cognitive, Affective, and Behavioral Neuroscience, 15(2): 321-334

3. **Grodin, E.N.**, Steckler, L.E., Momenan, R. (2016). Altered Striatal Response During Effort-Based Valuation and Motivation in Alcohol-Dependent Individuals. Alcohol and Alcoholism, 51(6): 637-646
4. **Grodin, E.N.**, Momenan, R. (2017). Decreased Subcortical Volumes in Alcohol Dependent Individuals: Effect of Polysubstance Use Disorder. Addiction Biology, 22(5): 1426-1437
5. Kwako, L.E., Momenan, R., **Grodin, E.N.**, Litten, R.Z., Goldman, D. (2017). Addictions Neuroclinical Assessment: A Reverse Translational Approach. Neuropsychopharmacology, 122: 254-264
6. **Grodin, E.N.**, Cortes, C.R., Spagnolo, P.A., Momenan, R. (2017). Structural Deficits in Salience Network Regions Are Associated with Increased Impulsivity and Compulsivity in Alcohol Dependence. Drug and Alcohol Dependence, 179: 100-108
7. Cortes, C.R., **Grodin, E.N.**, Mann, C.L., Mathur, K., Kerich, M., Zhu, X., Schwandt, M., Diazgranados, N., George, D.T., Momenan, R., Heilig, M. (2018). Insula Sensitivity to Unfairness in Alcohol Use Disorder. Alcohol and Alcoholism, 53(3): 201-208
8. Farokhnia, M., **Grodin, E.N.**, Lee, M.R., Oot, E.N., Blackburn, A.N., Stangl, B.L., Schwandt, M.L., Farinelli, L.A., Momenan, R., Ramchandani, V.A., Leggio, L. (2018). Exogenous Ghrelin Administration Increases Alcohol Self-Administration and Modulates Brain Functional Activity in Heavy-Drinking Alcohol-Dependent Individuals. Molecular Psychiatry, 23: 2023-2038.
9. **Grodin, E.N.**, Sussman, L., Sundby, K., Brennan, G.M., Diazgranados, N., Heilig, M., Momenan, R. (2018). Neural Correlates of Compulsive Alcohol Seeking in Heavy Drinkers. Biological Psychiatry: Cognitive Neuroscience and Neuroimaging, 3(12): 1022-1031.
10. Ray, L.A., Bujarski, S., **Grodin, E.N.**, Hartwell, E., Green, R., Venegas, A., Lim, A.C., Gillis, A., Miotto, K. (2019). State-of-the-Art Behavioral and Pharmacological Treatments for Alcohol Use Disorder. American Journal of Drug and Alcohol Abuse, 45(2): 124-140.
11. **Grodin, E.N.**, Ray, L.A., MacKillop, J., Lim, A.C., Karno, M.P. (2019). Elucidating the Effect of a Brief Drinking Intervention Using Neuroimaging: A Preliminary Study, Alcoholism: Clinical and Experimental Research, 43(2): 367-377.
12. Fede, S.J., **Grodin, E.N.**, Dean, S.F, Diazgranados, N., Momenan, R. (2019). Multimodal Imaging Predicts Alcohol Use Severity in Moderate to Heavy Alcohol Users. NeuroImage: Clinical, 22: 101782.
13. Green, R. **Grodin, E.N.**, Lim, A.C., Venegas, A., Bujarski, S, Krull, J., Ray, L.A. (2019). The Interplay Between Subjective Response to Alcohol, Craving, and Alcohol Self-Administration in the Human Laboratory. Alcoholism: Clinical and Experimental Research, 43(5): 907-915.
14. **Grodin, E.N.**, Courtney, K.E., Ray, L.A. (2019). Drug-Induced Craving for Methamphetamine is Associated with Neural Methamphetamine Cue Reactivity. Journal of Studies on Alcohol and Drugs, 80(2): 245-251.
15. Lim, A.C., Ghahremani, D.G., **Grodin, E.N.**, Green, R., Bujarski, S., Hartwell, E.E., Courtney, K.E., Hutchinson, K., Miotto, K., Ray, L.A. (2019) Neuroimaging Findings from an Experimental Pharmacology Trial of Naltrexone in Heavy Drinkers of East Asian Descent. Drug and Alcohol Dependence, 200: 181-190.
16. **Grodin, E.N.**, Lim, A.C., MacKillop, J., Karno, M.P., Ray, L.A. (2019). An Examination of Motivation to Change and Neural Alcohol Cue Reactivity Following a Brief Intervention, Frontiers in Psychiatry, 10: 408.
17. Lee, M.R., Shin, J.H., Deschaine, S., Daurio, A.M., Stangl, B.L., Yan, J., Ramchandani, V.A., Schwandt, M.L., **Grodin, E.N.**, Momenan, R., Corral-Frias, N.S., Hariri, A.R., Bogdan, R., Alvarez, V.A., Leggio, L. (2019). A Role for the CD38 rs3796863 Polymorphism in Alcohol and Monetary Reward: Evidence from CD38 Knockout Mice and Alcohol Self-Administration, [11C]-Raclopride Binding, and functional MRI in Humans, The American Journal of Drug and Alcohol Abuse, 46:2, 167-179.

