

SARA WASSERMAN, PHD

Associate Professor of Neuroscience with Tenure
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APPOINTMENTS

2024 - present Associate Professor with tenure, Neuroscience Department, Wellesley College
2022 - 2026 Assistant Researcher, Department of Integrative Biology & Physiology, UCLA
2018 - 2024 Kresa Family Assistant Professor of Neuroscience, Wellesley College
2017 - 2024 Visiting Researcher, Department of Biology, Brandeis University
2017 - 2021 Summer Scientist, Department of Integrative Biology & Physiology, UCLA
2016 - 2018 Assistant Professor of Neuroscience, Wellesley College
2002 - 2004 The John Thomas Dye School, associate history and science (upper school) and lead science (for grades 1-4) teacher

EDUCATION AND TRAINING

2010 - 2016 Howard Hughes Medical Institute (HHMI) Postdoctoral Fellow
Department of Integrative Biology & Physiology, UCLA - Frye Lab

2004 - 2010 Ph.D., Molecular and Cell Biology, Brandeis University - Sengupta Lab
Dissertation Title: *The molecular and physiological basis of thermosensory behaviors in C. elegans*. Thesis Committee: Dr. Piali Sengupta, Dr. Michael Rosbash, Dr. Paul Garrity, and Dr. Aravi Samuel

2004 M.A., Program in Education, Pepperdine University

2002 B.A., Neuroscience and Theater Studies, Wellesley College

AWARDS

2017 Gordon Research Conferences (GRC) PUI Award to attend 2017 GRC Neuroethology Meeting
2016 The International Society for Neuroethology Young Investigator Awardee
2015 The Journal of Experimental Biology Traveling Fellowship
2013 UCLA Department of Neurobiology, Sawyer Travel Award
2012 Society for Neuroscience, Postdoctoral Scholar Travel Award Finalist
2012 UCLA Society for Neuroscience, Postdoctoral Scholar Travel Award Nominee
2007 - 2010 Individual Predoctoral Ruth L. Kirschstein National Research Service Award (NINDS)
2004 - 2007 National Institute of Health Institutional Training Grant for Genetics, Brandeis University
2001 National Science Foundation (REU) Grant Recipient for summer research, Wellesley College

EXTRAMURAL PROFESSIONAL ACTIVITIES

2022 National Science Foundation Grant Review Panelist - Division of Integrative Organismal Systems
2021 National Science Foundation Grant Review Panelist - Division of Integrative Organismal Systems
2020 - present Review Editor for *Frontiers in Neural Circuits*

EXTRAMURAL PROFESSIONAL ACTIVITIES CONTINUED

2016 - 2021	Executive Committee Early Career Representative, International Society for Neuroethology
2020	Early Investigator Awards Symposium for The International Congress of Neuroethology Meeting, Co-organizer
2019	Neuroethology Gordon Seminar, Invited Discussion Leader, West Dover, VT
2019	Neuroethology Gordon Research Conference, Invited Discussion Leader, West Dover, VT
2018	Invited chair of motor systems symposium session (Oral Session 6), International Congress of Neuroethology, Brisbane, Australia
2018	Co-chair of Career Development Panel, International Congress of Neuroethology, Brisbane, Australia
2018 - 2019	Biology Department Advisory Board, Fisher College, Boston, MA
2018 - present	National Science Foundation, Division of Integrative Organismal Systems, grant reviewer
2018	Invited early career representative to International Congress of Neuroethology Nominations Committee
2017	Elected Young Investigator Representative to International Congress of Neuroethology
2016	Chair of Mini Symposium, Neuronal Circuits Driving Behavior: Invertebrates to Vertebrates. Society for Neuroscience annual meeting, San Diego, CA, 2016. List of participants here .
2016	National Science Foundation Grant Review Panelist - Improving Undergraduate STEM Education
2016	Placester Live Podcast Panelist, Boston, MA

INTRAMURAL PROFESSIONAL ACTIVITIES

Departmental

2022	Diversity Liaison for Neuroscience Tenure Track Search Committee
2021 - present	Co-chair of Social Committee (planning events for student and faculty engagement)
2017	Chair of subcommittee on program and course learning objectives, Neuroscience Department

