

# Melissa R. Warden, Ph.D.

Associate Professor  
Department of Translational Neurosciences  
College of Medicine - Phoenix  
The University of Arizona

## Contact Information

475 N. 5<sup>th</sup> Street, 4<sup>th</sup> Floor  
Phoenix, AZ 85004  
mrwarden@arizona.edu  
617-290-7597

## Education

1999-2006 Ph.D. in Systems Neuroscience, Massachusetts Institute of Technology  
1992-1996 A.B. in Molecular Biology, Princeton University

## Academic Appointments

8/2024- *Associate Professor (tenured)*, Translational Neurosciences, University of Arizona.  
Bio5 Institute, University of Arizona  
Neuroscience Graduate Interdisciplinary Program, University of Arizona  
Clinical Translational Sciences Graduate Program, University of Arizona  
2013-2024 *Assistant Professor and Miriam M. Salpeter Fellow*, Neurobiology and Behavior, Cornell University.  
Cornell Neurotech, Cornell University  
Psychology Graduate Field, Cornell University  
Biomedical Engineering Graduate Field, Cornell University  
Biomedical and Biological Sciences Graduate Field, Cornell University  
2007-2013 *Postdoctoral Scholar*, Bioengineering/Psychiatry lab of Prof. Karl Deisseroth, Stanford University.  
2006-2007 *Postdoctoral Associate*, Brain and Cognitive Sciences lab of Prof. Earl K. Miller, Massachusetts Institute of Technology.  
1999-2006 *Graduate Student*, Brain and Cognitive Sciences lab of Prof. Earl K. Miller, Massachusetts Institute of Technology.  
1997-1999 *Research Technician*, Neurobiology lab of Prof. William T. Newsome, Stanford University.

## Advanced Coursework

2003 Methods in Computational Neuroscience. Marine Biological Laboratory, Woods Hole, MA.

## Awards and Honors

2015-2020 NIH Director's New Innovator Award (DP2 2MH109982)  
2015-2017 Alfred P. Sloan Research Fellowship  
2015-2016 Whitehall Foundation Research Grant  
2014-2018 Robertson Neuroscience Investigator – New York Stem Cell Foundation  
2013 American College of Neuropsychopharmacology Travel Award  
2013 Miriam M. Salpeter Fellow, Cornell University  
2013-2015 NARSAD Young Investigator Award, Brain & Behavior Research Foundation  
2012 Best Postdoctoral Research Award, Stanford University  
2012 Finalist, Sammy Kuo Prize in Neuroscience, Stanford University  
2011 Society for Neuroscience Abstract selected for Neuroscience 2011 News Conference  
2011 AAAS/Science Program for Excellence in Science Award  
2003 Scholarship Award for Methods in Computational Neuroscience, Woods Hole  
1999-2002 National Institutes of Health Predoctoral Training Fellowship (T32 GM007484)  
1999 Sigma Xi Research Honor Society nomination

## Ongoing External Funding

2022-2027 NIH R01 DA055075 (NIDA)  
2021-2026 NIH R01 MH127510 (NIMH)

## Completed External Funding

2018-2023 NIH R01 MH083809 (NIMH, MPI with Smith)  
2017-2020 NIH R21 EY028391 (NEI, Co-I with Nishimura)  
2015-2020 NIH DP2 MH109982 NIH Director's New Innovator Award  
2014-2018 Robertson Neuroscience Investigator, New York Stem Cell Foundation  
2015-2017 Alfred P. Sloan Research Fellowship  
2015-2016 Whitehall Foundation Research Grant  
2013-2015 NARSAD Young Investigator Award

## Publications

Links to publications can be found below, or at [wardenlab.org/publications.html](http://wardenlab.org/publications.html)

