PERSONAL STATEMENT

I have had a lifelong interest in disease and the brain. To foster a career spanning both these interests, I completed a dual degree M.D./Ph.D. program at Stanford University to become a physician-scientist. During my graduate training in Neurosciences at the top program in the country, I discovered and characterized three new visual areas in the human brain (e.g., Brewer et al., Nature Neuroscience 2005), made the first visual field map measurements with fMRI in macaque cortex (Brewer et al., Journal of Neuroscience 2002), and developed the proposal of visual field map clusters as a fundamental, organizing principle of human visual cortex (e.g., Brewer et al., Nature Neuroscience 2005; Wandell, Brewer, Dougherty, Phil Trans Roy Soc 2005; Wandell, Dumoulin, Brewer, Neuron 2007). I was also an instrumental member on several collaborative projects that characterized the variability of visual field maps in human posterior occipital cortex (Dougherty, Koch, Brewer, et al., Journal of Vision 2003) and investigated developmental plasticity in human rod monochromats (Baseler, Brewer et al., Nature Neuroscience 2002), cortical plasticity induced by retinal lesions in adult macaque (Smirnakis, Brewer et al., Nature 2005), and sight-recovery in adult human (Fine, Wade, Brewer, et al., Nature Neuroscience 2003). During my postdoctoral work at Stanford, I received training in diffusion tensor imaging (DTI) through a project investigating white matter changes in temporal lobe epilepsy and collaborated on a project using DTI to measure the inter-hemispheric connectivity of human primary visual cortex (Dougherty, Ben-Shachar, Bammer, Brewer, Wandell, PNAS 2005). To complement my neuroscience graduate and postdoctoral training, I simultaneously completed medical school with a concentration of clinical experiences in neurology and neurosurgery.

In my current position as an Assistant Professor at the University of California, Irvine, I am pursuing several lines of research arising from this training. My lab focuses on visual and multi-sensory neuroscience, using behavioral, genetic, and high resolution neuroimaging techniques to investigate questions ranging from the fundamental organization of human visual cortex, functional plasticity in visuomotor regions, and visual changes in dementia, to collaborative studies of human-robot social interactions and decision making and the organization of human auditory cortex.
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**Alyssa A. Brewer, M.D., Ph.D.**

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</tbody>
</table>
**BIOGRAPHICAL INFORMATION**

**Education**

<table>
<thead>
<tr>
<th>Date</th>
<th>Institution</th>
<th>Degree</th>
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<tr>
<td>9/1997 – 6/2007</td>
<td>Stanford University School of Medicine</td>
<td>M.D.</td>
</tr>
<tr>
<td></td>
<td>Dissertation: <em>Visual field map properties and plasticity in human and macaque cortex</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thesis Committee: Brian A. Wandell, Ph.D. (Advisor); William T. Mobley, M.D., Ph.D. (Chair); William C. Newsome, Ph.D.; Kalanit Grill-Spector, Ph.D.; Eric I. Knudsen, Ph.D.</td>
<td></td>
</tr>
<tr>
<td>6/1993 – 8/1993</td>
<td>University of California, Irvine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Summer Session: Intensive physics program (lectures &amp; labs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Departmental Honors in the Biological Sciences</strong></td>
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</tr>
<tr>
<td></td>
<td>Honors Thesis: <em>The role of the laterodorsal tegmentum in the induction and maintenance of REM sleep in freely-behaving rats.</em> Advisors: Craig C. Heller, Ph.D.; Dennis Grahn, Ph.D.</td>
<td></td>
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<tr>
<td></td>
<td><strong>Interdisciplinary Honors in the Humanities</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Honors Thesis: <em>The emergence of order and meaning from selected dynamic texts of Gertrude Stein.</em> Advisors: Marjorie Perloff, Ph.D.; Herbert Lindenberger, Ph.D.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>University Program for Honors High School Scholars: <em>Early college entrance program for advanced students during senior year of high school</em></td>
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</tr>
<tr>
<td></td>
<td>Courses: 1) Astronomy; 2) Brain and Behavior</td>
<td></td>
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**Positions and Employment**

<table>
<thead>
<tr>
<th>Year</th>
<th>Position</th>
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<tr>
<td>2007 – present</td>
<td>Assistant Professor, Department of Cognitive Sciences, University of California, Irvine</td>
</tr>
<tr>
<td>2005 – 2007</td>
<td>Postdoctoral Research Associate, Department of Psychology, Stanford University</td>
</tr>
<tr>
<td>2002</td>
<td>Teaching Assistant, Department of Psychology, Stanford University</td>
</tr>
<tr>
<td>2000 – 2001</td>
<td>Scientific Writing Tutor, Department of Biological Sciences, Stanford University</td>
</tr>
<tr>
<td>1999 – 2005</td>
<td>Research Assistant / Graduate Student, Neurosciences Program and Department of Psychology, Stanford University</td>
</tr>
</tbody>
</table>
Alyssa A. Brewer, M.D., Ph.D.

