

Evan Layher

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EDUCATION

September 2015 – Present

University of California at Santa Barbara (UC Santa Barbara): Ph.D. candidate in Psychological and Brain Sciences
Supervisor: Michael Miller, Ph.D.

- GPA: 4.00/4.00

September 2008 – June 2012

University of California at Davis (UC Davis): B.A.S. in Psychology and Neurobiology, Physiology & Behavior

- Graduation with honors (GPA: 3.72/4.00)

DOCTORAL RESEARCH

September 2015 – Present

UC Santa Barbara: Doctoral Student
Supervisor: Michael Miller, Ph.D.

Study 1: **Neural Indicators of Optimal and Adaptable Decision-Makers**

Study 2: **Influence of Experimental Design on Decoding Accuracy of Visual Perceptual Decisions**

Administer and analyze data for EEG, fMRI, simultaneous EEG/fMRI, and neurostimulation studies:

- **EEG**: Event-related potentials and time-frequency analysis using **EEGlab**
- **fMRI**: General linear model using **FSL**
- **TMS**: **Magstim Rapid²**
- **tDCS**: **Soterix Medical HD-tDCS**
- **Programming languages**: MATLAB, Bash, R

POST-GRADUATE RESEARCH

December 2012 – September 2015

UC Davis Imaging Research Center: Junior Specialist
Supervisor: J. Daniel Ragland, Ph.D.

Study 1: **Brain Mechanisms of Impaired Episodic Memory in Schizophrenia**

Study 2: **Cognitive Neuroscience Test Reliability and Clinical applications for Schizophrenia Consortium**

Administered and analyzed data for EEG, fMRI, and MRS studies:

- **EEG**: Time-frequency analysis using **EEGlab**
- **fMRI**: General linear model using **FSL**
- **MRS**: Single voxel spectroscopy using **LCModel**

Administered and assessed clinical and neuropsychological tests:

- **BPRS**: Assessment of psychotic symptoms
- **CAINS**: Assessment of negative symptoms
- **SCID-I (DSM-IV-TR)**: Research diagnosis for Axis I mental disorders

TEACHING

August 2018 – September 2018

UC Santa Barbara: Instructor

- PSY106: Introduction to Biopsychology (Summer 2018)

September 2015 – Present

UC Santa Barbara: Teaching Assistant

- PSY1: Introduction to Psychology (Fall 2015, Winter 2016, Summer 2017)
- PSY3: The Biological Basis of Psychology (Fall 2016)
- PSY7: Introduction to Experimental Psychology (Summer 2016)
- PSY108: Introduction to Cognitive Psychology (Summer 2016)
- PSY163JS: Contemporary Issues in Biopsychology (Winter 2019)
- PSY169L: Laboratory in Neuroanatomy (Spring 2017, Fall 2017)

MENTORSHIP

May – August 2017

Building Infrastructure Leading to Diversity Promoting Opportunities for Diversity in Education and Research: 10-week research program for accomplished minority college students

- Mentored one undergraduate student studying the effects of neurostimulation on decision-making performance
- Advised research project and the development of a poster presentation

June – August 2016

Summer Applied Biotechnology Research Experience: 10-week program for accomplished minority college students

- Mentored one masters student studying the effects of neurostimulation on decision-making performance
- Advised research project, the development of a poster presentation, and public research talk

June – July 2016

Research Mentorship Program: six-week program for accomplished high school students worldwide

- Mentored four students studying the neural basis of memory and decision-making using fMRI and EEG
- Advised each student's independent development of a poster presentation and research paper

PUBLICATIONS

[3] **Evan Layher**, Tyler Santander, Lukas J. Volz, & Michael B. Miller (2018). **Failure to Affect Decision Criteria During Recognition Memory With Continuous Theta Burst Stimulation**. *Front. Neurosci.*, 12(705): 1-14. doi: 10.3389/fnins.2018.00705