1. Chen Z, Brincat SL, Lundqvist M, Loonis RF, **Warden MR**, Miller EK. Oscillatory control of cortical space as a computational dimension. *Curr Biol*. 2026 Jan 19;36(2):402-414.e5. [Link to paper](#).
2. Lee S, Ghajari S, Sadeghi S, Zheng Y, Zahr H, Cortese AJ, Gu W, Choe K, Mok A, Wallace M, Jiao R, Wu C, Werth JC, Fan W, Mogalipuvvu P, Park JU, Zhao S, Smart C, Cleland TA, **Warden MR**, Lammerding J, Wang T, Goldberg JH, McEuen PL, Xu C & Molnar AC. A subnanolitre tetherless optoelectronic microsystem for chronic neural recording in awake mice. *Nat Electron*. 2025 Nov 3.
3. Miller CH, Reichard TM, Yang J, Carlson-Clarke B, Vogt CC, **Warden MR**, Sheehan MJ. Pregnancy modulates responses to male odors in house mice. *Horm Behav*. 2025 Aug 8;175:105802. [Link to paper](#).
4. Ho YY, Yang Q, Boddu P, Bulkin DA, **Warden MR**. Infralimbic parvalbumin neural activity facilitates cued threat avoidance. *eLife*. 2025 Apr 1;12:RP91221. [Link to paper](#).
5. Gu W, Luozhong S, Cai S, Londhe K, Elkasri N, Hawkins R, Yuan Z, Su-Greene K, Yin Y, Cruz M, Chang YW, McMullen P, Wu C, Seo S, Guru A, Gao W, Sarmiento T, Schaffer C, Nishimura N, Cerione R, Yu Q, **Warden MR**, Langer R, Jiang S. Extracellular vesicles incorporating retrovirus-like capsids for the enhanced packaging and systemic delivery of mRNA into neurons. *Nat. Biomed. Eng*. 2024 Apr;8(4):415-426. [Link to paper](#).
6. Troconis EL, Seo C, Guru A, **Warden MR**. Serotonin neurons in mating female mice are activated by male ejaculation. *Curr Biol*. 2023 Nov 20;33(22):4926-4936.e4. Published online Oct. 20, 2023. [Link to paper](#).
7. Mikkelsen C, Charczynski SJ, **Warden MR**, Miller EK, Howard M. Coding of time with non-linear mixed selectivity in prefrontal cortex ensembles. *bioRxiv*. 2023.04.07.535754. [Link to paper](#).
8. Miller CH, Hillock MF, Yang J, Carlson-Clarke B, Haxhillari K, Lee AY, **Warden MR**, Sheehan MJ. Dynamic changes to signal allocation rules in response to variable social environments in house mice. *Commun Biol*. 2023 Mar 21;6(297). [Link to paper](#).
9. Lundqvist M, Brincat SL, Rose J, **Warden MR**, Buschman TJ, Miller EK, Herman P. Working memory control dynamics follow principles of spatial computing. *Nat Commun*. 2023 Mar 14;14(1429). [Link to paper](#).
10. Post RJ\*, Bulkin DA\*, Ebitz RB, Lee V, Han K, **Warden MR**. Tonic activity in lateral habenula neurons acts as a neutral valence brake on reward-seeking behavior. *Curr Biol*. 2022 Oct 24;32(20):4325-4336.e5. Published online Aug. 31, 2022. [Link to paper](#).

