

Jocelyn M. Richard, PhD

Assistant Professor
 Department of Neuroscience
 Medical Discovery Team on Addiction
 University of Minnesota

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 Richard-lab.org
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 Pronouns: she/her

EDUCATION AND TRAINING

Johns Hopkins University, Baltimore, MD Postdoctoral Fellow Advisor: Patricia H. Janak, PhD	2015 - 2017
University of California, San Francisco, CA Ernest Gallo Clinic and Research Center, Emeryville, CA Postdoctoral Fellow Advisor: Howard L. Fields, MD, PhD	2013 - 2014 2013
University of Michigan, Ann Arbor, MI PhD in psychology (biopsychology) MS in psychology (biopsychology) Advisor: Kent C. Berridge, PhD	2012 2009
Occidental College, Los Angeles, CA BA in psychobiology with honors, <i>summa cum laude</i> Advisor: Nancy K. Dess, PhD	2007

PROFESSIONAL EXPERIENCE

University of Minnesota, Minneapolis, MN Adjunct Assistant Professor, Department of Psychology Assistant Professor, Department of Neuroscience	2019 - Present 2018 - Present
Johns Hopkins University Assistant Research Scientist, Department of Psychological and Brain Sciences	2017 - 2018

RESEARCH SUPPORT

Current

NIH Research Project Grant (R01DA053208), Role: PI <i>Neural basis of incentive and expected value representations</i>	2022 – 2026
NIH Research Project Grant (R01AA028770), Role: PI <i>Glutamatergic basal forebrain neurons in aversion-resistant drinking</i>	2021 – 2026

Completed

Medical Discovery Team on Addiction Pilot Grant (MPI with Kevin Wickman) <i>A flexible genome modification platform for investigating mechanisms of cue reactivity in addiction</i>	2020 – 2022
NIH Pathway to Independence Award (K99/R00 AA025384) <i>Ventral pallidal circuitry in alcohol seeking and reinstatement by stress</i>	2017 – 2022

NARSAD Young Investigator Grant <i>Stress-induced reinstatement of cued alcohol seeking: Ventral pallidum encoding and paraventricular inputs</i>	2016 – 2018
NIH National Research Service Award (F32 AA022290) <i>Accumbens shell mu-opioid signaling in alcohol self-administration and relapse</i>	2013 – 2016
NIH National Research Service Award (F31 MH090602) <i>Mesocorticolimbic generation of motivation</i>	2010 - 2012

PUBLICATIONS

28. Palmer A, Cayton CA, Scott A, Lin I, Newell B, Paulson A, Weberg M, & **Richard JM** (2024). Ventral pallidum neurons projecting to the ventral tegmental area reinforce but do not invigorate reward-seeking behavior. *Cell Reports*, 43: 113669.
27. Sood A & **Richard JM** (2023). Sex-biased effects of outcome devaluation by sensory-specific satiety on Pavlovian-conditioned behavior. *Frontiers in Behavioral Neuroscience*, 17:1259003. PMID: PMC10582633.
26. Scott A, Palmer D, Newell B, Lin I, Cayton CA, Paulson A, Remde P, & **Richard JM** (2023). Ventral pallidal GABAergic neuron calcium activity encodes cue-driven reward-seeking and persists in the absence of reward delivery. *Journal of Neuroscience*, 43(28): 5191-5203. PMID: PMC10342224.
25. Armstrong A, Rosenthal H, Stout N, & **Richard JM** (2023). Reinstatement of Pavlovian responses to alcohol cues by stress. *Psychopharmacology*, 240(3): 531-545. PMID: PMC9931652.
24. Carpio MJ, Gao R, Wooner E, Cayton CA, & **Richard JM** (2022). Alcohol availability during withdrawal gates the impact of alcohol vapor exposure on responses to alcohol cues. *Psychopharmacology*, 239(1): 3102-3116. PMID: PMC9526241.
23. Ottenheimer DJ, Wang K, Tong X, Fraser KM, **Richard JM** & Janak PH (2020). Reward activity in ventral pallidum tracks satiety-sensitive preference and drives choice behavior. *Science Advances*, 6(45): eabc9321. PMID: PMC7673692.
22. Ottenheimer DJ, Bari BA, Sutlief E, Fraser KM, **Richard JM**, Cohen JY & Janak PH (2020). A quantitative reward prediction error signal in ventral pallidum. *Nature Neuroscience*, 23(10): 1267-1276. PMID: PMC7870109.
21. Vandaele Y, Mahajan NR, Ottenheimer DJ, **Richard JM**, Mysore SP & Janak PH (2019). Distinct recruitment of dorsomedial and dorsolateral striatum erodes with extended training. *eLife*, 8, e49536. PMID: PMC6822989
20. Ottenheimer DJ, Wang K, Haimbaugh A, Janak PH & **Richard JM** (2019). Recruitment and disruption of ventral pallidal cue encoding during alcohol seeking. *European Journal of Neuroscience*, 50, 3428-3444. PMID: PMC6848750
19. **Richard JM** (2019). Female rodents yield new insights into compulsive alcohol use and the impact of dependence. Commentary on Xie et al. (2019). *Alcoholism: Clinical & Experimental Research*, 48(8), 1648-1650. PMID: PMC6679723
18. **Richard JM** (2019). Metabotropic glutamate receptor 5 signaling and appetitive Pavlovian behavior: Implications for the treatment of addiction. Research Highlights article on Khoo et al. (2019). *Neuropsychopharmacology*, 44(9), 1516-1517. PMID: PMC6785106