1999      Research Assistant, Department of Neurology, Stanford University, and AGY Therapeutics
1998 – 2001 The Honors Biology Writing Tutor for Honors Biology Thesis Writers, Department of Biological Sciences, Stanford University
1998      Teaching Assistant, Department of Surgery, Stanford University School of Medicine
1998      Medical Scholar, Department of Vascular Surgery and Biomechanical Engineering, Stanford University School of Medicine
1997 – 2001 Course Coordinator, Department of Biological Sciences, Stanford University
1995 – 1996 Research Assistant, Department of Biological Sciences, Stanford University
1994 – 1996 Researcher, Department of Comparative Literature, Stanford University
1993 – 1994 Research Assistant, Department of Radiation Oncology, Stanford University School of Medicine
1993 – 1996 Course Assistant, Department of Biological Sciences, Stanford University

**ACADEMIC AND PROFESSIONAL HONORS**

2015      2014 – 2015 The Dean’s Award for Outstanding Undergraduate Teaching, School of Social Sciences, University of California, Irvine
          The Dean’s award recognizes one outstanding undergraduate teacher for a commitment to inclusive excellence in teaching and dedication to higher education.
2014      2013-2014 Social Sciences Assistant Professor Research Award, University of California, Irvine
          ‘Audiovisual Processing: fMRI investigations into the relationships among human visual and auditory field maps.’
2012 – 2013 National Institutes of Health Loan Repayment Program Scholar
          ‘Visual rehabilitation after stroke.’
2012      2011-2012 Social Sciences Assistant Professor Research Award, University of California, Irvine
          ‘Visual rehabilitation after stroke through perceptual learning paradigms: harnessing cortical plasticity for therapeutic interventions.’
2010 – 2012 National Institutes of Health Loan Repayment Program Scholar
          ‘The dorsal visual stream: Visual field maps and functional plasticity.’
2010      2009-2010 Social Sciences Assistant Professor Research Award, University of California, Irvine
          ‘Visual working memory in the human dorsal stream.’
2008 – 2010  National Institutes of Health Loan Repayment Program Scholar
  ‘Neuroimaging of human visual cortex in Posterior Cortical Atrophy and Alzheimer’s disease.’

2006  American Medical Association (AMA) Seed Grant Fellow
  ‘Post-ictal and inter-ictal diffusion tensor imaging in patients with temporal lobe epilepsy.’

2002-2006  National Institutes of Health M.D./Ph.D. Pre-doctoral NRSA Fellow
  ‘Human ventral occipito-temporal cortex.’

2002  First Place Poster: Stanford Medical Student Research Symposium, Stanford University
  ‘Reorganization of human cortical maps caused by photoreceptor abnormalities’

1998  Biological Sciences Excellence in Teaching Award, Stanford University
  Course Coordinator, Biology 44 – Undergraduate Biological Sciences Laboratory Core Course Series, Stanford University

1998  Gerbode Scholar, Stanford University School of Medicine
  ‘Quantitative assessment of human aortic blood flow in age-matched atherosclerotic and non-atherosclerotic subjects during moderate exercise in a 1.5T magnet.’

1996  Departmental Honors in the Biological Sciences, Stanford University
  ‘The role of the laterodorsal tegmentum in the induction and maintenance of REM sleep in freely-behaving rats.’

1996  Interdisciplinary Honors in the Humanities, Department of Comparative Literature, Stanford University
  ‘The emergence of order and meaning from selected dynamic texts of Gertrude Stein’ - An application of chaos theory to the investigation of the development of order and the creation of meaning in prose and poetry selections by Gertrude Stein.

1996  Biological Sciences Laura Weinstein Teaching Award and Grant, Stanford University
  Awarded to the top undergraduate teaching assistant ($1,965)

1995  Biological Sciences Excellence in Teaching Award, Stanford University
  Course Assistant, Biology 44 – Undergraduate Biological Sciences Laboratory Core Course Series, Stanford University

1995  Howard Hughes Medical Institute Summer Fellow, Stanford University
  ‘The role of the laterodorsal tegmentum in the induction and maintenance of REM sleep in freely-behaving rats.’
# RESEARCH ACTIVITIES

## Grant Awards, Fellowships, and Consulting

(04/17/2015: **$1,258,763** since start of career; **$1,151,472** since Asst. Professor)

### Under Review
- **National Science Foundation (NSF), Cognitive Neuroscience.**  
  ‘Mapping the rhythm of perception.’  
  Co-PI $998,360  
  Pending
- **National Science Foundation (NSF), Mathematical Biology Program.**  
  ‘Quantifying Retinotopic Mapping by Conformal Geometry.’  
  #1413417.  
  Co-PI $208,000  
  (Fees: $42,000 over 3 years)

### 8/1/2015 – 7/31/2018
- **Research and Travel Funds Award,** University of California, Irvine.  
  Society for Neuroscience Nanosymposium: ‘Auditory field maps beyond human primary auditory cortex.’  
  PI $1,100

### 7/1/2014 – 6/30/2017
- **2013-2014 Social Sciences Assistant Professor Research Award,** University of California, Irvine.  
  ‘Audiovisual Processing: fMRI investigations into the relationships among human visual and auditory field maps.’  
  Award recognizes research excellence accompanied by a strong research project proposal by a Social Sciences faculty member.  
  PI $5,000

### 7/2013 – 6/2012
- **Research and Travel Funds Award,** University of California, Irvine.  
  Optical Society for America Fall Vision Meeting, Houston, TX. Special Symposium: Measuring visual cortex without vision. ‘Cross-sensory activation of “clover leaf” clusters in human visual and auditory cortex.’  
  PI $1,100

