Aaron Samuel Andalman

andalman@stanford.edu

Home Address:
76 Vicksburg St.
San Francisco, CA 94114
Mobile: (415) 637-3866

Work Address:
Stanford University
1050 Arastradero Rd. Bldg. B
Palo Alto, CA 94304

Education

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, SEPT 2002 – SEPT 2009
Doctor of Philosophy, Neuroscience. Department of Brain and Cognitive Science.
Thesis Committee: Michale Fee, PhD; Sebastian, Seung, PhD; Matt Wilson, PhD; Markus Meister, PhD, Harvard University.

RIKEN BRAIN SCIENCE INSTITUTE, TOKYO, JAPAN, JULY 2005 – AUG 2005
Summer Lecture Course, Neurobiology of Mental Disorders and the Mind.

STANFORD UNIVERSITY, SEPT 1995 – JUNE 1999
Bachelor of Science, Computer Science. GPA 3.9/4.0; Within Major 4.0/4.0.

OXFORD UNIVERSITY, STANFORD PROGRAM IN OXFORD, JAN 1998 – APR 1998
Tutorial in Architecture and Urban Design with John Stevenson, Deputy Head of School of Architecture, Oxford Brookes University.

Research Experience and Professional Positions

POST-DOCTORAL ASSOCIATE, STANFORD UNIVERSITY, JAN 2011 – PRESENT
Karl Deisseroth Laboratory. Researching learning and memory in the zebrafish using optical methods for imaging and manipulating neural activity.

POST-DOCTORAL ASSOCIATE, MIT, SEPT 2009 – AUG 2010
Michale Fee Laboratory. Studied the neural mechanisms of the consolidation of motor memory in songbirds.

GRADUATE STUDENT, MIT, JAN 2004 – SEPT 2009
Michale Fee Laboratory. Studied the function of basal ganglia-forebrain circuits in song learning using in-vivo awake-behaving electrophysiology with antidromic identification, localized pharmacological manipulation, electrical stimulation, tract-tracing and immunohistochemistry.

GRADUATE STUDENT, MIT, FEB 2003 – DEC 2004
Pawan Sinha Laboratory. Studied the capacity for visual learning following extended congenital blindness in humans using MEG, EEG and psychophysics.

ROTATION STUDENT, MIT, OCT 2002 – JAN 2003
Ted Adelson Laboratory. Studied the visual statistics of textures and their relevance for the perception of texture using machine learning and psychophysics.

SENIOR SOFTWARE ENGINEER, FINANCIAL ENGINES INC., OCT 1999 – JUNE 2002
Developed computer algorithms to optimize and simulate financial portfolios working closely with financial research team, including Nobel Laureate William Sharpe.

RESEARCH INTERN, XEROX PALO ALTO RESEARCH CENTER, JUNE 1999 – SEPT 1999
Eric Saund Laboratory. Used machine vision algorithms to extend interactive whiteboard functionality to include access to email and print services via recognition of magnetic command-icons.

RESEARCH ASSISTANT , CARNEGIE INSTITUTE GEOPHYSICAL LABORATORY, MAY 1994 – SEPT 1996
Robert Downs Laboratory. Created a software algorithm to predict the coordination number of atoms in crystals using electron density distributions.

AWARDS, HONORS & FELLOWSHIPS

Capranica Prize in Neuroethology, 2010.
Harold M. Weintraub Graduate Student Award, 2010.
Society for Neuroscience Chapter Graduate Travel Award, 2009.
Best Poster, Janelia Farms Research Conference, 2008.
McGovern Institute Graduate Fellowship, 2007-2008.
AAAS Program for Excellence in Science, 2006.
Angus MacDonald Award for Excellence in Undergraduate Teaching, 2006.
Phi Beta Kappa, 1999.
Tau Beta Pi, 1999.
Intel International Science and Engineering Fair, First Prize, 1995.
Central Intelligence Agency Engineering Achievement Award, 1995.
United Technology Science and Engineering Award, 1995.
National Science Foundation Research Grant, 1995-1996.