[2] J. Daniel Ragland, **Evan Layher**, Deborah Hannula, Tara A. Niendam, Tyler Lesh, Marjorie Solomon, Cameron Carter, & Charan Ranganath (2017). **Impact of Schizophrenia on anterior and posterior hippocampus during memory for complex scenes**. *Neuroimage Clin.* 13: 82-88 doi: 10.1016/j.nicl.2016.11.017

[1] J. Daniel Ragland, Charan Ranganath, Michael P. Harms, Deanna M. Barch, James M. Gold, **Evan Layher**, Tyler A. Lesh, Angus W. MacDonald III, Tara A. Niendam, Joshua Phillips, Steven M. Silverstein, Andrew P. Yonelinas, & Cameron S. Carter (2015). **Functional and Neuroanatomical Specificity of Episodic Memory Dysfunction in Schizophrenia: An fMRI study of the Relational and Item-Specific Encoding Task**. *JAMA Psychiatry.* 72(9): 909-916. doi: 10.1001/jamapsychiatry.2015.0276

FIRST AUTHOR CONFERENCE POSTERS AND PRESENTATIONS

[9] **Evan Layher**, Courtney Durdle, Sara Leslie, & Michael Miller (March, 2019). **Does the fMRI scanning environment weaken criterion shift stability?** (Poster) 26th Cognitive Neuroscience Society: San Francisco, CA.

[8] **Evan Layher**, Tyler Santander, & Michael Miller (February, 2019). **Transcranial direct current stimulation fails to affect criterion shifting during recognition memory**. (Poster) 3rd International Brain Stimulation Conference: Vancouver, BC.

[7] **Evan Layher**, Anjali Dixit, & Michael Miller (November, 2018). **Criterion shifting in recognition memory is a stable cognitive trait**. (Poster) 59th Psychonomic Society: New Orleans, LA.

[6] **Evan Layher**, Anjali Dixit, & Michael Miller (August, 2018). **Criterion shifting in recognition memory is a stable trait**. (Talk) 14th Bay Area Memory Meeting: Davis, CA.

[5] **Evan Layher**, Lukas Vols, Tyler Santander, & Michael Miller (March 2018). **The effects of rTMS on criterion shifting during recognition memory**. (Poster) 25th Cognitive Neuroscience Society: Boston, MA.

[4] **Evan Layher**, Benjamin Turner, Nicole Marinsek, Puneeth Chakravarthula, Anjali Dixit, Amir Meghdadi, Barry Giesbrecht, Miguel Eckstein, & Michael Miller (March 2017). **Cautious decision criterion drives widespread fronto-parietal fMRI activity across multiple domains**. (Poster) 24th Cognitive Neuroscience Society: San Francisco, CA.

[3] **Evan Layher**, Nicole Marinsek, Justin Kantner, Benjamin Turner, Jean Vettel, Michael Miller (January, 2017). **Shifting decision criterion during recognition memory tests: a simultaneous EEG/fMRI study**. (Talk) 13th Bay Area Memory Meeting: San Francisco, CA.

[2] **Evan Layher**, Deborah Hannula, & J. Daniel Ragland (August, 2014). **Monitoring eye movements to dissociate the neural correlates of relational versus item specific memory impairments in schizophrenia.** (Talk) 11th Bay Area Memory Meeting: Stanford, CA.

[1] **Evan Layher**. J. Daniel Ragland, Charan Ranganath, Steven Luck, Debra Long, Ann Kring, Tyler Lesh, Tara Niendam, Tamara Swaab, Marjorie Solomon, & Cameron Carter (August, 2013). **Effect of Schizophrenia on Dorsolateral Prefrontal Cortex Function and Theta-Band Power during Selective Long-Term Memory Encoding.** (Poster) 10th Bay Area Memory Meeting: San Francisco, CA.

AWARDS

2017, 2018: Kavli Summer Institute in Cognitive Neuroscience, Fellow

2017, 2018: UCSB Grad Slam, Semi-finalist (Graduate student competition for best 3-minute research talk)

2016: NSF Graduate Research Fellowship Program, Honorable Mention