### 9/1/2013 – 6/30/2017
- **National Science Foundation (NSF), Cognitive Neuroscience.**  
  Funded first submission and ranked #1 priority by NSF panel during the reduced science funding of the sequester.  
  Co-PIs: Gregory Hickok, Ph.D.; Kourosh Saberi, Ph.D., Dept. of Cognitive Sciences, UCI.  
  PI $475,958

### 7/2012 – 6/2013
- **Research and Travel Funds Award,** University of California, Irvine.  
  Society for Neuroscience Nanosymposium: Human Extrastriate Cortex: Imaging of Functional Organization. ‘Functional plasticity in
human occipito-temporal visual field map clusters: Adapting to reversed visual input.'

<table>
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<tr>
<th>Date</th>
<th>Award Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>7/2012 – 6/2013</td>
<td>National Institutes of Health Loan Repayment Program Scholar, ‘Visual rehabilitation after stroke.’ NIH salary supplement awarded to top research proposals to encourage outstanding health professionals to pursue biomedical/behavioral/social/clinical research careers.</td>
<td>$9,162.62</td>
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<tr>
<td>8/2012-7/2013</td>
<td>2011 - 2012 Social Sciences Assistant Professor Research Award, University of California, Irvine. ‘Visual rehabilitation after stroke through perceptual learning paradigms: harnessing cortical plasticity for therapeutic interventions.’ Award recognizes research excellence accompanied by a strong research project proposal by a Social Sciences faculty member.</td>
<td>$5,000</td>
</tr>
<tr>
<td>4/2012 – 3/2013</td>
<td>Translational Collaborative Discovery Grant Award, Institute for Clinical and Translational Science, University of California, Irvine. ‘Visual rehabilitation after stroke: harnessing cortical plasticity for therapeutic interventions.’ Co-PI: Steven C. Cramer, M.D., Depts. of Neurology and Anatomy &amp; Neurobiology, UCI.</td>
<td>$20,000</td>
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<td>5/2011</td>
<td>Social Sciences Faculty Desktop Computing Initiative Award, University of California, Irvine.</td>
<td>$1,495</td>
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<td>Date</td>
<td>Award</td>
<td>PI/Co-PI Amount</td>
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<tr>
<td>5/2010 – 4/2011</td>
<td><strong>2009-2010 Social Sciences Assistant Professor Research Award</strong>, University of California, Irvine. ‘Visual working memory in the human dorsal stream.’ Award recognizes research excellence accompanied by a strong research project proposal by a Social Sciences faculty member.</td>
<td>$1,500</td>
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<tr>
<td>7/2008 – 6/2010</td>
<td><strong>National Institutes of Health (NIH) Loan Repayment Program Scholar: ‘Neuroimaging of human visual cortex in Posterior Cortical Atrophy and Alzheimer’s disease.’</strong> NIH salary supplement awarded to top research proposals to encourage outstanding health professionals to pursue biomedical/behavioral/social/clinical research careers.</td>
<td>$46,584.93</td>
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<td>2006</td>
<td><strong>American Medical Association (AMA) Seed Grant</strong>, Stanford University. ‘Post-ictal and inter-ictal diffusion tensor imaging in patients with temporal lobe epilepsy.’ AMA encourages medical students, physician residents and fellows to enter the research field by supporting small research projects. Supervisor: Brian A. Wandell, Ph.D., Dept. of Psychology, Stanford University.</td>
<td>$2,340</td>
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<tr>
<td>1996</td>
<td><strong>Biological Sciences Laura Weinstein Teaching Award and Grant</strong>, Stanford University.</td>
<td>$1,965</td>
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</tbody>
</table>
Awarded to the top undergraduate teaching assistant.


**Howard Hughes Medical Institute Summer Fellowship**, Stanford University. ‘The role of the laterodorsal tegmentum in the induction and maintenance of REM sleep in freely-behaving rats.’

Supervisors: Craig Heller, Ph.D.; Dennis Grahn, Ph.D., Dept. of Biological Sciences, Stanford University.

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### Publications

- 04/17/2015: **2,344 total citations** per Google Scholar, 1397 since 2010, **H-index = 13, i10-index = 14**

- Pubs UCI#17-36 involve work since starting at UCI; pubs UCI#1-16 are from work before UCI. Pubs UCI#1-15 were included in my hiring evaluation.


