

YVETTE E. FISHER, PhD

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EDUCATION

Stanford University Ph.D. in Neuroscience	Stanford, CA 9/2010- 6/2016
University of California Los Angeles B.S. in Neuroscience (Summa Cum Laude)	Los Angeles, CA 9/2005- 6/2009

RESEARCH

Postdoctoral Fellow , Dept. of Neurobiology, Harvard Medical School Advisor: Dr. Rachel Wilson <ul style="list-style-type: none">Aim to dissect the contribution of neuronal biophysics and ion channel dynamics to the brain's encoding of the sensory environment.	Boston, MA June 2016 –
Visiting Researcher , European Neuroscience Institute - Göttingen Advisor: Dr. Marion Silies	Göttingen, Germany March - May 2016
Ph.D. Student , Stanford Neuroscience Graduate Program Advisor: Dr. Thomas Clandinin <ul style="list-style-type: none">Investigated the cellular and circuit mechanisms underlying visual motion detection in <i>Drosophila</i>.	Stanford, CA 2010 – 2016
Research Assistant , UCLA Neuropsychiatric Institute Advisor: Dr. Michael Levine <ul style="list-style-type: none">Investigated neurotransmission and neuromodulator function in healthy and diseased mammalian basal ganglia using Huntington's and Parkinson's disease transgenic mouse models.	Los Angeles, CA 2006 – 2010

HONORS AND AWARDS

HHMI Hanna H. Gray Fellow	2017-present
Life Science Research Foundation (LSRF) HHMI Postdoctoral Fellowship - declined	2017
National Science Foundation Graduate Fellow (GRFP)	2011- 2015
Departmental Highest Honors (UCLA Neuroscience Dept.)	2009
Outstanding Poster Presentation (UCLA Neuroscience Undergraduate Poster session)	2009
Deans Honor's list (UCLA)	2005 – 2009

PUBLICATIONS

- 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
- Research Highlight 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. Neurosci*, 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 Neurosci.* 31(1) 14-28
- 1.) **Fisher, Y. E.**, Andre, V., Cepeda, C., Levine, M. (2008) Dopamine-glutamate interactions at the forefront of schizophrenia research, *Cell Science Reviews*, Vol 5 No 1.

PRESENTATIONS - CONFERENCE ABSTRACTS

- **Fisher, Y. E.**, Lu, J., Wilson, R. I. (2018) Burst firing conveys visual signals to a heading direction circuit in *Drosophila*. (Talk) Structure and function of the Insect Central Complex. *Janelia Research Campus, VA*
- **Fisher, Y. E.**, Lu, J., Wilson, R. I. (2018) How visual landmarks update a heading direction circuit in *Drosophila*. (Poster) HHMI meeting. *Janelia Research Campus, VA*
- **Fisher, Y. E.**, Wilson, R. I. (2017) Burst Firing conveys visual signals to a heading direction circuit in *Drosophila*. (Talk & Poster) HHMI Hanna H. Gray Orientation / HHMI Investigator meeting. Chevy Chase, MD
- **Fisher, Y. E.**, Silies, M., Clandinin, T. R. (2015) Inhibitory Signaling shapes Correlation-type Elementary Motion Detection. *Insect Vision: Cells, Computation, and Behavior, Janelia Farm, VA* (Speaker)
- **Fisher, Y. E.**, Silies, M., Gohl, D. Clandinin, T. R. (2015) Cell-type specific control of gene function in the *Drosophila* visual system, *Gordon Research Conference: Dendrites: Molecules, Structure and Function, Ventura, CA.*
- **Fisher, Y. E.**, Silies, M., Clandinin, T. R. (2015) Circuit mechanisms of visual motion detection in *Drosophila*. *UCSC Neuroclub invited speaker, Santa Cruz, CA.*
- **Fisher, Y. E.**, Gohl, D. Clandinin, T. R. (2014) Cell-type specific control of gene function in *Drosophila melanogaster*, *Society for Neuroscience, Washington DC.*
- **Fisher, Y. E.**, Silies, M., Gohl, D., Clandinin, T. R. (2013) Towards a circuit level understanding of visual motion detection in *Drosophila*. *Insect Vision: Cells, Computation, and Behavior, Janelia Research Campus, VA*
- Silies, M. Gohl, D., **Fisher, Y. E.**, Clandinin, T. R. (2011) A forward genetic screen to identify neurons required for motion vision in *drosophila*. *Neurobiology of Drosophila, Cold Spring Harbor*

- Andre, V. M., **Fisher, Y. E.**, Bardakjian, N., Singh, S., Cepeda, C., Yang, W., Levine, M. S. (2010) Differential electrophysiological alterations in striatal output neurons in Huntington's disease. *Society for Neuroscience*.
- Joshi, P. R., **Fisher, Y. E.**, Levine, M. S. (2010) "Altered GABAergic function in striatal large cholinergic interneurons in the R6/2 mouse model of Huntington's disease". *Society for Neuroscience, San Diego*.
- **Fisher, Y. E.**, Andre V. M., Jocoy E. L, Cepeda, C., Levine, M. S. (2009) Dopamine modulation of GABA_A receptor-mediated currents in D1- and D2-receptor expressing medium-sized spiny neurons. *UCLA Neuroscience Undergraduate Poster Session*
- Cummings D. M. Gee, S. M. Andre, V. M. **Fisher, Y. E.**, Cepeda, C. Levine, M. S. (2009) "Increased probability of glutamate and GABA release at cortical synapses in the R6/2 mouse model of Huntington's disease". *Society for Neuroscience, Chicago*.
- Andre, V. M., Cepeda, C., Cummings, D. M., Jocoy, E. L., **Fisher, Y. E.**, 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". *Society for Neuroscience, Chicago*.

TEACHING & SERVICE

Conference organizer , Structure and Function of the Insect Central Complex	Fall 2018
Neural Systems & Behavior (NS&B) Faculty , Marine Biological Laboratory	Summer 2018
HGWISE mentoring program	2017-
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)	Fall 2011
<ul style="list-style-type: none"> ▪ Laboratory based "Boot Camp" for incoming Neuroscience Graduate Students 	

SKILLS & RELEVANT COURSEWORK

- 2-Photon Imaging, *in vivo* whole cell Electrophysiology, Confocal Microscopy, Immunohistochemistry, Drosophila transgenesis and genetics, Slice Electrophysiology, Molecular Biology

Programming Coursework (Stanford University)

Programming Abstractions (C++)	CS 106B, Winter 2014
Programming Methodology (Java)	CS 106A, Winter 2013
Analysis Techniques in MATLAB	NENS 230, Fall 2011