17. Ottenheimer D, **Richard JM** & Janak PH (2018). Ventral pallidum encodes relative reward value earlier and more robustly than nucleus accumbens. *Nature Communications*, 9, 4350. PMID: PMC6195583
16. Saunders BT, **Richard JM**, Margolis EB & Janak PH (2018). Dopamine neurons create Pavlovian conditioned stimuli with circuit defined motivational properties. *Nature Neuroscience*, 21(8), 1072-1083. PMID: PMC6082399
15. **Richard JM**, Stout N, Acs D & Janak PH (2018). Ventral pallidal encoding of reward seeking depends on the underlying associative structure. *eLife*, 7, e33107. PMID: PMC5864276
14. **Richard JM**, Ambroggi F, Janak PH & Fields HL (2016). Ventral pallidum neurons encode incentive value and promote cue-elicited instrumental actions. *Neuron*, 90(6), 1165-1173. PMID: PMC4911300
13. **Richard JM** & Fields HL (2016). Mu-opioid receptor activation in the medial shell of nucleus accumbens promotes alcohol consumption, self-administration and cue-induced reinstatement. *Neuropharmacology*, 108, 14-23. PMID: PMC4912898
12. Saunders BT, **Richard JM** & Janak PH (2015). Contemporary approaches to neural circuit manipulation and mapping: focus on reward and addiction. *Philosophical Transactions B*, 370(1677): 20150210. PMID: PMC4528822.
11. **Richard JM**, Plawecki AM, & Berridge KC (2013). Nucleus accumbens GABAergic inhibition generates intense eating and fear that resists environmental retuning and needs no local dopamine. *European Journal of Neuroscience*, 37(11), 1789-1802. PMID: PMC3672387
10. **Richard JM**, Castro DC, DiFeliceantonio AG, Robinson MJF & Berridge KC (2013). Mapping brain circuits of reward and motivation: In the footsteps of Ann Kelley. *Neuroscience and Biobehavioral Reviews*, 37(9), 1919-1931. PMID: PMC3706488.
9. Volman SF, Lammel S, Margolis EB, Kim Y, **Richard JM**, Roitman MF, & Lobo MK (2013). New insights into the specificity and plasticity of reward and aversion encoding in the mesolimbic system. *Journal of Neuroscience*, 33(45), 17569-17576. PMID: PMC3818538.
8. **Richard JM** & Berridge KC (2013). Prefrontal cortex modulates desire and dread generated by nucleus accumbens glutamate disruption. *Biological Psychiatry*, 73(4), 360-370. PMID: PMC3535675
7. **Richard JM** & Berridge KC (2011). Nucleus accumbens dopamine/glutamate interaction switches mode to generate desire versus dread: D1 alone for appetitive eating but D1 and D2 together for fear. *Journal of Neuroscience*, 31(36), 12866-12897. PMID: PMC3174486
6. Saunders BT & **Richard JM** (2011). Shedding light on the role of ventral tegmental area dopamine in reward. Journal Club review on Adamantidis et al. (2011). *Journal of Neuroscience*, 31(50), 18195-18197. PMID: PMC3263377
5. **Richard JM** & Berridge KC (2011). Metabotropic glutamate receptor blockade in nucleus accumbens shell shifts affective valence towards fear and disgust. *European Journal of Neuroscience*, 33, 736-747. PMID: PMC3039038
4. Berridge KC, Ho C-Y, **Richard JM**, & DiFeliceantonio AG (2010). The tempted brain eats: Pleasure and desire circuits in obesity and eating disorders. *Brain Research*, 1350, 43-64. PMID: PMC2913163

3. Faure A, **Richard JM**, & Berridge KC (2010). Desire and dread from the nucleus accumbens: Cortical glutamate and subcortical GABA differentially generate motivation and hedonic impact in the rat. *PLoS ONE*, 5(6), e11223. PMID: PMC2887893
2. Faure A, Reynolds SM, **Richard JM**, & Berridge KC (2008). Mesolimbic dopamine in desire and dread: Enabling motivation to be generated by localized glutamate disruptions in nucleus accumbens. *Journal of Neuroscience*, 28(28), 7184-7192. PMID: PMC2519054
1. Dess NK, **Richard JM**, Severe SF, & Chapman CD (2007). Temporal organization of eating in low- and high-saccharin-consuming rats. *International Journal of Comparative Psychology*, 20, 317-340.