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### Peer-Reviewed Journal Articles

| JA - In prep | B. Barton, J.H. Venezia, K. Saberi, G. Hickok, **A.A. Brewer**. Auditory field maps beyond human primary auditory cortex. |
| JA - In prep | B. Barton, J.H. Venezia, K. Saberi, G. Hickok, **A.A. Brewer**. Audiovisual Processing: fMRI investigations into the relationships between human visual and auditory field maps. |
| JA - In prep, invited | **A.A. Brewer**, B. Barton. ‘Maps of the Auditory Cortex.’ **Annual Review of Neuroscience**, due 09/2015; to be published pending review in 2016. (Invited and peer-reviewed) |
| JA-Under Revision | **A.A. Brewer**, L. Lin, B. Barton. Sustained Functional Plasticity can be Induced in Human Parietal Cortex with Adaptation to Reversed Visual Input. Under revision, post review for **Cerebral Cortex**. |
Paper was highlighted as one of the top 10 most viewed articles in Frontiers in Psychology in February and was featured on the Frontiers blog. (http://www.frontiersin.org/blog/Top_10_most_viewed_Psychology_research_articles_in_February_2014/693) 
**Invited submission** by special editor Prof. Mark Greenlee. *(invited and peer-reviewed)*
*See supporting documents for list of contributing authors.*

Articles are available at: http://www.frontiersin.org/Perception_Science/researchtopics/Visual_perception_and_visual_c/862
Impact Factor: 2.80 |
**Invited submission** by special editors Profs. KongFatt Wong-Lin and Kae Nakamura. *(invited and peer-reviewed)*

Articles are available at: http://www.frontiersin.org/Integrative_Neuroscience/researchtopics/Neurobiological_circuit_functi/844
Impact Factor: 2.00 |
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<tr>
<td>[UCI #28]</td>
<td><strong>Invited submission</strong> by Editor in Chief Prof. Seth Kunen for Special Issue on Advances in Cognitive Psychology (<em>invited and peer-reviewed</em>)</td>
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<td>Impact Factor: 0.98</td>
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<td>[UCI #26]</td>
<td>Impact Factor: 1.15</td>
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<td>[UCI #25]</td>
<td>Impact Factor: 9.81</td>
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<td>[UCI #22]</td>
<td><strong>Invited submission</strong> by editor Maggie Chen for Special Issue on Aging (<em>invited and peer-reviewed</em>)</td>
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<td>Impact Factor: 0.42</td>
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<td>[UCI #20]</td>
<td>Impact Factor: 1.35</td>
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<td>[UCI #18]</td>
<td><strong>Invited Dispatch</strong> by editor Geoffrey North (<em>invited and peer-reviewed mini-review about a paper and related 'hot topic' published in PNAS</em>)</td>
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<td>Impact Factor: 10.23</td>
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<tr>
<td>[UCI #16]</td>
<td><strong>Invited review</strong> by Neuron (<em>invited and peer-reviewed</em>)</td>
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<td>Impact Factor: 16.49</td>
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**PEER-REVIEWED BOOKS**

| **In prep** | **A.A. Brewer**, B. Barton. *(under contract)* *Cortical Plasticity in the Human Visual System*. Springer. |

**PEER-REVIEWED BOOK CHAPTERS**

| **Invited submission** | by eds. G. Hickok and S. Small *(invited and peer-reviewed)* |

Chapter is now at 217 downloads and is ranked as the most downloaded chapter in the book.

Invited submission by editors: Drs. T. Dorina Papageorgiou, George Christopoulos, Stelios Smirnakis. (invited and peer-reviewed)

≥1 citation

BC-18
[UCI #21]

doi:10.5772/51914.

Chapter was highlighted online for passing 1,000 downloads in 7/2013, is now at 1,914 downloads, and is ranked as the most downloaded chapter of the book.

Invited submission by InTech Publishers. (invited and peer-reviewed)
See supporting documents for list of contributing authors.

≥7 citations

BC-15
[UCI #17]


Invited submission by editor Prof. L. Squire (invited and peer-reviewed)

≥16 citations

PEER-REVIEWED CONFERENCE PROCEEDINGS

CP – Under Review


CP-26
[UCI #31]


Impact Factor: 0.24

Back to:  Top | Contents | Publications
BROADCAST MEDIA

2) [UCI #33] 'What is Reality?' - Part 1 of The Brain by Dr. David Eagleman - Exploration Into the Inner Cosmos. (Filmed 8/23/2014; To appear 4/2015). Publisher: PBS, produced by Blink Films. Featured scientists in Part 1: Alyssa A. Brewer, M.D., Ph.D., Brian Barton, Ph.D., and David Eagleman, Ph.D.

I was invited to contribute as a guest scientist to a landmark, 6 part series on the human brain filmed for PBS by Blink Films, a leading British television production company specializing in scientific, cultural and historical documentaries for international broadcast. My short-term [UCI #32] and long-term [in prep/submitted] prism visual-motor adaptation studies will be featured in the first hour-long segment entitled, 'What is Reality,' which discusses human perception. Filming of my visual adaptation work and of my discussions of human perception with series creator Dr. David Eagleman took place August 23, 2014, on UCI campus. The series will premiere in April, 2015, as part of the PBS “Think Wednesday” lineup.


TECHNICAL REPORTS


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CONFERENCE ABSTRACTS († PUBLISHED; * INVITED SPEAKER)


56) † D.E. Asher, A. Zaldivar, B. Barton, A.A. Brewer, J. Krichmar. (2011) The Effects of Neuromodulation on Human-Robot Interaction in Games of Conflict and Cooperation. *International Joint Conference on Neural Networks* (IJCNN), (San Jose, CA) p. 2087. doi:10.1109/IJCNN.2011.6033484. [CP, UCI# 19]


Alyssa A. Brewer, M.D., Ph.D.

**Goettingen Meeting of the German Neuroscience Society**, 33rd Goettingen Neurobiology Conference. *Invited Speaker.*


IN THE MEDIA – MEDIA COVERAGE OF RESEARCH AND PUBLISHED WORK

2015 'Study sheds new light on low-light vision.' School of Social Sciences News, University of California, Irvine.