18. **Grodin, E.N.**, Ray, L.A. (2019). The Use of fMRI to Test Pharmacotherapies for Alcohol Use Disorders: A Systematic Review, Alcoholism: Clinical and Experimental Research, 43(10): 2038-2056.
19. Burnette, E., **Grodin, E.N.**, Lim, A.C., MacKillop, J., Karno, M.P., Ray, L.A. (2019). Association Between Impulsivity and Neural Activation to Alcohol Cues in Heavy Drinkers. Psychiatry Research: Neuroimaging, 43(10): 2308-2056.
20. **Grodin, E.N.**, Bujarski S., Venegas, A., Baskerville, W.A., Nieto, S.J., Jentsch, D.J., Ray, L.A. (2019). Reward, Relief, and Habit Drinking: Initial Validation of a Brief Assessment Tool. Alcohol and Alcoholism, 54(6): 574-583.
21. Ray, L.A., Du, H., **Grodin, E.N.**, Bujarski, S., Ho, D., Nieto, S., Wassum, K. (2019). Capturing Habitualness of Drinking and Smoking Behavior in Humans. Drug and Alcohol Dependence, 207: 107738.
22. Nieto, S.J., **Grodin, E.N.**, Ray, L.A. (2020). On the Path Towards Personalized Medicine: Implications of Pharmacogenetic Studies of Alcohol Use Disorder Medications. Expert Review of Precision Medicine and Drug Development, 5:1, 43-54.
23. Fede, S.J., Abrahao, K.P., Cortes, C.R., **Grodin, E.N.**, Schwandt, M., George, D.T., Diazgranados, N., Ramchandani, V.A., Lovinger, D., Momenan, R. (2020). Alcohol effects on globus pallidus connectivity: Role of impulsivity and binge drinking. PLoS One, 15(3): e0224906.
24. **Grodin, E.N.**, Nguyen, X.T., Ho, D., Bujarski, S., Ray, L.A. (2020). Sensitivity and Specificity of a Commercial Urinary Ethyl Glucuronide (EtG) Test in Heavy Drinkers. Addictive Behaviors Reports, 11:1000249.
25. Voon, V., **Grodin, E.N.**, Mandali, A., Morris, L., Weidacker, K., Kwako, L., Goldman, D., Koon, G., Momeman R. (2020). Addictions Neuroimaging Assessment (ANIA): Towards an Integrative Framework for Alcohol Use Disorder. Neuroscience & Biobehavioral Reviews, 113:492-506.
26. Ray, L.A., **Grodin, E.N.**, Leggio, L., Bechtholt, A., Becker, H., Feldstein Ewing, S., Jentsch, J.D., King, A., Mason, B., O'Malley, S., MacKillop, J., Heilig, M., & Koob, G. (2020). The future of translational research in alcohol use disorder. Addiction Biology, e12903.
27. Lim, A.C., **Grodin, E.N.**, Green, R., Venegas, A., Meredith, L.R., Courtney, K.E., Moallem, N.R., Sayegh, P., London, E.D., & Ray, L.A. (2020). Executive function moderates naltrexone effects on methamphetamine-induced craving and subjective responses. American Journal of Drug and Alcohol Abuse, 46(5):565-576.
28. Lim, A.C, Green, R., **Grodin, E.N.**, Venegas, A., Meredith, L.R., Donato, S., Burnette, E., Ray, L.A. (2020) Alcohol Cue-Induced Ventral Striatum Activity Predicts Subsequent Alcohol Self-Administration, Alcoholism: Clinical and Experimental Research, 44: 1224-1233.
29. Burnette, E.M., Baskerville, W., **Grodin, E.N.**, Ray, L.A. (2020) Ibudilast for Alcohol Use Disorder: A Study Protocol for a Phase II Randomized Clinical Trial. Trials, 21, 779.
30. **Grodin, E.N.**, Bujarski, S., Montoya, A., Ray, L.A. Modeling Motivation for Alcohol in Humans using Traditional and Machine Learning Approaches, Addiction Biology, e12949.
31. **Grodin, E.N.**, Green, R., Ray, L.A. (2020) An Exploratory Factor Analysis of the Stimulant, Sedative, and Affective Responses to Alcohol, Alcoholism: Clinical and Experimental Research, 44(11): 2298-2306.
32. Baskerville, W., Nieto, S., Ho, D., Towns, B., **Grodin, E.N.**, Li, C., Burnette, E., Donato, S., Ray, L.A. (2020) Baseline Drinking Patterns in Non-Treatment Seeking Heavy Drinkers, Alcohol and Alcoholism, 56(1):57-63.
33. Nieto, S. Green, R., **Grodin, E.N.**, Cahill, C.M., Ray, L.A. (2020) Pain catastrophizing predicts alcohol craving in heavy drinkers independent of pain intensity, Drug and Alcohol Dependence, 218:108368.
34. Ho, D. Towns, B., **Grodin, E.N.**, Ray, L.A. (2020) A Novel Human Laboratory Model for Screening Medications for Alcohol Use Disorder, Trials, 21(1):947.

