

# MAYA L. ROSEN

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## EDUCATION

2009-2015	Ph.D., Boston University, Psychological and Brain Sciences <i>Dissertation:</i> “Functional MRI and Behavioral Investigations of Long-Term Memory-Guidance of Visuospatial Attention”
2009-2011	M.A., Boston University, Psychology
2003-2007	B.A., Skidmore College, Neuroscience and Spanish <i>Honors Thesis:</i> “Menstrual Cycle Effects on Attentional Bias to Courtship Language in Human Females”

## ACADEMIC APPOINTMENTS

2015-present	Postdoctoral Research Fellow, Department of Psychology, University of Washington
2015	Instructor, Department of Psychological and Brain Sciences, Boston University

## CURRENT GRANT SUPPORT

Postdoctoral Individual National Research Service Award: F32HD089514  
National Institute of Child Health and Human Development  
“Long-Term Memory-Guided Attention: Development, Environmental Factors, and Neural Underpinnings”

Bezos Family Foundation  
“Neurodevelopmental Mechanisms of Memory-Guided Attention and In-Group Bias: Impacts of Early Home Environment”  
Role: Principal Investigator

## AWARDS AND HONORS

2017	Finalist Postdoctoral Mentoring Award
2017	Society for Research in Child Development Early Career Travel Award
2017	Social and Affective Neuroscience Society Poster Award
2015	Kavita Jain Dissertation Award
2015	People’s Choice Poster Award: Cognitive Neuroscience Society
2014	Felicia Sorembe Lambros Prize
2010-2011	Outstanding Teaching Fellow Award
2007	The Harnett Prize for Outstanding Research in Neuroscience

2007	Phi Beta Kappa
2007	Sigma Delta Pi, The National Collegiate Hispanic Honor Society
2007	Periclean Honor Society
2007	Travel-to-Present Award
2006	Student Opportunity Project Fund Award
2006	Skidmore College President's Team Award

#### PEER-REVIEWED ARTICLES

**Rosen, M.L.**, Stern, C.E., Devaney, K.J., & Somers, D.C. Cortical and subcortical contributions to long-term memory-guided visuospatial attention. *Cerebral Cortex*. doi: 10.1093/cercor/bhx172

Jenness, J.L., **Rosen, M.L.**, Sambrook, K.A., Dennison, M.J., Lambert, H.K., Sheridan, M.A., & McLaughlin, K.A. Violence exposure and neural systems underlying working memory for emotional stimuli in youth. *Development and Psychopathology*. *In Press*.

**Rosen, M.L.**, Sheridan, M.A., Sambrook, K.A., Dennison, M.J., Jenness, J.L., Meltzoff, A.N. & McLaughlin, K.A. (2017). Salience network response to changes in emotional expressions of others is heightened during early adolescence: relevance for social functioning. *Developmental Science*. <http://doi.org/10.1111/desc.12571>

Lambert H., Sheridan, M.A., Sambrook, K.A., **Rosen, M.L.**, & McLaughlin, K.A. (2017). Hippocampal contribution to context encoding across development is disrupted following early-life adversity. *Journal of Neuroscience*. 37(7):1925-1934. doi:10.1523/jneurosci.2618-16.2017

Dennison, M.J., Sheridan, M.A., Busso, D.J., Jenness, J.L., Peverill, M., **Rosen, M.L.**, & McLaughlin, K.A. (2016). Neurobehavioral markers of resilience to depression amongst adolescents exposed to child abuse. *Journal of Abnormal Psychology*. 125(8). 1201-1212. doi:10.1037/abn0000215.

**Rosen, M.L.**, Stern, C.E., Michalka, S.W., Devaney, K.J., & Somers, D.C. (2016) Cognitive control network contributions to memory-guided attention. *Cerebral Cortex*. 26(5):2059-2073. doi: 10.1093/cercor/bhv028.

Michalka, S.W., **Rosen, M.L.**, Kong L., Shinn-Cunningham, B.G., & Somers, D.C. (2016). Auditory spatial coding flexibly recruits anterior, but not posterior, visuotopic IPS. *Cerebral Cortex*. 26(3):1302-1308. doi: 10.1093/cercor/bhv303

**Rosen, M.L.**, Stern, C.E., Michalka, S.W., Devaney, K.J., & Somers, D.C. (2015) Influences of long-term memory guided-attention and stimulus-guided attention on visuospatial

representations within human intraparietal sulcus. *Journal of Neuroscience*. 35(32): 11358-11363. doi: 10.1523/jneurosci.1055-15.2015.