Preprints:

- Sood A & **Richard JM** (2023). Outcome devaluation by sensory-specific satiety alters Pavlovian-conditioned behavior in male and female rats. *bioRxiv*; 547810; <https://doi.org/10.1101/2023.07.05.547810>. PMID: PMC10349988.
- Palmer D, Cayton CA, Scott A, Lin I, Newell B, Weberg M & **Richard JM** (2023). Ventral pallidum projections to the ventral tegmental area reinforce but do not invigorate reward-seeking behavior. *bioRxiv*; 541796; <https://doi.org/10.1101/2023.05.22.541796>.
- Scott A, Palmer D, Cayton CA, Lin I & **Richard JM** (2022). Ventral pallidal GABAergic neuron calcium activity encodes cue-driven reward-seeking and persists in the absence of reward delivery. *bioRxiv*; 522319; <https://doi.org/10.1101/2022.12.30.522319>.
- Armstrong A, Rosenthal H, Stout N, & **Richard JM** (2022). Reinstatement of Pavlovian responses to alcohol cues by stress. *bioRxiv*; 490952; <https://doi.org/10.1101/2022.05.06.490952>.
- Carpio MJ, Gao R, Wooner E, Cayton CA, & **Richard JM** (2021). Alcohol availability during withdrawal gates the impact of alcohol vapor exposure on responses to alcohol cues. *bioRxiv*: 473655; <https://doi.org/10.1101/2021.12.21.473655>.
- Ottenheimer DJ, Bari BA, Sutlief E, Fraser KM, **Richard JM**, Cohen JY, Janak PH (2019). A history-derived reward prediction error signal in ventral pallidum. *bioRxiv*: 807842; <https://doi.org/10.1101/807842>.
- Ottenheimer D, Wang K, Haimbaugh A, Janak PH, **Richard JM** (2019). Recruitment and disruption of value encoding during alcohol seeking. *bioRxiv*:513911; <https://doi.org/10.1101/513911>
- Saunders BT, **Richard JM**, Margolis EB & Janak PH (2017). Instantiation of incentive value and movement invigoration by distinct midbrain dopamine circuits. *bioRxiv*, 186502; <https://doi.org/10.1101/186502>

TALKS

University of Minnesota, Pharmacology Seminar Series	2023
European Behavioral Pharmacology Society	2023
University at Buffalo, Neuroscience Seminar Series	2023
Tufts University, Neuroscience Seminar Series, Boston, MA	2023
Western Michigan University School of Medicine, Kalamazoo, MI	2023
Gordon Research Conference on Alcohol and the Nervous System, Oxnard, CA	2022
Minnesota Symposium on Addiction Neuroscience	2022
Big Ten Neuroscience Workshop	2022

University of Minnesota, Pharmacology Seminar Series	2022
University of Minnesota, Pharmacology Seminar Series	2021
International Conference of the Society for Interdisciplinary Placebo Studies	2021
University of New Mexico, Cognition, Brain, & Behavior Graduate Seminar	2020
Waggoner Center for Alcohol & Addiction Research at University of Texas at Austin	2020
RSA Scientific Meeting, Minneapolis, MN	2019
Mayo Clinic, MPET Seminar Series, Rochester, MN	2019
WCBR Meeting, Snowmass, CO	2019
ACNP Meeting, Hollywood, FL	2018
University of Minnesota, Pharmacology Seminar Series	2018
RSA Scientific Meeting, San Diego, CA	2018
Gordon Research Seminar on Catecholamines, Newry, ME	2017
RSA Scientific Meeting, Denver, CO	2017
University of Minnesota, Department of Neuroscience	2017
UCLA, Department of Psychology	2017
University of Connecticut, Department of Psychology	2017
MSNseminars speaker, Mount Sinai, New York, NY	2017
University of Michigan, Biopsychology Colloquium	2016
NIDA-NIAAA Early Career Investigator Showcase, San Diego, CA	2016
Baltimore Brain Series speaker, Baltimore, MD	2016
Dopamine 2016 meeting, Vienna, Austria	2016
RSA Scientific Meeting, New Orleans, LA	2016
Chesapeake Area Learning and Memory Meeting	2015
Minisymposium speaker, Society for Neuroscience meeting, San Diego, CA	2013
UC Davis, Biological Psychology Brown Bag	2013
University of Michigan, Biopsychology Colloquium	2012
Ernest Gallo Clinic and Research Center at UCSF	2012
University of Michigan, Biopsychology Colloquium	2008

TEACHING EXPERIENCE

University of Minnesota

Course Director, NSCI 3102 <i>Neurobiology II: Perception and Behavior</i> (Fall)	2021 - Present
Lecturer, NSCI 3102 <i>Neurobiology II: Perception and Behavior</i> (Fall and Spring)	2019 – Present
Co-Course Director, NSC 5462 <i>Neuroscience Principles of Drug Abuse</i> (Spring)	2024