35. Burnette, E.M., **Grodin, E.N.**, Schacht, J.P., Ray, L.A. (2020) Clinical and Neural Correlates of Reward and Relief Drinking, Alcoholism: Clinical and Experimental Research, 45: 194-203.
36. Burnette, E., **Grodin, E.N.**, Ghahremani, D.G., Galvan, A., Kohno, M., Ray, L.A., & London, E.D. (2020). Diminished cortical response to risk and loss during risky decision making in alcohol use disorder. Drug and Alcohol Dependence, 218:108391.
37. Ray, L.A., **Grodin, E.N.** (2021) Clinical Neuroscience of Addiction: What Clinical Psychologists Need to Know and Why. Annual Review of Clinical Psychology, 17: 465-493.
38. Nieto, S., **Grodin, E.N.**, Green, R., Ray, L.A. (2021) Evaluation of the Addiction Neuroclinical Assessment (ANA) Framework through Deep Phenotyping of Problem Drinkers, Drug and Alcohol Dependence, 221: 108603.
39. Burnette, E.M., **Grodin, E.N.**, Ray, L.A. (2021) Endotoxin for Alcohol Research: A Call for Experimental Medicine Using Lipopolysaccharide Challenge. Alcohol and Alcoholism, in press.
40. Meredith, L., Green R., **Grodin, E.N.**, Chorpita, M., Miotto, K., Ray L.A. (2021) Ibudilast Moderates the Effect of Mood on Alcohol Craving during Stress Exposure, Experimental and Clinical Psychopharmacology, in press.
41. Ray, L.A., Green, R., Leventhal, A.M., Enders, C., **Grodin, E.N.**, Li, G., Lim, A., Hartwell, E., Venegas, A., Meredith, L., Nieto, S.J., Shoptaw, S., Miotto, K. (2021) Efficacy of combining Varenicline and Naltrexone for Smoking Cessation and Drinking Reduction: A Randomized Clinical Trial. American Journal of Psychiatry, in press.
42. **Grodin, E.N.**, Bujarski, S., Towns, B., Burnette, E., Nieto, S., Lim, A., Lin, C., Miotto, K., Gillis, A., Irwin, M.R., Evans, C., Ray, L.A. (2021). A Novel Neuroimmune Modulator Reduces Heavy Drinking and Alcohol Cue-Elicited Neural Activation: A Randomized Trial. Translational Psychiatry, 11(1): 1-8.
43. Green, R., Du, H., **Grodin, E.N.**, Nieto, S., Bujarski, S., Roche, D.J.O, Ray L.A. A Meta-Regression of Methodological Features Predicting the Effects of Pharmacotherapies on Subjective Response to Alcohol, Alcoholism: Clinical and Experimental Research, 45(7): 1136-1347.
44. **Grodin, E.N.**, Burnette, E.M., Green, R., Lim, A.C., Miotto, K., Ray, L.A. (2021). Combined Varenicline and Naltrexone Attenuates Alcohol Cue-Elicited Activation in Heavy Drinking Smokers Drug and Alcohol Dependence, Drug and Alcohol Dependence, 225:108825.
45. Kisner, M.A., Sussman, L., Manuweera, T., **Grodin, E.N.**, Fede, S.J., Sarlls, J.E., Momenan, R. (2021) Evaluating effects of sex and age on white matter microstructural alterations in alcohol use disorder: A diffusion tensor imaging study. Alcoholism: Clinical and Experimental Research, 45(9):1790-1803.
46. Meredith, L.R., Burnette, E.M., **Grodin, E.N.**, Irwin, M.R., Ray, L.A. (2021). Immune Treatments for Alcohol Use Disorder: A Translational Framework, Brain Behavior and Immunity, 97:349-364.
47. **Grodin, E.N.**, Burnette, E., Towns, B.T., Venegas, A., Ray, L.A. (2021) Effect of Tobacco and Cannabis Co-Use on Gray Matter Volume in Heavy Drinkers. Psychology of Addictive Behaviors, 35(6):760-768.
48. Meredith, L., **Grodin, E.N.**, Karno, M.P., Montoya, A.K., MacKillop, J., Lim, A.C., Ray, L.A. (2021) A Preliminary Study of Alcohol Problem Severity and Response to Brief Intervention. Addiction Science & Clinical Practice, 16(1): 1-12.
49. Burnette, E., Ray, L.A., Irwin, M., **Grodin E.N.**, (2021) Ibudilast attenuates alcohol cue-elicited frontostriatal functional connectivity in Alcohol Use Disorder, Alcoholism: Clinical and Experimental Research, 45(10):2017-2028.
50. Nieto, S.J.*, **Grodin, E.N.***, Aguirre, C., Izquierdo, A., Ray, L.A. (2021). Translational opportunities in animal and human models to study alcohol use disorder, Translational Psychiatry, 11(1):1-14.

* denotes equal contributions to this manuscript.

