

# Elizabeth Mar Burnette, Ph.D.

## CURRICULUM VITAE

Updated December 5, 2023

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Neuroscience Interdepartmental Ph.D. Program  
University of California, Los Angeles (UCLA)  
Los Angeles, CA

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## EDUCATION

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**University of California, Los Angeles (UCLA)** **09/2018-03/2023**

### Ph.D. Neuroscience

Committee Chair: Lara A. Ray, Ph.D.

Committee: Kate M. Wassum, Ph.D., Naomi I. Eisenberger, Ph.D, Christopher J. Evans, Ph.D

Date of Advancement to Candidacy: March 8, 2021

Dissertation: *Probing inflammation and reward in Alcohol Use Disorder*

**Duke University** **08/2014-05/2018**

**B.S. Neuroscience**, *cum laude*, Departmental Distinction

Minors: Music, Mandarin Chinese | Cumulative GPA: 3.823

Thesis: *Conditioned food aversion: A strategy to study disordered eating?*

## RESEARCH FUNDING

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### Current Support

UCLA Graduate Division Dissertation Year Fellowship **07/2022-06/2023**

This fellowship supports doctoral candidates who are within one year of completing and filing the dissertation.

NIH F31AA028976 (NIAAA) Burnette (PI) **09/2020-09/2023**

*Probing Inflammation and Reward Sensitivity in Alcohol Use Disorder*

Ruth L. Kirschstein National Research Service Award

This study provokes inflammation in participants with AUD and healthy controls to probe the role of neuroinflammation in modulating negative mood and reward response in AUD, with the goal of elucidating novel underpinnings of AUD pathophysiology.

Role: PI / Predoctoral Research Fellow

### Past Support

NIH T32DA024635 (NIDA) London (PI) **06/2020-09/2020\***

*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 behavior, with particular strength in molecular and cellular neurobiology, brain imaging, and behavioral neuroscience. \*Award terminated early for F31 activation.

Role: Predoctoral Trainee

Duke Summer Neuroscience Program Research Fellowship **05-07/2017**

## HONORS AND AWARDS

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UCLA Graduate Division Dissertation Year Fellowship	2022-2023
Research Society on Alcohol Memorial Award	2022
Second Place Winner, UCLA Grad Slam (3 Minute Thesis) Competition	2022
UCLA Brain Research Institute Science Communication Training Award	2021
NIH/NIAAA, Ruth L. Kirschstein National Research Service Award Predoctoral Individual Fellowship (PI: Burnette; F31AA028976)	2020-2023
NIH/NIDA, UCLA Translational Neuroscience on Drug Abuse Training Program (PI: London; T32DA024635)	2020
Phi Beta Kappa - Duke University	2018
<i>Cum Laude</i> - Duke University	2018
Duke Department of Psychology and Neuroscience Departmental Distinction	2018
Duke Summer Neuroscience Program Research Fellowship	2017
Duke Cognitive Neuroscience and Law FOCUS Program	2014-2015