Michalka, S.W., Kong L., **Rosen, M.L.**, Shinn-Cunningham, B.G., & Somers, D.C. (2015) Short-term memory for space and time flexibly recruit complementary sensory-biased frontal lobe attention networks. *Neuron*. 87(4): 882-892. doi:10.1016/j.neuron.2015.07.028.

Putch, D., Ross, R., **Rosen, M.L.**, Norton, D., Cronin-Golomb, A, Somers, D.C., & Stern, C.E. (2014). Functional correlates of optic flow motion processing in Parkinson's disease. *Frontiers in Integrative Neuroscience*. 8(57). doi: 10.3389/fnint.2014.00057.

**Rosen, M.L.**, Stern, C.E., & Somers, D.C. (2014). Long-term memory guidance of visuospatial attention in a change detection paradigm. *Frontiers in Psychology*. 5(266). doi: 10.3389/fpsyg.2014.00266.

Kong, L., Michalka, S.W., **Rosen, M.L.**, Sheremata, S.L., Swisher, J.D., Shinn-Cunningham, B.G., & Somers, D.C. (2014) Auditory spatial attention representations in the human cerebral cortex. *Cerebral Cortex*. 24(3): 773-784. doi:10.1093/cercor/bhs359

**Rosen, M.L.** & Lopez, H.H. (2009) Menstrual cycle shifts in attentional bias for courtship language. *Evolution and Human Behavior*. 30(2):131-140. doi:10.1016/j.evolhumbehav.2008.09.007

#### MANUSCRIPTS UNDER REVIEW OR IN REVISION

**Rosen, M.L.**, Sheridan, M.A., Sambrook, K.A., Meltzoff, A.N., & McLaughlin, K.A. The role of visual association cortex in associative memory formation across development. *In Revision*.

**Rosen, M.L.**, Sheridan, M.A., Sambrook, K.A., & McLaughlin, K.A. Socioeconomic disparities in academic achievement: A multimodal investigation of neurodevelopmental mechanisms. *Under Review*.

Jenness, J.L., Miller, A.B., **Rosen, M.L.**, & McLaughlin, K.A. High vagal tone buffers maltreated youth from PTSD symptoms through faster extinction learning. *Under Review*.

Devaney, K.J., **Rosen, M.L.**, Levin, E.J., & Somers, D.C. Functional identification of the temporo-parietal junction components of the ventral attention network in individual subjects. *Under Review*.

Dennison M.J., **Rosen, M.L.**, Sambrook, K.A., Jenness J.L., Sheridan, M.A., & McLaughlin, K.A. Differential associations of distinct forms of childhood adversity with neural and

behavioral measures of reward processing: Neurodevelopmental pathways to depression. *In Revision*.

#### SELECTED CONFERENCE PRESENTATIONS

**Rosen, M.L.**, Sheridan, M.A., Sambrook, K.A., Meltzoff, A.N. & McLaughlin, K.A. Socioeconomic status and the brain across development: Implications for academic achievement. *Flux Congress*. Portland, OR. September, 2017. [Poster]

**Rosen, M.L.**, Sheridan, M.A., Sambrook, K.A., Meltzoff, A.N. & McLaughlin, K.A. Socioeconomic status and the brain across development: a multimodal investigation. *Association for Psychological Science*. Boston, MA. May, 2017. [Talk]

**Rosen, M.L.**, Sheridan, M.A., Sambrook, K.A., Dennison, M.J., Jenness, J.L., Meltzoff, A.N. & McLaughlin, K.A. Early adolescent specific recruitment of the salience network for changes in emotional expression in a working memory paradigm. *Society for Research in Child Development*. Austin, TX. April, 2017. [Talk]

**Rosen, M.L.**, Sheridan, M.A., Sambrook, K.A., Miles, Z.E., Dennison, M.J., Jenness, J.L., Meltzoff, A.N. & McLaughlin, K.A. Neural mechanisms underlying working memory for emotional faces across development. *Society for Research in Child Development*. Austin, TX/ April, 2017. [Poster]