\* equal contribution

11. Lundqvist M, Rose J, Brincat SL, **Warden MR**, Buschman T, Herman P, Miller EK. Reduced variability of bursting activity during working memory. *Sci Rep*. 2022 Sep 5;12(1):15050. [Link to paper](#).
12. Guru A, Seo C, Post RJ, Kullakanda DS, Schaffer JA, **Warden MR**. Ramping activity in midbrain dopamine neurons signifies the use of a cognitive map. *bioRxiv*. 2020.05.21.108886. [Link to paper](#).
13. Wang T, Wu C, Ouzounov DG, Gu W, Xia F, Kim M, Yang X, **Warden MR**, Xu, C. Quantitative analysis of 1300-nm three-photon calcium imaging in the mouse brain. *eLife*. 2020 Jan 30;9:e53205. [Link to paper](#).
14. Seo C\*, Guru A\*, Jin M, Ito B, Sleezer BJ, Ho YY, Wang E, Boada C, Krupa NA, Kullakanda DS, Shen CX, **Warden MR**. Intense threat switches dorsal raphe serotonin neurons to a paradoxical operational mode. *Science*. 2019 Feb 1;363(6426):538-542. [Link to paper](#).  
**\* equal contribution**
15. Post RJ, **Warden MR**. Melancholy, anhedonia, apathy: the search for separable behaviors and neural circuits in depression. *Curr Opin Neurobiol*. 2018 Apr;49:192-200. [Link to paper](#).
16. Wang M, Wang T, Wu C, Li B, Ouzounov DG, Sinefeld D, Guru A, Nam HS, Capecchi MR, **Warden MR**, Xu C. In vivo three-photon imaging of deep cerebellum. In *Multiphoton Microscopy in the Biomedical Sciences XVIII 2018* Feb 23 (Vol. 10498). International Society for Optics and Photonics. [Link to paper](#).
17. Lundqvist M, Herman P, **Warden MR**, Brincat SL, Miller EK. Gamma and beta bursts during working memory readout suggest roles in its volitional control. *Nat. Commun*. 2018 Jan 26;9(1):394. [Link to paper](#).
18. Lindsay GW, Rigotti M, **Warden MR**, Miller EK, Fusi S. Hebbian Learning in a Random Network Captures Selectivity Properties of the Prefrontal Cortex. *J Neurosci*. 2017 Nov 8;37(45):11021-11036. [Link to paper](#).
19. Ferenczi EA, Zalocusky KA, Liston C, Grosenick L, **Warden MR**, Amatya D, Katovich K, Mehta H, Patenaude B, Ramakrishnan C, Kalanithi P, Etkin A, Knutson B, Glover GH, Deisseroth K. Prefrontal cortical regulation of brainwide circuit dynamics and reward-related behavior. *Science*. 2016 Jan 1;351(6268):aac9698. [Link to paper](#).
20. Sidor MM, Spencer SM, Dzirasa K, Parekh PK, Tye KM, **Warden MR**, Arey RN, Enwright JF 3rd, Jacobsen JP, Kumar S, Remillard EM, Caron MG, Deisseroth K, McClung, CA. Daytime spikes in dopaminergic activity drive rapid mood-cycling in mice. *Mol Psychiatry*. 2015 Nov;20(11):1406-19. [Link to paper](#).
21. Guru A, Post RJ, Ho YY, **Warden MR**. Making sense of optogenetics. *Int J Neuropsychoph*. 2015 Jul 25:1-8. [Link to paper](#).
22. Sidor MM, **Warden MR**. Optogenetics. In: *Encyclopedia of Psychopharmacology*, 2<sup>nd</sup> edition, Price LH and Stolerman IP (ed). Heidelberg: Springer-Verlag, 2015. 1184-1189p. [Link to paper](#).
23. Sidor MM, Davidson TJ, Tye KM, **Warden MR**, Deisseroth K, McClung CA. In vivo optogenetic stimulation of the rodent central nervous system. *J Vis Exp*. 2015 Jan 15;95:e51483. [Link to paper](#).
24. **Warden MR**, Cardin JA, Deisseroth K. Optical Neural Interfaces. *Annu Rev Biomed Eng*. 2014 Jul 11;16:103-129. [Link to paper](#).
25. Lammel S, Tye KM, **Warden MR**. Progress in understanding mood disorders: optogenetic dissection of neural circuits. *Genes Brain Behav*. 2014 Jan;13(1):38-51. [Link to paper](#).
26. Rigotti M, Barak O, **Warden MR**, Wang XJ, Daw N, Miller EK, Fusi S. The importance of mixed selectivity in complex cognitive tasks. *Nature*. 2013 May 30;497(7451):585-590. [Link to paper](#).
27. Kim SY, Adhikari A, Lee SY, Marshel JH, Kim CK, Mallory CS, Lo M, Pak S, Mattis J, Lim BK, Malenka RC, **Warden MR**, Neve R, Tye KM, Deisseroth K. Diverging neural pathways assemble a behavioral state from

separable features in anxiety. *Nature*. 2013 Apr 11;496(7444):219-223. [Link to paper](#).

28. Tye KM\*, Mirzabekov JJ\*, **Warden MR\***, Ferenczi EA, Tsai HC, Finkelstein J, Kim SY, Adhikari A, Thompson KR, Andalman AS, Gunaydin LA, Witten IB, Deisseroth K. Dopamine neurons modulate neural encoding and expression of depression-related behaviour. *Nature*. 2013 Jan 24;493(7433):537-541. [Link to paper](#).  
**\* equal contribution**
29. **Warden MR**, Selimbeyoglu A, Mirzabekov JJ, Lo M, Thompson KR, Kim SY, Adhikari A, Tye KM, Frank LM, Deisseroth K. A prefrontal cortex-brainstem neuronal projection that controls response to behavioural challenge. *Nature*. 2012 Dec 20;492(7429):428-432. [Link to paper](#).
30. Anikeeva P\*, Andalman AS\*, Witten I, **Warden M**, Goshen I, Grosenick L, Gunaydin LA, Frank LM, Deisseroth K. Optetrode: a multichannel readout for optogenetic control in freely moving mice. *Nat Neurosci*. 2012 Jan;15(1):163-70. [Link to paper](#).  
**\* equal contribution**
31. **Warden MR**, Miller EK. Task-dependent changes in short-term memory in the prefrontal cortex. *J Neurosci*. 2010 Nov 24;30(47):15801-10. [Link to paper](#).
32. Siegel M, **Warden MR**, Miller EK. Phase-dependent neuronal coding of objects in short-term memory. *Proc Natl Acad Sci U S A*. 2009 Dec 15;106(50):21341-6. [Link to paper](#).
33. **Warden MR**, Miller EK. The representation of multiple objects in prefrontal neuronal delay activity. *Cereb Cortex*. 2007 Sep;17 Suppl 1:i41-50. [Link to paper](#).