51. Nieto, S.J., **Grodin, E.N.**, Ho, D., Baskerville W., Ray, L.A. (2022) Moderators of subjective response to alcohol in the human laboratory, Alcoholism: Clinical and Experimental Research, 46(3):468-476.
52. Ekhtiari, H., [...], **Grodin, E.N.**, [...], Zilverstand, A. (2022) A Methodological Checklist for fMRI Drug Cue Reactivity Studies: Development and Expert Consensus, Nature Protocols, 17(3):567-595.
53. Burnette, E.M., Nieto, S.J., **Grodin, E.N.**, Meredith, L.R., Hurley, B., Miotto, K., Gillis, A.J., Ray, L.A. (2022) Novel agents for the pharmacological treatment of alcohol use disorder, Drugs, 82(3):251-274.
54. **Grodin, E.N.**, Donato, S., Du, H., Green, R., Bujarski, S., Ray, L.A. (2022) A Meta-Regression of Trial Features Predicting the Effects of Alcohol Use Disorder Pharmacotherapies on Drinking Outcomes in Randomized Clinical Trials, Alcohol and Alcoholism, Alcohol and Alcoholism 57 (5), 589-594.
55. Meredith, L. R., **Grodin, E. N.**, Montoya, A. K., Miranda, R. Jr., Squeglia, L. M., Towns, B., Evans, C., & Ray, L. A. (2022) The effect of neuroimmune modulation on subjective response to alcohol in the natural environment. Alcoholism: Clinical and Experimental Research, 46, 876– 890.
56. **Grodin, E.N.**, Nieto, S.J., Meredith, L.R., Burnette, E., O'Neill, J., Alger, J., London, E.D., Miotto, K., Evans, C.J., Irwin, M.R., Ray, L.A. (2022) Effects of Ibudilast on Central and Peripheral Markers of Inflammation in Alcohol Use Disorder: Randomized Clinical Trial, Addiction Biology, 27 (4), e13182.
57. Nieto, S.J., **Grodin, E.N.**, Burnette, E.M., Cahill, C.M., Ray, L.A. (2022). Pain catastrophizing is associated with increased alcohol cue-elicited neural activity among individuals with alcohol use disorder, Alcohol and Alcoholism, in press.
58. Farokhnia M, Fede SJ, **Grodin EN**, Browning BD, Crozier ME, Schwandt ML, Hodgkinson CA, Momenan R, Leggio L. (2022) Differential Association between the GLP1R Gene Variants and Brain Functional Connectivity According to the Severity of Alcohol Use. Scientific Reports, agac029.
59. Baskerville, W., **Grodin, E.N.**, Venegas, A., Ray, L.A. (2022) Global Sleep Quality Influences Tonic, but not Cue-Induced Craving, Addictive Behaviors, 107372.
60. Green, R, Lin, J, Montoya, A, Bello, M, **Grodin, E.N.**, Ryu, H, Ho, D, L, Adam, Ray, L. (2022) Characteristics associated with treatment seeking for smoking cessation among heavy-drinking research participants, Frontiers Psychiatry, 13:951364
61. **Grodin, E.N.**, Meredith, L.R., Burnette, E.M., Miotto, K., Irwin, M.R., Ray, L.A. (2022) Baseline C-Reactive Protein Levels are Predictive of Treatment Response to a Neuroimmune Modulator in Individuals with an Alcohol Use Disorder: A Preliminary Study, American Journal of Drug and Alcohol Abuse, in press.
62. Ray, L.A., Nieto, S. **Grodin, E.N.** (2022) Translational Models of Addiction Phenotypes to Advance Addiction Pharmacotherapy, Annals of the New York Academy of Sciences, 1-11.

Editorials

1. Ray, L.A., Green, R., **Grodin, E.N.** (2021). Neurobiological Models of Alcohol Use Disorder in Humans, American Journal of Psychiatry, 178(6): 483-484.

Book Chapters

1. **Grodin, E.N.**, Meredith, L., Burnette, E., Ray, L. Brain-Immune Mechanisms in Alcohol Use Disorder Targeting Neuroimmune Signaling in Alcohol Use Disorder: Opportunities for Translation, in Alcoholism and Alcohol-Related Disorders, accepted.

- Burnette, E.M., Nieto, S.J., **Grodin, E.N.**, Jentsch, J.D., Ray, L.A. Progressive Ratio Intravenous Alcohol Self-Administration in Clinical Studies, in Translational Research Methods in Alcohol Use Disorders, accepted.

MANUSCRIPTS UNDER REVIEW

- Baskerville, W. **Grodin, E.N.**, Lin, J., Miotto, K., Mooney, L.J., Ray, L.A. Alcohol Use Among Treatment-Seeking Individuals with Opioid Use Disorder, under review.
- Grodin, E.N.**, Montoya, A.K., Cruz, A., Donato, S., Baskerville, W., Ray, L.A. Identifying Treatment Responders to Varenicline for Alcohol Use Disorder Using Two Machine Learning Approaches, under review. PsyArXiv: <https://psyarxiv.com/uvn3m/>