Science Center

2025	Co-director Summer Research Program
2021 - 2025	Elected to the Wellesley College Science Center Brachman Hoffman-Staley Committee

College

2024 - 2025	Academic Review Board
2021 - 2024	Career Education Advisory Committee
2020 - 2021	Elected tenure track representative to the Wellesley College <i>Ad hoc</i> Committee on the 2020- 2021 Academic Program
2019 - present	Wellesley College Albright Institute Faculty Advisory Committee
2018 - 2019	Wellesley College Task Force on Free Speech and Inclusion
2017 - 2019	Career Education Advisory Committee, Faculty Chair for 2018 - 2019

MANUSCRIPT REFEREE

Current Biology	Scientific Reports	eLife
Journal of Comparative Physiology A	Fly	
Genetics	BioEssays	
PLoS ONE	Frontiers in Neural Circuits	

GRANTS AWARDED (EXTRA- AND INTRAMURAL)

Extramural

2020 - 2025	NSF - IOS #2016188; RUI: State-dependent modulation of visuomotor reflexes across <i>Drosophila</i> Species (\$638,084), PI
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Intramural

2018	Educational Research and Development Award for development of problem-based learning video modules for NEUR 100 (\$3,000), Wellesley College
2018	Course (NEUR 310) selected as a Maurer Public Speaking Course, Wellesley College
2016 & 2017	Supplementary Travel for invited conference presentations (\$3,000), Wellesley College

PUBLICATIONS

Current or former undergraduate authors: underlined; Corresponding author(s): *; Equal contribution: **; High School Student: #

Peer-Reviewed Research Articles:

Daniela Limbania, Crystal Zhu, Mathias Wernet, Mark Frye, Sara M Wasserman*. Dehydrated *Drosophila melanogaster* alter the valence of a visual indicator of water in tethered flight. *In Preparation*.

Martha Rimniceanu, Daniela Limbania, **Sara M. Wasserman**, Mark A. Frye. Divergent visual ecology of *Drosophila* species drives object tracking strategies matched to landscape sparsity. *Current Biology*. Accepted August 2024.

Jessica Yano**, Ceazar Nave**, Katherine Larratt, Phia Honey, Cassandra Jingco, Makayla Roberts, Damion Trotter, Xin He, Gazmend Elezi, Julian P. Whitelegge, Sara Wasserman, Jeffrey M. Donlea. (2024). Elevated sleep need in a stress-resilient *Drosophila* species. *Current Biology*. 34(1-15). (* Co-first authors)

Daniela Limbania, Grace Turner, and **Sara Wasserman*** (2023). Dehydrated *Drosophila melanogaster* track a water plume in tethered flight. *iScience*. 26(3):106266.

Curra, J.P., Frazier, R.E, **Wasserman, S.***, and Theobald, J.C.* (2021). Acuity and summation strategies differ in vinegar and desert fruit flies. *iScience*. 25(1):103637. (*Co-Senior and Co-Corresponding authors)

Park E and **Wasserman S*** (2018). Diversity of Visuomotor Reflexes in Two *Drosophila* Species. *Current Biology*. 28(16):R865-R866.

Wasserman S**, Aptekar JW**, Lu PM, Nguyen J, Wang AL, Keles MF, Grygoruk A, Krantz DE, Larsen C, Frye MA* (2015). Olfactory neuromodulation of motion vision circuitry in *Drosophila*. *Current Biology*. 25(4):467-472. [Covered in Current Biology Dispatch](#)

Wasserman S, Salomon A#, and Frye MA* (2013). *Drosophila* tracks Carbon Dioxide in Flight. *Current Biology*. 23(4):301-306. [Covered in Outside JEB](#)

Wasserman S, Lu P, Aptekar JW, and Frye MA* (2012). Flies dynamically track, rather than ballistically escape, aversive odor during flight. *J. Exp. Biol.* 215, 2833-2840. [Covered in Inside JEB](#)

Wasserman S, Beverly M, Bell H, and Sengupta P* (2011). Regulation of Response Properties and Operating Range of the AFD Thermosensory Neurons by cGMP Signaling. *Current Biology*. 21(5):353-362.

van der Linden AM, Beverly M, Kadener S, Rodriguez J, **Wasserman S**, Rosbash M and Sengupta P* (2010). Genome-Wide Analysis of Light- and Temperature-Entrained Circadian Transcripts in *Caenorhabditis elegans*. *PLoS Biol.* 8(10): e1000503.

