

YVETTE E. FISHER, PHD

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EDUCATION

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| Ph.D. Neuroscience , Stanford University | 2016 |
| B.S. Neuroscience , <i>summa cum laude</i> , University of California Los Angeles | 2009 |

RESEARCH

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| Postdoctoral Fellow , Dept. of Neurobiology, Harvard Medical School
Advisor: Dr. Rachel Wilson
Flexibility of visual inputs to a heading direction network in <i>Drosophila</i> | since June 2016 |
| Ph.D. Student , Stanford Neuroscience Graduate Program
Advisor: Dr. Thomas Clandinin
Cellular and circuit mechanisms of visual motion detection in <i>Drosophila</i> | 2010 – 2016 |
| Research Assistant , UCLA Neuropsychiatric Institute
Advisor: Dr. Michael Levine
Mechanisms of neuronal dysfunction in the basal ganglia | 2006 – 2010 |

HONORS & AWARDS

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| HHMI Hanna H. Gray Fellow | 2017 - present |
| David Potter Outstanding Postdoctoral Fellow (Neurobiology Dept., Harvard Medical School) | 2019 |
| Life Science Research Foundation (LSRF) HHMI Postdoctoral Fellowship - <i>declined</i> | 2017 |
| National Science Foundation (NSF) Graduate Fellow | 2011 - 2015 |
| Departmental Highest Honors Thesis (Neuroscience Major, UCLA) | 2009 |

PUBLICATIONS & PREPRINTS

- 15) **Fisher, Y. E.**, Lu, J. D'Alessandro, I. Wilson, R. I. (2019) Sensorimotor experience remaps visual input to a heading-direction network. *Nature*, doi:10.1038/s41586-019-1772-4
[Preview](#) by M Campbell & L Giocomo in *Nature*, doi:10.1038/d41586-019-03443-1
- 14) Isaacman-Back, J. Paik, K. C., Wienecke, C. F. R., Yang, H. H., **Fisher, Y. E.**, Wang, I. E., Ishida, I. G. Maimon, G. Wilson, R. I. Clandinin, T. R. (2019) SPARC: a method to genetically manipulate precise proportions of cells. *BioRxiv* doi: 10.1101/788679
- 13) Constance, W. D., Mukherjee, A., **Fisher, Y. E.**, Pop, S. Blanc, E., Toyama, Y., Williams, D. W. (2018) Neurexin and Neuroligin-based adhesion complexes drive axonal arborisation. *ELife* 7:e31659.
- 12) **Fisher, Y. E.** & Clandinin, T.R. (2017) Chapter 15: Combining Anatomy, Measurement and Manipulation of Neuronal Activity to Interrogate Circuit Function in *Drosophila*. In M. F. Wernet & A. Çelik (Eds.) *Decoding Neural Circuit Structure and Function* (pp. 371-391). Springer. 10.1007/978-3-319-57363-2.