INVITED ORAL PRESENTATIONS

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| June 2016 | <i>Research Society on Alcoholism, New Orleans, Louisiana</i>
"Neural Correlates of Aversion Resistant Alcohol Addiction" |
| June 2018 | <i>International Study Group Investigating Drugs as Reinforcers, San Diego, California</i>
"The Neural Correlates of Compulsive Alcohol Seeking in Heavy Drinkers" |
| March 2019 | <i>International Convention of Psychological Science, Paris, France</i>
"Elucidating the Effect of a Brief Drinking Intervention Using Neuroimaging" |
| April 2020 | <i>Collaborative Perspectives on Addiction, San Diego, California</i>
"Modeling Motivation for Alcohol in Humans using Traditional and Machine Learning Approaches"
*conference called due to COVID-19 |
| June 2020 | <i>Research Society on Alcoholism, New Orleans, Louisiana</i>
"The Effects of a Neuroimmune Modulator on Behavioral, Neural, and Peripheral Markers"
*conference called due to COVID-19 |
| June 2020 | <i>College on Problems of Drug Dependence, Virtual Conference</i>
"Integrating fMRI in Clinical Pharmacology for Alcohol Use Disorder" |
| September 2020 | <i>Staying Connected: Neuroscience of Mental Health and Addiction Seminar Series, Virtual Meeting</i>
"Ibuprofen for the Treatment of Alcohol Use Disorder: A Randomized Placebo-Controlled Experimental Study" |
| December 2020 | <i>American College on Neuropsychopharmacology, Virtual Conference</i>
"Ibuprofen for the Treatment of Alcohol Use Disorder: A Randomized Placebo-Controlled Experimental Study"
*Selected as a Hot Topic |
| February 2021 | <i>Alcohol and Drug Abuse Center Postdoc Seminar Series, Louisiana State University, Virtual Seminar</i> |

	“Integrating functional Magnetic Resonance Imaging (fMRI) in Clinical Pharmacology for the Treatment of Alcohol Use Disorder”
June 2021	<i>Research Society on Alcoholism, Virtual Conference</i> “lbidilast for the Treatment of Alcohol Use Disorder: A Randomized Placebo-Controlled Experimental Study”
December 2021	<i>American College on Neuropsychopharmacology, San Juan, Puerto Rico</i> “lbidilast, a Neuroimmune Modulator, Decreases Biomarkers of Inflammation in Individuals with Alcohol Use Disorder: A Preliminary Study”
March 2022	<i>Wake Forest University, Department of Physiology and Pharmacology, Virtual Seminar</i> “Identifying and Targeting Biomarkers of Inflammation in Alcohol Use Disorder”
May 2022	<i>1st Annual Charles Drew University Substance Abuse Research Training Program, UCLA T32/UCI T32 Retreat</i> “Baseline C-Reactive Protein Levels are Predictive of Treatment Response to a Neuroimmune Modulator in Individuals with an Alcohol Use Disorder: A Preliminary Study”
July 2022	<i>Wake Forest University, Department of Physiology and Pharmacology,</i> Novel Targets for Alcohol Use Disorder: Probing the Gut Microbiome and Inflammatory Signaling

RESEARCH FUNDING

Active Research Support

Friends of Semel Research Scholars Grodin(PI)
 “Elucidating the Effects of Acute Inflammation on the Neural Substrates of Alcohol Cue Reactivity”
 This proposal leverages a new trial of endotoxin as an experimental model of acute inflammation in AUD through the addition of a novel neuroimaging component. This proposal tests the hypothesis that experimentally-induced inflammation will potentiate neural alcohol cue reactivity in individuals with AUD relative to placebo and light drinking controls.
Role: PI Project Period: 04/01/2021-03/31/2023

NIAAA K01AA029712 Grodin(PI)
 “Characterizing the Microbiome-Gut-Brain Axis in Individuals with AUD”
 This K01 seeks to evaluate the relationship between gut dysbiosis, clinical phenomenology of AUD, and a brain-based biomarker in individuals with AUD and matched healthy controls.
Role: PI Project Period: 04/01/2022-03/31/2027

Completed Research Support

NIAAA R21AA027180 Ray(PI)
 “A novel human laboratory model for screening medications for alcohol use disorder”
 This study will validate a novel clinical paradigm for testing the initial efficacy of pharmacotherapies for alcohol use disorder.
Role: Co-I Project Period: 09/20/2019-08/31/2022

NIAAA F32AA027699 Grodin(PI)

“Elucidating the Effects of Neuroimmune Modulation on Neural Substrates of Alcohol Cue and Stress Reactivity”

This study seeks to elucidate the effect of neuroimmune modulation through ibudilast on neural alcohol cue and stress reactivity in individuals with alcohol use disorder.

Role: PI

Project Period: 07/01/2019-01/21/2021

NIDA

T32DA024635

London(PI)

“UCLA Training Program in the Translational Neuroscience of Drug Abuse (TNDA)”

The UCLA Training Program in the Translational Neuroscience of Drug Addiction (TNDA)

provides multidisciplinary training that spans the fundamental bases of addiction from the genome to neural phenotypes and ultimately the syndrome of addiction, with particular strength in molecular and cellular neurobiology, brain imaging, and behavioral neuroscience.

