

# Jason M. Scimeca

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## EDUCATION AND TRAINING

- **University of California, Berkeley** (2015-Present)  
Postdoctoral Scholar in Helen Wills Neuroscience Institute; Advisor: Mark D'Esposito
- **Brown University** (2010-2015)  
Ph.D. in Cognitive Science; Advisor: David Badre
- **Northwestern University** (2008-2010)  
Research Assistant in Psychology Department; Advisors: Joan Chiao & Steven Franconeri
- **University of Chicago** (2004-2008)  
B.A. in Psychology with Honors; Advisor: David Gallo  
Double major in Biological Sciences with Specialization in Neuroscience

## PUBLICATIONS

**Google Scholar Profile:** <http://scholar.google.com/citations?user=-Dw1o2AAAAAJ>

### Accepted Manuscripts

- Kiyonaga, A.<sup>1</sup>, **Scimeca, J. M.**<sup>1</sup>, & D'Esposito, M. (accepted Registered Report). Dissociating the causal roles of frontal and parietal cortex in working memory capacity. *Nature Human Behaviour*.  
(<sup>1</sup> Co-first authors)

### Journal Articles

- Riddle, J.<sup>1</sup>, **Scimeca, J. M.**<sup>1</sup>, Cellier, D., Dhanani, S., D'Esposito, M. (2020). Causal evidence for a role of theta and alpha oscillations in the control of working memory. *Current Biology*, 30, 1748-1754.  
(<sup>1</sup> Co-first authors)
- Eichenbaum, A., **Scimeca, J. M.**, & D'Esposito, M. (2020). Dissociable neural systems support the learning and transfer of hierarchical control structure. *Journal of Neuroscience*, 40.
- Kiyonaga, A. & **Scimeca, J. M.** (2019). Practical considerations for navigating Registered Reports. *Trends in Neurosciences*, 42, 568-572.
- **Scimeca, J. M.**, Kiyonaga, A., D'Esposito, M. (2018). Reaffirming the sensory recruitment account of working memory. *Trends in Cognitive Sciences*, 22, 190-192.
- Kiyonaga, A., **Scimeca, J. M.**, Bliss, D., & Whitney, D. (2017). Serial dependence across perception, attention, and memory. *Trends in Cognitive Sciences*, 21, 493-497.
- **Scimeca, J. M.**, Katzman, P. L., & Badre, D. (2016). Striatal prediction errors support dynamic control of declarative memory decisions. *Nature Communications*, 7, 13061.

- Mathur, V. A., Cheon, B. K., Harada, T., **Scimeca, J. M.**, & Chiao, J. Y. (2016). Overlapping neural response to the pain or harm of people, animals, and nature. *Neuropsychologia*, 81, 256-273.
- **Scimeca, J. M.** & Franconeri, S. L. (2015). Selecting and tracking multiple objects. *Wiley Interdisciplinary Reviews: Cognitive Science*, 6, 109-118.
- Badre, D., Lebrecht, S., Pagliaccio, D., Long, N. M., & **Scimeca, J. M.** (2014). Ventral striatum and the evaluation of memory retrieval strategies. *Journal of Cognitive Neuroscience*, 26, 1928-1948.
- Cheon, B. K., Im, D., Harada, T., Kim, J., Mathur, V. A., **Scimeca, J. M.**, Parrish, T. B., Park, H., & Chiao, J. Y. (2013). Cultural modulation of the neural correlates of emotional pain perception: The role of other-focusedness. *Neuropsychologia*, 51, 1177-1186.
- **Scimeca, J. M.** & Badre, D. (2012). Striatal contributions to declarative memory retrieval. *Neuron*, 75, 380.
- Franconeri, S. L., **Scimeca, J. M.**, Roth, J. C., Helseth, S. A., & Kahn, L. E. (2012). Flexible visual processing of spatial relationships. *Cognition*, 122, 210-227.
- **Scimeca, J. M.**, McDonough, I. M., & Gallo, D. A. (2011). Quality trumps quantity at reducing memory errors: Implications for retrieval monitoring and mirror effects. *Journal of Memory and Language*, 65, 363.
- Cheon, B. K., Im, D., Harada, T., Kim, J., Mathur, V., **Scimeca, J. M.**, Parrish, T., Park, H., & Chiao, J. Y. (2011). Cultural influences on neural basis of intergroup empathy. *NeuroImage*, 57, 642-650.
- Franconeri, S. L., Jonathan, S. V., & **Scimeca, J. M.** (2010). Tracking multiple objects is limited only by object spacing, not by speed, time, or capacity. *Psychological Science*, 21, 920-925.
- Gallo, D. A., McDonough, I. M., & **Scimeca, J.** (2010). Dissociating source memory decisions in prefrontal cortex: fMRI of diagnostic and disqualifying monitoring. *Journal of Cognitive Neuroscience*, 22, 955-969.