## PEER-REVIEWED PUBLICATIONS

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1. Grodin, E.N., **Burnette, E.M.**, Rodriguez, C., Fulcher, J.A., & Ray, L.A. (2024). The gut microbiome in alcohol use disorder and alcohol-associated liver disease: A systematic review. *Alcohol: Clinical and Experimental Research*, *In Press*.
2. Kirsch, D.E., Belnap, M., **Burnette, E.M.**, Grodin, E.N., & Ray, L.A. (2023). Pharmacological Treatments for Alcohol Use Disorder: Considering the Role of Sex and Gender. *Current Addiction Reports*, *In Press*.
3. Meredith, L.R., **Burnette, E.M.**, Nieto, S.J., Donato, S., Du, H., Grodin, E.N., Green, R.J., Magill, M., & Ray, L.A. (2023). Testing pharmacotherapies for alcohol use disorder with cue exposure paradigms: A systematic review and quantitative synthesis of human laboratory trial methodology. *Alcohol: Clinical and Experimental Research*, *47*(9): 1629-1645. DOI: [10.1111/acer.15143](https://doi.org/10.1111/acer.15143). PMID: 37423771.
4. **Burnette, E.M.**, Grodin, E.N., Olmstead, R., Ray, L.A., & Irwin, M.R. (2023). Alcohol use disorder is associated with enhanced sensitivity to cellular lipopolysaccharide challenge. *Alcohol: Clinical and Experimental Research*, *47*(10): 1859-1868. DOI: [10.1111/acer.15173](https://doi.org/10.1111/acer.15173). PMID: 37864529.
5. Ray, L.A., Nieto, S.J., Meredith, L.R., **Burnette, E.M.**, Donato, S., Magill, M., & Du, H. (2023). Are medication effects on subjective response to alcohol and cue-induced craving associated? A meta regression study. *Psychopharmacology*, *240*(9): 1921-1930. DOI: [10.1007/s00213-023-06409-4](https://doi.org/10.1007/s00213-023-06409-4). PMID: 37452887.
6. Grodin, E.N., **Burnette, E.M.**, O'Neill, J., Alger, J., & Ray, L.A. (2023). Alcohol craving and severity are associated with dorsal anterior cingulate choline levels in individuals with an alcohol use disorder. *Alcohol and Alcoholism*, *58*(3): 289-297. DOI: [10.1093/alcalc/agad014](https://doi.org/10.1093/alcalc/agad014). PMID: 36939375.
7. 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 alcohol use disorder: A preliminary study. *American Journal of Drug and Alcohol Dependence*, *In Press*. DOI: [10.1080/00952990.2022.2124918](https://doi.org/10.1080/00952990.2022.2124918). PMID: 36282988.
8. 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*, *57*(6): 727-733. DOI: [10.1093/alcalc/agac029](https://doi.org/10.1093/alcalc/agac029). PMID: 35788255.