- 11) **Fisher, Y. E.***, Yang, H. H.*, Isaacman-Beck, J., Xie, M., Gohl, D. M., Clandinin, T. R. (2017) FlpStop, a tool for conditional gene control in *Drosophila*. *ELife* 6: e22279 * equal contributions
Highlighted in Science Editor's Choice, 355, 6332 (1387-1388)
- 10) **Fisher, Y. E.***, Leong, J. C. S.*, Sporar, K., Ketkar, M. D., Gohl, D. M., Clandinin, T. R., Silies, M. (2015) A Class of Visual Neurons with Wide-Field Properties Is Required for Local Motion Detection. *Current Biology*, 25(3178-3189) * equal contributions
- 9) **Fisher, Y. E.***, Silies, M.*, Clandinin, T. R. (2015) Orientation Selectivity Sharpens Motion Detection in *Drosophila*. *Neuron* 88 (390-402) * equal contributions
- 8) Holley, S., Joshi, P., Parievsky, A. Galvan, L., Chen, J., **Fisher, Y. E.**, Huynh, M., Cepeda, C., Levine, M. (2015) Enhanced GABAergic Inputs Contribute to Functional Alterations of Cholinergic Interneurons in the R6/2 Mouse Model of Huntington's Disease. *eNeuro* 2015 10.1523
- 7) Esch, J.J., **Fisher, Y. E.**, Leong, J.C.S, Clandinin, T.R., (2015) Chapter 12: Genetic Pathways to Circuit Understanding in *Drosophila*. *Neural Tracing Methods, Tracing Neurons and Their connections*, 92(249-274)
- 6) Silies, M. S.* Gohl, D.*, **Fisher, Y. E.**, Freifeld, L., Clark, D., Clandinin, T. (2013) Modular Use of Peripheral Input Channels Tunes Motion-Detecting Circuitry. *Neuron*, 79(1), 111–12 * equal contributions
- 5) Andre, V. M., **Fisher, Y. E.**, Levine, M. S. (2011) Altered balance of activity in the striatal direct and indirect pathways in mouse models of Huntington's disease. *Frontiers in Systems Neurosci.* 5(46)
- 4) Andre, V. M., Cepeda, C., **Fisher, Y. E.**, Huynh, M. Bardakjian, N. Singh, S. Yang, X. W. Levine, M. (2011) Differential electrophysiological changes in striatal output neurons in Huntington's disease. *J. Neurosci*, 31(4):1170–1182.
- 3) Cummings, D. M., Andre, V. M., Uzgil, B. O., Gee, S. M., **Fisher, Y. E.**, Cepeda, C., Levine, M. S. (2009) Alterations in Cortical Excitation and Inhibition in Genetic Mouse Models of Huntington's Disease. *J. Neuroscience* 29 (33)10371-86
- 2) Andre, V., Cepeda, C., Cummings, D., Jocoy, E., **Fisher, Y. E.**, Yang, W., Levine M. S. (2009) Dopamine Modulation of Excitatory Currents in Striatum is Dictated by the Expression of D1 or D2 Receptors and Modified by Endocannabinoids, *Eur. J. of Neuroscience* 31(1) 14-28
- 1) **Fisher, Y. E.**, Andre, V., Cepeda, C., Levine, M. (2008) Dopamine-glutamate interactions at the forefront of schizophrenia research, Commentary on Wiedholz et al. 2008. *Cell Science Reviews*, 5:7-16.

PROFESSIONAL TALKS

Yale Neuroscience: Advanced Postdoc Extramural Series (SYNAPSES). **Selected speaker**, New Haven, CT (2019)
 Princeton Neuroscience Institute. **Invited seminar**, Princeton NJ (2019)
 Society for Neuroscience Nanosymposium: Learning and Memory: Genes and Signaling. *Chicago, IL* (2019)
 Broad Institute Next Generation in Biomedicine Symposium. **Nominated speaker**, Broad Institute, MA (2019)
 Structure and Function of the Insect Central Complex. *Janelia Research Campus, VA* (2018)
 HHMI Hanna H. Gray Fellows Orientation. *Chevy Chase, MD* (2017)
 Insect Vision: Cells, Computation, and Behavior. *Janelia Farm, VA* (2015)
 UC Santa Cruz Neuroclub. **Invited seminar**, Santa Cruz, CA (2015)

TEACHING & SERVICE

Neural Systems & Behavior (NS&B) Faculty , Marine Biological Laboratory	Summer 2018 & 2019
Conference organizer , Structure and Function of the Insect Central Complex	Fall 2018
HGWISE mentoring program	2017-present
Teaching Assistant, Molecular and Cellular Neurobiology (Stanford Bio 154)	Spring 2015
Stanford Neuroscience 7th grade Brain Day Lead Coordinator	2013 – 2014
Community Representative , Stanford Neuroscience Graduate Program	2011 – 2012
Stanford Neuroscience 7th grade Brain Day Instructor	2011 – 2015
Electrophysiology Teaching Assistant (Stanford Intensive Neuroscience “Boot Camp”)	Fall 2011