Mark Schurgin

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Education & Professional Experience

2019-present	User Experience Researcher Google Health	*Google*
2017-2019	Postdoctoral Research Scientist Advisor: Dr. Timothy Brady	*University of California, San Diego*
2017	Ph.D. Cognitive Psychology Advisor: Dr. Jonathan Flombaum	*Johns Hopkins University*
2014	M.A. Cognitive Psychology Advisor: Dr. Jonathan Flombaum	*Johns Hopkins University*
2010-2012	Lab Manager Visual Cognition Lab (Dr. Steven Franconeri) Social Affective & Cultural Neuroscience Lab (Dr. Joan Chiao)	*Northwestern University*
2010	B.A. Psychology	*Vassar College*

Research Interests

General: Memory, Perception, Learning, Cognition

Specific: Long-term memory; working memory; object recognition; global ensemble information; spatial relations and distortions; perception and action; visual strategies and human performance

Awards & Fellowships

2018	New Investigator Award, American Psychological Association Award to honor outstanding new investigators / early-career psychologists (Division: Experimental Psychology).
2018	Trainee Professional Development Award Society for Neuroscience award to neuroscientists demonstrating scientific merit and excellence in research to promote the advancement of career training.
2017	G. Stanley Hall Scholar's Award Johns Hopkins University award recognizing a graduate student who has demonstrated exceptional scholarly progress in dissertation research.
2017	Walter L. Clark Teaching Award Johns Hopkins University award recognizing a graduate student who has demonstrated an aptitude for instruction in the classroom, leveraging their knowledge and communication skills to enhance the undergraduate education experience.

2016-2017	Dean's Teaching Fellowship Johns Hopkins University fellowship given to an outstanding graduate student to teach an advanced undergraduate course of their design.
2016	Walter L. Clark Service Award Johns Hopkins University award recognizing a graduate student who has demonstrated an excellent record of community service.
2016	Graduate Representative Organization (GRO) Travel Award Johns Hopkins University GRO award to assist in conference travel expenses.
2013-2015	Robert S. Waldrop & Dorothy L. Waldrop Graduate Fellowship Johns Hopkins University fellowship given to exceptional graduate students to ease the financial burden of graduate work to allow students to focus on their research.
2013	Best Talk / Paper Award At the 21st annual meeting on Object Perception, Attention, and Memory (OPAM) the award given to best talk / paper.

Publications

Schurgin, M. W. & Brady, T. F. (2019). When "capacity" changes with set size: Ensemble representations support the detection of across-category changes in visual working memory. *Journal of Vision, 19*(5), 1-13.

Schurgin, M. W., & Flombaum, J. I. (2018). Properties of Visual Episodic Memory Following Repeated Encounters with Objects. *Learning & Memory, 25*(7), 309-316.

Schurgin, M. W. (2018). Visual Memory, the Long and the Short of it: A Review of Visual Working Memory and Long-Term Memory. *Attention, Perception, & Psychophysics, 80*(5), 1035-1056.

Schurgin, M. W., & Flombaum, J. I. (2018). Visual Working Memory is More Tolerant Than Visual Long-Term Memory. *Journal of Experimental Psychology: Human Perception and Performance, 44*(8), 1216-1227.

Schurgin, M. W., & Flombaum, J. I. (2017). Exploiting Core Knowledge for Visual Object Recognition. *Journal of Experimental Psychology: General, 146*(3), 362-375.*****

**selected as the best JEP:General paper of the year by the editorial board*

Petre, B., Tetreault, P., Mathur, V. A., **Schurgin, M. W.**, Chiao, J. Y., Huang, L., & Apkarian, A. V. (2017). A central mechanism enhances pain perception of noxious thermal stimulus changes. *Scientific Reports, 7*(1), 3894.

Schurgin, M. W., & Flombaum, J. I. (2015). Visual long-term memory has weaker fidelity than working memory. *Visual Cognition, 23*(7), 859-862.

Schurgin, M. W., Nelson, J., Iida, S., Ohira, H., Chiao, J. Y., & Franconeri, S. L. (2014). Eye movements during emotional recognition in faces. *Journal of Vision, 14*(13):14, 1-16.

Schurgin, M. W., & Flombaum, J. I. (2014). How undistorted spatial memories can produce distorted responses. *Attention, Perception, & Psychophysics, 76*(5), 1371-1380.

Schurgin, M. W., Reagh, Z. M., Yassa, M. A., & Flombaum, J. I. (2013). Spatiotemporal Continuity Alters Long-Term Memory Representation of Objects. *Visual Cognition, 21*(6), 715-718.