9. Grodin, E.N., Nieto, S.J., Meredith, L.R., **Burnette, E.M.**, O'Neill, J., Alger, J., London, E.D., Miotto, K., Evans, C., Irwin, M.R., & Ray, L.A. (2022). Effects of Ibudilast on central and peripheral markers of inflammation in Alcohol Use Disorder: A randomized clinical trial. *Addiction Biology*, 27(4): e13182. DOI: [10.1111/adb.13182](https://doi.org/10.1111/adb.13182). PMID: 35754106.
10. **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. DOI: [10.1007/s40265-021-01670-3](https://doi.org/10.1007/s40265-021-01670-3). PMID: 35133639.
11. Bernanke, A., **Burnette, E.**, Murphy, J., Hernandez, N., Zimmerman, S., Walker, Q.D., Wander, R., Sette, S., Gamard, C., Reavis, Z., Francis, R., Armstrong, C., Risher, M.L., Zucker, N., & Kuhn, C.M. (2021). Behavior and Fos activation reveal that male and female rats differentially assess affective valence during CTA learning and expression. *PLoS ONE*, 16(12): e0260577. DOI: [10.1371/journal.pone.0260577](https://doi.org/10.1371/journal.pone.0260577). PMID: 34898621.
12. Nieto, S.J., Venegas, A., **Burnette, E.M.**, MacKillop, J., & Ray, L.A. (2021). Additive roles of tobacco and cannabis co-use in relation to delay discounting in a sample of heavy drinkers. *Psychopharmacology, In Press*. DOI: [10.1007/s00213-021-05993-7](https://doi.org/10.1007/s00213-021-05993-7). PMID: 34652499.
13. **Burnette, E.M.**, Ray, L.A., Irwin, M.R., & Grodin, E.N. (2021). Ibudilast attenuates alcohol cue-elicited frontostriatal functional connectivity in Alcohol Use Disorder. *Alcohol: Clinical and Experimental Research*, 45(10): 2017-2028. DOI: [10.1111/acer.14696](https://doi.org/10.1111/acer.14696). PMID: 34585396.
14. Grodin, E.N., **Burnette, E.**, Towns, B., 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. DOI: [10.1037/adb0000743](https://doi.org/10.1037/adb0000743). PMID: 34435833.
15. 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. DOI: [10.1016/j.bbi.2021.07.023](https://doi.org/10.1016/j.bbi.2021.07.023). PMID: 34343618.
16. 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*, 225:108825. DOI: [10.1016/j.drugalcdep.2021.108825](https://doi.org/10.1016/j.drugalcdep.2021.108825). PMID: 34175784.
17. Grodin, E.N., Bujarski, S., Towns, B., **Burnette, E.**, Nieto, S., Lim, A., Lin, J., Miotto, K., Gillis, A., Irwin, M., Evans, C., & Ray, L.A. (2021). Ibudilast, a neuroimmune modulator, reduces heavy drinking and alcohol cue-elicited neural activation: a randomized trial. *Translational Psychiatry*, 11(1):355. DOI: [10.1038/s41398-021-01478-5](https://doi.org/10.1038/s41398-021-01478-5). PMID: 34120149.
18. **Burnette, E.M.**, Grodin, E.N., Eisenberger, N.I., & Ray, L.A. (2021). Endotoxin for Alcohol Research: A call for experimental medicine using lipopolysaccharide challenge. *Alcohol and Alcoholism*, 56(6):715-717. DOI: [10.1093/alcalc/agaa148](https://doi.org/10.1093/alcalc/agaa148). PMID: 33592623.
19. **Burnette, E.M.**, Grodin, E.N., Schacht, J.P., & Ray, L.A. (2021). Clinical and neural correlates of reward and relief drinking. *Alcohol: Clinical and Experimental Research*, 45(1):194-203. DOI: [10.1111/acer.14495](https://doi.org/10.1111/acer.14495). PMID: 33119924.
20. **Burnette, E.M.**, Grodin, E.N., Ghahremani, D.G., Galván, A., Kohno, M., Ray, L.A., & London, E.D. (2021). Diminished cortical response to risk and loss during risky decision making in alcohol use disorder. *Drug and Alcohol Dependence*, 218:108391. DOI: [10.1016/j.drugalcdep.2020.108391](https://doi.org/10.1016/j.drugalcdep.2020.108391). PMID: 33153830.
21. Baskerville, W.A., Nieto, S.J., Ho, D., Towns, B., Grodin, E.N., Li, C., **Burnette, E.**, Donato, S., & Ray, L.A. (2021). Baseline drinking patterns in non-treatment-seeking problem drinkers. *Alcohol and Alcoholism*, 56(1):57-63. DOI: [10.1093/alcalc/agaa098](https://doi.org/10.1093/alcalc/agaa098). PMID: 33016306.

22. **Burnette, E.M.**, Baskerville, W.A., Grodin, E.N., & Ray, L.A. (2020). Ibutilast for alcohol use disorder: Study protocol for a phase II clinical trial. *Trials*, 21(1):779. DOI: [10.1186/s13063-020-04670-y](https://doi.org/10.1186/s13063-020-04670-y). PMID: 32912290.
23. 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. *Alcohol: Clinical and Experimental Research*, 44(6):1224-1233. DOI: [10.1111/acer.14342](https://doi.org/10.1111/acer.14342). PMID: 32406553.
24. Corlier, J., **Burnette, E.**, Wilson, A., Lou, J., Landeros, A., Minzenberg, M., & Leuchter, A.F. (2020). Effect of repetitive transcranial magnetic stimulation (rTMS) treatment of major depressive disorder (MDD) on cognitive control. *Journal of Affective Disorders*, 265:272-277. DOI: [10.1016/j.jad.2020.01.068](https://doi.org/10.1016/j.jad.2020.01.068). PMID: 32090751.
25. **Burnette, E.M.**, Grodin, E.N., Lim, A.C., MacKillop, J., Karno, M., & Ray, L.A. (2019). Association between impulsivity and neural activation to alcohol cues in heavy drinkers. *Psychiatry Research: Neuroimaging*, 293:110986. DOI: [10.1016/j.psychres.2019.110986](https://doi.org/10.1016/j.psychres.2019.110986). PMID: 31622796.
26. **Burnette, E.**, Piker, E.G, & Frank-Ito, D. (2018). Reevaluating order effects in the binaural bithermic caloric test. *American Journal of Audiology*, 27(1):104-109. DOI: [10.1044/2017\\_AJA-17-0028](https://doi.org/10.1044/2017_AJA-17-0028). PMID: 29383375.