Role: Trainee

Project Period: 01/21/2018-01/20/2019

AWARDS AND HONORS

American College on Neuropsychopharmacology Travel Scholarship	2022
Winter Conference on Brain Research, Finalist for Poster Prize	2022
NIDA-NIAAA Frontiers in Addiction Research Early Career Investigator Showcase	2021
UCLA Chancellor’s Award for Postdoctoral Research Nominee	2021
LSU Alcohol and Drug Abuse Center of Excellence Postdoctoral Seminar Travel Award	2021
American College on Neuropsychopharmacology Travel Award	2020
Winter Conference on Brain Research Travel Award	2020
Research Society on Alcoholism Junior Investigator Merit Award	2019
NIDA Training Program in Translational Neuroscience of Drug Abuse	2018
NIAAA/NIDA Diversity Supplement Workshop Travel Award	2018
Society for Biological Psychiatry Travel Award	2017
UCLA Neuroimaging Training Program Travel Award	2017
Research Society on Alcoholism Student Merit Award	2014, 2015, 2017
Sigma Xi Research Honors Society	2016 - present
Brown University Student Conference Travel Award	2016
National Institutes of Health Fellows Award for Research Excellence	2016

TEACHING EXPERIENCE

Psychology 162: Psychology of Addiction, UCLA Spring 2019

- 10-week hybrid (online and in-person) course on the psychological and neurobiological theories of addiction, pharmacological effects of drugs and abuse, etiology, assessment, diagnosis, and treatment
- Taught 4 in-person discussion sections (1 hour each; 50 students per section) and 1 online discussion section offered to non-local University of California students (1 hour; 10 students)
- Developed lecture and discussion section content designed to provoke interaction and participation amongst students

Summer Research Program on Addiction Science, UCLA Summer 2019

- 40-hour intensive research training program offered to under-represented minorities at UCLA
- Selected readings focusing on clinical and translational addictions neuroscience
- Developed a project for students to complete during the program
- Assisted students in creating and presenting a poster of their project

MENTORING EXPERIENCE

University of California, Los Angeles Graduate Students:

Research Co-Mentor to Elizabeth Burnette – Neuroscience Ph.D. candidate

Research Rotation Co-Mentor to Malia Belnap – Neuroscience Ph.D. candidate

Research Co-Mentor to Wave-Ananda Baskerville – Clinical Psychology Ph.D. candidate

Research Co-Mentor to Kaitlin McManus – Clinical Psychology Ph.D. candidate

University of California, Los Angeles Postbaccalaureate Students:

Research Co-Mentor to Wave-Ananda Baskerville – NIAAA Diversity Supplement Grant Trainee

University of California, Los Angeles Undergraduate Students:

Research Mentor to Keegan Buch – Undergraduate Development Honors Program

Research Mentor to Catherine Trinh – Undergraduate Research Fellows Program, Psychology Undergraduate Research Conference

Research Mentor to Marla Dimetrious – Interdepartmental Undergraduate for Neuroscience 199A, 199B

Research Mentor to Jalen Robinson – HBCU-UCLA Neuroscience Pathways Summer Research Program

Research Society on Alcoholism Mentoring Program:

Career Mentor to Sophia Berberian – Undergraduate Research Fellow, Arizona State University

National Institute on Alcohol Abuse and Alcoholism Postbaccalaureate Trainees:

Research Co-Mentor to Lauren Sussman – Intramural Research Trainee Award Fellow

Research Co-Mentor to Kelsey Sundby – Intramural Research Trainee Award Fellow

Research Co-Mentor to Grace Brennan – Intramural Research Trainee Award Fellow

Training:

Completed “Entering Mentoring” training from the National Research Mentoring Network

CONFERENCE PRESENTATIONS

1. Momenan, R., Lin, H. **Grodin, E.N.**, Hommer, D.W. *Alcoholic Subjects’ Response to Prediction Error*. Poster, Human Brain Mapping, June 2011.
2. **Grodin, E.N.**, Lin, H., Momenan, R., Hommer, D.W. *A Voxel-Based Morphometric Study of Gender Differences in Brain Density of Alcoholics*. Poster, Research Society on Alcoholism, June 2011.
3. **Grodin, E.N.**, Lin, H., Steckler, L.E., Momenan, R., Hommer, D.W. *Brain Atrophy in Alcoholism Measured by Differences in Gray Matter Volume, VBM, and Cortical Thickness*. Poster, Society for Neuroscience, November 2011.
4. Hommer, D.W., **Grodin, E.N.**, Momenan, R. *Cortical, diencephalic and midbrain gray matter loss in alcoholism measured by VBM: Effects of co-morbid substance abuse*. Poster. American College of Neuropsychopharmacology, December 2012.