## Intellectual Property

1. Deisseroth K, Tye KM, Warden MR (2015) “Non-human animal models of depression and methods of use thereof”. **U.S. Patent** 2015/0040249.

## Invited Talks

- 2024 Neuroscience Graduate Interdisciplinary Program Seminar, University of Arizona. Tucson, AZ.  
Grossman School of Medicine, New York University. New York, NY.  
AREADNE Conference. Milos, Greece.  
Department of Biology, Case Western Reserve University. Cleveland, OH.  
Tulane Brain Institute, Tulane University. New Orleans, LA.
- 2023 Department of Neuroscience, Northwestern University. Chicago, IL.  
Neuroscience Seminar Series, Cold Spring Harbor Laboratories. Cold Spring Harbor, NY.  
Department of Psychology, University of California, Berkeley. Berkeley, CA.  
Department of Anatomy and Neurobiology, Boston University. Boston, MA.  
Neuroscience Research Seminar, Department of Psychiatry, Columbia University. New York, NY.
- 2022 Society for Neuroscience NeuroWire Virtual Club Seminar.  
F.M. Kirby Neurobiology Center, Harvard Medical School. Boston, MA.  
Neuroscience Program Seminar Series, Brown University. Providence, RI.  
INSPIRE Postdoctoral Training Seminar, University of Iowa. Iowa City, IA.
- 2021 Virtual Dopamine Conference (ViDA)  
High Risk, High Reward Symposium, National Institutes of Health. Bethesda, MD.  
Neurobiological and Psychological Information Processing Seminar Series, Max Planck Institute for Biological Cybernetics. Tübingen, Germany.  
Neuroscience Seminar Series, University of Colorado. Boulder, CO.  
Institute of Neuroscience, University of Oregon. Eugene, OR.
- 2020 Joint Seminars in Neuroscience, UCLA. Los Angeles, CA.  
FENS Symposium, ‘Conserved Functions of Serotonergic Circuits in Diverse Animals’. Glasgow, UK.  
Neuroscience Program Seminar Series, University of Ottawa. Ottawa, ON. (Cancelled-COVID19)  
Department of Cellular and Molecular Physiology, Yale University. New Haven, CT. (Cancelled-COVID19)  
Department of Physiology, Northwestern University. Chicago, IL.  
Department of Neuroscience, University of Pennsylvania. Philadelphia, PA.