**Rosen, M.L.**, Sheridan, M.A., Sambrook, K.A., Dennison, M.J., Jenness, J.L., Meltzoff, A.N. & McLaughlin, K.A. Identifying Changes in the Emotional Expressions of Others: Adolescent-specific salience network recruitment that predicts social behavior. *Social and Affective Neuroscience Society*. Los Angeles, CA. March, 2017. [Poster]

**Rosen, M.L.**, Sheridan, M.A., Sambrook, K.A., Dennison, M.J., Jenness, J.L., Meltzoff, A.N. & McLaughlin, K.A. Neural mechanisms underlying working memory for emotional faces across development. *Flux*. St. Louis, MO. September, 2016. [Poster]

Somers, D.C., Stern, C.E., Devaney, K.J., and **Rosen, M.L.** Cognitive Control Network Contributions to Long-Term Memory-Guided Attention in the Human Cerebral Cortex, Cerebellum, Striatum, and Thalamus. *Society for Neuroscience*. Chicago, IL. November, 2015. [Talk]

**Rosen, M.L.**, Stern, C.E., Devaney, K.J., and Somers, D.C. Functional MRI reveals a cognitive control subnetwork supporting long-term memory-guided visuospatial attention. *Vision Sciences Society*. St. Petersburg, FL. June, 2015. [Poster]

Brissenden, J., Levin, E., Osher, D., **Rosen, M.L.**, Halko, M., and Somers, D.C. Cerebellar contributions to visual attention and visual working memory revealed by functional MRI and intrinsic functional connectivity. *Vision Sciences Society*. St. Petersburg, FL. June, 2015. [Poster]

Devaney, K.J., Levin, E., **Rosen, M.L.**, Michalka, S.W., and Somers, D.C. fMRI-based functional localization of the ventral attention network in individual subjects. *Vision Sciences Society*. St. Petersburg, FL. June, 2015. [Poster]

**Rosen, M.L.**, Stern, C.E., Michalka, S.W., Devaney, K.J., Kong, L., and Somers, D.C. Memory-guided attention and stimulus guided attention networks in the human parietal lobe. *Society for Neuroscience*. Washington, DC. November, 2014. [Talk]

Michalka, S.W., **Rosen, M.L.**, Stern, C.E., Kong, L., Shinn-Cunningham, B.G., and Somers, D.C. Auditory short-term memory for space but not for time recruits anterior visuotopic parietal maps. *Society for Neuroscience*. Washington, DC. November, 2014. [Talk]

**Rosen, M.L.**, Stern, C.E., Michalka, S.W., Devaney, K.J., Kong, L., and Somers, D.C. Cognitive Control Network contributions to long-term memory guidance of visual spatial attention. *Cognitive Neuroscience Society*. Boston, MA. April, 2014. [Poster]

Bireley, J.D., **Rosen, M.L.**, and Somers, D.C. Change-detection based investigations of mechanisms for attending to single and multiple locations in complex visual scenes. *Cognitive Neuroscience Society*. Boston, MA. April, 2014. [Poster]

**Rosen, M.L.**, Stern, C.E., Bireley, J.D., Michalka, S.W., Devaney, K.J., Kong, L., and Somers, D.C. Differential hemispheric asymmetries in posterior parietal cortex during long-term memory guided attention and visually guided attention. *Society for Neuroscience*. San Diego, CA. November, 2013. [Poster]

**Rosen, M.L.**, Stern, C.E., Devaney, K.J., Michalka, S.W., Kong, L., and Somers, D.C. Long-term memory guidance of visuospatial attention in a change-detection paradigm. *Society for Neuroscience*. New Orleans, LA. October, 2012. [Poster]

Devaney, K.J., **Rosen, M.L.**, Michalka, S.W., and Somers, D.C. The temporoparietal junction: functional localization and functional connectivity in individual subjects. *Society for Neuroscience*. New Orleans, LA. October, 2012. [Poster]

