

# Evan Alexander Layher

evan.layher@psych.ucsb.edu

## EDUCATION

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### September 2015 – Present

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

### 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)

## POST-GRADUATE RESEARCH

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### 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 neuroimaging studies and analyzed collected data:

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

Administered and assessed clinical and neuropsychological tests:

- **BPRS**: Assessment of psychotic symptoms
- **CAINS**: Assessment of negative symptoms
- **HVLT-R**: Assessment of verbal learning and memory
- **SCID-I (DSM-IV-TR)**: Research diagnosis for Axis I mental disorders
- **UPSA**: Measurement of functional capacity
- **YMRS**: Assessment of manic symptoms

## UNDERGRADUATE RESEARCH

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### October – December 2012

UC Davis Center for Neuroscience: Research Assistant  
Supervisor: Arne Ekstrom, Ph.D.

Study: **Representation and Binding of Spatial and Temporal Episodic Memories in Human Hippocampus**

- Administered computational behavioral tasks (**MATLAB**)
- Traced medial temporal lobe structures (**FSL**)

### June 2009 – October 2012

UC Davis MIND Institute: Research Assistant  
Supervisor: Tony Simon, Ph.D.

Study: **Visuospatial Cognitive Deficit in 22q11.2 Deletion Syndrome**

- Traced amygdalae for volumetric analysis (**Analyze**)
- Trained new interns on laboratory protocols

### June 2009 – August 2011

UC Davis Center for Mind and Brain: Research Assistant  
Supervisors: Kristin Lagattuta, Ph.D. and Drika Weller (formally Makariev), Ph.D.

Study: **Children's Reasoning about Future-Oriented Thoughts, Emotions, and Decisions**

- Helped create reliable coding scheme to analyze emotions and decisions in child participants
- Transcribed child research participants' interview responses

## TEACHING

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### September 2015 – Present

UC Santa Barbara: Teaching Assistant

- Introduction to Psychology

### September 2012 – June 2015

Private tutor for high school and college students

- Algebra, Calculus, Chemistry, Geometry and standardized tests (ACT/CAHSEE/SAT)

### November 2008 – February 2012

North Davis Elementary School, Davis, CA: Teaching Assistant

Kristen Muir, Ph.D.

- Supervised and taught organized Physical Education program for elementary students

## PUBLICATIONS

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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. **Functional and Neuroanatomical Specificity of Episodic Memory Dysfunction in Schizophrenia: An fMRI study of the Relational and Item-Specific Encoding Task.**

*JAMA Psychiatry*. 2015;72(9):909-916. doi:10.1001/jamapsychiatry.2015.0276

J. Daniel Ragland, **Evan Layher**, Deborah Hannula, Joshua Phillips, Tara A. Niendam, Tyler Lesh, Marjorie Solomon, Cameron Carter, Charan Ranganath. **A Gradient of Hippocampal Function and Dysfunction During Relational Memory in People With Schizophrenia.** (under review)

## CONFERENCE POSTERS AND PRESENTATIONS

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J. Daniel Ragland, Deborah E. Hannula, **Evan Layher**, Joshua Phillips, Cameron S. Carter, Tyler A. Lesh, Tara A. Niendam, Marjorie Solomon, Charan Ranganath (March, 2015). **Use of Simultaneous Eye-Movements and fMRI to Reveal Specific Relational Memory Deficits in Schizophrenia.** Poster presented at the 15<sup>th</sup> International Congress on Schizophrenia Research; Colorado Springs, CO.

J. Daniel Ragland, Deborah E. Hannula, **Evan Layher**, Joshua Phillips, Cameron S. Carter, Tyler A. Lesh, Tara A. Niendam, Marjorie Solomon, Charan Ranganath (December, 2014). **Dissociation of Hippocampally Mediated Relational versus Item-Specific Memory Deficits in Schizophrenia using Eye-Movement Monitoring During fMRI.** Poster presented at the 53<sup>rd</sup> annual meeting of the American College of Neuropsychopharmacology; Phoenix, AZ.

**Layher, E.A.**, Hannula D.E., Ragland, J.D. (August, 2014). **Monitoring eye movements to dissociate the neural correlates of relational versus item specific memory impairments in schizophrenia.** Talk presented at the 11<sup>th</sup> annual Bay Area Memory Meeting; Stanford, CA.

Ragland, J.D., Ranganath, C., Barch, D.M., Gold, J.M., Harms, M.P., **Layher, E.A.**, MacDonald, A.M., Phillips, J.D., Poppe, A., Silverstein, S.M., Thompson, D., Carter, C.S. (December, 2013). **Neural Correlates of Relational and Item-Specific Encoding and Retrieval (RISE) in Schizophrenia.** Poster presented at the 52<sup>nd</sup> annual meeting of the American College of Neuropsychopharmacology; Hollywood, FL.

**Layher E.A.**, Ragland J.D., Ranganath C., Luck S.J., Long D.L., Kring A.M., Lesh T.A., Niendam T.A., Swaab T., Solomon M., Carter C.S. (August, 2013). **Effect of Schizophrenia on Dorsolateral Prefrontal Cortex Function and Theta-Band Power during Selective Long-Term Memory Encoding.** Poster presented at the 10<sup>th</sup> annual Bay Area Memory Meeting; San Francisco, CA.

Makariev, D.W., Lagattuta, K.H., Sayfan, L., Arevalo-Avalos, M., Buckelew, A., **Layher, E.** & Shaffer, R. (June, 2011). **Children's explanations for people's behaviors, emotions, and thoughts in morally challenging situations.** Paper presented at the 41<sup>st</sup> annual meeting of the Jean Piaget Society; Berkeley, CA.