2013 'The Sounds of Research: UC Irvine scientists probe hearing and speech from a variety of angles.' Orange County Register. September 30.


2010 'Teaching the Brain to See.' KQUED QUEST Radio Report. March 1. http://science.kqed.org/quest/audio/teaching‐the‐brain‐to‐see/


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**PROFESSIONAL ACTIVITIES**

**SERVICE: PROFESSIONAL**

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**PROFESSIONAL MEMBERSHIPS**

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<tr>
<th>Year</th>
<th>Membership Details</th>
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<tbody>
<tr>
<td>2014 – present</td>
<td>National Institutes of Health (NIH), Mechanisms of Sensory, Perceptual and Cognitive Processes (SPC) Study Section, <strong>Early Career Reviewer Panelist</strong></td>
</tr>
<tr>
<td>2013 – present</td>
<td>Member, Center for Cognitive Neuroscience and Engineering, University of California, Irvine</td>
</tr>
<tr>
<td>2013 – present</td>
<td>National Science Foundation (NSF) <strong>Peer Review Committee Panelist</strong></td>
</tr>
<tr>
<td>2013 – present</td>
<td>Member, Center for Hearing Research, University of California, Irvine</td>
</tr>
<tr>
<td>2012 – present</td>
<td>Member, Cognitive Neurosciences Society</td>
</tr>
<tr>
<td>2010 – 2013</td>
<td><strong>Elected Chair</strong>, Vision Division, Fall Vision Meeting, Optical Society of America</td>
</tr>
<tr>
<td>2010-2011</td>
<td>Member, International Society to Advance Alzheimer Research and Treatment</td>
</tr>
<tr>
<td>2010 – present</td>
<td>National Science Foundation Peer Review Committee, ad hoc reviewer</td>
</tr>
<tr>
<td>2009-2010</td>
<td><strong>Elected Vice-Chair</strong>, Vision Division, Fall Vision Meeting, Optical Society of America</td>
</tr>
<tr>
<td>2009 – present</td>
<td>Member, Optical Society of America</td>
</tr>
<tr>
<td>2008 – present</td>
<td><strong>Executive Committee Member</strong>, Center for Cognitive Neuroscience, University of California, Irvine</td>
</tr>
</tbody>
</table>
2002 – present  Member, Vision Sciences Society
2001 – present  Member, Society for Neuroscience
1997-2002  Member, American Medical Student Association

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CONFERENCES / SYMPOSIA

October, 2013  **Co-Chair:** Extrastriate Cortex: Computational Neuroimaging, Annual Conference, Society for Neuroscience.


July, 2012  **Co-Organizer:** Auditory Neuroscience Workshop: Towards a “Closed-Loop” Neuro-Computational Model of Speech Processing, University of California, Irvine


2010 – 2013  **Elected Chair,** Vision Division, Fall Vision Meeting, Optical Society of America.

2009-2010  **Elected Vice-Chair,** Vision Division, Fall Vision Meeting, Optical Society of America.

---

INVITED TALKS

13)  October, 2013  Neuroscience Seminar Series, The University of Texas at Austin
    ‘Clover Leaf’ Clusters and Functional Plasticity In Human Visual Cortex

12)  July, 2012  Auditory Neuroscience Workshop: Towards a “Closed-Loop” Neuro-Computational Model of Speech Processing, University of California, Irvine
    Human Cortical Auditory Field Maps

11)  February, 2012  Zhenjiang University of Technology Program, Extension Program, University of California, Irvine
    Visual Perception

10)  January, 2012  Neuroscience Seminar Series, Baylor College of Medicine, Houston, TX
    ‘Clover Leaf’ Clusters and Functional Plasticity In Human Visual Cortex

9)  August, 2011  Visiting Tibetan Scholar Seminar Series, University of California, Irvine
    Brain Disorders
8) August, 2011  INSIDE UCI: Freshman - Transfer Summer Start Series, University of California, Irvine
    *Visual Neuroscience*

7) April, 2011  Brain Mapping Symposium, University of California, Irvine
    *‘Clover Leaf’ Clusters in Human Visual Cortex*

6) February, 2010  The School of Social Science Expert Speaker Series, Inaugural Speaker, University of California, Irvine
    *Inducing plasticity in normal adult human cortex*

5) October, 2009  The School of Social Sciences Chancellor’s Club, University of California, Irvine
    *Inducing plasticity in normal adult human cortex*

4) February, 2008  San Francisco Museum of Modern Art, San Francisco, California
    *Take your time: Olafur Eliasson. Visual Illusions*

3) January, 2008  Center for Cognitive Neuroscience, University of California, Irvine
    *Visual Field Maps: from Properties to Plasticity in Human and Macaque Cortex*

2) January, 2006  Department of Cognitive Sciences, University of California, Irvine
    *Visual field map properties and plasticity*

1) December, 2005  Smith-Kettlewell Eye Research Institute, San Francisco, California
    *New subdivisions of the human VO cluster*

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**REVIEW ACTIVITY**

**JOURNALS**

♦ Frontiers Journal – Perception Science: *Editorial Board, Review Editor*


**GRANTS**

05/2015  *Grant Reviewer Panelist*, National Science Foundation (NSF)