PUBLICATIONS

Anikeeva P*, **Andalman AS***, Witten IB, Warden MR, Goshen I, Grosenick L, Gunaydin LA, Frank LM, Deisseroth K (accepted). Optetrode: a multichannel readout for optogenetic control in freely moving mice. *Nature Neuroscience*.

Andalman AS*, Foerster JN*, Fee MS (2011). Control of vocal and respiratory patterns in birdsong: dissection of forebrain and brainstem mechanisms using temperature. *PLoS ONE* 6(9): e25461.

Andalman AS, Fee MS (2009). A basal ganglia-forebrain circuit in the songbird biases motor output to avoid vocal errors. *Proc Natl Acad Sci USA* 106: 12518-23.

Aronov D, **Andalman AS**, Fee MS (2008). A specialized forebrain circuit for vocal babbling in the juvenile songbird. *Science* 320: 630-4.

Ostrovsky Y, **Andalman AS**, Sinha P (2006). Vision following extended congenital blindness. *Psychology Science* 17(12): 1009-14.

Ölveczky B, **Andalman AS**, Fee MS (2005). Vocal experimentation in the juvenile songbird requires a basal ganglia circuit. *PLoS Biology* 3(5): e153.

Downs RT, **Andalman AS**, Hudacsko M (1996). The coordination numbers of Na and K atoms in low albite and microcline as determined from a procrystal electron-density distribution. *American Mineralogist* 81: 1344-9.

PROCEEDINGS

Andalman AS, Foerster JN, Fee MS (2010). Forebrain control of vocal and respiratory patterns in adult songbirds. Society for Neuroscience Abstract.

Andalman AS, Fee MS (2009). A basal ganglia-forebrain circuit in the songbird biases motor output to avoid vocal errors. Society for Neuroscience Abstract.

Andalman AS, Fee MS (2008). A novel method to probe the neural substrates of song learning. Janelia Farms Conference Abstract.

Andalman AS, Fee MS (2006). Spiking activity in Area X is not necessary for sensory motor acquisition during tutor exposure. Society for Neuroscience Abstract.

Andalman AS, Ölveczky B, Fee MS (2005). Output neurons of a basal-ganglia circuit exhibit highly variable firing patterns: a possible source of vocal exploration in juvenile songbirds. Society for Neuroscience Abstract.

Ölveczky B, **Andalman AS**, Fee MS (2005). Vocal experimentation in the juvenile songbird requires a basal ganglia circuit. Society for Neuroscience Abstract.

Ostrovsky Y, **Andalman AS**, Sinha P (2004). Acquisition of visual function after extended congenital blindness. Journal of Vision VSS Abstract.

Andalman AS, Sinha P (2003). The effects of scene clutter on the M170 face response. Journal of Vision VSS Abstract.

PRESENTATIONS

System Neuroscience Seminar, Janelia Farms, HHMI, July 2009.
Birdsong Workshop, Rockefeller University, July 2009.
McGovern Institute Retreat, MIT, June 2009.
Brain Lunch Graduate Seminar, MIT, April 2009.
Methods and Techniques Workshop, MIT, August 2006.
McGovern Institute Retreat, MIT, June 2006.
Brain Lunch Graduate Seminar, MIT, October 2005.
Plasticity Seminar, Picower Institute for Learning and Memory, MIT, May 2005.
McGovern Institute Retreat, MIT, June 2004.

TEACHING EXPERIENCE

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, SEPT 2003 – SEPT 2005
Teaching Assistant.
- 9.00: Psychology.
- 9.29: Computational Neuroscience.
- 9.12: Experimental Molecular Biology.

STANFORD UNIVERSITY, JAN 1997 – JAN 1998
Teaching Assistant.
- CS106: Programming Methodology and Abstraction.

EAST PALO ALTO TENNIS AND TUTORING, SEPT 1996 – JUNE 1997
- Tutored underprivileged elementary school students.

OTHER

PROGRAMMING
Matlab, Java, C, C++, Python and Tucker-Davis System 3 Real-time Signal Processing.

HOBBIES
Piano, Backpacking, Basketball, Tennis, Dance and iPhone App development.