University of Michigan:

Guest lecturer: <i>Introduction to Biopsychology</i> , Department of Psychology	2011
Graduate student instructor:	
<i>Introduction to Biopsychology</i> , Department of Psychology	2008, 2010
<i>Introduction to Psychology</i> , Department of Psychology	2009

HONORS & AWARDS

Thank a Teacher note recipient	2023
WCBR Panel Travel Fellowship	2019
<i>Journal of Neuroscience</i> Outstanding Reviewer	2018
ACNP Harry June Travel Award	2016

Dopamine 2016 Travel Grant from the Austrian Academy of Science	2016
SfN Postdoctoral Fellow Travel Award	2014
Wyvell Award for Best Dissertation in Biopsychology, University of Michigan	2012
Rackham Graduate Student Research Grant	2012
European Behavioral Pharmacology Society Meeting Travel Award	2011
Rackham Graduate School Travel Grants	2008 - 2012
Phi Beta Kappa Member	2006
Psi Chi Member	2006
Rose Hills Foundation Science and Engineering Scholarship	2006 - 2007
Occidental College Undergraduate Research Center Fellowships:	
Howard Hughes Medical Institute Undergraduate Fellowship	2006
Dennis VanderWeele Fellowship	2005
Sherman Fairchild Summer Research Fellowship	2005
Margaret Bundy Scott Scholarship	2003 - 2007
National Merit Scholar	2003

SERVICE AND OUTREACH

Mentorship/Training, University of Minnesota

Postdoctoral fellows:

Meredith Bauer	2024 - Present
Ankit Sood	2019 - 2023

Graduate students:

Micaela Porod, Graduate Program in Neuroscience rotation student	2023
Jonathan Aguirre-Santiago, Molecular Pharmacology & Therapeutics Program	2023 – Present
• NIDA T32 (DA007234)	
Klaiten Kermoade, Molecular Pharmacology & Therapeutics Program	2023 - Present
Godson Aryee, Animal Sciences Graduate Program masters student	2022
• Student research technician	
Ross Armant, Graduate Program in Neuroscience rotation student	2022
Filip Hanak, Graduate Program in Neuroscience rotation student	2021
Adem Selimovic, Graduate Program in Neuroscience rotation student	2021
Amelia Schneider, Graduate Program in Neuroscience rotation student	2021
Alexandra Scott, Graduate Program in Neuroscience	2019 – 2023
• MnDRIVE Neuromodulation Fellowship	
Dakota Palmer, Graduate Program in Neuroscience	2019 - 2023
• NIDA F31 (DA055442)	
• NIDA T32 (DA007234)	
Gunner Drossel, Graduate Program in Neuroscience rotation student	2019
Runbo Gao, Master of Biological Sciences	2019 - 2020

Undergraduate students:

Yairi Rosario	2023
• Life Sciences Summer Undergraduate Research Program	
Tommy Tran	2023 - Present
Preethi Muruganandan	2023 - Present
• Undergraduate Research Opportunities Program awardee	

Aparna Thiagarajan	2023
• Undergraduate Career Opportunities in Neuroscience (U-COINs)	
Emma Galligher	2022
• Directed Research in Neuroscience	
Braedon Quinlan	2022
• Life Sciences Summer Undergraduate Research Program	
Madison Arnold	2022 - Present
• Directed Research in Neuroscience	
• Dean's Research Program	
Laila Bushagour	2022 - 2023
• Directed Research in Neuroscience	
• Dean's Research Program	
• Latin Honors Thesis, <i>summa cum laude</i>	
Isaac Liao	2022 - 2023
Maggie Cristoforo	2022 – Present
• Directed Research in Neuroscience	
Ashley Walsh	2022 – 2023
• Directed Research in Neuroscience	
Antony Joseph	2022
• Directed Research in Neuroscience	
Ranjani Hariharan	2021 - 2022
Morgan Weberg	2020 - 2021
Collin Prill	2019 - 2022
• Undergraduate Research Opportunities Program awardee	
• Directed Research in Neuroscience	
• Latin Honors Thesis, <i>summa cum laude</i>	
Kameron Rewitzer	2019 - 2020
Grant Badger	2019 - 2020
• Directed Research in Neuroscience	
Diana Augustin	2019
• MnDRIVE/NorthStar STEM Alliance Summer Research Internship	
Clarissa Wallin	2019
Iris Lin	2018 - 2021
• Undergraduate Research Opportunities Program awardee	
• Directed Research in Neuroscience	
Erica Wooner	2018 - 2020
• Directed Research in Psychology	
• Undergraduate Research Opportunities Program awardee	
Danielle Frazee	2018 - 2019
Arianna Dart	2018 - 2019
• Senior Directed Research at Macalester College	