#### **Forthcoming Manuscripts**

- **Scimeca, J. M.**, Katzman, P. L., Waters, E., Vaidya, A., & Badre, D. (in prep). Value-based modulation of re-encoding during episodic memory retrieval.
- **Scimeca, J. M.**, Huerta, W., Miller, J. A., & D'Esposito, M. (in prep). No free lunch: The capacity and costs of selective control in working memory.

#### **AWARDS AND HONORS**

- Brown University Presidential Award for Excellence in Teaching (2013)
- NIMH Summer Institute in Cognitive Neuroscience Fellowship (2012)
- National Science Foundation Graduate Research Fellowship Honorable Mention (2010)
- University of Chicago College Research Opportunity Grant (2007)
- National Merit Scholarship (2004)

#### **TEACHING**

**2014 Fall**      **Functional Magnetic Resonance Imaging: Theory and Practice (CLPS1490)**  
Graduate Teaching Assistant

- 2013 Fall**      **Functional Magnetic Resonance Imaging: Theory and Practice (CLPS1490)**  
Graduate Teaching Assistant
- 2012-2013**      **Brown University Presidential Award for Excellence in Teaching**  
Annual prize awarded to recognize outstanding pedagogical achievement; awarded to two recipients out of 400 Brown graduate students with teaching appointments
- 2013 Spring**      **Elementary Psychology: An Introduction to Mind and Behavior (CLPS0010)**  
Graduate Teaching Assistant
- 2012 Fall**      **Functional Magnetic Resonance Imaging: Theory and Practice (CLPS1490)**  
Graduate Teaching Assistant

## **MENTORING**

### **UC Berkeley: Senior Honors Theses**

- Yasamin Vafai; Wendy Huerta; Naria Quazi

### **UC Berkeley: Research Assistants**

- Chris Muse-Fisher; Lielle Ross; Jean Ye; Murray Andrews; Stuti Bansal; Henrik Hector

### **Brown University: Senior Honors Theses**

- Perri Katzman; Amanda Ruggieri

### **Brown University: Research Assistants**

- Caryn Cobb; Becca Zak; Celia Ford

### **Brown University: Leadership Alliance Summer Research Early Identification Program**

- Ari Meilech

## **AD-HOC REVIEWER**

- Attention, Perception, & Psychophysics
- Behavioural Brain Research
- Cerebral Cortex
- Cognition
- Cognition and Emotion
- Frontiers in Psychology
- Human Brain Mapping
- Journal of Cognitive Neuroscience
- Journal of Experimental Psychology: Human Perception and Performance
- Journal of Neuroscience
- Journal of Vision
- Nature Communications
- Neuropsychologia
- Psychonomic Bulletin & Review

## **PROFESSIONAL MEMBERSHIPS**

- American Association for the Advancement of Science
- Association for Psychological Science
- Cognitive Neuroscience Society
- Society for Neuroscience
- Vision Sciences Society

## **PROFESSIONAL SERVICE**

### *Community and Educational Outreach:*

#### **Frontiers for Young Minds** (2016-Present)

- Introduce kids and teens to scientific careers, and facilitate the Young Reviewer peer review process for Frontiers in Young Mind articles

#### **Brown Alzheimer's Activists** (2010-2012)

- Provided support to local healthcare centers through volunteering and fundraising; awareness campaign for Alzheimer's Disease on Brown campus and throughout RI through lectures and educational events

