

Stephanie L. Leal

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Employment

2019 - present, Assistant Professor, Psychological Sciences, Rice University, Houston, TX
2016 - 2019, Postdoctoral Fellow, Helen Wills Neuroscience Institute, University of California, Berkeley, CA

Education

2011 - 2016, Ph.D., Psychological & Brain Sciences, Johns Hopkins University, Baltimore, MD
2007 - 2011, B.S., Biopsychology, University of California, Santa Barbara, CA

Academic Positions

2016 – 2019, Postdoctoral Fellow, The Jagust Laboratory, University of California, Berkeley, CA
2011 - 2016, Graduate Fellow, Translational Neurobiology Laboratory, Johns Hopkins Univ., Baltimore, MD
2010 - 2011, Research Assistant, Cognitive Neuroscience Lab, University of California, Santa Barbara, CA
2009 - 2010, Research Assistant, Behavioral Pharmacology Lab, University of California, Santa Barbara, CA
2008, Research Assistant, Vision & Image Understanding Lab, University of California, Santa Barbara, CA

Teaching

2017, Guest Lecture, Memory and the Aging Brain, Cognitive Neuroscience
2014, Teaching Assistant, Foundations of Mind, Dr. Lisa Feigenson
2013, Guest Lecture, Emotion and Fear, Neurobiology of Learning and Memory
2013, Guest Lecture, False Memory, Neurobiology of Learning and Memory
2013, Teaching Assistant, Psychology of Aging, Dr. Michela Gallagher
2012, Teaching Assistant, Psychopharmacology, Dr. Linda Gorman
2012, Teaching Assistant, Functional Human Neuroanatomy, Dr. Susan Courtney

Academic Awards and Recognition

2018, BrightFocus Foundation Travel Award, Int. Conference on Learning & Memory
2017, Alzheimer's Association Award for Young Scientists
2017, Sallie P. Asche Travel Award, Dallas Aging & Cognition Conference
2016 - 2018, NRSA F32 Research Fellowship Award (F32AG054116), UCB
2015, Alzheimer's Association International Conference Travel Fellowship
2014, Fellowship, Summer Institute in Cognitive Neuroscience, UCSB
2013 - 2016, Pre-doctoral Fellow, Research Training in Age-Related Cognitive Disorders
2013, Honorable Mention, NSF Graduate Research Fellowship Program
2012 – 2013, Walter L. Clark Student Collaborative Research Award, JHU

2011 – 2014, Robert S. and Dorothy L. Waldrop Graduate Fellowship, JHU
2011, Distinction in the Psychology Major, UCSB
2011, Exceptional Academic Performance in the Psychology Major, UCSB
2011, High Honors (top 6% upon graduation), UCSB
2009 - 2011, Dean's Honors, UCSB (all quarters)

Academic service

2011 - 2014, TA Committee for Psychological & Brain Sciences Department
2013 - 2014, Colloquium Committee for Psychological & Brain Sciences Department
2012 - 2014, Active Minds, President and Founder of Active Minds on the JHU campus
2012 - 2014, JHU Counseling Center Advisory Board
2009 - 2011, American Medical Student Association, Vice-President & Co-Founder on the UCSB campus

Chaired Symposia

Leal, S.L. (2017, November). Cognitive aging and memory. Symposium conducted at the Society for Neuroscience meeting. Washington, DC.