Biron D**, **Wasserman S****, Thomas JH, Samuel ADT, and Sengupta P* (2008). An olfactory neuron responds stochastically to temperature and modulates *Caenorhabditis elegans* thermotactic behavior. *PNAS*. 105(31):11002-11007.

Biron D, Shibuya M, Gabel C, **Wasserman S**, Clark DA, Brown A, Sengupta P*, and Samuel ADT* (2006). A diacylglycerol kinase modulates long-term thermotactic behavioral plasticity in *C. elegans*. *Nat. Neurosci.* 9(12):1499-505.

PUBLICATIONS

Current or former undergraduate authors: underlined; Corresponding author(s): *; Equal contribution: **; High School Student: #

Peer-Reviewed Perspectives and Invited Commentaries:

Jessleen K. Kanwal**, Emma Coddington**, Rachel Frazer, Daniela Limbania, Grace Turner, Karla Davila, Michael A. Givens, Valarie Williams, Sandeep Robert Datta, **Sara Wasserman*** (2021). Internal state: dynamic, interconnected communication loops distributed across the body, brain, and time. *Integrative and Comparative Biology*. 61(3):867-886.

Wasserman S* and Frye MA* (2015). Group Behavior: Social Context Modulates Behavioral Responses to Sensory Stimuli. *Current Biology*. 25(11):R467-R469. (Not Peer Reviewed)

Articles in Edited Volumes:

Kim L. Hoke, Nicholai Hensley, Jessleen K. Kanwal, **Sara Wasserman**, and Nathan I. Morehouse (2021). Spatio-Temporal Dynamics in Animal Communication: A Special Issue Arising from a Unique Workshop-Symposium Sequence. *Integrative and Comparative Biology*. 61(3):783-786. (Not Peer Reviewed)

PUBLISHED ABSTRACTS

Current or former undergraduate authors: underlined; Presenter(s): **bold**; Equal contribution **: High School Student: #

Daniela Limbania, Crystal Zhu, Grace Turner, and Sara M. Wasserman. Acute water deprivation differentially alters the perception of hygrosensory and visual cues that support in-flight hygrotaxis behavior across *Drosophila* species. Society for Neuroscience annual meeting, San Diego, CA, 2022.

Kanwal, J, Davila, K, Frazer, R, Givens, M, Castro Perez, DL, Turner, G, **Coddington, E**, **Wasserman, S**. Internal state: bidirectional brain-body axes of communication. Society for Integrative and Comparative Biology, Held Virtually, 2021.

Currea, JP, Frazer, R, Theobald, JC, and Wasserman, S, Currea, Joh. Using Microscopic or MicroCT Images to Measure Compound Eye Optics. Society for Integrative and Comparative Biology, Austin, TX, 2020.

Frazer, R.E., Currea, J.P., Theobald, J.C., and Wasserman, S.W. Anatomical and behavioral differences in *Drosophila melanogaster* and *Drosophila mojavensis* suggest divergence of visual circuits. Society for Integrative and Comparative Biology, Austin, TX, 2020.

Frazer, R.E., Currea, J.P., Theobald, J.C., and Wasserman, S.W. Anatomical and behavioral differences in *Drosophila melanogaster* and *Drosophila mojavensis* suggest divergence of visual circuits. The Annual Biomedical Research Conference for Minority Students, Anaheim, CA, 2019. (Winner for best presentation award)

Crystal Zhu, Isabel D'Alessandro, Grace Turner, and Sara Wasserman. Dehydration State Dependent Alterations in Humidity and Visual Perception Across *Drosophila* Species. Society for Neuroscience annual meeting, Chicago, IL, 2019.

Isabel D'Alessandro**, Emily J Park**, Sara Wasserman. Visuomotor Reflexes Differ Across *Drosophila* Species. Society for Neuroscience annual meeting, San Diego, CA, 2018.