04/2015  *Ad hoc* Grant Reviewer, Medical Research Council (MRC), United Kingdom

04/2015  *Grant Reviewer Panelist*, National Science Foundation (NSF)

10/2014  *Grant Reviewer Panelist*, National Science Foundation (NSF)
10/2014  **Grant Reviewer Panelist** *(ad hoc)*, Study Section – Mechanisms of Sensory, Perceptual and Cognitive Processes (SPC); Early Career Reviewer Program, National Institutes of Health (NIH)

5/2014  **Grant Reviewer Panelist**, National Science Foundation (NSF)

10/2013  **Grant Reviewer Panelist**, National Science Foundation (NSF)

2011 – present  *Ad hoc* Outside Grant Reviewer, National Institute of Health (NIH), for grants supported by the Institute for Clinical and Translational Science (ICTS) at the University of California, Irvine

2011 – present  *Ad hoc* Outside Grant Reviewer, Institute for Clinical and Translational Science (ICTS) at the University of California

2010 – 2011  *Ad hoc* Outside Grant Reviewer, National Science Foundation (NSF)

2009  Internal Grant Review Committee, Alzheimer's Disease Research Center – MIND Institute at the University of California, Irvine

2008 – present  Annual Reviewer, Alzheimer's Association

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**CONFERENCES**

2009 – 2013  Annual Reviewer, Optical Society of America, Fall Vision Meeting

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**SERVICE: CAMPUS, SCHOOL, AND DEPARTMENT**

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**CAMPUS**

**SOCIAL AND BEHAVIORAL INSTITUTIONAL REVIEW BOARD (IRB)**

1/2015 - 12/2016  **Vice Chair**, Social and Behavioral Institutional Review Board (IRB) Committee "C", University of California, Irvine

1/2015 - 12/2016  **Full member**, Social and Behavioral Institutional Review Board (IRB) Committee "E", University of California, Irvine


6/2011  Institutional Review Board: Association for Accreditation of Human Research Protection Program (AAHRPP) Site Visit, Faculty Participant, University of California, Irvine

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**OTHER**

8/ 2011  Building Your Career: A Discussion Panel, Transfer Student Summer Start Program, University of California, Irvine; **Invited Talk**: Career Planning

1/2011 – present  Internal and Extramural Grant Review Committee, Institute for Clinical and Translational Science at the University of California, Irvine

4/2009  Internal Grant Review Committee, Alzheimer's Disease Research Center at the University of California, Irvine

2/ 2008  Mesa Court Myth Busters, University of California, Irvine  
**Invited Talk**: Visual Neuroscience

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**SCHOOL**

5/2011  Panelist, Social Sciences Responsible Conduct of Research Seminar, University of California, Irvine

6/2008  Center for Cognitive Neuroscience Summer Fellowship Committee, University of California, Irvine

7/2007-present  Cognitive Neuroscience Concentration Committee, University of California, Irvine

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**DEPARTMENT**

9/2012 – 2/2013  Personnel Review Committee, Department of Cognitive Sciences, University of California, Irvine

5/2012 – 2/2013  Faculty Search Committee, Cognitive Sciences, University of California, Irvine

10/2010  Personnel Review Committee, Department of Cognitive Sciences, University of California, Irvine

5/2008  John I. Yellott Scholar Award Committee (Graduate student award), University of California, Irvine
STANFORD UNIVERSITY SCHOOL OF MEDICINE

2001-2002  Fifth Year Class Representative, Stanford Medical Student Association (SMSA), Stanford University School of Medicine

2000-2001  Class Secretary, Stanford Medical Student Association (SMSA), Stanford University School of Medicine

1997-1998  Admit Weekend Co-coordinator, Stanford University School of Medicine

SERVICE: COMMUNITY OUTREACH PROGRAMS

‘BRAIN DAY’ ELEMENTARY SCHOOL PROGRAMS

10/2010 – present  ‘Brain Science Assembly,’ Alyssa A. Brewer, Gregory Hickok, Jeffrey L. Krichmar

Assemblies at Bonita Canyon, University Park, Stone Gate, and Turtle Rock Elementary Schools to introduce local elementary fifth grade students to the topics and career of cognitive neuroscience.

11/2011  ‘Brain Day’ at Steve Luther Del Amo Elementary School; Cerritos, CA

Brewer Lab provided training in basic neuroscience in age-appropriate formats for several grades (K-2, 2-4, 4-6) by (1) introducing students to the organization of the brain; (2) discussing the brain’s importance and function; and (3) reviewing brain disease and damage.

GIRLS INC.


Tustin, CA.

Special presentation on the organization, functions, and diseases of the brain by the Brewer Laboratory of Visual Neuroscience for the 6th and 7th grade girls and families.

7/2012  Summer Workshop: Week-long session for Girls Inc. Summer Camp by the Brewer Laboratory of Visual Neuroscience on the organization, functions, and diseases of the brain. Costa Mesa, CA
Girls Inc. is a non-profit organization that inspires girls 6-18 across the U.S. and Canada to be strong, smart, and bold through life-changing programs and experiences that help girls navigate gender, economic, and social barriers. Girls Inc. develops research-based informal education programs to encourage girls to take risks and master physical, intellectual and emotional challenges. The majority of Girls Inc. centers are located in low-income areas and provide a weekly average of 30 hours of after-school, weekend and summer activities (http://www.girlsinc.org). The Brewer lab, with the help of graduate and undergraduate UCI students, is setting up ongoing, annual workshops with Girls Inc.