Preprints / Under Review

Babic, Z., **Schurgin, M. W.**, & Brady, T. F. (2019). Is short-term storage correlated with fluid intelligence? Strategy use explains the apparent relationship between 'number of remembered items' and fluid intelligence. *PsyArXiv*, 83ch4. [under review at *Psychonomic Bulletin & Review]*

Miner, A. E., **Schurgin, M. W.**, & Brady, T. F. (2019). Extremely precise visual long-term memories for frequently encountered objects. *PsyArXiv*, qr6b9. [under review at *Journal of Experimental Psychology: Human Perception and Performance]*

Schurgin, M. W., Cunningham, C.A., Egeth, H.E., & Brady, T. F. (2018). Visual Long-term Memory Can Replace Active Maintenance in Visual Working Memory. *bioRxiv*, 381848. [under review at *Journal of Experimental Psychology: General]*

Schurgin, M. W., Wixted, J. T., & Brady, T. F. (2018). Psychophysical Scaling Reveals a Unified Theory of Visual Memory Strength. *bioRxiv*, 325472. [under review at *Nature Neuroscience]*

Manuscripts in Preparation

Schurgin, M. W., Lam, K., & Brady, T. F. (in prep). Isolating Visual Details in Episodic Memory.

Schurgin, M. W., Williams, J., & Brady, T. F. (in prep). What's lost is not forgotten: shifting criteria explains commonly cited mechanisms of forgetting.

Schurgin, M. W., Cunningham, C.A., & Flombaum, J. I. (in prep). Visual Search Abilities Dynamically Manage Performance Under Noisy Conditions.

Mathur, V. A., **Schurgin, M. W.**, Saeed, S. W., Reber, P. J., Apkarian, A. V., Paice, J. A., Richeson, J., & Chiao, J. Y. (in prep). Race modulates neural sensitivity to own and other's pain.

Presentations

Brady, T. F., Miner, A. E., Wixted, J. T., & **Schurgin, M. W.** (2019). Shared Constraints on the Precision of Visual Working vs. Visual Long-Term Memory. Talk to be presented at the 60th annual meeting of the *Psychonomic Society*, Montréal, Québec, Canada.

Schurgin, M.W., Wixted, J. T., & Brady, T. F. (2019). Unambiguous evidence in favor of a signal detection model of visual working memory. Poster presented at the 19th annual meeting of the *Vision Sciences Society*, St. Pete Beach, FL.

Lam, K., **Schurgin, M.W.**, & Brady, T.F. (2019). The contributions of visual details vs semantic information to visual long-term memory. Talk presented at the 19th annual meeting of the *Vision Sciences Society*, St. Pete Beach, FL.

Brady, T. F., **Schurgin, M.W.**, & Wixted, J. T. (2019). The importance of distinguishing between subjective and objective guessing in visual working memory. Poster presented at the 19th annual meeting of the *Vision Sciences Society*, St. Pete Beach, FL.

Schurgin, M.W. & Brady, T. F. (2018). Isolating Visual Details in Memory via Texforms. Poster presented at the 59th annual meeting of the *Psychonomic Society*, New Orleans, LA.

Brady, T. F., **Schurgin, M.W.**, & Wixted, J. T. (2018). Psychological Scaling Reveals a Single Parameter Framework For Visual Working Memory. Talk presented at the 59th annual meeting of the *Psychonomic Society*, New Orleans, LA.

Wixted, J. T., **Schurgin, M.W.**, & Brady, T. F. (2018). "Guessing" in Working Memory and Long-Term Memory. Talk presented at the 59th annual meeting of the *Psychonomic Society*, New Orleans, LA.

Schurgin, M.W., Wixted, J. T., & Brady, T. F. (2018). Psychological Scaling Reveals a Single Parameter Framework For Visual Working Memory. Poster presented at the 26th annual meeting on *Object Perception, Attention and Memory (OPAM)*, New Orleans, LA.

Schurgin, M. W., Cunningham, C. A., Egeth, H. E., & Brady, T. F. (2018). Episodic memory can substitute for active storage in visual working memory. Talk presented at the Nanosymposium on Working and Long-term Memory of the 48th annual meeting of the *Society for Neuroscience*, San Diego, CA.

Schurgin, M.W., Wixted, J. T., & Brady, T. F. (2018). Psychological Scaling Reveals a Single Parameter Framework For Visual Working Memory. Poster presented at the 48th annual meeting of the *Society for Neuroscience*, San Diego, CA.