Doctoral Final Exam Committees, University of Minnesota

Andrea Maxwell (Anna Zilverstand Laboratory), <i>Chair</i>	2023 - Present
Gerardo Rojas (Nicola Grissom Laboratory)	2023

Jacob Gable (Aaron Kerlin Laboratory)	2023 - Present
Elizabeth Souter (Julia Lemos Laboratory), <i>Chair</i>	2021 - Present
Lauren Glassburn (Esther Krook-Magnuson Laboratory)	2021 - Present
Roberto Lopez Cervera (Benjamin Hayden Laboratory), <i>Chair</i>	2021 - 2023
Sarah Mulloy (Anna Lee Laboratory)	2021 - 2024
Dakota Palmer, <i>Primary Advisor</i>	2020 – 2023
Alexandra Scott, <i>Primary Advisor</i>	2020 – 2023
Margot DeBaker (Anna Lee and Kevin Wickman Laboratories)	2019 – 2022
Habiba Azab (Benjamin Hayden Laboratory), <i>Reviewer</i>	2019

Doctoral Preliminary Exam Committees, University of Minnesota

Laura Padilla (Kathryn Cullen Laboratory), <i>Chair</i>	2023
Andrea Maxwell (Anna Zilverstand Laboratory), <i>Chair</i>	2022
Jacob Gable (Aaron Kerlin Laboratory)	2022
Elizabeth Souter (Julia Lemos Laboratory), <i>Chair</i>	2021
Lauren Glassburn (Esther Krook-Magnuson Laboratory)	2021
Roberto Lopez Cervera (Benjamin Hayden Laboratory), <i>Chair</i>	2021
Dakota Palmer, <i>Primary Advisor</i>	2020
Sarah Mulloy (Anna Lee Laboratory)	2020
Alexandra Scott, <i>Primary Advisor</i>	2020
Margot DeBaker (Anna Lee and Kevin Wickman Laboratories)	2019
Habiba Azab (Benjamin Hayden Laboratory)	2019

Undergraduate Thesis Committees, University of Minnesota

Isaac Liao, <i>Reader</i>	2024
Laila Bushagour, <i>Primary Advisor</i>	2023
Eric Hoskins, <i>Reader</i>	2023
Emma Gehlbach, <i>Reader</i>	2023
Jessica Nguyen, <i>Reader</i>	2022
Aishwarya Belhe, <i>Reader</i>	2022
Collin Prill, <i>Primary Advisor</i>	2022
Greta Cutts, <i>Reader</i>	2021
Erin Shen, <i>Reader</i>	2021

Committee Service, University of Minnesota

Neuroscience Undergraduate Curriculum Committee	2023 – Present
MDT on Addiction Seminar Series, <i>Director</i>	2020 – Present
GPN Diversity, Equity, and Inclusion Committee, <i>Co-Chair</i>	2020 – 2021
College of Biological Sciences Awards and Recognition Committee	2020 – Present
MDT on Addiction Faculty Search Committee	2019 – 2020
MDT on Addiction Insights Committee	2019 – Present
MDT on Addiction Seminar Series Committee, <i>Member</i>	2018 – 2020

Miscellaneous Service, University of Minnesota

Itasca Reimagination Task Force	2022
Poster Judge, Minnesota Symposium on Addiction Neuroscience	2022
Poster Judge, MINDS Post Baccalaureate and Research Technician Poster Session	2022
Journal Club Coordinator, NIDA T32DA007234	2021 - Present

Working Group on Equity and Inclusion in Undergraduate Neuroscience	2020
Poster Judge, Minnesota Symposium on Addiction Neuroscience	2019
Poster Judge, Wallin Neuroscience Discovery Day	2019
Mock Study Section Reviewer (2 Panels)	2019 - 2020
Facilitator, NSCI 5462, <i>Principles of Drug Abuse</i>	2019
Guest lecturer, GPN Itasca Retreat	2018

Grant Review

Ad hoc reviewer, NIH Fellowships: Behavioral Neuroscience (F02A)	2023
Ad hoc reviewer, NIH Fellowships: Behavioral Neuroscience (F02A)	2022
Ad hoc reviewer, NIAAA NRSA Individual Fellowship Special Emphasis Panel	2022
Panelist, NSF	2021
Ad hoc reviewer, NIH Neurotoxicology and Alcohol (NAL)	2021
Ad hoc reviewer, NIH BRAIN Initiative F32 Special Emphasis Panel	2021
Ad hoc reviewer, NIH Biobehavioral Regulation, Learning and Ethology (BRLE)	2020
Reviewer, American Psychological Association (APA) Dissertation Research Awards	2019

Editorial Boards

Associate Editor, <i>Journal of Neuroscience</i>	2020 - Present
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Ad Hoc Journal Review

