YVETTE E. FISHER, PHD

Yvette_Fisher@hms.harvard.edu | Boston, MA

EDUCATION

Stanford University — Stanford, CA
Ph.D. in Neuroscience — 9/2010- 6/2016

University of California Los Angeles — Los Angeles, CA
B.S. in Neuroscience (Summa Cum Laude) — 9/2005- 6/2009

RESEARCH

Postdoctoral Fellow, Dept. of Neurobiology, Harvard Medical School — Boston, MA
Advisor: Dr. Rachel Wilson — June 2016 –

- Aim to dissect the contribution of neuronal biophysics and ion channel dynamics to the brain's encoding of the sensory environment.

Visiting Researcher, European Neuroscience Institute - Göttingen — Göttingen, Germany
Advisor: Dr. Marion Silies — March - May 2016

Ph.D. Student, Stanford Neuroscience Graduate Program — Stanford, CA
Advisor: Dr. Thomas Clandinin — 2010 – 2016

- Investigated the cellular and circuit mechanisms underlying visual motion detection in *Drosophila.*

Research Assistant, UCLA Neuropsychiatric Institute — Los Angeles, CA
Advisor: Dr. Michael Levine — 2006 – 2010

- Investigated neurotransmission and neuromodulator function in healthy and diseased mammalian basal ganglia using Huntington's and Parkinson's disease transgenic mouse models.

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.,** 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.,** 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 Farm, VA*
- Silies, M. Gohl, D., **Fisher, Y. E.,** Clandinin, T. R. (2011) A forward genetic screen to identify neurons required for motion vision in drosophlia. 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 Huntinton'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 Huntinton'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

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

- Laboratory based "Boot Camp" for incoming Neuroscience Graduate Students