Brady, T. F., **Schurgin, M. W.**, & Wixted, J. T. (2018). No distinction between capacity and resolution: A single memory strength parameter explains the shape of visual working memory response distributions. Poster presented at the 18th annual meeting of the *Vision Sciences Society*, St. Pete Beach, FL.

Miner, A. E., **Schurgin, M. W.**, & Brady, T. F. (2018). Repetitions allows for long-term memories that are as precise as the best working memories. Poster presented at the 18th annual meeting of the *Vision Sciences Society*, St. Pete Beach, FL.

Schurgin, M. W., Cunningham, C. A., Egeth, H. E., & Brady, T. F. (2018). Episodic Memory Replaces Active Maintenance in Working Memory When Available. Talk presented at the 18th annual meeting of the *Vision Sciences Society*, St. Pete Beach, FL.

Brady, T. F., **Schurgin, M. W.**, & Wixted, J. T. (2018). Perceptual factors explain a huge number of results from visual working memory and visual long-term memory. Talk presented at the Symposium on Visual Perception and Memory of the 18th annual meeting of the *Vision Sciences Society*, St. Pete Beach, FL.

Babic, Z., **Schurgin, M. W.**, & Brady, T. F. (2018). Relationships between Visual Working Memory and Fluid Intelligence. Poster presented at the 25th annual *Psychology Student Research Fair at California State University San Marcos (CSUSM)*, San Marcos, CA.

Schurgin, M. W., Cunningham, C. A., Egeth, H. E., & Brady, T. F. (2017). The Effect of Episodic Memory on Active Storage in Visual Working Memory. Talk presented at the 25th annual meeting on *Object Perception, Attention and Memory (OPAM)*, Vancouver, BC.

Flombaum, J. I., & **Schurgin, M. W.** (2016). Exploiting Core Knowledge for Visual Object Recognition. Talk presented at the 57th annual meeting of the *Psychonomic Society*, Boston, MA.

Schurgin, M. W., & Flombaum, J. I. (2016). First Impressions in Visual Long-Term Memory. Poster presented at the 24th annual meeting on *Object Perception, Attention, and Memory (OPAM)*, Boston, MA.

Schurgin, M. W., & Flombaum, J. I. (2016). Visual Working Memory Has Greater Tolerance Than Visual Long-Term Memory. Poster presented at the 16th annual meeting of the *Vision Sciences Society*, St. Pete Beach, FL.

Schurgin, M. W., & Flombaum, J. I. (2015). Visual Long-Term Memory Has Weaker Fidelity Than Working Memory. Talk presented at the 23rd annual meeting on *Object Perception, Attention, and Memory (OPAM)*, Chicago, IL.

Schurgin, M. W., & Flombaum, J. I. (2015). Invariant Object Recognition Enhanced by Object Persistence. Poster presented at the 15th annual meeting of the *Vision Sciences Society*, St. Pete Beach, FL.

Schurgin, M. W., Reagh, Z. M., Yassa, M. A., & Flombaum, J. I. (2014). Building Tolerant Long-Term Memories Through (Object) Persistence. Poster presented at the 14th annual meeting of the *Vision Sciences Society*, St. Pete Beach, FL.

Schurgin, M. W., Reagh, Z. M., Yassa, M. A., & Flombaum, J. I. (2013). Spatiotemporal Continuity Alters Long-Term Memory Representation of Objects. Talk presented at the 21st annual meeting on *Object Perception, Attention, and Memory (OPAM)*, Toronto, Canada.*****

**won award for best talk of the conference*

Schurgin, M. W., & Flombaum, J. I. (2013). Interactions between perception, fixation, and attention determine the endpoint of an action. Poster presented at the 13th annual meeting of the *Vision Sciences Society*, Naples, FL.

Schurgin, M. W., Levinthal, B. R., List, A., Sherman, A., Suzuki, S., Grabowecky, M., & Franconeri, S. L. (May 2011). Infinite X: Illusions of perpetual increases in magnitude. Demonstration presented at the 11th Annual Meeting of the *Vision Sciences Society*, Naples, FL.

Invited Talks

December 2018	Massachusetts Institute of Technology	Brain & Cognitive Sciences Committee
November 2018	University of San Diego	Psychology Seminar
September 2018	Harvard University	Vision Group Seminar
February 2018	University of California, San Diego	Cognitive Brown Bag
January 2018	University of California, Santa Cruz	Psychology Seminar

Teaching Experience

Instructor

Fall 2018 — **Cognitive Foundations** — *University of California, San Diego*

Instructor (Avg Instructor Rating: **98.1** / 100): This course was open to all undergraduate students. The course provided an introduction to cognitive psychology with a focus on foundational topics, such as understanding the relationship between the mind and the brain, thinking about cognition in computational terms, and the various kinds of methods used to study cognition.