Addiction Biology, Alcoholism: Clinical & Experimental Research, Behavioral Brain Research, Biological Psychiatry, Brain Research, Brain Research Bulletin, Cell Reports, eLife, Frontiers (Cellular Neuroscience, Systems Neuroscience, and Behavioral Neuroscience), Molecular Psychiatry, Nature Communications, Nature Neuroscience, Neurobiology of Learning and Memory, Neuropharmacology, Neuropsychopharmacology, Psychopharmacology

Conference Service

Power Hour Organizer, Gordon Research Conf. on Alcohol and the Nervous System	2022
Moderator, Virtual Dopamine (ViDa) Conference	2020
Power Hour Organizer, Gordon Research Conference on Catecholamines	2019
Discussion Leader, Gordon Research Seminar on Catecholamines	2019
Symposium Organizer, RSA Scientific Meeting	2016

Outreach

Go4Brains Faculty Mentor	2022
Mentor, STEM Achievement in Baltimore Elementary Schools (SABES)	2016-2017
Brain Awareness Outreach Presenter, Baltimore, MD	2015

Student Mentorship/Training, Johns Hopkins University

<i>Graduate student:</i> David J. Ottenheimer	2017 – 2018
<i>Undergraduate students:</i> Anne Armstrong, Nakura Stout, Hailey Rosenthal Varun Vohra, Clare Kavanagh, Shailja Somani, Karen Wang, Bridget Chen, and Michelle Cho	2015 – 2018

Student Mentorship/Training, University of Michigan

Laboratory mentor for 24 undergraduate research assistants, including 3 honors thesis students (Andrea Plawecki, Adam Wilensky, and Aaron Garcia)	2008-2012
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Committee Service, University of Michigan:

Biopsychology Faculty Search Committee	2011-2012
Biopsychology Area Graduate Admissions Committee	2010-2011
Departmental Associate, Department of Psychology	2010-2011
Psychology Graduate Council	2008-2010

Service, Occidental College:

Psi Chi Secretary/Treasurer	2006-2007
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PROFESSIONAL MEMBERSHIPS

Pavlovian Society	2017-Present
Research Society on Alcohol	2014-Present
European Behavioral Pharmacology Society	2011-Present
Society for Neuroscience	2007-Present

CONFERENCE ABSTRACTS

Paulson A, Scott A, Prill C, Newell B, & **Richard JM** (2023). Ventral pallidal GABAergic neurons drive consumption in a sex-dependent manner. Poster presented at the Neuroscience 2023 meeting, Washington, DC.

Sood A, Tran T, Cristoforo M, Walsh A, & **Richard JM** (2023). Ventral pallidal encoding of expected outcome value evoked by Pavlovian cues. Poster presented at the Neuroscience 2023 meeting, Washington, DC.

Lortie M, Bushagour L, Tran T, Hariharan R, Galligher E, **Richard JM** (2023). Alcohol-paired cues drive aversion-resistant drinking in Long Evans rats. Poster presented at the Neuroscience 2023 meeting, Washington, DC.

Newell BA, Lin ID, Palmer D, Scott A, Paulson A, Muruganandan P, Remde P, & **Richard JM** (2023). Ventral pallidal GABA neurons are necessary for the invigoration of reward-seeking by cues. Poster presented at the Neuroscience 2023 meeting, Washington, DC.

Lortie M, Hariharan R, Bushagour L, Galligher E & **Richard JM** (2023). Alcohol-paired cues drive aversion-resistant drinking in Long Evans rats. Poster presented at the meeting of the Research Society on Alcohol, Bellevue, WA.

Sood A, Gao R, Tran A, Lortie M & **Richard JM** (2022). Effects of long-term intermittent access to alcohol on glutamatergic basal forebrain neurons during aversion-resistant drinking. Poster presented at the ACNP Annual Meeting, Phoenix, AZ.

Sood A & **Richard JM** (2022). Investigating ventral pallidal encoding of expected outcome value. Poster presented at the Neuroscience 2022 meeting, San Diego, CA.

Joseph A, Hanak F, Selimovic A, Sood A & **Richard JM**. (2022). Impact of alcohol vapor exposure on neural responses to alcohol cues. Poster presented at the Neuroscience 2022 meeting, San Diego, CA.

Sood A & **Richard JM** (2022). Investigating ventral pallidal encoding of expected outcome value. Poster presented at the Pavlovian Society Annual Meeting, Milwaukee, WI.

Remde P & **Richard JM** (2022). Ventral tegmental area dopamine neurons in cue-elicited alcohol seeking. Poster presented at the Minnesota Symposium on Addiction Neuroscience, Minneapolis, MN.

Palmer D, Scott A, Cayton C, Lin I & **Richard JM** (2022). Ventral pallidum projections to the ventral tegmental area are reinforcing but not invigorating. Poster presented at the Gordon Research Conference on Optogenetic Approach to Understanding Neural Circuits and Behavior, Newry, ME.