Emily Park and **Sara Wasserman**. Diversity of Visuomotor Reflexes Seen in Two *Drosophila* Species. International Congress of Neuroethology. Brisbane, Australia, 2018.

Rachel Mernoff**, **Gace Turner****, Nadya Zolotova, Patrick Lu, Austin L. Wang, Mark Frye, and Sara M. Wasserman, Internal state modulates perception of visual and olfactory stimuli by *Drosophila melanogaster*, Society for Neuroscience annual meeting, Washington, DC, 2017.

Rachel Mernoff, Patrick Lu, Austin Wang, Mark Frye, and Sara Wasserman. Internal physiological state modulates saliency of visual and olfactory behaviors in *Drosophila melanogaster*, Neuroethology: Behavior, Evolution, and Neurobiology Gordon Research Conference, Les Diablerets, Switzerland, 2017.

Sara Wasserman, Nadya Zolotova, Austin Wang, Patrick Lu, and Mark Frye. Internal physiological state modulates visual and olfactory behaviors in *Drosophila*. Gordon Research Conference – Neuroethology: Behavior, Evolution & Neurobiology, Luca, Italy. 2015.

Sara Wasserman, Jacob W. Aptekar, Patrick Lu, Austin L. Wang, Jade Nguyen, David E. Krantz, Camilla Larsen, and Mark Frye, A novel class of visual motion detecting neurons in *Drosophila* integrates olfactory information. International Congress of Neuroethology, Sapporo, Japan, 2014.

Sara Wasserman, Alexandra Salomon#, Patrick Lu, and Mark Frye, In-flight olfactory feature detection. Cell Press Symposia: Genes, Circuits, and Behavior, Toronto, Canada, 2013.

Sara Wasserman, Daniel Malkin, and Mark Frye. *Drosophila* avoid CO₂ while walking and seek it out in flight. Society for Neuroscience, New Orleans, LA, USA, 2012.

Sara Wasserman, Alexandra Salomon#, Daniel Malkin, and Mark Frye. *Drosophila* track CO₂ in flight. Tenth International Congress of Neuroethology, College Park, MD, USA 2012.

Sara Wasserman, Patrick Lu, and Mark Frye. *Drosophila* anti-track an aversive odorant in flight. Gordon Research Conference - Neuroethology: Behavior, Evolution & Neurobiology, Easton, MA, USA, 2011.

INVITED/SELECTED RESEARCH SEMINARS, SYMPOSIA, & WORKSHOPS

2025	University of Missouri, Kansas City, Kansas City, MO
2024	University of Vermont, Department of Biology, Burlington, VT
2022	Christopher Newport University, Department of Neuroscience, Newport News, VA
2022	Selective Attention and State-dependency in Invertebrates, International Congress of Neuroethology, Lisbon, Portugal
2022	Co-organizer of selected workshops, <i>Spatiotemporal Dynamics of Communication</i> . Society for Integrative and Comparative Biology, Phoenix, AZ (Schedule of Events and Participants here)
2021	Worcester Polytechnic Institute, Biology and Biotechnology Department, Worcester, MA
2021	College of the Holy Cross, Department of Biology, Worcester, MA
2021	Skidmore College, Neuroscience Seminar Course, Saratoga Springs, NY
2021	Schreiner University, Harry Crate Speaker, Department of Biology, Kerrville, TX
2021	Co-chair and speaker: Spatiotemporal Dynamics of Communication Symposium, Society for Integrative and Comparative Biology, Held Virtually. List of participants here .
2020	Co-organized selected workshop on Spatiotemporal Dynamics of Communication, Society for Integrative and Comparative Biology, Austin, TX
2019	Harvard University, Center for Brain Sciences, Cambridge, MA
2019	Brown University, Fly Group Weekly Seminar, Providence, RI
2019	Bowdoin College, Biology Department & Neuroscience Program, Brunswick, ME
2019	Williams College, Biology Colloquium, Williamstown, MA
2017	University of Cincinnati, Department of Biological Sciences, Cincinnati, OH
2017	Association for Chemoreception Sciences, Bonita Springs, FL
2016	The <i>Drosophila</i> Meeting, San Diego, CA
2016	The International Congress of Neuroethology, Montevideo, Uruguay
2015	Harvey Mudd College, Claremont, CA
2013	Syracuse University (SU Advance), Syracuse, NY
2012	Claremont Colleges Intercollegiate Neuroscience Program, Claremont, CA