## BOOK CHAPTERS

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1. Grodin, E.N., Meredith, L.R., **Burnette, E.M.**, & Ray, L.A. (2022, Accepted). Brain-immune mechanisms in alcohol use disorder – Targeting neuroimmune signaling in alcohol use disorder: Opportunities for translation. In S. Mueller (Ed.). *Alcoholism and alcohol-related disorders*.
2. **Burnette, E.M.**, Nieto, S.J., Grodin, E.N., Jentsch, J.D., & Ray, L.A. (2022, Accepted). Intravenous alcohol self-administration using a progressive ratio schedule of reinforcement in clinical studies. *Neuromethods*.

## MANUSCRIPTS UNDER REVIEW

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1. Nieto, S.J., **Burnette, E.M.**, Grodin, E.N., & Ray, L.A. (2023, Under Review). Neural correlates of the Addictions Neuroclinical Assessment (ANA) incentive salience factor among individuals with alcohol use disorder.

## INVITED ORAL PRESENTATIONS

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1. **Burnette, E.M.**, Ray L.A., & Grodin, E.N. (2022). Using neural alcohol cue-reactivity to test pharmacotherapies for alcohol use disorder. In J.H. Krystal and M.M. Silveri (Chairs), *Unpacking neural correlates of AUD: Insights from neuroimaging*. Symposium presented at Research Society on Alcohol, Orlando, FL.
2. **Burnette, E.M.**, Grodin, E.N., Lim, A.C., MacKillop, J., Karno, M., & Ray, L.A. (2021). Association between impulsivity and neural activation to alcohol cues in heavy drinkers. In E.N. Grodin (Chair), *Translational Studies in Alcohol Use Disorder*. Symposium presented at Collaborative Perspectives on Addiction Annual Meeting. Meeting held virtually due to COVID-19.

## POSTER PRESENTATIONS

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1. **\*Burnette, E.M.**, Meredith, L.R., Nieto, S.J., Du, H., Donato, S., Becker, H., Magill, M., & Ray, L.A. (2022). Pharmacotherapy effects on alcohol cue-reactivity in the human laboratory: A systematic review. American College of Neuropsychopharmacology, Phoenix, AZ.

