

## **Jessica A. Osterhout Ph.D.**

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### **Education**

University of California San Diego, La Jolla, CA, 2010 – 2015  
Ph.D. in Biological Sciences 12/2015, Area of Specialization: Developmental Neurobiology

University of Oregon, Eugene, OR, 2006 – 2010  
B.S. in Biology with an emphasis of Molecular and Cellular Biology, Chemistry minor, 06/2010

### **Fellowships and Awards**

Y. Eva Tan Postdoctoral Fellowship, beginning 12/2021-12/2022

Meselson Prize for “The most beautiful experiment of the year”, Molecular and Cellular Biology Department, Harvard University, 2021

NIH Pathway to Independence Award (K99/R00), 2020-2022

Best Poster Award, Ascona Circuits Meeting, 2019

Jane Coffin Childs Memorial Fund Postdoctoral Fellowship, 2016-2019

Damon Runyon Postdoctoral Fellowship, 2016 (declined)

National Science Foundation Graduate Research Fellowship, 2011-2015

Fine Science Tools Travel Award, 2012

GAANN fellowship, US Department of Education, 2010-2011

### **Research Training**

Postdoctoral Research: Department of Molecular and Cellular Biology, Harvard University, 01/2016-Present  
Research supervisor: Dr. Catherine Dulac

Area of study: The neural circuits controlling sickness behavior. *First project* links immune signaling to the circuits controlling the generation of fever and appetite suppression. First author manuscript in resubmission (see below). *Second project* aims to understand the switch between pro-social and anti-social behavior during acute infection. First submission projected for early 2022.

Doctoral Research: Department of Biological Sciences, University of California, San Diego, 02/2011-12/2015  
Research supervisor: Dr. Andrew D. Huberman.  
Area of study: Neural circuit development in the mouse visual system

Pre-doctoral Research: Institute of Neuroscience, University of Oregon, 09/2007-07/2010  
Research supervisor: Dr. Chris Q. Doe  
Area of study: Neuroblast self-renewal and cell polarity in the drosophila larval brain

### **Publications**

**Osterhout JA**, Kapoor V, Eichhorn SW, Vaughn E, Moore JD, Lui D, Lee D, DeNardo LA, Luo L, Zhuang X, Dulac C (*Nature, in press*). A preoptic neuronal population controls fever and loss of appetite during sickness.

Li Y, Mathis A, Grewe BF, **Osterhout JA**, Ahanonu B, Schnitzer MJ, Murthy VN, Dulac C (2017) Neuronal representation of social information in the medial amygdala of awake behaving mice. *Cell* (5): 1176-1190.

**Osterhout JA**, Nguyen PL, Yoshihara Y, Huberman AD (2015) Contactin-4 mediates axon-target specificity and functional development of the accessory optic system. *Neuron* (4): 855-57

**Osterhout JA**, El-Danaf RN, Nguyen PL, Huberman AD (2014) Birthdate and outgrowth timing predict cellular mechanisms of axon-target matching in the developing visual pathway. *Cell Reports* (8):1-12.

**Osterhout JA**, Josten N, Yamada J, Pan F, Wu SW, Nguyen PL, Panagiotakos G, Inoue YU, Egusa SF, Volgi B, Inoue T, Bloomfield SA, Barres BA, Berson DM, Feldheim DA, Huberman AD (2011) Cadherin-6 mediates axon-target matching in a non-image-forming visual circuit. *Neuron* (71):632-9.

Carney TD, Miller MR, Robinson KJ, Bayraktar OA, **Osterhout JA**, Doe CQ (2012) Functional genomics identifies neural stem cell sub-type expression profiles and genes regulating neuroblast homeostasis. *Dev Biol* (36):137-46.

## **Presentations**

Osterhout JA, Dulac C. The brain circuits controlling sickness. Tan-Yang Center Scientific Advisory Board meeting, 2021. Oral Presentation.

Osterhout JA, Dulac C. The neural circuits controlling sickness behaviors. Department of Molecular and Cellular Biology, Harvard University, 2020. Oral Presentation.

Osterhout JA, Eichhorn SW, Lee DS, Moore J, Zhuang X, Dulac C. A dedicated hypothalamic circuit controls fever induction during infection. Ascona Circuits Meeting, 2019. Poster presentation.

Osterhout JA, Dulac C. A dedicated circuit controls fever induction during infection. Jane Coffin Childs annual symposium, 2019. Oral Presentation.

Osterhout JA, Dulac C. Feeling sick? Blame your brain. Postdoc Science Café, 2018, Harvard University, Cambridge, MA. Oral Presentation.

Osterhout JA, Lee DS, Rubinstein N, Dulac C. Molecular and functional identification of fever-inducing neurons in mice. Jane Coffin Child's Memorial Fund Symposium, 2018, Boston, MA. Poster Presentation

Osterhout JA, Huberman AD. How do neurons know which target structures to connect to in the brain? Biological Sciences retreat, 2013, Lake Arrowhead, CA. Oral Presentation.

Osterhout JA, Multani P, Yoshiara Y, Huberman AD. Axon-target specificity in the accessory optic system is mediated by contactin-4. Society for Neuroscience annual conference, 2013, San Diego, CA. Poster Presentation.

Osterhout JA, Yoshihara Y, Huberman AD. Target recognition of direction selective retinal ganglion cells by

contacts. Society for Neuroscience annual conference, 2012, New Orleans, LA. Poster presentation.

Osterhout JA, Huberman AD. Mechanisms controlling axon-target matching of mammalian visual circuits. Neural Development Gordon Research Conference, 2012, Salve Regina University, RI. Poster presentation.

Osterhout JA, Huberman AD. Mechanisms of axon-target matching in the mammalian visual system. Neurodevelopment Interest Group Symposium, 2012, San Diego, CA. Oral Presentation.

### **Teaching and professional experience**

Teaching Fellow: Molecular basis of behavior, Harvard University, 2019  
Lead discussion of scientific papers, wrote and graded all exams and problem sets.

*Graduate Research Seminar Organizer:* Neurobiology series, Univ. of Calif., San Diego, 2014-2015  
Organized schedule of seminars and speakers, introduced speakers. Created format for speaker feedback.

*Teaching Assistant Instructor:* Biological Sciences, University of California, San Diego, 2014-2015  
Graduate teaching mentor: Trained, observed, evaluated PhD-level teaching assistants.

*Guest Lecturer:* Healthy and Diseased Brain, University of California, San Diego, 2015  
Designed and presented lecture material on general axon guidance mechanisms.

*Lead Teaching Assistant:* Healthy and Diseased Brain, University of California, San Diego, 2014  
Restructured course discussion section format; Organized/led TA group; contributed to course syllabus and exam questions.

*Guest Lecturer:* Healthy and Diseased Brain, University of California, San Diego, 2014  
Designed and presented lecture material on axon-target recognition.

*Teaching Assistant:* Bacteriology, University of California, San Diego, 2013,  
Led focused discussion sections using active-learning techniques

*Teaching Assistant:* Biochemical Techniques Laboratory, University of California, San Diego, 2012  
Led a guided laboratory for undergraduate students

*Guest Lecturer:* Advanced Placement Genetics laboratory, Southwest High School, San Diego, 2012  
Designed and led a *Drosophila* genetics lab for advanced high school biology students