- 2019 Brain and Mind Research Institute, Weill Cornell Medicine. New York, NY  
 Department of Biological Sciences, SUNY Albany. Albany, NY.  
 Keynote Speaker, Junior Scientist Workshop on Mechanistic Cognitive Neuroscience, Janelia Research Campus. Ashburn, VA.  
 Department of Neuroscience, Johns Hopkins. Baltimore, MD.  
 Poitras Center & Stanley Center Translational Neuroscience Joint Seminar Series, McGovern Institute and Broad Institute of Harvard and MIT. Cambridge, MA.  
 Department of Physiology, New York Medical College. Valhalla, NY.  
 ‘Predictive Processing in the Brain’, Sainsbury Wellcome Center for Neural Circuits and Behaviour. London, UK.
- 2018 Society for Neuroscience Minisymposium, ‘Neuromodulation of Brain States’. San Diego, CA.  
 Genetic Manipulation of Neuronal Activity, Janelia Research Campus. Ashburn, VA.  
 Center for Neural Science, New York University. New York, NY.  
 Neuronex Technology Conference, Cornell University. Ithaca, NY.  
 New York Stem Cell Foundation Innovators Retreat. Montauk, NY.  
 The Brain Conferences, ‘The Computational Neuroscience of Prediction’. Rungsted, Denmark.
- 2017 Seminars in Neuroscience, Universidade Federal do Rio Grande do Sul. Porto Alegre, Brazil.  
 Department of Neuroscience, University of Pittsburgh. Pittsburgh, PA.  
 New York Stem Cell Foundation Innovators Retreat. Montauk, NY.  
 Department of Neuroscience, University of Rochester. Rochester, NY.
- 2016 Mong Family Foundation Symposium, Cornell Neurotech. Ithaca, NY.  
 Laboratory of Atomic and Solid State Physics, Cornell University. Ithaca, NY.  
 Cornell Neurotech Advisory Board. Ithaca, NY.  
 Gordon Conference on Optogenetics, Neural Circuits, and Behavior. Newry, ME.  
 Department of Brain and Cognitive Sciences, Seoul National University. Seoul, Korea.  
 Y-IBS Workshop on Physical Tools to Control Biological Systems. Seoul, Korea.  
 Workshop on Unsolved Problems in Systems Neuroscience, Janelia Research Campus. Ashburn, VA.  
 New York Stem Cell Foundation Innovators Retreat. Montauk, NY.
- 2015 International Workshop on Technologies for Optogenetics. Lecce, Italy.  
 Panel talk, 3<sup>rd</sup> Annual Molecular Psychiatry Meeting. San Francisco, CA.  
 New York Stem Cell Foundation Innovators Retreat. Montauk, NY.  
 Fifth International Symposium on “Biology of Decision Making”. Paris, France.
- 2014 International Workshop on Technologies for Optogenetics. Lecce, Italy.  
 Department of Biomedical Engineering, Cornell University. Ithaca, NY.  
 Symposium, 167<sup>th</sup> Annual Meeting, American Psychiatric Association. New York, NY.  
 New York Stem Cell Foundation Innovators Retreat. Montauk, NY.  
 Baker Institute for Animal Health, Cornell University. Ithaca, NY.  
 Mood disorders symposium, University of Alabama. Birmingham, AL.  
 Department of Psychological and Brain Sciences, UCSB. Santa Barbara, CA.  
 Department of Psychology, Cornell University. Ithaca, NY.
- 2013 Panel talk, 52<sup>nd</sup> Annual Meeting, American College of Neuropsychopharmacology. Hollywood, FL.  
 Symposium, 68<sup>th</sup> Annual Scientific Convention, Society of Biological Psychiatry. San Francisco, CA.  
 Optogenetics 2013: Neuronal Function to Mapping & Disease Therapeutics. Waltham, MA.  
 Langley-Porter Neuroscience Seminar, UCSF. San Francisco, CA.
- 2012 2nd Annual Research Symposium, Stanford University Postdoctoral Association  
 Neuroscience Institute, New York University Langone Medical Center. New York, NY.  
 Department of Biomedical Engineering, Johns Hopkins University. Baltimore, MD.  
 Center for Neural Science, New York University. New York, NY.  
 Department of Neurobiology and Behavior, Cornell University. Ithaca, NY.  
 Department of Psychology, University of Arizona. Tucson, AZ.  
 Panel talk, Winter Conference on Brain Research. Snowbird, UT.  
 Department of Psychiatry, University of Pittsburgh. Pittsburgh, PA.
- 2011 Panel talk, American College of Neuropsychopharmacology. Waikoloa Beach, HI.  
 Panel talk, Association for Research in Nervous and Mental Disease. New York, NY.  
 Press Conference at Neuroscience 2011. Washington, DC.  
 Anxiety and Depression: 21<sup>st</sup> Neuropharmacology Conference. Falls Church, VA.

