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Education and Professional Training

2008-present	Postdoctoral training, Stanford University School of Medicine, Stanford, CA Mentor: Mark A. Krasnow, M.D., Ph.D.
2007	Postdoctoral training, The Rockefeller University, New York, NY Mentor: Cornelia I. Bargmann, Ph.D.
2006	University of California, San Francisco Ph.D. in Cell Biology (Tetrad Graduate Program) Mentor: Cornelia I. Bargmann, Ph.D.
2000	Harvard University, Cambridge, MA A.B., Magna Cum Laude in Biochemical Sciences Mentor: Donald Morisato, Ph.D.

Awards and Honors

1996-2000	Robert C. Byrd Honors Federal Scholarship
1996-1997	Harvard College Scholarship
1997-1999	John Harvard Scholarship
1999	Dean's Summer Research Award
2000	A.B., magna cum laude in Biochemical Sciences
2000-2001	University of California, San Francisco Nonresident Tuition Scholarship
2001-2004	National Science Foundation Graduate Research Fellowship
2001	Howard Hughes Medical Institute Predoctoral Fellowship Honorable Mention
2001	National Defense Science & Engineering Graduate Fellowship Finalist
2008-2009	Stanford University Dean's Postdoctoral Fellowship
2008-2011	Stanford Career Development Program in the Genetics & Genomics of Lung Diseases (NIH K12 Fellowship)
2009-2012	Helen Hay Whitney Postdoctoral Fellowship
2011-2013	NIH Pediatric Research Loan Repayment Program (NHLBI)

Publications

Chang A.J. and Morisato D. (2002) Regulation of Easter activity is required for shaping the Dorsal gradient in the *Drosophila* embryo. *Development* 129: 5635-45.

Gray J.M., Karow D.S., Lu H., **Chang A.J.**, Chang J.S., Ellis R.E., Marletta M.A., and Bargmann C.I. (2004) Oxygen sensation and social feeding mediated by a *C. elegans* guanylate cyclase homologue. *Nature* 430: 317-22.

Chang A.J., Chronis N., Karow D.S., Marletta M.A., and Bargmann C.I. (2006) A distributed chemosensory circuit for oxygen preference in *C. elegans*. *PLoS Biol* 4: e274.

Comment in Hoff, M. (2006) Multiple pathways give a no-frills nervous system a flexible oxygen response. *PLoS Biol* 4: e306.

Chang A.J. and Bargmann C.I. (2008) Hypoxia and the HIF-1 transcriptional pathway reorganize a neuronal circuit for oxygen-dependent behavior in *Caenorhabditis elegans*. *Proc Natl Acad Sci USA* 105: 7321-6.

Comment in Branicky, R.S. and Schafer W.R. (2008) Oxygen homeostasis: how the worm adapts to variable oxygen levels. *Curr Biol* 18: R559-60.

Zimmer M., Gray J.M., Pokala N., **Chang A.J.**, Karow D.S., Marletta M.A., Hudson M.L., Morton D.B., Chronis N., and Bargmann C.I. (2009) Neurons detect increases and decreases in oxygen levels using distinct guanylate cyclases. *Neuron* 61: 865-79.

Chang A.J., Ortega F.E., Riegler J., Madison D.V., and Krasnow M.A. (2014) Oxygen control of breathing by an olfactory receptor activated by lactate. *Nature*, revised manuscript.

Oral Presentations

Chang A.J. and Bargmann C.I. (2005) "Integrated sensory signaling regulates oxygen sensation and preference." 15th International *C. elegans* Meeting. University of California, Los Angeles.

Chang A.J. and Bargmann C.I. (2006) "A distributed circuit for oxygen preference in *C. elegans*." Gordon Research Conferences: Genes and Behavior. Ventura, CA.

Chang A.J. and Bargmann C.I. (2006) "Regulation of a distributed circuit for oxygen preference." *C. elegans* Neuroscience Conference. University of Wisconsin, Madison.

Teaching Experiences

2002-present Mentor to rotation graduate students (6) at UCSF, Rockefeller, and Stanford
Supervised students on independent projects and mentored them on presentations and fellowship applications.

2001 Teaching Assistant, University of California, San Francisco
Taught molecular biology course for dental students. Responsibilities included assisting in faculty lectures, conducting large lecture style review sections, holding office hours, and writing and grading exams.

1997-1999 On-Call Tutor, Bureau of Study Counsel, Harvard University
Selected by faculty from several courses to tutor peers in biology and chemistry (inorganic, organic, and physical). Tutored one student in organic chemistry weekly for 2 semesters and other students on *ad hoc* basis for test preparation.

1996 Student Laboratory Assistant, Waksman Student Scholars Program, Rutgers University
Taught high school students laboratory techniques in molecular biology in preparation for yearlong independent research and assisted in administration of the program with both high school teachers and students.

References

Mark A. Krasnow, M.D., Ph.D.
Professor and Howard Hughes Medical Institute Investigator
Department of Biochemistry
Stanford University School of Medicine

Cornelia I. Bargmann, Ph.D.
Torsten N. Wiesel Professor and Howard Hughes Medical Institute Investigator
Lulu and Anthony Wang Laboratory of Neural Circuits and Behavior
The Rockefeller University

Daniel V. Madison, Ph.D.
Associate Professor
Department of Molecular and Cellular Physiology
Stanford University School of Medicine

David N. Cornfield, M.D.
Anne T. and Robert M. Bass Professor in Pediatric Pulmonary Medicine
Center for Excellence in Pulmonary Biology
Stanford University School of Medicine