Fall 2016 — **The Illusion of Perception** — *Johns Hopkins University*

Instructor and Course Creator (Avg Course Rating = **5** / 5): This course was open to all undergraduate and graduate students. In the course, students gained a comprehensive understanding of the ways we perceive (or fail to perceive) things in the real world by studying examples in perception, memory and awareness. Students read both empirical and theoretical writing on these topics and participated in class discussions exploring their potential ramifications: if the world isn't what we perceive, what are the implications for our society, or for ourselves?

Fall 2014 **Research Methods in Experimental Psychology** *Johns Hopkins University*
Instructor (Avg Instructor Rating = **4.6** / 5): This course was open to upperclassmen Psychology and Cognitive Science undergraduate students. The course gave an overview of research methods used in psychology, experimental designs, interpreting results in psychology, and research ethics. Each student completed an individual research project on a topic of his/her choosing as part of the course training. The class was taught interactively through lectures and labs.

Guest Instructor

Spring 2019	Juniors Honors Research Seminar (Undergrad Course)	*University of California, San Diego*
Spring 2018	General Psychology: Biological Foundations (Undergrad Course: Avg Guest Instructor Rating = **4.6** / 5)	*University of California, San Diego*
Spring 2018	Visual Cognition (Undergrad Course)	*University of California, San Diego*

Teaching Assistant

Fall 2015	Advanced Statistical Methods (Graduate Course)	*Johns Hopkins University*
Spring 2014	Intro to Cognitive Psychology (Undergrad Course)	*Johns Hopkins University*
Fall 2013	Mind, Brain & Experience (Undergrad Course)	*Johns Hopkins University*
Spring 2013	Human Sexual Orientation (Undergrad Course)	*Johns Hopkins University*

Certifications

2017 Johns Hopkins University Teaching Institute
Attended teaching institute program to develop and enhance university-level classroom teaching skills. The curriculum included examining the benefits of active learning, ongoing assessment, responsiveness to diversity, and examining a variety of teaching practices and principles (backward design, formative / summative assessments, etc).

2016 NIH ERP Boot Camp
Received methodological training scholarship to attend an NIH-funded 10-day workshop at UC-Davis on how to best design, implement, and analyze ERP experiments using the latest methods and technology.

Community Engagement

2017-2018 Mentor, Summer Training Academy for Research Success (STARS) Program
Mentored multiple STARS (non-UCSD) students in the Vision and Memory lab over the course of the summer. The STARS program is a summer research academy at UCSD providing students with experience with behavioral methods, computational tools and other necessities for pursuing Ph.D.-level research. Through community-college-based outreach, the program includes underrepresented groups both locally and nationally.

2016-2017 Creator & Director, Psychological & Brain Sciences High School Engagement Program
I founded and was director of the Psychological & Brain Sciences High School Engagement Program at Johns Hopkins University. In the program Baltimore City public high school students come on-campus to visit the department of Psychological & Brain Sciences. The visit takes course over an entire day, including lectures from faculty, classroom observations, graduate student talks/panels, and lab tours.

2013-2017 Director & Speaker, Brain Awareness Week at Baltimore Polytechnic Institute
I was director for the Brain Awareness Week event at Baltimore Polytechnic Institute, a public high school with a focus on Science, Technology, Engineering and Math (STEM) serving a large minority

population. The purpose of this week is to give students lectures on general themes in neuroscience and possible career paths in science.

2015-2016 Mentor, Women in Science & Engineering (WISE) Student Outreach Program
Mentored two Baltimore high school students from the Garrison Forest School in the Visual Thinking Lab over the course of the school year. Guided the students in experiment development, conducting literature reviews, and academic writing.

2016 Invited Speaker, Sandy Spring Friends School
Lectured to elementary, middle and high school students about visual illusions and psychology at the annual school science fair (serving the greater DC area).

2015 Invited Speaker, Patterson High School Baltimore City
Lectured to high school students about psychology and neuroscience in a Baltimore City public high school. Mentored students and discussed what is required to pursue a degree in a STEM field.

2012 Organizer, Chicago Brain Week Talk Series
Assisted in the organization of a series of community talks given by prominent Psychologists and Neuroscientists in the Chicago area.

2011-2012 Mentor, Student Inquiry and Research Program
Mentored two high school students from the Illinois Mathematics and Science Academy (IMSA) in the Social Affective and Cultural Neuroscience lab over the course of a year. Guided each student on independent projects including experiment design, data collection, analysis, and developing a poster presentation for an academic conference.