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### HIGH SCHOOL

2011 – 2012  **Research Assistant Outreach Program**

Lili Do - University High School, Irvine, CA  
Andrea Hagler - University High School, Irvine, CA

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### OTHER

1996 - 1998  Special liaison to The United States – Japan Goodwill Regatta

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### TEACHING ACTIVITIES

#### Teaching Positions

**INSTRUCTOR, UNIVERSITY OF CALIFORNIA, IRVINE**

2013 – present  Psychology 204ABC: Professional Development Seminar  
(graduate-level; course revision from Psych 260ABC)

(graduate-level; new course created)

2009 – present  Psychology 160D / Biological Sciences N165: Brain Disorders

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(upper division undergraduate-level; expansion of previously-created new course into Psych/Bio Sci cross-listing. Taught academic year and summer session, approx. 400 students enrolled per year)

2008 – present
Psychology 262: Functional Neuroanatomy
(graduate-level; revision of previously created new course)

2008 – 2010
Psychology 263ABC: Current Topics in Visual Neuroscience Research
(graduate-level; new course created)

2008 – 2009
Psychology 165: Brain Disorders
(upper division undergraduate-level; new course created)

2007 – 2008
Psychology 269: Functional Neuroanatomy
(graduate-level; new course created)

2007 – 2008
Psychology 269: Retinotopic Mapping and Diffusion Tensor Imaging
(graduate-level; new course created)

COURSE COORDINATOR, STANFORD UNIVERSITY

1997-2001
Course Coordinator, Biology 44 (core Biology Laboratory), Stanford University - Plant Physiology and Animal Behavior Laboratory Systems [The Course Coordinator designs and implements each lab system and teaches a quarter-long training course for the undergraduate and graduate Course Assistants for each lab system.]

Course Directors: Dr. Melanie Yelton & Dr. Shyamala Malladi, Lecturers in Biology.

Laboratories: 1) Animal Behavior; 2) Plant Physiology

TEACHING ASSISTANT, STANFORD UNIVERSITY

2002
Teaching Assistant, Psychology 202 – Cognitive Neuroscience, graduate-level
Instructor: Dr. Brian Wandell, Professor of Psychology and of Electrical Engineering, by courtesy.

2001
Guest Lecturer, Psychology 196 - Contemporary Issues and Research in Psychology: Proseminar for Advanced Psychology Majors, undergraduate-level
Instructor: Dr. Kalanit Grill-Spector, Assistant Professor of Psychology.

2001
Brain Day Speaker – Stanford Neuroscience students and faculty teach basic neuroscience to local middle school classes.

2000-2001
'Writing in the Major' Scientific Writing Tutor, Biology 44 (core Biology Laboratory), undergraduate-level
Course Directors: Dr. Melanie Yelton & Dr. Shyamala Malladi, Lecturers in Biology.

1998-2001
The Honors Biology Writing Tutor for Honors Biology Thesis Writers, undergraduate-level.
1998  Teaching Assistant, Human Gross Anatomy, Stanford University School of Medicine, medical/graduate-level Instructors: Larry Mathers, M.D., Ph.D.; Eric Glasgow, M.D.; Ian Whitmore, M.D.; John Gosling, M.D.; Robert Chase, M.D.

1996  Course Assistant, Human Behavioral Biology, upper division undergraduate-level Instructor: Dr. Robert Sapolsky, Professor of Biology, Neurology & Neurological Sciences, and Neurosurgery, by courtesy.

1993-1996  Course Assistant, Biology 44 (core Biology Laboratory), Stanford University - Plant Physiology and Animal Behavior Laboratory Systems, undergraduate-level Course Directors: Dr. Melanie Yelton & Dr. Shyamala Malladi, Lecturers in Biology.

Graduate Student Supervision

Thesis Advisor

8/2008 – 12/2013  Brian Barton, Ph.D.  
‘Mapping Human Visual and Auditory Cortex, Tracking Plasticity, and Linking fMRI to Perception’

◆ (2/2014 - present) Postdoctoral Scholar, University of California, Irvine

Thesis Co-Advisor

9/2008 – 6/2014  Derrik E. Asher, Ph.D. (advisor: Jeffrey L. Krichmar, Ph.D.)  
‘Action Selection and Execution with Computational Neural Networks of Neuromodulation and Sensory Integration’

‘A novel model for pitch perception and functional localization of attentionally modulated pitch and loudness perception’

2/2008 – 12/2009  Ling Lin, Ph.D. (advisor: George Sperling, Ph.D.)  
‘Studies of human information processing: visual memory of contrast and adaptation to reversed visual inputs’

◆ (2009 – present) Clinical Researcher, AccuFocus Inc.
POSTDOCTORAL SUPERVISION

3/2014 - present  Brian Barton, Ph.D.
- Postdoctoral Fellow on NSF grant #1329255
- Supervisor: Professor Greg Hickok; Co-supervisors: Professor Kourosh Saberi & Professor Alyssa A. Brewer