Palmer D, Scott A, Weberg M, Lin I & **Richard JM** (2021). Ventral pallidum projections to the ventral tegmental area encode reward outcome, but not the incentive motivational value of cues. Poster presented at the Neuroscience 2021 meeting, held virtually.

Sood A & **Richard JM** (2021). Investigating ventral pallidal encoding of expected outcome value. Poster presented at the Neuroscience 2021 meeting, held virtually.

Scott A, Palmer D & **Richard JM** (2021). Ventral pallidal GABAergic neuronal activity encodes instrumental reward cues and reward anticipation. Poster presented at the SfN Global Connectome, held virtually.

Gao R, Badger GN, Carpio MJ, Sood A, Cayton CA & **Richard JM** (2021). Intermittent access to alcohol drives increased colocalization of glutamate and GABA markers in ventral pallidum. Poster presented at the SfN Global Connectome, held virtually.

Gao R, Badger G, Carpio MJ, Sood A, Cayton CA & **Richard JM** (2020). Intermittent access to alcohol drives increased colocalization of glutamate and GABA markers in ventral pallidum. Poster presented at the ACNP Annual Meeting, held virtually.

Carpio MJ, Gao R, Wooner ER, Cayton CA & **Richard JM** (2020). Cue-evoked alcohol seeking is potentiated by vapor exposure in rats that receive alcohol access during acute withdrawal. Poster presented at the Gordon Research Conference on Alcohol and the Nervous System, Galveston, TX.

Carpio MJ, Gao R, Wooner ER, Cayton CA, Augustin, D, Sood A & **Richard JM** (2019). Sex differences in cue-evoked alcohol seeking following the induction of dependence in rats. Poster presented at the ACNP Annual Meeting in Orlando, FL.

Cayton CA, Frazee DM, Lin ID & **Richard JM** (2019). Ventral pallidum output pathways in cue-elicited reward seeking, reinforcement and choice. Poster presented at the Neuroscience 2019 meeting in Chicago, IL.

Ottenheimer DJ, Bari BA, Sutlief E, Fraser KM, Kim TH, **Richard JM**, Cohen JY & Janak PH (2019). Ventral pallidum neurons signal reward prediction errors consistent with reinforcement learning. Poster presented at the Neuroscience 2019 meeting in Chicago, IL.

Ottenheimer D, Bari B, Sutlief E, Wang K, **Richard JM**, Cohen J & Janak P (2019). Ventral pallidum: a critical node for value computations in the mesolimbic circuit. Poster presented at the Gordon Research Seminar and Conference on Catecholamines, Newry, ME.

Carpio MJ, Wooner ER, Cayton CA & **Richard JM** (2019). Dependence-induced changes in cue-evoked alcohol seeking differ based on sex. Poster presented at the meeting of the Research Society on Alcoholism in Minneapolis, MN.

Richard JM, Ottenheimer D, Wang K, Haimbaugh A & Janak PH (2019). Recruitment and disruption of value encoding in models of alcohol seeking. Poster presented at the Cosyne 2019 meeting in Lisbon, Portugal.

Ottenheimer D, **Richard JM** & Janak PH (2019). Recent reward history impacts ventral pallidum estimates of present and future reward value. Poster presented at the Cosyne 2019 meeting in Lisbon, Portugal.

Ottenheimer D, **Richard JM** & Janak PH (2018). Cue-outcome contingency ambiguity impacts ventral pallidum reward signaling. Poster presented at the Society for Neuroscience meeting, San Diego, CA.

Vandaele Y, Mahajan NR, **Richard JM**, Province HS, Mysore SP & Janak PH (2018). Disentangling neural correlates of habits and automaticity in the dorsal striatum. Poster presented at the Society for Neuroscience meeting, San Diego, CA.

Richard JM, Armstrong AM, Haimbaugh A & Janak PH (2018). Ventral pallidal encoding of cue-elicited alcohol seeking behavior. Poster presented at the Gordon Research Conference on Alcohol and the Nervous System in Galveston, TX.

Richard JM, Armstrong AM, Acs D & Janak PH (2017). Ventral pallidal contributions to alcohol seeking depend on the underlying associative structure. Poster presented at the ACNP Annual Meeting in Palm Springs, CA.

Saunders BT, **Richard JM** & Janak PH (2017). Encoding of conditioned motivation by midbrain dopamine neurons. Poster presented at the Society for Neuroscience meeting, Washington, DC.

Ottenheimer DJ, **Richard JM** & Janak PH (2017). Nucleus accumbens neural activity reflects reward preference and predicts consumption. Poster presented at the Society for Neuroscience meeting, Washington, DC.

Richard JM, Stout N, Acs D & Janak PH (2017). Ventral pallidal encoding of reward seeking depends on the underlying associative structure. Poster presented at the Gordon Research Conference on Catecholamines, Newry, ME.