Peer-reviewed publications

1. **Leal, S.L.**, Ferguson, L.A., Harrison, T.M., & Jagust, W.J. (2019). Development of a mnemonic discrimination task using naturalistic stimuli with applications to aging and preclinical Alzheimer's disease, *Learning & Memory*, 26(7), 219-228.
2. **Leal, S.L.** & Yassa, M.Y. (2019). Normal Cognitive and Brain Aging. *Oxford Handbooks on Aging*. Oxford University Press.
3. **Leal, S.L.**, Cunningham, T.J., Wirth, M., Yassa, M.A., & Payne, J.D. (2018). Post-encoding stress enhances mnemonic discrimination of negative stimuli. *Learning & Memory*, 25(12): 611-619.
4. **Leal, S.L.**, Lockhart, S.N, Maass, A., Bell, R.K., Jagust, W.J. (2018). Subthreshold amyloid predicts tau deposition in aging. *The Journal of Neuroscience*, 38(19): 4482-4489.
5. **Leal, S.L.** & Yassa, M.Y. (2018). Integrating new findings and examining clinical applications of pattern separation. *Nature Neuroscience*, 21(2):163-173.
6. **Leal, S.L.**, Landau, S.M., Bell, R.K., & Jagust, W.J. (2017). Hippocampal activation is associated with longitudinal amyloid accumulation and cognitive decline. *eLife*, 6:e22978.
7. **Leal, S.L.**, Noche, J.A., Murray, E.A., Yassa, M.A. (2017). Disruption of amygdala-entorhinal-hippocampal network in late-life depression. *Hippocampus*, 27(4):464-476.
8. Anderson, B.A., Chiu, M., DiBartolo, M.M., & **Leal, S.L.** (2017). On the distinction between value-driven attention and selection history: evidence from individuals with depressive symptoms. *Psychonomic Bulletin & Review*, 24(5):1-7.
9. Zheng, J., Anderson, K.L., **Leal, S.L.**, Shestyuk, A., Gulsen, G., Vadera, S., Mnatsakanyan, L., Hsu, F.P.K., Yassa, M.A., Knight, R.T., & Lin, J.J. (2017). Amygdala-Hippocampal Dynamics During Fearful Face Processing. *Nature Communications*.

10. **Leal, S.L.**, Noche, J.A., Murray, E.A., Yassa, M.A. (2016) Age-related individual variability in memory performance is associated with amygdala-hippocampal circuit function and emotional pattern separation. *Neurobiology of Aging*. 49, 9-19.
11. **Leal, S.L.**, Noche, J.A., Murray, E.A., Yassa, M.A. (2016). Positivity effect specific to older adults with subclinical memory impairment. *Learning & Memory*, 23(8), 415-421.
12. Reagh, Z.M., Ho, H.D., Noche, J.A., Chun, A., **Leal, S.L.**, Murray, E.A., & Yassa, M.A. (2016). Greater loss of object than spatial mnemonic discrimination in aged adults. *Hippocampus*, 26(4), 417-422.
13. **Leal, S.L.**, Yassa, M. (2015). Neurocognitive Aging and the Hippocampus Across Species. *Trends in Neuroscience*. 38(12), 800-812.
14. **Leal, S.**, Yassa, M. (2015). Chapter 2: The aging hippocampus: a cross species examination. *Preservation of Memory*. Psychology Press (Taylor and Francis).
15. **Leal, S.L.**, Yassa, M.A. (2014). Effects of aging on mnemonic discrimination of emotional information. *Behavioral Neuroscience*, 128(5), 539-547.
16. Anderson, B.A., **Leal, S.L.**, Hall, M.G., Yassa, M.A., Yantis, S. The attribution of value-based attentional priority in individuals with depressive symptoms. *Cognitive, Affective, and Behavioral Neuroscience*, 14(4), 1221-1227.
17. **Leal, S.L.**, Tighe, S.K., Jones, Craig K., Yassa, M.A. (2014). Pattern separation of emotional information in hippocampal dentate/CA3. *Hippocampus*. 24: 1146-1155.
18. **Leal, S.L.**, Tighe, S.K., & Yassa, M.A. (2014). Asymmetric effects of emotion on mnemonic interference. *Neurobiology of Learning & Memory*. 111: 41-48.
19. **Leal, S.L.**, Yassa, M.A. (2013) Perturbations of Neural Circuitry in Aging, Mild Cognitive Impairment, and Alzheimer's Disease. *Ageing Research Reviews*. 12(3): 823-831.