## Professional Service and Activity

2022-2026	Permanent Member, NIH Study Section: Learning, Memory, and Decision Neuroscience
2022-2023	Program Committee, Cosyne. Montreal, CA.
2021	Ad Hoc Member, NIH Study Section: Learning, Memory, and Decision Neuroscience
2021-present	Member, Federation of European Neuroscience Societies
2021-present	Member, European Brain and Behaviour Society
2021	Ad Hoc Member, NIH Study Section: BRAIN Initiative Advanced Postdoctoral Career Transition Awards to Promote Diversity (K99/R00)
2020-2021	Planning Committee, Allen Institute for Neural Dynamics. Seattle, WA.
2018	Ad Hoc Member, NSF CAREER Panel, Neural Systems Cluster. Alexandria, VA.
2018	Ad Hoc Member, NIH Study Section: Biobehavioral Regulation, Learning and Ethology
2016-2018	Program Committee, Cosyne. Salt Lake City, UT.
2016	Mail Reviewer, NIH Study Section: Neuroscience and Ophthalmic Imaging Technologies
2015-2016	Research Topic Editor, Frontiers in Systems Neuroscience
2015-present	Scientific Board, International Workshop on Technologies for Optogenetics. Lecce, IT.
2015	Grant Reviewer, Israel Science Foundation
2015-present	Member, Molecular Psychiatry Association
2014-2015	Abstract Reviewer, Cosyne. Salt Lake City, UT.
2011-present	Member, American Association for the Advancement of Science
1999-present	Member, Society for Neuroscience

## University and Departmental Service

2025-	Lab sponsor, Students Taking Advantage of Research (STAR) Lab, University of Arizona
2025-	Excellence in Graduate Student Mentor Award Committee
2025-2028	Research Senate, College of Medicine – Phoenix, University of Arizona
2025-2026	Faculty Search Committee, Department of Translational Neurosciences, University of Arizona
2025-present	Curriculum committee, Clinical Translational Sciences graduate program, University of Arizona
2025	Lab sponsor, Keep Engaging Youth in Science (KEYS) Research Internship, University of Arizona
2025	Faculty Search Committee, Neurosurgery Chair, University of Arizona
2024-present	Graduate Student Admissions and Recruitment Committee, Graduate Interdisciplinary Program in Neuroscience, University of Arizona
2024-present	Appointment, Promotion and Tenure Committee, Translational Neurosciences, University of Arizona
2024-present	MD/PhD Candidate Interviewer, Clinical Translational Sciences Program, University of Arizona
2022	Lab sponsor, Leadership Program for Veterinary Scholars, Cornell University
2022	College of Agriculture and Life Sciences ‘Roadmap to 2050’ Committee, Cornell University
2021-2024	Neurobiology and Behavior Diversity and Inclusion Weekend, Tiers 1 & 2, Cornell University
2016	Primate Research Advisory Committee (invited discussant), Cornell University
2015-2016	Faculty Search Committee, Neurobiology and Behavior, Cornell University
2015-2024	Neurotech Advisory Board, Cornell University
2014-2015	Faculty Search Committee, Neurobiology and Behavior, Cornell University
2014-2015	Faculty Advisor, Women’s Club Soccer, Cornell University
2014-2024	Controlled Substances Officer (alternate), Neurobiology and Behavior, Cornell University
2013-2024	Graduate Admissions Committee, Neurobiology and Behavior, Cornell University

## Reviewer

Science; Nature; Cell; Neuron; Nature Neuroscience; Science Advances; Nature Medicine; Nature Communications; eLife; Cell Reports; Cell Reports Methods; Science Advances; Journal of Neuroscience; Biological Psychiatry; Neuropsychopharmacology; Journal of Neurophysiology; Frontiers in Behavioral Neuroscience; Behavioural Brain Research, Scientific Reports; Expert Review of Neurotherapeutics

## Teaching

2026	Systems Neuroscience (NRSC 560), University of Arizona
2025	Cellular, Molecular, and Neural Biology (CTS 555), University of Arizona
2025	Systems Neuroscience (NRSC 560), University of Arizona
2023	Emotions and the Body (BioNB 4200), Cornell