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

Society for Integrative and Comparative Biology
International Society for Neuroethology
Society for Neuroscience

PUBLIC LECTURES AND COMMUNITY OUTREACH

2021	Wellesley College Club of the United Kingdom
2020	Wellesley College Club of Denver, CO - <i>postponed due to COVID-19</i>
2020	Wellesley College Club of Hawaii
2019 & 2020	Harvard-Westlake Middle and High School, Los Angeles, CA
2019	Co-founded formal mentoring program for the International Society of Neuroethology
2019	Wellesley College Club of Pasadena, CA
2018	Wellesley College Club of Fairfield, CT
2018	Wellesley College Club of New Jersey
2018	Wellesley College Spring Open Campus Special Lecture: <i>Neuroscience and Decision Making</i>
2018	Seminar for secondary school teachers on Decision Making in the classroom, Brain Bee & International Congress of Neuroethology Conference, Brisbane, Australia
2018	Co-organized collaboration with Brain Bee at the International Congress of Neuroethology Meeting, Brisbane, Australia
2018 - 2021	Organized annual Afternoons of Neuroscience with Boston Prep High School
2018	Weston High School June Academy Class Speaker: <i>Empowering Women in Today's Society</i>
2018	Weston High Career Day Panelist and Research Presentation, Weston, MA
2017	Panelist for Yuvol Ron Event: <i>Music and the Brain</i> , Wellesley College
2017	Wellesley College Spring Open Campus Special Lecture: <i>Neuroscience and Decision Making</i>

PUBLIC LECTURES AND COMMUNITY OUTREACH CONTINUED

2017	Neuroscience Afternoon at Wellesley Middle School, Wellesley, MA
2016	Completed UCLA Entering Mentoring Training Course
2015	UCLA Brain Awareness Week - Lab Tours, Los Angeles, CA
2014	Summer Enrichment Pilot Program Presenter, Campbell Hall School, North Hollywood, CA
2014	Intel International Science and Engineering Fair Judge, Los Angeles, CA
2012 - 2013	STAR Education, Neuroscience curriculum development for elementary school teachers
2012	Professional Development Programming for elementary school teachers: <i>Neuroscience of memory and study skills</i> , Academy for Enriched Sciences
2012	Research presentation to AP Calculus BC class, Calabasas High School, Calabasas, CA
2012	Science Poster Day Dean's Prize Judge, UCLA

TEACHING EXPERIENCE & TRAINING

2025	NEUR 107X: The Emotional Brain, Wellesley College
2025 - present	NEUR 101: Introduction to Neuroscience - From Neurons to Clinic, Wellesley College
2021	Change Agent Training: Howard Hughes Medical Institute and The Science Museum of Minnesota
2021 - present	NEUR 200: Neurons, Networks, and Behavior
2017 - present	NEUR 100: Introduction to Neuroscience, Wellesley College
2016 - present	NEUR 300: Capstone Seminar, Wellesley College
2016 - present	NEUR 310: Neuroethology of Decision Making with Lab, Wellesley College
2011	Guest lecturer, UCLA, Comparative Animal Physiology
2009 & 2011	Invited lecture for NEURO 300 Seminar, Wellesley College
2010	Invited lecture on invertebrate thermotaxis behavior for UCLA, PhySci 270
2006	Graduate teaching assistant for Introductory Biology laboratory (Instructor: Judith Tsipis)
2005	Graduate teaching assistant for Introductory Cell Biology (Instructor: Neil Simister)
2002 - 2004	Elementary teacher - Developed and taught science curriculum for grades 1 to 3 and assistant taught grades 5 and 6 science and history. The John Thomas Dye School, Los Angeles, CA

PRESS & MEDIA

Amy Poehler's Smart Girls: [40 Smart Questions for Smart Girl Sara Wasserman, PhD](#)

Amy Poehler's Smart Girls: [How a Brain Makes Decisions & Neuroscience](#) (Experimenting with Megan Amram)