Conference posters

1. Ferguson, L.A., **Leal, S.L.**, Jagust, W.J. (2018). Using dynamic, contextually rich video stimuli as a more ecologically valid test of remembering and forgetting. *Society for Neuroscience*.
2. Granger, S., **Leal, S.L.**, Murray, E.A, Yassa, M.A. (2018). Structural integrity deficits of uncinate fasciculus predict medial temporal lobe activity during an emotional pattern separation task. *Society for Neuroscience*.
3. Granger, S., **Leal, S.L.**, Murray, E.A, Yassa, M.A. (2018). Structural integrity deficits in the uncinated fasiculus predict medial temporal lobe subfield activity during an emotional pattern separation task. *Cognitive Neuroscience Society*.
4. **Leal, S.L.**, Landau, S.M., Bell, R.K., & Jagust, W.J. (2017). Hippocampal activation is associated with longitudinal amyloid accumulation and cognitive decline. *Human Amyloid Imaging Conference*.

5. Zheng, J., Stevenson, R.F., Harriger, L.D., **Leal, S.L.**, Vadera, S., Yassa, M.A., & Lin, J.J. (2017). Depth electrode recording of the amygdala-hippocampal network during mnemonic discrimination of emotional scenes. *Cognitive Neuroscience Society*.
6. Stevenson, R.F., Zheng, J., **Leal, S.L.**, Chun, A.P., Vadera, S., Knight, R.T., Lin, J.J., & Yassa, M.A. (2016). High-frequency band activity in human hippocampal CA1 predicts the precision of spatial memory retrieval. *Society for Neuroscience*.
7. **Leal, S.L.**, Cunningham, T.J., Wirth, M., Yassa, M.A., & Payne, J.D. (2016). Stress enhances mnemonic discrimination of negative objects. *Cognitive Neuroscience Society*.
8. **Leal, S.L.**, Noche, J.A., Murray, E.A., & Yassa, M.A. (2015). High-resolution fMRI of hippocampal-amygdala dynamics during emotional memory discrimination in healthy aging and late-life depression. *Society for Neuroscience*.
9. Yassa, M.A., Stevenson, R.F., **Leal, S.L.**, Zheng, J., Roberts, J., Riley, J., Murray, E.A., & Lin, J.J. (2015). Intracranial EEG of hippocampal-amygdala dynamics during emotional memory discrimination. *Society for Neuroscience*.
10. Noche, J.A., **Leal, S.L.**, Murray, E.A., Yassa, M.A. (2015). Remembering emotional gist and detail information: individual differences in age-related memory loss. *Society for Neuroscience*.
11. Noche, J., **Leal, S.L.**, Yassa, M.Y. (2015). Age-related changes in emotional memory and forgetting: gist vs. detail. *2015 ICTS Translational Research Day*.
12. **Leal, S.**, Yassa, M. (2015). Effects of aging on mnemonic discrimination of emotional information. *ReMIND 6th Annual Emerging Scientists Symposium*.
13. **Leal, S.**, Yassa, M. (2014). Effects of aging on mnemonic discrimination of emotional information. *Society for Neuroscience*.
14. Carlos, K., **Leal, S.**, Roberts, J., Yassa, M. (2014). The effect of reward on discrimination in a visual pattern separation task. *UCI MSTP Retreat, Lake Arrowhead*.
15. Anderson, B. A., **Leal, S. L.**, Hall, M. G., Yassa, M. A., & Yantis, S. (2014). *The attribution of value-based attentional priority in individuals with depressive symptoms*. Paper presented at the annual Object Perception, Attention, and Memory (OPAM) conference, Long Beach, CA.
16. Partow, C., **Leal, S.L.**, & Yassa, M. (2014). The Relationship Between Sleep Hours, Emotional Memory, and Neurophysiological Response. *JHU PURA Recognition Ceremony*.
17. **Leal, S.L.**, Tighe, S.K., Jones, C.K., Yassa, M.A. (2013). High-resolution fMRI Reveals Amygdala and Hippocampal Dentate/CA3 Dynamics During Emotional Pattern Separation. *Society for Neuroscience*.
18. Tighe, S., **Leal, S.L.**, Stark, S.M., Stark, C.E., Yassa, M.A. (2013). Resting State fMRI Functional Connectivity in Individuals with Mild Cognitive Impairment. *International Neuropsychological Society*.
19. **Leal, S.**, Tighe, S., Stark, S.M., Stark, C.E., Yassa, M.A. (2013). Age-related alterations in intrinsic functional connectivity networks measured with resting state fMRI. *International Neuropsychological Society*.