Michalka, S.W., **Rosen, M.L.**, Kong, L., Shinn-Cunningham, B.G., and Somers, D.C. fMRI investigation of temporal sequence processing visual short-term memory of humans. *Society for Neuroscience*. New Orleans, LA. October, 2012. [Poster]

**Rosen, M.L.**, Bachewski, S., Stern, C.E., and Somers, D.C. An examination of long-term memory guidance of visuospatial attention to multiple locations. *Cognitive Neuroscience Society*. Chicago, IL. April, 2012. [Poster]

Thomas, C.P., Fenske, M., Shepherd, K., **Rosen, M.**, Frederico, M., Denninger, J., Matthews, J., Fava, M., and Bar, M. A cognitive neuroscience framework for understanding mood II: Empirical evidence and clinical applications. *Society for Neuroscience*. Chicago, IL. November, 2009. [Poster]

Chou, W.H., **Rosen, M.**, Wang, D., Allen, J.J., Shokat, K.M., and Messing, R.O. Generation of analog sensitive-PKC delta to isolate direct substrates of PKC delta in stroke reperfusion injury. *Stroke*. San Diego, CA. February 2009. [Poster]

**Rosen, M.L.**, & Lopez, H.H. Menstrual cycle shifts in attentional bias for courtship language. *Human Behavior and Evolution Society*. Williamsburg, VA. June 2007. [Poster]

## TEACHING EXPERIENCE

2015	Instructor, PS 101, Introduction to Psychology (Boston University) Average Rating: 4.7/5
2009-2012	Teaching Fellow, PS 231 Physiological Psychology (Boston University) Average Rating: 4.6/5. <i>Received Outstanding Teaching Fellow Award</i>
2011	Teaching Fellow, PS 336, Cognitive Psychology (Boston University) Average Rating: 4.5/5

## UNDERGRADUATE MENTORING

2017-Present	McKenzie Hagen, <i>University of Washington</i> <i>Honors Thesis</i> : Parental language as a mediator of the association between socioeconomic status and executive function in five-year-olds
2012-2014	Daniel Bireley, <i>Boston University</i> <i>Honors Thesis</i> : Cognitive Control and Dorsal Attention Network Contributions to Context Dependent Spatial Navigation
2010-2012	Stephanie Bachewski, <i>Boston University</i>
2010-2011	Julia Ladna, <i>Boston University</i>

## OUTSIDE LECTURES BY INVITATION

September, 2017	Adolescent brain development: Impacts of adversity on mental health and behavioral outcomes. Center for Child and Youth Justice, Seattle, WA
May, 2017	"Memory and Attention: Individual differences reflecting development and experience. Brown University.
November, 2014	Long-term memory-guided visuospatial attention in the human brain.

- March, 2014      Laboratories for Cognitive Neuroscience, Children's Hospital, Boston  
Cognitive control network contributions to Long-term memory-guided  
visuospatial attention in the human brain.  
Skidmore College Neuroscience Seminar
- March, 2011      Functional role of the posterior parietal cortex in long-term memory  
retrieval. Skidmore College Neuroscience Seminar

#### **CHAired CONFERENCE SYMPOSIA**

- April, 2017      Neural and Behavioral Underpinnings of Adaptive Behavior in  
Adolescence. Society for Research in Child Development. Paper  
Symposium.

#### **PRE-DOCTORAL RESEARCH EXPERIENCE**

- 2009              Volunteer Research Assistant, Harvard Medical School. PI: Moshe Bar
- 2007-2008      Staff Research Associate, UCSF. PI: Robert Messing
- 2006              Research Assistant, Skidmore College. PI: Hassan Lopez
- 2002              Research Assistant, UCSF. PI: Patricia Janak

#### **AD HOC REVIEWER**

Cerebral Cortex  
Emotion  
NeuroImage  
Psychological Science  
Current Opinion in Behavioral Science

#### **MEMBERSHIPS**

Society for Neuroscience  
Social and Affective Neuroscience Society  
Society for Research in Child Development  
Cognitive Neuroscience Society  
Vision Sciences Society  
Flux  
Association for Psychological Science

#### **PROGRAMMING LANGUAGES AND SOFTWARE**

Python, Matlab, bash, csh  
Freesurfer, fsFast, FSL, SPM, R, SPSS, Adobe Creative Suite,