2023 Introduction to Neuroscience (BioNB 2220), Cornell  
 2023 Neural Circuits of Motivated Behavior (BioNB 4370), Cornell  
 2022 Introduction to Neuroscience (BioNB 2220), Cornell  
 2021 Neural Circuits of Motivated Behavior (BioNB 4370), Cornell  
 2021 Introduction to Neuroscience (BioNB 2220), Cornell  
 2021 Introductory Graduate Survey in Neurobiology and Behavior (BioNB 7210), Cornell  
 2020 Neuromodulation, brain states, and behavior (BioNB 4200), Cornell  
 2020 Introduction to Neuroscience (BioNB 2220), Cornell  
 2020 Introductory Graduate Survey in Neurobiology and Behavior (BioNB 7210), Cornell  
 2019 Neural Circuits of Motivated Behavior (BioNB 4370), Cornell  
 2019 Introduction to Neuroscience (BioNB 2220), Cornell  
 2019 Introductory Graduate Survey in Neurobiology and Behavior (BioNB 7210), Cornell  
 2018 Introduction to Neuroscience (BioNB 2220), Cornell  
 2018 Introductory Graduate Survey in Neurobiology and Behavior (BioNB 7210), Cornell  
 2017 Neural Circuits of Motivated Behavior (BioNB 4370), Cornell  
 2017 Introduction to Neuroscience (BioNB 2220), Cornell  
 2016 Neurotechnologies and Neural Circuits (BioNB 4200), Cornell  
 2016 Introduction to Neuroscience (BioNB 2220), Cornell  
 2015 Introduction to Neuroscience (BioNB 2220), Cornell  
 2015 Neural Circuits of Motivated Behavior (BioNB 4370), Cornell  
 2011 *Instructor*, Optogenetics Innovation Laboratory, Stanford  
 2010 *Instructor*, Optogenetics Innovation Laboratory, Stanford  
 2006 *Grader*. Statistics for Neuroscience Research (9.073J, HST.460J), MIT  
 2003 *Grader*. Discrete Stochastic Processes (6.262), MIT  
 2002 *Teaching assistant*. Neuroscience and Behavior (9.01), MIT  
 2002 *Teaching assistant*. Systems Neuroscience Laboratory (9.02), MIT  
 2000 *Teaching assistant*. Introduction to Psychology (9.00), MIT

### **Mentoring (graduate students, postdoctoral fellows, and research scientists/associates)**

2026- Kaitlin Webster, *rotation student*, Clinical Translational Sciences, University of Arizona  
 2025- Ivan Osnaya, *postdoctoral fellow*, Translational Neurosciences, University of Arizona  
 2025- Eric Ricci, *graduate student*, Neuroscience GIDP, University of Arizona  
 2025- Gokul Krishna, *research scientist*, Translational Neurosciences, University of Arizona  
 2025- Pamela Miranda, *postdoctoral fellow*, Translational Neurosciences, University of Arizona  
 2022-2023 Kristine Kolkman, *research associate*, Neurobiology and Behavior, Cornell  
 2022-2023 Chelsea Strawder, *graduate student*, Neurobiology and Behavior, Cornell  
 2021-2023 Cole Roland, *graduate student*, Neurobiology and Behavior, Cornell  
 2018-2022 Eileen Troconis, *graduate student*, DVM/PhD Program, Cornell  
 2017-2020 Brianna Sleezer, *postdoctoral fellow*, Neurobiology and Behavior, Cornell  
 2016-2020 Wenchao Gu, *postdoctoral fellow*, Neurobiology and Behavior, Cornell  
 2016-2019 Yuval Baumel, *postdoctoral fellow*, Neurobiology and Behavior, Cornell  
 2015-2019 David Bulkin, *postdoctoral fellow*, Neurobiology and Behavior, Cornell  
 2015-2021 Akash Guru, *graduate student*, Neurobiology and Behavior, Cornell  
 2015-2021 Yi-Yun Ho, *graduate student*, Neurobiology and Behavior, Cornell  
 2014-2020 Ryan Post, *graduate student*, Neurobiology and Behavior, Cornell  
 2014-2020 Changwoo Seo, *graduate student*, Neurobiology and Behavior, Cornell

### **Internal Thesis Committees**

2025- Emma Rose Buhman-Wiggs, *graduate student*, Wohlgemuth Lab, Neuroscience, University of Arizona  
 2022-2024 Jason Gao, *graduate student*, Goldberg Lab, Neurobiology and Behavior, Cornell  
 2019-2024 Nicole Bilotta, *graduate student*, Schaffer/Nishimura Lab, Biomedical Engineering, Cornell  
 2018-2023 Yuta Mabuchi, *graduate student*, Yapici Lab, Neurobiology and Behavior, Cornell  
 2018-2022 Aaron Mok, *graduate student*, Xu Lab, Biomedical Engineering, Cornell  
 2017-2024 Brendan Ito, *graduate student*, Goldberg Lab, Neurobiology and Behavior, Cornell  
 2017-2023 Caleb Vogt, *graduate student*, Sheehan Lab, Neurobiology and Behavior, Cornell  
 2017-2022 Caitlin Miller, *graduate student*, Sheehan Lab, Neurobiology and Behavior, Cornell