5. George, D.T., Garg, K., Sells, J.R., **Grodin, E.N.**, Schwandt, M.L., Hommer, D.W., Heilig, M., Kwako, L.E. *Trauma timing predicts variation in PTSD-related outcomes*. Poster, American College of Neuropsychopharmacology, December 2012.
6. **Grodin, E.N.**, Momenan, R., Hommer, D.W. *Subcortical Atrophy in Alcohol Dependent Subjects*. Poster, Research Society on Alcoholism, June 2012.
7. Steckler, L.E., Momenan, R., **Grodin, E.N.**, Hommer, D.W. *Motivation Difference Between Alcoholics and Control in a Monetary Incentive Effort Task*. Poster, Research Society on Alcoholism, June 2012.
8. Momenan, R., Steckler, L.E., **Grodin, E.N.**, Hommer, D.W. *Anticipatory Differences Between Alcohol Dependent Subjects and Normal Volunteers in an Effort Task*. Poster, Research Society on Alcoholism, June 2012.
9. **Grodin, E.N.**, Momenan, R. *Morphometric and Volumetric Subcortical Differences in Alcoholics with and without Comorbid Drug Use Disorders*. Poster, American College of Neuropsychopharmacology, December 2013.
10. Mann, C.L., Durkee, C.A., **Grodin, E.N.**, Momenan, R. *Measuring the Effects of Acute Alcohol Infusion on Human Brain Metabolites: An MR Spectroscopy Study*. Poster, American College of Neuropsychopharmacology, December 2013.
11. **Grodin, E.N.**, Kerich, M.J., Heilig, M., Schumann, G., Momenan, R. *Adolescents with and without Alcohol Problems: Response to Reward Anticipation and Feedback*. Poster, Research Society on Alcoholism, June 2014.
12. **Grodin, E.N.**, Steckler, L.E., Momenan, R. *Modulation of Brain Response during Effort-Based Decision-Making in Alcohol Dependent Populations*. Poster, Research Society on Alcoholism, June 2015.
13. Momenan, R., Mathur, K., Zhu, X., **Grodin, E.N.** *Task Reversal and Prediction Error Activations in Alcohol Dependent Participants*. Poster, Human Brain Mapping, June 2015.
14. Brietzke, S., **Grodin, E.N.**, Momenan, R. *Neural Correlates of Delayed Reward Discounting Among Alcohol Dependent Subjects: An fMRI Study*. Poster, Research Society on Alcoholism, June 2016.
15. Sundby, K., Zhu, X., Mathur, K., **Grodin, E.N.**, Momenan, R. *Neural Substrates of Reward Prediction Error Processing in Alcohol Dependence*. Poster, Research Society on Alcoholism, June 2016.
16. **Grodin, E.N.**, Sundby, K., Brennan, G., Heilig, M., Momenan, R. *The Neural Correlates of Aversion Resistant Alcohol Seeking*. Poster, American College of Neuropsychopharmacology, December 2016.
17. Brietzke, S., Cortes, C.R., **Grodin, E.N.**, Taylor, P., Momenan, R. *White Matter Integrity in Alcohol Use Disorder Domains*. Poster, American College of Neuropsychopharmacology, December 2016.
18. **Grodin, E.N.**, Sussman, L., Sundby, K., Brennan, G., Heilig, M., Momenan, R. *The Neural Correlates of Compulsive Alcohol Seeking*. Poster, Society for Biological Psychiatry, May 2017.
19. Sells, J.R., Kwako, L.E., **Grodin, E.N.**, Momenan, R., George, D.T., Heilig, M., Ramchandani, V.A., Schwandt, M.L. *Effects of Early Life Trauma on Alcohol-and Stress-Related Phenotypes in Alcoholics with and without Posttraumatic Stress Disorder*. Poster, Research Society on Alcoholism, June 2017.
20. **Grodin, E.N.**, Cortes, C.R., Momenan, R. *Anterior Insula Morphometry is Associated with Impulsivity and Compulsivity in Alcohol Dependent Individuals*. Poster, Research Society on Alcoholism, June 2017.
21. Farokhnia, M., **Grodin, E.N.**, Lee, M.R., Stangl, B.L., Oot, E.N., Blackburn, A.N., Farinelli, L.A., Momenan, R., Ramchandani, V.A., Leggio, L. *Intravenous Ghrelin Administration Increases Alcohol Self-Infusion in Heavy Drinkers: A Preliminary Human Laboratory Study*. Poster, Research Society on Alcoholism, June 2017.

