

SARA WASSERMAN, PHD

Kresa Family Assistant Professor of Neuroscience
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APPOINTMENTS

2018 - present	Kresa Family Assistant Professor of Neuroscience, Wellesley College
2022 - 2023	Assistant Researcher, Dept. of Integrative and Comparative Biology & Physiology, UCLA
2017 - 2024	Visiting Researcher, Department of Biology, Brandeis University
2017 - 2021	Summer Scientist, Dept. of Integrative and Comparative Biology & Physiology, UCLA
2016 - 2018	Assistant Professor of Neuroscience, Wellesley College

EDUCATION AND TRAINING

2010 - 2016	Howard Hughes Medical Institute (HHMI) Postdoctoral Fellow Department of Integrative and Comparative Biology, UCLA - Frye Lab
2004 - 2010	Ph.D., Molecular and Cell Biology, Brandeis University - Sengupta Lab Dissertation Title: <i>The molecular and physiological basis of thermosensory behaviors in C. elegans</i> . 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

2021	Neuroethology Gordon Research Conference, Invited Discussion Leader, West Dover, VT - <i>postponed to 2023 due to the COVID-19 pandemic</i>
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, 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, <i>Ad-hoc</i> reviewer
2018	Invited early career representative to International Congress of Neuroethology Nominations Committee
2017	Elected Young Investigator Representative to International Congress of Neuroethology
2016	Society for Neuroscience, Minisymposium Chair, San Diego, CA
2016	National Science Foundation, Improving Undergraduate STEM Education (IUSE) Panel Reviewer
2016	<i>Placester</i> Live Podcast Panelist, Boston, MA
2016 - 2021	Executive Committee Early Career Representative, International Society for Neuroethology

INTRAMURAL PROFESSIONAL ACTIVITIES

2021 - 2023	Elected tenure track representative to the Board of Appeals Committee
2021 - present	Elected to Brachman Hoffman-Staley Committee
2021 - present	Career Education Advisory Committee
2020 - 2021	Elected tenure track representative to the <i>Ad hoc</i> Committee on the 2020- 2021 Academic Program
2019 - present	Albright Institute Faculty Advisory Committee
2018 - 2019	Task Force on Free Speech and Inclusion
2017	Chair of subcommittee on program and course learning objections, Neuroscience Program
2017 - 2019	Career Education Advisory Committee, Faculty Chair for 2018 - 2019
2016 - present	Academic Council

MANUSCRIPT REFEREE & EDITORIAL BOARD *

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

GRANTS AWARDED (EXTRA- AND INTRAMURAL)

2020 - 2024	NSF - IOS #2016188; RUI: State-dependent modulation of visuomotor reflexes across <i>Drosophila</i> Species (\$638,084)
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

INVITED/SELECTED RESEARCH SEMINARS, SYMPOSIA, & WORKSHOPS

2022	Co-organizer of selected workshops, "Spatiotemporal Dynamics of Communication". Society for Integrative and Comparative Biology, Phoenix, AZ (Schedule of Events and Participants here)
2021	Worcester Polytechnic Institute, Worcester, MA
2021	College of the Holy Cross, Worcester, MA
2021	Skidmore College, Saratoga Springs, NY
2021	Harry Crate Speaker, Schreiner University, 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	International Congress of Neuroethology, Lisbon, Portugal - <i>postponed to 2022 due to the COVID-19</i>
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, Brunswick, ME
2019	Williams College, Williamstown, MA
2017	University of Cincinnati, Cincinnati, OH
2017	Association for Chemoreception Sciences, Bonita Springs, FL
2017	Sara Wasserman, 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	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

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
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: Neuroscience and Decision Making
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: "Empowering Women in Today's Society"
2018	Weston High Career Day Panelist and Research Presentation, Weston, MA
2017	Panelist for Yuvol Ron Event: Music and the Brain, Wellesley College
2017	Wellesley College Spring Open Campus Special Lecture: Neuroscience and Decision Making
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: Neuroscience of memory and study skills, Academy for Enriched Sciences
2012	Presentation to AP Calculus BC class, Calabasas High School, Calabasas, CA
2012	Science Poster Day Dean's Prize Judge, UCLA

PUBLICATIONS

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

Peer-Reviewed Journal Articles:

Currea, J.P., Frazer, 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.

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

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.

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.

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; Present(s): **bold**; Equal contribution **:; High School Student: #

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.

PUBLISHED ABSTRACTS CONTD.

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

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 *Drosophilamelanogaster* 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.

Sara Wasserman, David Biron, Matthew Beverly, ADT Samuel, and Piali Sengupta. Communication among neurons in a thermosensory circuit in *C. elegans*. Society for Neuroscience Annual Meeting, Washington, DC, USA 2008.

Sara Wasserman and David Biron, A.D.T Samuel, Piali Sengupta. A Novel GPCR in the AFD and AWC Neurons Contributes to Isothermal Tracking Behavior in *C. elegans*. 16th International *C. elegans* Meeting, Los Angeles, CA, USA, 2007.

Sara Wasserman, D. Biron, M. Shibuya, D.A. Clark, C. Gabel, A.D.T. Samuel, P. Sengupta. Modulation of Thermotactic Behavioral Plasticity in *C. elegans*. *C. elegans* Neurobiology Topic Meeting, Madison, WI, USA, 2006.

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

Society for Integrative and Comparative Biology
Faculty for Undergraduate Neuroscience
Sigma Xi
National Research Mentoring Network

International Society for Neuroethology
Society for Neuroscience
Genetics Society of America

TEACHING EXPERIENCE & TRAINING

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: Capstone Seminar, 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)

Wasserman SJ, Aptekar JWJ, 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](#)

Sara Wasserman, Alexandra Salomon#, and Mark A. Frye (2013). *Drosophila* tracks Carbon Dioxide in Flight. *Current Biology*. 23(4):301-306. (# High school student). [Covered in Outside JEB](#)

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