20. **Leal, S.L.**, McNary, G., Levitt, E., & Yassa, M.A. (2012). A dual role for amygdala-mediated emotional modulation of hippocampal pattern separation. *Society for Neuroscience*.
21. Yassa, M.A., **Leal, S.L.**, McNary, G., & Levitt, E. (2012). Pattern separation of negative emotional stimuli is enhanced in depressed adults. *Society for Neuroscience*.
22. Tighe, S., **Leal, S.L.**, Stark, S., Stark, C., Lyketsos, C., & Yassa, M. (2012). Anterior cingulate connectivity in depressed, cognitively impaired older adults. *International College of Geriatric Psychoneuropharmacology*.

Scientific presentations

1. **Leal, S.L.** (2019). Making lasting memories: the neural basis of remembering significant experiences. *Rice University Colloquium*.
2. **Leal, S.L.** (2019). Making lasting memories: the neural basis of remembering significant experiences. *Northwestern Medicine, Mesulam Center for Cognitive Neurology and Alzheimer's Disease*.
3. **Leal, S.L.** (2019). Making lasting memories: the neural basis of remembering significant experiences. *Boston University Colloquium*.
4. **Leal, S.L.** (2018). Low levels of brain beta-amyloid predict tau deposition and memory decline in aging. *Human Amyloid Imaging Conference*.
5. **Leal, S.L.** (2017). Early accumulation of beta-amyloid drives tau deposition and memory decline in preclinical Alzheimer's disease. *Society for Neuroscience Conference*.
6. **Leal, S.L.** (2017). Hippocampal activation is associated with longitudinal amyloid accumulation and cognitive decline. *Dallas Aging & Cognition Conference*.
7. **Leal, S.L.** (2017). Hippocampal activation is associated with longitudinal amyloid accumulation and cognitive decline. Datablitz presented at the *Winter Conference for Neurobiology of Learning & Memory, Park City, UT*.
8. **Leal, S.L.** (2016). fMRI of hippocampal/amygdala interactions during memory performance in aging and depression in late life. *T32 Training Grant Presentation*.
9. **Leal, S.L.** (2015). fMRI of hippocampal/amygdala interactions and memory performance in depression and aging. *JHU Dementia Consortium Conference*.
10. **Leal, S.L.** (2014). Emotional modulation of memory in depression and cognitive aging. *UCI NeuroBlitz*.
11. **Leal, S.L.** (2014). Emotional modulation of memory: Alterations in the medial temporal lobe. *UCI NeuroBlitz*.
12. **Leal, S.L.** (2014). Emotional modulation of memory: Alterations in the medial temporal lobe. *Psychological & Brain Sciences Seminar*.
13. **Leal, S.L.** (2013). Pattern separation of emotional information. *Psychological & Brain Sciences Biopsychology Area Seminar*.

14. **Leal, S.L.** (2013). Amygdala-mediated emotional modulation of hippocampal pattern separation. *Psychological & Brain Sciences Seminar.*
15. **Leal, S.L.** (2013). Amygdala-mediated emotional modulation of hippocampal pattern separation. Datablitz presented at the *Winter Conference for Neurobiology of Learning & Memory, Park City, UT.*
16. **Leal, S.L.** (2012). Amygdala-mediated emotional modulation of hippocampal memory. *Psychological & Brain Sciences Biopsychology Area Seminar.*
17. **Leal, S.L.** (2012). Emotional modulation of hippocampal memory. *Psychological & Brain Sciences Cognitive Area Seminar.*
18. **Leal, S.L.** (2011). Emotional modulation of hippocampal memory in healthy and depressed adults. *Psychological & Brain Sciences Seminar.*