#### **Alpha Phi Omega — National Co-ed Service Fraternity** (2004-2008)

- Performed community service across UChicago, Hyde Park neighborhood, and Chicago

### *University and Academic Service:*

#### **Graduate Student Representative** (2011-2013)

- Graduate student liaison to Brown CLPS Department faculty and Brown Graduate Student Council

#### **Cognition Seminar Series Coordinator** (2011-2012)

- Coordinated external and internal speakers for the Brown CLPS Cognition Seminar Series

#### **University of Chicago Alumni Schools Committee** (2009-Present)

- Conduct interviews and information sessions with prospective undergraduate students

## **OTHER EDUCATION, TRAINING, AND CERTIFICATION**

<b>2012</b>	<b>NIMH Summer Institute in Cognitive Neuroscience (Santa Barbara, CA)</b> Episodic Memory and Adaptive Behavior / Brain Plasticity
<b>2011-2012</b>	<b>Brown University – Sheridan Center for Teaching and Learning</b> Sheridan Teaching Seminar – Certificate I Program
<b>2009</b>	<b>Northwestern University</b> School of Continuing Studies

## **COMMENTARIES ON MY PUBLICATIONS**

- Sauseng, P. & Liesefeld, H. R. (2020). Cognitive control: Brain oscillations coordinate human working memory. [Current Biology](#).
- Xu, Y. (2018). Sensory cortex is nonessential in working memory storage. [Trends in Cognitive Sciences](#).
- Dyson, B. J. (2017). Serial dependence in audition: Free, fast, featureless? [Trends in Cognitive Sciences](#).
- Moran, J. (2014). How does the brain learn which memory retrieval strategies are most effective? [PLOS Neuro Community Blog](#).

## **PRESENTATIONS AND INVITED LECTURES**

- *Feature-based attentional control over the contents of visual working memory.* (November, 2018). Society for Neuroscience Annual Meeting Nanosymposium, San Diego, CA.
- *The role of reinforcement learning systems in recognition memory.* (June, 2014). Brown Leadership Alliance Summer Research Program, Brown University, Providence, RI.
- *Dynamic control of recognition memory decisions: The important role of prediction errors.* (April 2014). CLPS Cognition Seminar, Brown University, Providence, RI.
- *The role of feedback and prediction error signals in controlling recognition memory.* (October, 2012). CLPS Cognition Seminar, Brown University, Providence, RI.
- *Tracking multiple objects is limited only by object spacing, not by speed, time, or capacity.* (October, 2010). Inaugural meeting of the CLPS Cognition Seminar, Brown University, Providence, RI.