- 2012 – present: Assistant Professor, California State University, Northridge
- 2010 - 2012: Lecturer, Pomona College, Claremont, CA
- 2010-2012: Post-doctoral Fellow, Western University of Health Sciences, Department of Psychology, College of Optometry, Pomona, CA

Dissertation, Candidacy, and Concentration Committees

DISSERTATION COMMITTEES

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>Role</th>
</tr>
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<tbody>
<tr>
<td>8/2014</td>
<td>Jonathan Venezia</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>5/2014</td>
<td>Derrik Asher</td>
<td>Co-advisor, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>12/2013</td>
<td>Brian Barton</td>
<td>Advisor, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>6/2013</td>
<td>Mike Avery</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>7/2012</td>
<td>Lavanya Krishna</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>6/2012</td>
<td>Anna Lisette Isenberg</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>12/2011</td>
<td>Veronica Eckstein</td>
<td>Co-advisor, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>5/2011</td>
<td>Steven Thurman</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>12/2009</td>
<td>Ling Lin</td>
<td>Co-advisor, Dept. of Cognitive Sciences</td>
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<tr>
<td>5/2009</td>
<td>Stefanie Drew</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>6/2008</td>
<td>Pamela Jeter</td>
<td>Member, Dept. of Cognitive Sciences</td>
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ADVANCEMENT TO CANDIDACY COMMITTEES

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
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<tbody>
<tr>
<td>3/2014</td>
<td>Leila Feinberg</td>
<td>Member, Dept. of Neurobiology and Behavior</td>
</tr>
<tr>
<td>Date</td>
<td>Name</td>
<td>Role</td>
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<tr>
<td>3/2014</td>
<td>Derek Huffman</td>
<td>Member, Depts. of Neurobiology and Behavior &amp; Center for the Neurobiology of Learning and Memory</td>
</tr>
<tr>
<td>10/2013</td>
<td>Jonathan Venezia</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>2/2012</td>
<td>Anna Lisette Isenberg</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>9/2011</td>
<td>Derrik Asher</td>
<td><strong>Co-advisor</strong>, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>6/2011</td>
<td>Mike Avery</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>5/2011</td>
<td>Lavanya Krishna</td>
<td>Member, Dept. of Cognitive Sciences</td>
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<tr>
<td>4/2011</td>
<td>Brian Barton</td>
<td><strong>Advisor</strong>, Dept. of Cognitive Sciences</td>
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<tr>
<td>3/2011</td>
<td>James Pooley</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>11/2010</td>
<td>David Bridwell</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>10/2010</td>
<td>Joyce Lacy</td>
<td>Member, Depts. of Neurobiology and Behavior &amp; Center for the Neurobiology of Learning and Memory</td>
</tr>
<tr>
<td>10/2008</td>
<td>Steven Thurman</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>3/2008</td>
<td>Pamela Jeter</td>
<td>Member, Dept. of Cognitive Sciences</td>
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COGNITIVE NEUROSCIENCE CONCENTRATION COMMITTEES

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<th>Date</th>
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<tbody>
<tr>
<td>03/2015</td>
<td>Laris Rodriguez Cintron</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>10/2012</td>
<td>Alexis Craig</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>9/2012</td>
<td>Jack Payne</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>10/2010</td>
<td>Andrew Zaldívar</td>
<td>Member, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>5/2011</td>
<td></td>
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<tr>
<td>11/2009</td>
<td>Brian Barton</td>
<td><strong>Advisor</strong>, Dept. of Cognitive Sciences</td>
</tr>
<tr>
<td>11/2009</td>
<td>Derrik Asher</td>
<td><strong>Advisor</strong>, Dept. of Cognitive Sciences</td>
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<tr>
<td>6/2009</td>
<td>Mike Avery</td>
<td>Member, Dept. of Cognitive Sciences</td>
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<tr>
<td>6/2009</td>
<td>Jonathan Venezia</td>
<td>Member, Dept. of Cognitive Sciences</td>
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Undergraduate Student Supervision

Undergraduate Research Opportunities Grant Program (UROP)
& Summer Undergraduate Research Program Fellowship (SURP)

10/2011 – 6/2012 Brianna Penley, Comparative Analysis of Corollary Discharge between Normal Subjects and Patients with Visual Hemianopsia
10/2011 – 6/2012 Aaron Craddolph, Comparative Analysis of Corollary Discharge between Normal Subjects and Patients with Visual Hemianopsia
8/2010 – 6/2012 Jacob Redmond (Previously: Messer), Structural and Functional Analysis of Human Cortical and Subcortical Visual Pathways

Research Assistants

12/2011 – 6/2012 Elhum (Ellie) Shamshiri
5/2011 – 6/2012 Mark Dennison
12/2010 – 6/2011 Alex Minick
4/2010 – 6/2012 Anne Nguyen
4/2010 – 1/2012 Kelly Wang
4/2010 – 6/2012 Mike Ward
## Other Research Supervision

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Name</th>
<th>Role</th>
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<tr>
<td>7/2008 – 12/2008</td>
<td>Cindy Shih</td>
<td>Advisor, Directed Individual/Independent Study</td>
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</table>

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