Richard JM, Saunders BT & Janak PH (2016). Ventral pallidum roles in cue-elicited reward seeking and reinforcement. Poster and “data blitz” presented at the ACNP Annual Meeting in Hollywood, FL.

Richard JM, Stout N, Armstrong AM & Janak PH (2016). Ventral pallidum roles in cue-elicited sucrose seeking versus alcohol seeking. Poster presented at the Society for Neuroscience meeting, San Diego, CA.

Vandaele Y, **Richard JM** & Janak PH (2016). Neuronal correlates of goal-directed and habitual reward seeking in dorsal striatum. Poster presented at the Society for Neuroscience meeting, San Diego, CA.

Richard JM, Stout N & Janak PH (2016). Role of ventral pallidal neurons in reward-seeking elicited by Pavlovian cues. Poster presented at The Addicted Brain and New Treatment Frontiers: Sixth Annual Aspen Brain Forum, New York, NY.

Richard JM, Armstrong A, Rosenthal H, Fraser KM & Janak PH (2016). Role of ventral pallidum in conditioned alcohol seeking and the effects of stress. Poster presented at the Gordon Research Conference on Alcohol and the Nervous System, Galveston, TX.

Richard JM, Ambroggi F, Janak PH & Fields HL (2015). Ventral pallidum neurons drive reward-seeking in response to an instrumental incentive stimulus. Poster presented at the joint meeting of the European Behavioural Pharmacology Society and the European Brain Behaviour Society, Verona, Italy.

Richard JM, Ambroggi F & Fields HL (2015). Role of ventral pallidum in cue-driven reward seeking: Neural encoding and neurochemical inputs. Poster presented at the Gordon Research Conference on Catecholamines, Newry, ME.

Richard JM & Fields HL (2014). Ventral pallidum encodes reward-seeking in response to an instrumental incentive stimulus. Poster presented at the Society for Neuroscience meeting, Washington, DC.

Richard JM & Fields HL (2014). Nucleus accumbens mu-opioid agonism enhances alcohol consumption, self-administration and cue-induced reinstatement. Poster presented at the meeting of the Research Society on Alcoholism, Bellevue, WA.

Richard JM, Plawecki AM & Berridge KC (2012). Intrinsic GABAergic hyperpolarization in nucleus accumbens shell robustly generates desire and dread despite environmental ambience and without need of local dopamine. Poster presented at the Society for Neuroscience meeting, New Orleans, LA.

Richard JM & Berridge KC (2012). Hyperphagia produced by DREADD-mediated inhibition of accumbens shell. Poster presented at the 7th Brain Research Conference on Optogenetics and Pharmacogenetics in Neuronal Function and Dysfunction, New Orleans, LA.

Richard JM & Berridge KC (2011). Environmental ambience retunes the valence of appetitive versus fearful motivation produced by muscimol microinjections in medial accumbens shell. Poster presented at the Society for Neuroscience meeting, Washington, DC.

Richard JM & Berridge KC (2011). Mode of nucleus accumbens dopamine/glutamate interactions switches between desire and dread: D1 alone generates appetitive motivation, but D2 also needed to generate fear. Poster presented at the meeting of the European Behavioral Pharmacology Society, Amsterdam, the Netherlands. **EBPS Best Poster Award Winner*

Richard JM & Berridge KC (2011). Nucleus accumbens dopamine/glutamate interaction switches mode to generate desire versus dread: D1 alone for appetitive eating but D1 and D2 together for fear. Poster presented at the Gordon Research Conference on Catecholamines, Lewiston, ME.

Richard JM & Berridge KC (2010). Dopamine receptors subtypes are differentially involved in appetitive and fearful behavior in nucleus accumbens shell. Poster presented at the Society for Neuroscience meeting, San Diego, CA.

Richard JM & Berridge KC (2009). Prefrontal cortical control of nucleus accumbens-generated fear and feeding. Poster presented at the Society for Neuroscience meeting, Chicago, IL.

Richard JM & Berridge KC (2008). Feeding and hedonic suppression by metabotropic glutamate receptor blockade in medial shell of nucleus accumbens. Poster presented at the Society for Neuroscience meeting, Washington, DC.

Dess NK, Chapman CD, Garrett CC, Gonzales M, McLaughlin IB, **Richard JM**, & Williams A (2007). Behavioral energy regulation and saccharin's taste: Updates from LoS/HiS rats. Poster presented at the 2007 meeting of the American Psychological Association, San Francisco, CA.

Richard JM & Dess NK (2006). Conditioned flavor aversion in rats selectively bred for high and low saccharin intake. Poster presented at the 2006 Southern California Conference on Undergraduate Research (SCCUR), Los Angeles, CA.

Richard JM & Dess NK (2005). Stress differently affects meal pattern in selectively bred rats. Poster presented at the 2005 Southern California Conference on Undergraduate Research (SCCUR), Riverside, CA.