2. **\*Burnette, E.M.**, Nieto, S.J., Grodin, E.N., & Ray, L.A. (2022). Neural correlates of the addiction neuroclinical assessment (ANA) incentive salience factor in alcohol use disorder. Society for Neuroscience, San Diego, CA.
3. **\*Burnette, E.M.**, Grodin, E.N., Meredith, L.R., Irwin, M.R., & Ray, L.A. (2022). Inflammation in alcohol use disorder: A preliminary investigation of the clinical significance of c-reactive protein. Research Society on Alcohol, Orlando, FL.
4. †\*Feliciano, S., **Burnette, E.M.**, & Ray, L.A. (2022). Positive psychology intervention in addiction treatment: A holistic approach. UCLA Undergraduate Research Fellows Program Showcase. Meeting held virtually due to COVID-19.
5. **\*Burnette, E.M.**, Bass, L.C., Munier, J.J., Evans, C.J., & Romero-Calderón, R. (2021). Effectiveness of a virtual undergraduate student-led drug outreach program. Society for Neuroscience. Meeting held virtually due to COVID-19.
6. †\*Mai, T.M., **Burnette, E.M.**, & Ray, L.A. (2021). Behavioral impulsivity as a predictor of loss of control in heavy-drinking smokers. UCLA Psychology Undergraduate Research Conference. Meeting held virtually due to COVID-19.
7. **\*Burnette, E.M.**, Ray, L.A., Irwin, M.R., & Grodin, E.N. (2021). Ibutilast attenuates alcohol cue-elicited frontostriatal functional connectivity in Alcohol Use Disorder. PsychoNeuroImmunology Research Society. Meeting held virtually due to COVID-19.
8. **\*Burnette, E.M.**, Grodin, E.N., & Ray, L.A. (2020). Risk taking and alcohol use disorder severity: An fMRI study. Research Society on Alcohol. Meeting held virtually due to COVID-19.
9. \*Bernanke, A., **Burnette, E.**, Murphy, J., Armstrong, C., Zimmerman, S., Hernandez, N., Reavis, Z., and Kuhn, C. (2020). Sex differences in conditioned taste aversion. Society of Biological Psychiatry. Meeting held virtually due to COVID-19.
10. \*Grodin, E.N., **Burnette, E.**, Lim, A.C., MacKillop, J., Karno, M. & Ray, L.A. (2019). Association between impulsivity and neural activation to alcohol cues in heavy drinkers. International Conference on Applications of Neuroimaging to Alcoholism, New Haven, CT.
11. **\*Burnette, E.**, Moody, T.D., Wu, M.S., Sheen, C., Goldbeck, J., Strober, M. & Feusner, J.D. (2019). Reward and anxiety network activity predicts psychometrics in anorexia nervosa and anxious controls. Organization for Human Brain Mapping, Rome, Italy.
12. **\*Burnette, E.**, Ocampo, G., Wander, R., Walker, Q., Zucker, N. & Kuhn, C. (2017). Adolescents show conditioned food aversion: A strategy to study disordered eating? Society for Neuroscience, Washington DC.

†Presentation made by mentee

\*Presenting author

## RESEARCH EXPERIENCE

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### **UCLA Dept. of Psychology / Psychiatry & Biobehavioral Sciences**

**04/2019-Current**

*Graduate Student Researcher; Advisor: Lara A. Ray*

- Studying clinical addiction neuroscience using psychoneuroimmunology and neuroimaging methods
- Involved in design, data collection, and analysis of clinical trials in Alcohol Use Disorder

### **UCLA Semel Institute, Neuromodulation Division**

**01-03/2019**

*First-year Rotation Student; Advisor: Andrew F. Leuchter*

- Studied transcranial magnetic stimulation (TMS) treatment effects on executive function in depression

**UCLA Dept. of Psychiatry & Biobehavioral Sciences** 09-12/2018

*First-year Rotation Student; Advisor: Jamie D. Feusner*

- Studied reward and anxiety network activity (functional neuroimaging) in Anorexia Nervosa

**Duke University Dept. of Pharmacology** 01/2017-05/2018

*Honors Thesis Independent Study; Advisor: Cynthia M. Kuhn*

- Received Duke Summer Neuroscience Program Research Fellowship
- Developed a novel conditioned food aversion (CFA) rodent model of disordered eating
- Used anterograde tracing and immunohistochemistry to study development and neurobiological mechanisms of CFA

**Duke University Dept. of Psychology & Neuroscience** 01-07/2016

*Independent Study and Interim Lab Manager; Advisor: Jennifer M. Groh*

- Studied macaque monkeys' localization of audiovisual stimuli by tracking saccades and observing neuron firing in the superior and inferior colliculi.
- Cared for seven rhesus macaques, oversaw lab business, maintained inventory, upheld safety and chemical hygiene standards, served as liaison between lab and regulatory organizations.