22. Cortes, C.R., Schwandt, M.L., Kwako, L.E., **Grodin, E.N.**, DiazGranados, N., George, D.T., Heilig, M., Leggio, L., Momenan R. *Effects of Alcohol and Corticotrophin-Releasing Factor Antagonism on fMRI Connectivity of the Centromedial Amygdala*. Poster, Research Society on Alcoholism, June 2017.
23. **Grodin, E.N.**, Momenan, R. *Resting State Connectivity and Compulsivity: Association in Alcohol Use Disorder*. Poster, American College of Neuropsychopharmacology, December 2017.
24. Fede, S.J., **Grodin, E.N.**, Momenan, R. *Negative Emotional Face Processing Associated with Alcohol Use Disorder Severity*. Poster, Society of Biological Psychiatry, May 2018.
25. Stangl, B., Schwandt, M.L., Kwako, L., Sells, J., Momenan, R., **Grodin, E.N.**, Westman, J., Brown, V., Sinha, R., Ramchandani, V. *Effects of Adverse Childhood Experience on Alcohol-and Stress-Related Phenotypes in Dependent and Non-Dependent Drinkers*. Poster, Society of Biological Psychiatry, May 2018.
26. Ray, L.A., Bujarski, S., **Grodin, E.N.**, Du H. *Capturing Habitualness of Drinking and Smoking Behavior in Humans*, Poster, American College of Neuropsychopharmacology, presented December 2018.
27. **Grodin, E.N.**, MacKillop, J., Lim, A.C., Karno, M.P, Ray, L.A. *Elucidating the Effect of a Brief Drinking Intervention Using Neuroimaging: A Preliminary Study*, Poster, American College of Neuropsychopharmacology, presented December 2018.
28. Lim, A.C., Towns, B. **Grodin, E.N.**, Venegas, A., Ray, L.A. *Executive Function Predicts Effects of Naltrexone on Subjective Response to Intravenous Methamphetamine Infusion*, Poster, American Academy for Clinical Neuropsychology, presented June 2019.
29. Lim, A.C., **Grodin E.N.**, Green R., Ray, L.A., *The Convergence of Functional Magnetic Resonance Imaging Alcohol Cue Reactivity, Subjective Response to Alcohol, and Alcohol Self-Administration*, Poster, Research Society on Alcoholism, presented June 2019
30. **Grodin, E.N.**, Bujarski, S., Montoya, A., Ray, L.A. *Modeling Motivation for Alcohol in Humans using Traditional and Machine Learning Approaches*, Poster, American College of Neuropsychopharmacology, December 2019.
31. **Grodin, E.N.**, Bujarski, S., Montoya, A., Ray, L.A. *Modeling Motivation for Alcohol in Humans using Traditional and Machine Learning Approaches*, Winter Conference on Brain Research, January 2020.
32. Nieto, S., **Grodin, E.N.**, Green, R.J., Ray, L.A. *Evaluation of the Addiction Neuroclinical Assessment (ANA) Framework Through Deep Phenotyping of Problem Drinkers*. American College on Neuropsychopharmacology, December 2020.
33. **Grodin, E.N.**, Ray, L.A. *Ibuprofen for the Treatment of Alcohol Use Disorder: A Randomized Placebo-Controlled Experimental Study*. American College on Neuropsychopharmacology, December 2020.
34. Baskerville, W., **Grodin, E.N.**, Venegas, A., Ray, L.A. *Sleep Quality Among Treatment Seeking and Non-Treatment Seeking Individuals with Alcohol Use Disorder*. Poster, Research Society on Alcoholism, June 2021.
35. Meredith, L.R., Green, R., **Grodin, E.N.**, Ray, L.A. *Ibuprofen Modulates the Relationship Between Mood and Craving Following Stress Exposure in a Clinical Sample with AUD*. Poster, Research Society on Alcoholism, June 2021.
36. Meredith, L.R., **Grodin, E.N.**, Montoya, A.K., Miranda, R., Squeglia, L.M., Ray, L.A. *The Effect of Ibuprofen on Daily Naturalistic Reporting of Subjective Response to Alcohol*, Poster, Research Society on Alcoholism, June 2022
37. Burnette, E.M., **Grodin, E.N.**, Meredith, L.R., Iwrin, M.R., Ray, L.A. *Inflammation in Alcohol Use Disorder: A Preliminary Investigation of the Clinical Significance of C-Reactive Protein*, Poster, Research Society on Alcoholism, June 2022
38. Baskerville, W., **Grodin, E.N.**, Lin, J., Miotto, K., Mooney, L., Ray, L.A. *Alcohol Use Among Treatment-Seeking Individuals with Opioid Use Disorder*, Poster, Research Society on Alcoholism, June 2022.

39. **Grodin, E.N.**, Montoya, A.K., Cruz, A., Donato, S., Baskerville, W., Ray, L.A. *Identifying Treatment Responders to Varenicline for Alcohol Use Disorder Using Two Machine Learning Approaches*, Poster, Research Society on Alcoholism, June 2022.

PROFESSIONAL ACTIVITIES

Journal Reviewing

Addiction, *Ad Hoc Reviewer*
Addiction Biology, *Ad Hoc Reviewer*
Addiction Neuroscience, *Ad Hoc Reviewer*
Alcohol and Alcoholism, *Ad Hoc Reviewer*
Alcoholism: Clinical and Experimental Research, *Ad Hoc Reviewer*
Biological Psychiatry: Cognitive Neuroscience and Neuroimaging, *Ad Hoc Reviewer*
Biological Psychology, *Ad Hoc Reviewer*
BMC Psychiatry, *Ad Hoc Reviewer*
CNS Drugs, *Ad Hoc Reviewer*
Cognitive, Affective, & Behavioral Neuroscience, *Ad Hoc Reviewer*
Cortex, *Ad Hoc Reviewer*
Drug and Alcohol Dependence, *Ad Hoc Reviewer*
Frontiers in Psychiatry, *Review Editor*
Health Psychology, *Ad Hoc Reviewer*
International Journal of Neuropsychopharmacology, *Ad Hoc Reviewer*
NeuroImage: Clinical, *Ad Hoc Reviewer*
Neuropsychopharmacology, *Ad Hoc Reviewer*
Progress in Neuropsychopharmacology and Biological Psychiatry, *Ad Hoc Reviewer*
Psychopharmacology, *Ad Hoc Reviewer*
Scientific Reports, *Ad Hoc Reviewer*
Translational Psychiatry, *Ad Hoc Reviewer*

Professional Service

Research Society on Alcoholism, Diversity, Equity, and Inclusion Committee 2022, *Member*
Black in Neuro Conference 2020, *Abstract Reviewer*
NIH Intramural Research Training Award Postbaccalaureate Poster Day 2014-2018, *Judge*

Professional Memberships

Research Society on Alcoholism
Society of Addiction Psychology
American Psychological Association Division 28: Psychopharmacology and Substance Abuse