Academic Service

2014-2017	Organizer, Psychological & Brain Sciences Event Coordination
2012-2016	Representative, Psychological & Brain Sciences Graduate Steering Committee
2013-2015	Organizer & Leader, Psychological & Brain Sciences Graduate Recruitment
2015	Reviewer, Association for Psychological Science Student Research Award
2012	Organizer, Cultural Psychology Preconference at the Society for Personality & Social Psychology (SPSP)
2010	Organizer, Social & Affective Neuroscience Society (SANS) Conference

Ad-hoc review for Journals:
Attention, Perception, & Psychophysics
Cognition
Consciousness and Cognition
Experimental Brain Research
Frontiers in Psychology
Journal of Experimental Psychology: General
Journal of Experimental Psychology: Learning, Memory, and Cognition
Journal of General Psychology
Memory & Cognition
Neuroscience and Biobehavioral Reviews
PLOS One
Psychological Reports
Psychological Review
Quarterly Journal of Experimental Psychology

Visual Cognition
Vision Research

Advising

Graduate Researchers

Jamal Williams (University of California, San Diego) 2018-2019
Isabella Destefano (University of California, San Diego) 2018-2019
Hayden Schill (University of California, San Diego) 2018-2019
Anna Shafer-Skelton (University of California, San Diego) 2017-2019

Undergraduate Researchers

Lulu Ricketts (University of California, San Diego) 2018-2019
Yonghoon Chung (University of California, San Diego) 2018-2019
Brittany Hawkins-Carter (University of California, San Diego)** 2018-2019
**Ph.D. candidate at Howard University*
**awarded 2019 Norman Henry Anderson Excellence in Research award by UCSD*
Sherry Wang (University of California, San Diego)* 2018-2019
**Ph.D. candidate at Boston University*
Zeljana Babic (University of California, San Diego)** 2017-2019
**awarded 2018 Norman Henry Anderson Excellence in Research award by UCSD*
**awarded 2018 Undergraduate Research Fellowship by UCSD*
Robert Walter (University of California, San Diego)* 2017-2019
**Ph.D. candidate at Yale University*
Annalise Miner (University of California, San Diego) 2017-2019
Kelvin Lam (University of California, San Diego)** 2017-2019
**awarded 2018 URS Chancellor's Research Scholarship by UCSD*
**Ph.D. candidate at University of California, Santa Barbara*
Jamal Williams (University of California, San Diego)*** 2017-2018
**Ph.D. candidate at University of California, San Diego*
**awarded 2018 Norman Henry Anderson Distinguished Undergraduate Scholar award by UCSD*
**awarded 2017 Ronald E. McNair Scholarship by Federal TRIO Program*
Luis Alvarez (Mesa Community College) 2018
Audrey Ellis (Wellesley College) 2018
Trenton Brooks (San Diego City College) 2017
Celene Gonzalez (California State University, San Bernardino) 2017
Faith Shank (Loyola University) 2016-2017
Alana DiSabatino (Johns Hopkins University)* 2015-2017
**awarded 2017 Stanley Hall Prize by JHU for outstanding research excellence*
Annapurna Vadaparty (Johns Hopkins University) 2015-2017
Cera Hassinan (Johns Hopkins University) 2015-2017
Sinan Akosman (Johns Hopkins University) 2015-2017
Saman Baban (Johns Hopkins University) 2015-2016
Victor Kang (Johns Hopkins University) 2015
Patricia Kingkeo (Johns Hopkins University) 2013-2015
Erica Lee (Johns Hopkins University) 2013-2014
Hannah Cowley (Johns Hopkins University) 2014

Gustavo Beruman (Universidad de Guadalajara)	2013
Kaan Zaimoglu (Johns Hopkins University)	2012-2013

<u>High School Researchers</u>

Channing Capacchione (GFS / Hopkins)	2015-2016
Ruth Tekeste (GFS / Hopkins)	2015-2016
Jennifer Ren (IMSA / Northwestern)	2011-2012
Victoria Etherton (IMSA / Northwestern)	2011-2012
Eva Meyer (IMSA / Northwestern)	2011-2012
Ruby Morales (ETHS / Northwestern)	2011

Professional Memberships

2018-present	Society for Neuroscience (SfN)
2018-present	American Psychological Association (APA)
2017-present	Association for Psychological Science (APS)
2015-present	Psychonomic Society
2014-present	Spatial Network
2011-present	Vision Sciences Society (VSS)
2010-2012	Spatial Intelligence Learning Center (SILC)
2011-2012	Cognitive Neuroscience Society (CNS)