**Duke University Medical Center Vestibular Disorders Clinic** 01-12/2015

*Clinical Research Assistant; Advisor: Erin G. Piker*

- Analyzed order effects inherent in the bithermal binaural caloric test for vestibular function.

## TEACHING EXPERIENCE

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**Graduate Teaching Assistant, UCLA, Drug Outreach Promoting Awareness (DOPA) Capstone** 01-07/2021

- Facilitated virtual visits to local middle and high schools, led undergraduate students in development of interactive drug outreach demonstrations, informational pamphlets, and research assignments, and graded assignments for two-quarter undergraduate neuroscience capstone (NEURO C-177 / 192C).
- Collected education data on the effectiveness of online-format science outreach (pre- and post-outreach assessments).

**Graduate Teaching Assistant, UCLA, Behavioral Neuroscience Laboratory** 04-07/2020

- Led lab exercises, assisted in development of online course format (due to COVID-19), graded assessments, and held office hours and review sessions for undergraduate behavioral neuroscience course (PSYCH 116).

**Graduate Teaching Assistant, UCLA, Functional Neuroanatomy** 09-12/2019

- Developed and led lab exercises, generated questions for, proctored, and graded midterm, final, and lab practicum examinations, and held office hours and review sessions for undergraduate neuroanatomy course (NEURO 102).

**Instructor, Duke University, Intersectional Queer Narratives** 01-05/2016

- Co-created and taught a half-credit, student-led course exploring LGBTQ+ identities and narratives through the lenses of neuroscience, social sciences, and humanities.

**Educational Outreach, Duke University, FEMMES** 02/2015-05/2018

- Conducted science demonstrations and mentored elementary school girls in STEM through Duke's FEMMES (Females Excelling More in Math, Engineering, and Science) student outreach program.

## MENTORSHIP EXPERIENCE

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**T. Mai** 09/2020-Current

- UCLA Psychology B.A. Class of 2022
- Project on behavioral impulsivity in heavy-drinking smokers resulted in poster presentation for UCLA Psychology Undergraduate Research Conference (2021)

**S. Feliciano**

**01/2022-Current**

- Current 3rd year psychology undergraduate at UCLA
- Literature review project on positive psychology interventions in addiction treatment for UCLA Undergraduate Research Fellows Program (2022)

**S. Sankar**

**09/2021-Current**

- Current 3rd year psychobiology undergraduate at UCLA
- Training in clinical research and participant management with goal of pursuing medical career

**A. Prado**

**09/2021-Current**

- Current 4th year neuroscience undergraduate at UCLA
- Training in clinical research and participant management with goal of pursuing medical career

**RELATED EXPERIENCE**

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**Contributing Editor and Content Producer, *Knowing Neurons***

**09/2020-Current**

- Lead podcast production, write and edit articles, and create interactive quizzes for the world's largest student-led neuroscience education and outreach website.

**Clinical Operations Intern - Inflammation Therapeutic Area, *Gilead Sciences***

**06-08/2021**

- Developed study timelines, document trackers, and informed consent forms in support of Phase 3 and Phase 1b clinical trials

**Biology and Life Science Content Developer, *CK-12 Foundation***

**05-12/2018**

- Curated and created videos, interactive practice tools, and other modules for online "Flexbooks" at K-12 STEM education nonprofit.

**PROFESSIONAL ASSOCIATIONS**

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- Society for Neuroscience
- Research Society on Alcohol
- Organization for Human Brain Mapping
- PsychoNeuroImmunology Research Society
- APA Division 50 - Society of Addiction Psychology
- Sigma Xi Scientific Research Honor Society

**JOURNAL REVIEW**

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- *Alcohol & Alcoholism*, ad hoc co-reviewer
- *Human Brain Mapping*, ad hoc co-reviewer
- *Addiction Biology*, ad hoc co-reviewer