## **CONFERENCE ABSTRACTS**

- **Scimeca, J. M.**, Ross, L. K., & D'Esposito, M. (October 2019). Neural systems supporting flexible top-down control over the priority of working memory representations. Dynamic poster presented at the Society for Neuroscience meeting, Chicago, IL.
- Kiyonaga, A., **Scimeca, J. M.**, & D'Esposito, M. (June 2019). Dissociating the causal roles of frontal and parietal cortex in working memory capacity: A Registered Report. Poster presented at the Organization for Human Brain Mapping meeting, Rome, Italy.
- **Scimeca, J. M.**, Vafai, Y., Huerta, W., Miller, J. A. & D'Esposito, M. (November 2018). Feature-based attentional control over the contents of visual working memory. Talk presented at the Society for Neuroscience meeting, San Diego, CA.
- Eichenbaum, A., **Scimeca, J.**, & D'Esposito, M. (November 2018). Learning to learn: Lateral frontal and cingulo-opercular cortex support the learning and transfer of hierarchical task structure. Poster presented at the Society for Neuroscience meeting, San Diego, CA.
- Miller, J. A., **Scimeca, J. M.**, Rose, N. S., & D'Esposito, M. (November 2018). Attentional effects on working memory representations: comparing information-detection techniques and metrics. Poster presented at the Society for Neuroscience meeting, San Diego, CA.
- Eichenbaum, A., **Scimeca, J.**, & D'Esposito, M. (March 2018). Prefrontal cortex supports the transfer of hierarchical task structure to novel environments. Poster presented at the Cognitive Neuroscience Society meeting, Boston, MA.
- **Scimeca, J. M.**, Miller, J. A., & D'Esposito, M. (May 2017). The effects of content-dependent competition on working memory capacity limits. Poster presented at the Vision Sciences Society meeting, St. Pete Beach, FL.
- Muse-Fisher, C., Riddle, J., **Scimeca, J. M.**, & D'Esposito, M. (March 2017). Identification of frontal-striatal circuits with simultaneous TMS-fMRI. Poster presented at the Cognitive Neuroscience Society meeting, San Francisco, CA.
- **Scimeca, J. M.**, Katzman, P. L., & Badre, D. (November 2013). Evaluating and updating control processes in recognition memory. Poster presented at the 43<sup>rd</sup> Annual Meeting of the Society for Neuroscience, San Diego, CA.
- **Scimeca, J. M.**, Katzman, P. L., & Badre, D. (April 2013). The role of prediction errors in control of recognition memory decisions. Poster presented at the 20<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Franconeri, S., **Scimeca, J.**, & Jonathan, S. (May 2012). Maintaining selection of multiple moving objects. Poster presented at 2012 Meeting of the Vision Sciences Society, Naples, FL.
- **Scimeca, J. M.**, McShane, L. M., Brew, J. A., & Badre, D. (November 2011). Acquisition and adaptation of rule-guided retrieval strategies in memory. Poster presented at the 41<sup>st</sup> Annual Meeting of the Society for Neuroscience, Washington, DC.
- Franconeri, S., **Scimeca, J.**, Roth, J., & Helseth, S. (May 2011). Flexible visual processing of spatial relationships. Talk presented at 2011 Meeting of the Vision Sciences Society, Naples, FL.

- Levinthal, B. R., Jonathan, S., **Scimeca, J.**, & Franconeri, S. (May 2011). Competition limits spatial selection. Poster presented at 2011 Meeting of the Vision Sciences Society, Naples, FL.
- Franconeri, S., **Scimeca, J.**, Roth, J., Kahn, L., & Helseth, S. A. (April, 2011). Flexible visual processing of spatial relationships. Talk presented at the 18<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Cheon, B., Im, D., Harada, T., Park, J., Mathur, V., **Scimeca, J.**, Park, H., Chiao, J. (April 2011). The role of culture on the automaticity of empathy: The modulating influence of interdependence. Poster presented at the 18<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Franconeri, S. L., Jonathan, S.V., & **Scimeca, J. M.** (November 2009). Tracking multiple objects is limited only by interobject crowding, and not object speed. Talk presented at the 50<sup>th</sup> Annual Meeting of the Psychonomic Society, Boston, MA.
- Rotella, K., Richeson, J., **Scimeca, J.**, & Chiao, J. (October 2009). Neural basis of economic trust with religious ingroup and outgroup members. Poster presented at the 39<sup>th</sup> Annual Meeting of the Society for Neuroscience, Chicago, IL.
- Cheon, B.K., Im, D., Harada, T., Kim, J., Mathur, V. A., **Scimeca, J.**, Park, H., & Chiao, J. Y. (October 2009). Cultural variation in neural response within temporo-parietal junction during intergroup empathy. Talk presented at the 39<sup>th</sup> Annual Meeting of the Society for Neuroscience, Chicago, IL.
- Mathur, V.A., Harada, T., Cheon, B.K., **Scimeca, J.**, & Chiao, J.Y. (March 2009). Empathic neural response to living things as a function of agency and experience. Poster presented at the 16<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Cheon, B.K., Im, D., Harada, T., Mathur, V.A., **Scimeca, J.**, Park, H., & Chiao, J.Y. (March 2009). Universal and culturally-specific neural basis of ingroup bias in empathy. Poster presented at the 16<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Gallo, D. A., McDonough, I. M., & **Scimeca, J. M.**<sup>†</sup> (April 2008). Prefrontal Regions Differentially Contribute to Source Monitoring Processes. Poster presented at the 15<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA. (<sup>†</sup> Presenting author)

*Updated August 2020.*