2017-2023 Andrea Roeser, *graduate student*, Goldberg Lab, Neurobiology and Behavior, Cornell  
2017-2021 Meiqi Wu, *graduate student*, Adie Lab, Biomedical Engineering, Cornell  
2017-2021 Chunyan Wu, *graduate student*, Xu Lab, Biological and Biomedical Sciences, Cornell  
2017-2019 Saumya Sahai, *graduate student*, Yapici Lab, Neurobiology and Behavior, Cornell  
2015-2021 Fei Xia, *graduate student*, Xu Lab, Applied and Engineering Physics, Cornell  
2015-2020 Yu-Ting Cheng, *graduate student*, Schaffer/Nishimura Lab, Neurobiology and Behavior, Cornell  
2015-2019 Vaida Rimeikyte, *graduate student*, Anderson Lab, Human Development, Cornell  
2015-2020 Ruidong Chen, *graduate student*, Goldberg Lab, Neurobiology and Behavior, Cornell  
2015-2020 Tejapratap Bollu, *graduate student*, Goldberg Lab, Neurobiology and Behavior, Cornell

### External Thesis Committees

2024 Solène Sautory, *graduate student*, Mainen Lab, Champalimaud Centre for the Unknown  
2024 Habon Issa, *graduate student*, Froemke Lab, Neuroscience, New York University.  
2022 Grace Paquelet, *graduate student*, Hen Lab, Neurobiology and Behavior, Columbia University  
2021 Dario Sarra, *graduate student*, Mainen Lab, Champalimaud Centre for the Unknown  
2017 Sweyta Lohani, *graduate student*, Moghaddam Lab, Center for Neuroscience, University of Pittsburgh

### Mentoring (visiting research students)

2022 Isabelle Towell, Leadership Program for Veterinary Scholars, Cornell

### Mentoring (medical students)

2026- Dominic Apel, *medical student*, University of Arizona

### Mentoring (undergraduates)

2021-2024 Raf Chocie, *undergraduate student*, Human Health, Biology, and Society, Cornell  
2019-2020 Alison Sin, *undergraduate student*, Neurobiology and Behavior, Cornell  
2019-2021 Brandon Carlson-Clarke, *undergraduate student*, Neurobiology and Behavior, Cornell  
2017-2020 Brittney Moncrieffe, *undergraduate student*, Neurobiology and Behavior, Cornell  
2017-2018 Cynthia Shen, *undergraduate student*, Neurobiology and Behavior, Cornell  
2016-2019 Durga Kullakanda, *undergraduate student*, Neurobiology and Behavior, Cornell  
2016-2018 Julia Schaffer, *undergraduate student*, Chemistry, Cornell  
2016-2017 Nicholas Krupa, *undergraduate student*, Neurobiology and Behavior, Cornell  
2016-2018 \*Mackenzie Lemieux, *undergraduate student*, Neurobiology and Behavior, Cornell  
\*Mika Salpeter Award for undergraduate research in Neurobiology  
2016-2018 Kyle Pellegrino, *undergraduate student*, Neurobiology and Behavior, Cornell  
2016-2018 Qiuwei Yang, *undergraduate student*, Neurobiology and Behavior, Cornell  
2016-2018 Vladlena Lee, *undergraduate student*, Neurobiology and Behavior, Cornell  
2015-2018 \*Kasey Han, *undergraduate student*, Neurobiology and Behavior, Cornell  
\*Robert Capranica Award for undergraduate research in Neuroethology  
2015-2017 \*Michelle Jin, *undergraduate student*, Neurobiology and Behavior, Cornell  
\*Mika Salpeter Award for undergraduate research in Neurobiology  
2015-2017 Priyanka Boddu, *undergraduate student*, Computer Science, Cornell  
2015-2016 Emika Lisberger, *undergraduate student*, Physics, Cornell  
2015-2016 Nicholas Ringelberg, *undergraduate student*, Neurobiology and Behavior, Cornell  
2014-2016 Eli Wang, *undergraduate student*, Electrical & Computer Engineering, Cornell  
2014-2016 Jungsoo Kim, *undergraduate student*, Biological Engineering, Cornell  
2014-2015 Christina Boada, *undergraduate student*, Neurobiology and Behavior, Cornell

### Mentoring (high school students)

2025-2026 Shivani Satheeshkumar, KEYS and STAR Lab research internships, University of Arizona